



**LESSMANN®**  
THE GERMAN BRUSH COMPANY

**CATALOGUE**  
**Issue** **26**

en



 **QUALITY MADE IN GERMANY**

# Table of contents

01	4–7
02	9–15
03	16–45
04	46–55
05	56–73
06	74–91
07	92–109
08	110–135
09	136–145
10	146–161
11	162–180
12	190–194
13	195

Information

Technology, materials, safety

## 01 WHEEL BRUSHES

Knot wheel brushes, joint cleaning brushes, pipeline brushes, cutback brushes, single segment brushes, wheel brushes, brushes for the wood machining industry, stripping brushes, special wheel brushes, accessories

## 02 DEBURRING BRUSHES

Deburring wheel brushes, deburring roller brushes, deburring end brushes

## 03 CUP AND BEVEL BRUSHES

Cup brushes, bevel brushes, brushes for grass trimmers, X-LOCK brush assortment, non-sparking brushes

## 04 SHANK BRUSHES

Wheel brushes with shank, cup shank brushes, end brushes, miniature brushes

## 05 HAND BRUSHES AND BROOMS

Standard hand brushes, professional hand brushes, special hand brushes, spark plug brushes, fine scratch brushes, barbecue grill brushes, special models, brooms and scrub brushes, dusters, weed brushes and weed brooms

## 06 INTERIOR BRUSHES

Microabrasive interior brushes, interior brushes, flexible honing brushes, cylinder brushes, hole cleaning brushes, bore hole cleaning brushes, tube and sleeve brushes, boiler brushes, stovepipe brushes, accessories, fitting brushes, brushes and scratchers

## 07 DIY BRUSHES AND SALES PROMOTION

Do-it-yourself brushes, packaging and presentation, sales promotion

## 08 INDUSTRIAL BRUSHES

Carbon fibre brushes, high performance filament brushes, punch filled brushes, disc brushes, lath brushes, wheel and roller brushes

## 09 STRIP BRUSHES

Sealing brushes with straight and angled fittings, strip brushes for slots/profiles, strip brushes in aluminium profiles, aluminium profiles, shaped strip brushes with filling facing outwards or inwards, cup-shaped strip brushes

Article number index

Keyword index

Dear customers,  
Dear partners,

We are very pleased to present you with our new catalogue edition 26, which once again features a diverse range of premium-quality industrial brushes. Expect to find numerous innovations and advancements for this year that make using our products even more efficient and convenient.

Our popular brushes for brushcutters now include **innovative models designed for battery-powered devices**. These new versions are lightweight and boast outstanding performance – ideal for today's cordless applications. Their newly designed cup is an ingenious feature, enabling simple mounting on all common grass trimmers without an adapter. We are delighted to have won the FEIBP (European Brushware Federation) **Innovation Award 2025** with these brushes.

Our tried-and-tested HFB line of products has also been expanded: in addition to the familiar HFB disc brushes, we now offer new **HFB wheel brushes**. They further add to the extensive list of application options for this range – perfect for your most demanding jobs.

And yet another highlight: many of our **honing brushes** introduced last year are now available as standard in-stock articles (page 118/119). This ensures shorter delivery times and increased availability for all your projects.

Another new product is our **contact cleaning brush** (page 135). Designed for the precision cleaning of sensitive electrical contacts, it is ideal for applications in the electronics, precision mechanics and medical equipment industries.

**Sustainability, quality and innovation** continue to be our guiding principles. We invest continuously in advanced machinery, digitalisation and our Oettingen site to ensure your continued access to leading-edge, premium-quality products – now and in future. Enjoy discovering our innovations and paging through our new catalogue. Thanks for choosing Lessmann. We look forward to supporting you with our proven-quality industrial brushes in 2026 and beyond!

Your Lessmann Team



*Lessmann*  
Jürgen Lessmann



*C. Kitzsteiner*  
Cornelia Kitzsteiner



## Five good reasons to choose Lessmann



### Fairness

We see our customers and suppliers as partners. This sense of fairness is the greatest strength of our family-run company.



### Quality

We focus on products of the highest quality and strive for excellence in service and advice to make your work as easy as possible.



### Sustainability

Putting corporate sustainability into practice, while taking responsibility for society, the environment and future generations, is a fundamental principle at LESSMANN.



### Reliability

Count on us for consistent quality and on-time deliveries. For us, reliability also means supplying all our products, whether mass-produced or customised, at competitive prices.



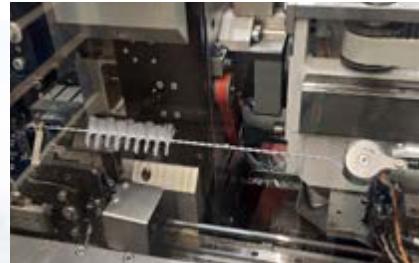
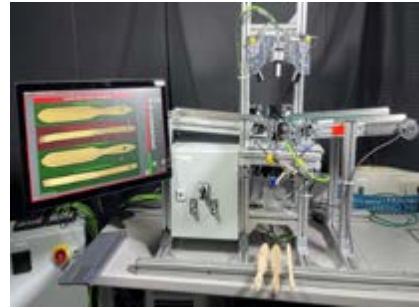
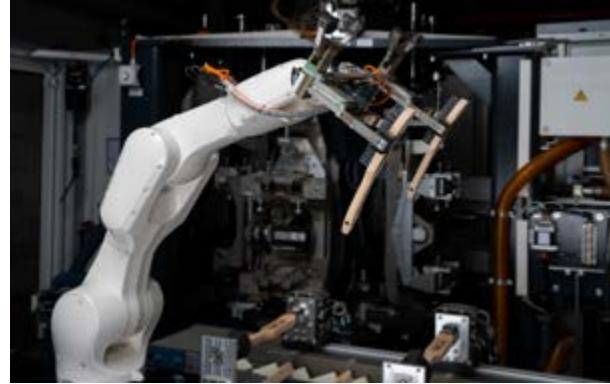
### Independence

We strive for independence in our procurement and sales activities, and share know-how across all levels. Together, these efforts give you the assurance of having a strong partner on your side, now and in the future.

## Forward-looking investments

After expanding our factory floor by over 4,200 sqm in 2014 and our high-rack storage facility by 1,300 sqm in 2016, we completed construction of our new administration building in 2021, providing our employees with modern offices equipped to high technical standards – with more space, more light and a better indoor climate. On an ongoing basis, we are also expanding and modernising our production lines with new machines.

These steps are a visible sign of our strong and sustainable growth. They show our determination to safeguard our position as a technology and quality leader, and expand it by tapping into new markets. We now have the added space and capacity needed to increase production of custom industrial solutions – with the high level of quality and precision our customers have come to expect.





## Made in Germany

Quality Made in Germany: At LESSMANN, this means not only that all our products from A to Z are manufactured in Bavaria, but also that the majority of our raw materials, from filaments and wood to metal and plastics, are sourced from distinguished suppliers in Germany.

Because we manufacture virtually all the products in our wide standard range ourselves, the quality of our raw materials plays a critical role. Intensive material testing and in-process controls are two important pillars of reliable LESSMANN quality.

In keeping with Germany's reputation as a major industrial location, we act as a pioneer in using the latest technologies and automation methods. This enables us to deliver the best quality to our customers at competitive prices.



As an authorised economic operator (AEO) with combined "customs simplification and security/safety" licensing (AEOS), we can significantly expedite and simplify the customs clearance process for our exports.

### Fit for the globe

Superior, high-quality products, technical expertise and great flexibility: our innovative industrial brushes are "fit for the globe".

Depending on the country in question, we work with our own employees, regional importers or authorised retailers. Our export department has

the know-how to provide advice and service to customers on all continents.

In 2016 we established a branch in the USA. Through LESSMANN Inc., we guarantee optimum service and logistics for the US market, as well as the outstanding quality associated with all LESSMANN products.



## A systematic approach to sustainability

At Lessmann, environmental responsibility means integrating environmental protection in day-to-day operations and consistently contributing to climate protection.

One of our aims in obtaining ISO 14001:2015 certification (Environmental Management) was to clearly define and track targets for reducing emissions and raw material consumption. First certified in May 2022, we now record all relevant consumption data in order to make future reduction targets measurable. More recently we have joined the "Umwelt + Klimapakt Bayern", an environmental initiative of the Bavarian state government. This requires us to implement environmental protection measures that go far beyond those required by law.

Since as far back as 2003, we have had several photovoltaic systems producing electric power on all available roof surfaces. Thanks to continuous expansion, we have today reached a total output of 588 kWp. We consume some 1,200 kWh annually, meaning we generate nearly 50% of our electric power. And we can even top that when it comes to heating: our heating requirements are covered 100% by burning scrap from the production of our wooden handles.



Promoting sustainable forest management



PEFC/04-31-0389

[www.pefc.org](http://www.pefc.org)



### PEFC certification

PEFC is a transparent and independent system for ensuring sustainable forest management. Regular inspections by independent auditors ensure compliance with the required standards. Lessmann uses PEFC-certified wood from regional, sustainably managed forests in many products, e.g. our hand brushes.



Print product with financial  
**climate contribution**

ClimatePartner.com/13318-2309-1001

To compensate for the CO<sub>2</sub> generated by printing this catalogue, we helped fund a renewable energy project in Asia through the ClimatePartner programme.

## Perfect presentation

LESSMANN's brand identity signalises quality and communicates information in a clearly structured way. This promotes sales without challenging sales personnel.

### Visit our website for more information.

On [www.lessmann.com](http://www.lessmann.com), you can download our latest catalogue and brochures. Need in-depth technical information or operating instructions? We are happy to help.

### Self-service displays

A clever solution to promote sales. We are happy to advise you about product ranges and designs.



## Custom solutions for specific applications

Whether in the automotive industry, piping and pipeline construction, or tyre and rubber manufacturing, special brushes with specific types of filling material or unusual dimensions are needed everywhere to perform special tasks in production. Our Technical Service and Product Development teams support customers through every step of a project, from consulting to production. This is how we develop special models that meet individual needs: designed to the exact specifications of each customer's application, engineered with precision, and manufactured to Lessmann's high and reliable quality standards. We welcome new challenges of any kind, and our customised solutions are evidence of our willingness and ability to push for innovative improvements.



**Technical Service specialists work on-site to develop custom solutions**

**Special models can be produced in low to high volumes**

**In-house toolmaking for special tasks**



# Testing makes us simply the best



## Quality sets us apart

Our QM system is certified to  
DIN EN ISO 9001:2015

Because we manufacture virtually all the parts in our product range ourselves, and develop special-purpose articles on an ongoing basis, we have acquired vast expertise over the decades in conducting quality and safety testing.

### Developing innovative products, exceeding safety standards, maintaining top quality

Motivated by these goals, we perform extensive engineering tests and product trials that are a standard part of our workflows.

### Material testing

Our quality management process always begins with material testing: We inspect all raw material deliveries in-house in accordance with statistical specifications and conduct additional tests as necessary. All wire is tested to verify its tensile strength and measurements are taken to document its bending fatigue strength. Besides the quality of a material, it is important that its properties are ideally suited to its intended use.

### Imbalance testing

Imbalance in machine-driven brushes can significantly impair performance and service life. In brushes used with handheld power tools, it can also pose a health risk. Although not required by either DIN or EN standards, LESSMANN manufactures its products in accordance with its own, in-house standards. The result: machine-driven brushes with maximum smooth-running properties. To ensure compliance with these strict specifications, we conduct regular quality control inspections.

### Safety testing

Under European safety standards, brushes must withstand 1.5 times the specified maximum RPM.

Starting in the development phase, we test every type of brush multiple times for this kind of endurance. A brush does not go into production until it has passed every test to our satisfaction. During production, random samples are frequently tested to ensure compliance with safe speeds. If any changes are made to a product model or raw material, testing starts from the beginning. As a result, all our customers can be sure they are working with a high-quality and safe tool at all times.

### Service life and performance

No standards or standardised procedures exist for measuring the service life or performance of industrial brushes. After extensive development work involving multiple trials, we have established testing methods that replicate the actual conditions under which our products are used. On machines built in-house, we test wear under standardised conditions, thus obtaining a measure of the service life and performance of machine-powered brushes. Apart from the quality assurance aspect, these tests give us valuable insights into how we can optimise brush materials, components, and designs. Even if ongoing benchmark tests of competitor products have long since confirmed the outstanding quality of our brushes:

**We will keep on testing to add even more value for our customers.**



# Putting quality to use – the safe way

## LESSMANN quality is safe

We guarantee the best quality and a long service life for our products. To do so, our brushes are manufactured exclusively to existing standards: EN 1083-2 and ANSI 165.1. Spin tests are performed on power-driven brushes of all sizes to ensure their operational safety.

## Measures for safe use

As with all rotating tools, working with power brushes requires compliance with safety measures:

## Personal protective equipment

All persons in a work area must wear safety goggles or a face mask, as well as appropriate protective clothing when brushes are in operation.

## For your own safety:

Wear personal protective equipment!



## Brush check

Check brushes for any damage before use.

## Careful installation

Pay strict attention to proper brush installation.

## Peripheral speed

**The maximum speeds given in this catalogue are safe speeds for risk-free brush operation. Do not exceed these speeds under any circumstances! In most cases, a lower RPM is sufficient for obtaining optimum results.**

## The right contact pressure

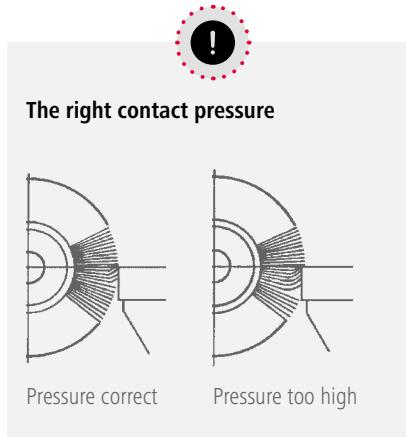
The diagram on page 11 shows the motor output power required for different brush diameters. Only minimal contact pressure is required for brushing because only the wire tips act on a workpiece (see figure). Excessive contact pressure does not improve the result. In fact, it shortens the service life of your brush and requires greater output power.

## Working with shank brushes

When working with shank brushes, be sure the shank of the brush is inserted as far as possible into the collet. The minimum length clamped in the holder is 10 mm. This is particularly important when working at high RPMs, for instance in straight grinders or pneumatic tools.

## Using machine-powered interior brushes

When using machine-powered interior brushes, be sure to adhere to the maximum specified speed. Only use a brush at maximum RPM if the brush is clamped to a depth of at least 10 mm and inserted in the respective workpiece before it begins to rotate. **Brushes should rotate in the clockwise direction.**



## Machine use:

These symbols indicate the machines with which the brushes are typically used.



Straight grinder



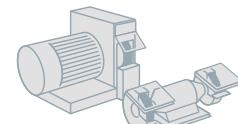
Angle grinder,  
angle polisher



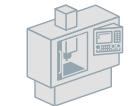
Drilling machine



Grass trimmer

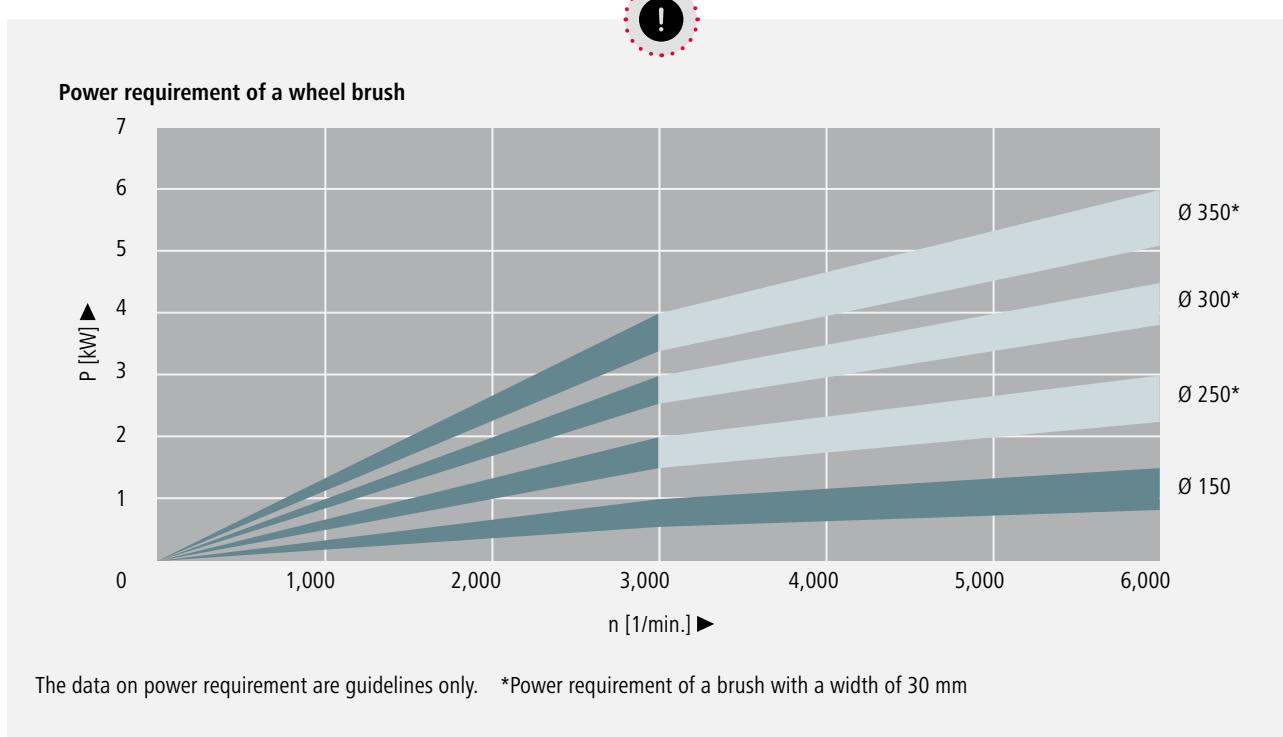


Stationary machines



CNC machines, robots,  
machining centres





Recommended brushes for angle grinders – the right combination											
Brush diameter	60	65	75	80	90	100	115	125	150	178	200
Cup brush, crimped	1		2	3		3		5	5		
Cup brush, knotted, without bridle		1	2	2	2	3/4		5			
Cup brush, knotted, with bridle				3/4		3/4		5			
Bevel brush, crimped						1					
Bevel brush, knotted						1	1				
Wheel brush, knotted						1	1	2	3	4	5

**Common idle speeds of angle grinders**

Ø 115	11,000 RPM	= 1
Ø 125	11,000 RPM	= 2
Ø 150	9,000 RPM	= 3
Ø 180	8,500 RPM	= 4
Ø 230	6,500 RPM	= 5



#### Attention: Before each job, compare the idle speed of the angle grinder with the maximum speed specified for the brush!

Minimum bore diameter for wheel brushes to EN 1083	
Brush diameter in mm	Minimum bore diameter in mm
50	4.6
75	6.5
100	10
150	13
200	16
250	20
300	20
350	32

# Quality results – with the right technique

## Optimising brush results

Filling diameter and length are keywords when it comes to getting the right brush results. Accordingly, these parameters make it easy to correct virtually all unwanted outcomes:

## Brush effect too weak?

- Increase the peripheral speed by increasing the brush diameter or the speed of rotation (do not exceed maximum specified RPM), or
- Use a brush with a shorter filling length, or
- Use a brush with a larger wire diameter.

## Brush effect too strong?

- Decrease the peripheral speed by decreasing the brush diameter or the speed of rotation, or
- Use a brush with a longer filling length, or
- Use a brush with a smaller wire diameter.

**Note: If you have any questions, do not hesitate to contact our technical specialists.**



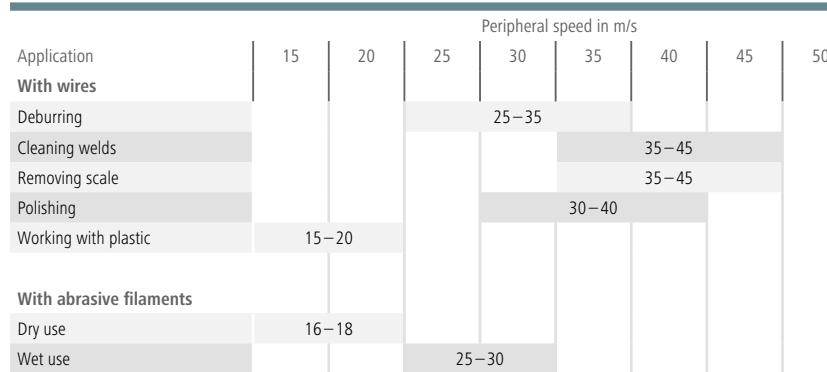
For information on brushing stainless steel, visit:  
[lessmann.com/en/downloads/](http://lessmann.com/en/downloads/)



The stainless steel wires we use are not entirely non-magnetic.

They may have some residual grease on them from the manufacturing process. If this is not permissible in a specific application, order the grease-free/de-greased versions of a brush.

## Recommended peripheral speeds for brush applications



## Converting millimetres to inches and ISWG

Brush diameter		
Millimetres	Inches	
25	1"	
50	2"	
75	3"	
100	4"	
125	5"	
150	6"	
180	7"	
200	8"	
250	10"	
300	12"	
350	14"	

## Wire diameter

Millimetres	Inches	ISWG
0.08	0.0031	44
0.10	0.0039	42
0.12	0.0047	40
0.15	0.0059	38
0.20	0.0079	36
0.25	0.0098	33
0.30	0.0118	31
0.35	0.0138	29
0.40	0.0157	27
0.50	0.0197	25
0.80	0.0315	21

## Table for converting peripheral speed v to m/s (do not exceed a brush's maximum RPM!)

n [1/min.] (RPM)	Brush diameter d in mm/inches							
	50 2"	80 3"	100 4"	125 5"	150 6"	200 8"	250 10"	300 12"
1,000		4.2	5.2	6.5	7.9	10.5	13.1	15.7
1,500	3.9	6.3	7.9	9.8	11.8	15.7	19.6	23.6
2,000	5.2	8.4	10.5	13.1	15.7	20.9	26.2	31.4
2,500	6.5	10.5	13.1	16.4	19.6	26.2	32.7	39.3
3,000	7.9	12.6	15.7	19.6	23.6	31.4	39.3	47.1
3,500	9.2	14.7	18.3	22.9	27.5	36.7	45.8	55.0
4,000	10.5	16.8	20.9	26.2	31.4	41.9	52.4	62.8
5,000	13.1	20.9	26.2	32.7	39.3	52.4	65.4	78.5
6,000	15.7	25.1	31.4	39.3	47.1	62.8	78.5	
8,000	20.9	33.5	41.9	52.4	62.8	83.8		
10,000	26.2	41.9	52.4	65.4	78.5			
12,500	32.7	52.4	65.4	81.8				
15,000	39.3	62.8	78.5					
20,000	52.4	83.8						
25,000	65.4							
Peripheral speed v = $\frac{\text{Brush diameter (d)} \times \pi \times \text{RPM (n)}}{1,000 \times 60}$								

For **wet applications**, we recommend using **PA 6.12** as the base material, because it displays reduced water absorption.  
Please order separately.  
Since the heat generated is dissipated in wet applications, the peripheral speed can be set significantly higher.

# Filling materials and their characteristics



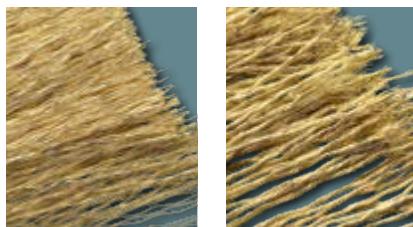
## STA Steel wire, straight / crimped

As a result of ongoing product development, wires that meet our special requirements are manufactured in collaboration with several wire producers. These wires generally are alloyed with manganese to increase toughness. The resulting wire has higher bending fatigue strength and achieves a longer service life.



## STH Steel wire, high tensile, straight / crimped

High-tensile steel wire is used most frequently in knotted, deburring and pipeline brushes. On request, we can also use this wire grade in all our other brush types. It is characterised above all by its high tensile strength combined with high bending fatigue strength, which promotes a long service life even under extreme conditions in demanding brushing applications.



## STM Brass-coated steel wire

High tensile strength for a longer service life combined with higher cutting capacity. As a result, this material is ideal for more demanding deburring and brushing jobs.

## STL Cord wre

Brass-coated steel wire with corded structure. In combination with its high tensile strength, this wire offers the longest service life for heavy-duty brushing and deburring jobs.



## ROF / RO4 / ROL / RO8 Stainless steel wire

**ROF** For processing stainless materials, e.g. nonferrous metals or stainless steel, material no. (WNr.) **1.4301 (AISI 304)**. This wire is resistant to corrosion and certain acids and alkaline solutions.

**RO4** Premium stainless steel wire, WNr. **1.4401 (AISI 316)**

**RO8** Extremely heat resistant stainless steel wire, WNr. **1.4860**

**ROL** Stainless steel wire with corded structure, WNr. **1.4301/1.4310**



For information on brushing stainless steel, visit:

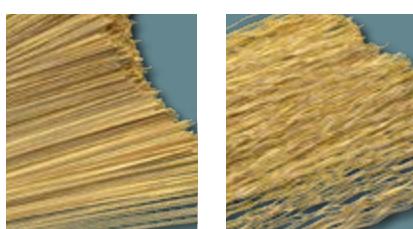
[lessmann.com/en/downloads/](http://lessmann.com/en/downloads/) under "Brush Know-How".

The stainless steel wires we use are not entirely non-magnetic. They may have some residual grease on them from the manufacturing process. If this is not permissible in a specific application, order the grease-free/de-greased versions of a brush.



## ROH Stainless steel wire, high tensile

This wire is characterised by high tensile strength (2,100 – 2,500 N/mm) and a long service life even in extreme applications, WNr. **1.4310 (AISI 301/302)**



## MES Brass wire (CuZn)

Brass wire is softer than steel wire. Among other applications, it is suitable for working with weakly alkaline solutions. It is mainly used for processing nonferrous metals.



### Straight / Crimped / Knotted:

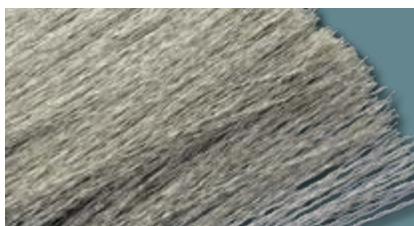
Metal wires processed into brushes can be straight, crimped, or knotted. A wire knot is always made from straight wires and, with wire diameter being equal, is harder than a single wire. Crimped wires support one another, thereby increasing stability during brushing.

# Filling materials and their characteristics



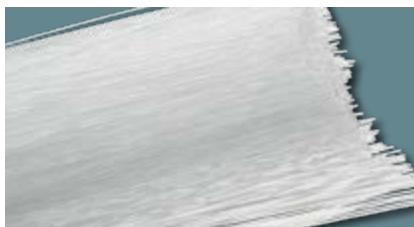
## BRO      Bronze wire (CuSn)

Bronze wire is used for processing wood and metal surfaces, but also for applications requiring low-sparking brushes.



## NSI      Nickel silver (CuNiZn)

Nickel silver is a soft nonferrous wire that displays outstanding properties for polishing workpieces, e.g. parts made of nickel silver or brass.



## PP, PA, PE, PBT      Synthetic bristles

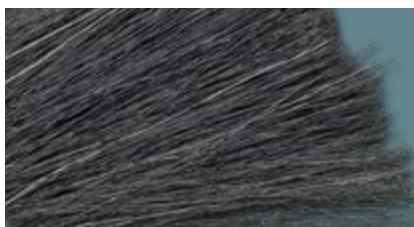
Synthetic bristles are abrasion-resistant and flexible. Despite low heat resistance, they are ideally suited for cleaning, deburring, or structuring metal, plastic or wood surfaces. Available types:

- Polypropylene (PP, white as standard)
- Polyamide (PA, transparent as standard) – PA 6, PA 6.6, PA 6.12
- Polyethylene (PE)
- Polyester (PBT); for cleaning only
- Polyvinyl chloride (PVC)



## FIB      Fibre

Fibres are heat-resistant plant fibres. They have slightly abrasive properties, which often is desirable when working on wood surfaces. Fibre also is used for general cleaning and polishing work.



## ROS      Horse hair

Horse hair is animal hair that primarily is used for light cleaning and dusting work. Horse hair is resistant to weak acids and alkaline solutions, and anti-static.



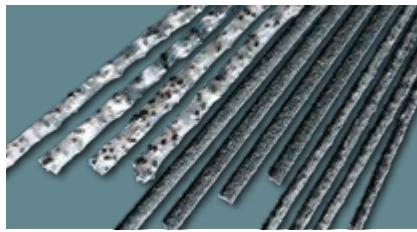
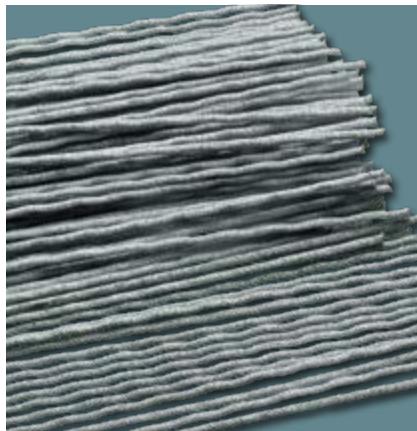
## Encapsulated brushes

Encapsulated brushes are ideal for aggressive workpiece processing and for high-precision work on corners and edges.

Brushes with crimped steel wire, stainless wire, brass-coated wire, or brass wire are embedded in a slightly elastic polymer compound.

The filling widths always remain the same during processing. Premature breakage of individual wires is prevented, extending service life and durability. In addition, using encapsulated brushes minimises the risk of injury.

The brushing effect of these brushes is harder than that of brushes without encapsulation. However, the possibility of some of the polymer compound being transferred to the workpiece cannot be ruled out entirely.



3 grit types in silicon carbide

### Abrasive filaments

Abrasive filaments consist of polyamide bristles (PA 6) filled with abrasive grit. They are used primarily for deburring, rounding the edges of plastic or stainless steel components, and grinding, cleaning, polishing, and structuring surfaces.

With their flexible surface, these brushes adapt to the contours of workpieces. Abrasive filaments also act on the sides, which expands the application options. You can choose from various types of grit, including aluminium oxide (AO), silicon carbide (SIC), diamond, and ceramic.

Two types of polyamide are used as standard:

#### Polyamide PA 6:

- Good bend recovery
- Good abrasion resistance
- Water absorption to max. 10%

#### Polyamide PA 6.12 (ideal for use in wet conditions):

- Flexible, excellent bend recovery
- High abrasion resistance
- Water absorption to max. 3%

A distinction is also made between round and flat bristles. Most brushes are fabricated with round bristles, which are more flexible than flat bristles and therefore well suited to processing workpieces with pronounced contours. Round bristles are also very effective for small diameters of less than 150 mm, for which flat bristles cannot be used. In contrast, flat bristles have a very high grit content, meaning they have a longer service life and a high material removal rate due to their larger contact surface.



For **wet applications**, we recommend using **PA 6.12** as the base material, because it displays reduced water absorption. Please order separately. Since the heat generated is dissipated in wet applications, the peripheral speed can be set significantly higher.

You can choose from the following grit types:

#### Abrasive filaments with SIC (grit sizes K60 to K1000):

- Strong deburring results
- For enhancing/processing surfaces
- Mainly for processing stainless steel and aluminium (under certain conditions)
- Microhardness with SIC: 25,000 N/mm<sup>2</sup>

**Common grit sizes:** K 80/1,1, K 80/1,2, K 80/1,4, K 120/0,6, K 120/1,1, K 180/0,9, K 180/1,0, K 320/0,60, K 500/0,5

#### Abrasive filaments with AO (grit sizes K60 to K1000):

- Not as sharp-edged as SIC
- For finishing soft metals
- For polishing and smoothing
- For smoothing or polishing aluminium
- Microhardness with AO: 21,000 N/mm<sup>2</sup>

**Common grit sizes:** K 80/1,2, K 120/1,1, K 180/0,9, K 180/1,0, K 240/0,75, K 240/0,90, K 320/0,60, K 500/0,25, K 500/0,50, K 600/0,3 – others on request.

#### Diamond filament (grit sizes K60 to K1000):

- For very aggressive applications
- For high-strength materials
- Self-renewing thanks to self-sharpening effect
- Microhardness with diamond grit: 42,000 N/mm<sup>2</sup>

#### Ceramic grit:

- Very good grinding and polishing properties
- Maximum aggressiveness and service life
- For processing carbide tools
- Microhardness with ceramic grit: 42,000 N/mm<sup>2</sup>



For all information on **chemical properties**, go to [lessmann.com/en/downloads/](http://lessmann.com/en/downloads/) under "Brush Know-How".



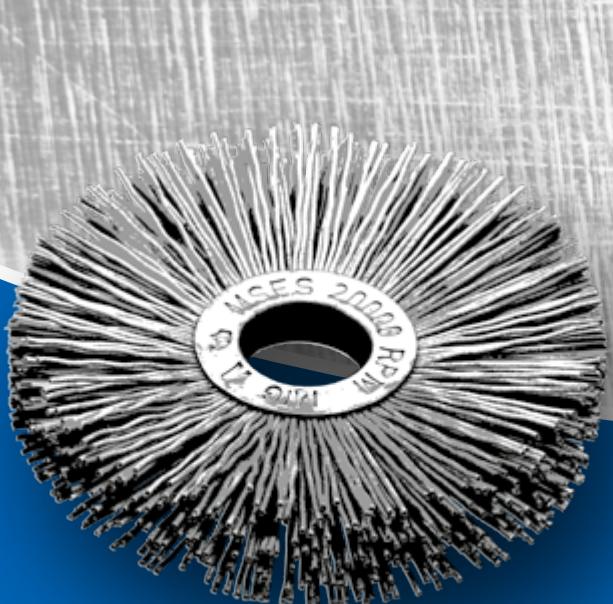
#### Physical properties

	STA	STH	ROF	ROH	RO4	RO8	STM / STL	MES
WNr.			1.4301	1.4310	1.4401	1.4860		CuZn36 / CuZn37
AISI			304	301/302	316			
Tensile strength in N/mm <sup>2</sup> *	1,800 – 2,100	2,300 – 2,500	1,800 – 2,100	2,100 – 2,500	1,600 – 1,800	1,600 – 1,800	2,300 – 2,600	900 – 1,200
Specific weight in g/cm <sup>3</sup>	7.85	7.85	7.85	7.85	7.85	7.90	7.85	8.50
Temperature resistance in °C	up to 300 °C	up to 300 °C	up to 450 °C	up to 450 °C	up to 500 °C	up to 600 °C	up to 300 °C	up to 180 °C

\* The specified tensile strengths apply to wire diameters of 0.3 – 0.4 mm

# LESSMANN®

THE GERMAN BRUSH COMPANY



# WHEEL BRUSHES 01



# Knot wheel brushes



## Knot wheel brushes

Knot wheel brushes are used in angle grinders and stationary machines for weld preparation and finishing (fillet and butt welds). They remove scale, rust, paint, slag and rubber residue, and deburr edges.

## Knot wheel brushes, multiple rows

We supply pre-assembled, multiple-row brushes that have an even denser filling than individually combined one-row brushes. In addition to the models listed, we can provide brushes with rows in other multiples – and therefore other filling widths – as well as other wire diameters and bore specifications.

The knot wheel brushes specified are designed for use in stationary machines.

## Stainless steel brushes

You can easily identify LESSMANN brushes made with stainless steel wire by their green side plates. We use wire with material number 1.4310. 1.4401 wire is available on request. For more information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)

## Left – a good choice

All knots on our standard products are left-twisted for greater durability. Left-twisted wire knots prevent the bundles from opening prematurely when the brush is used at an angle.

In addition to left- or right-twisted knots, we also supply brushes with left-right knotting.

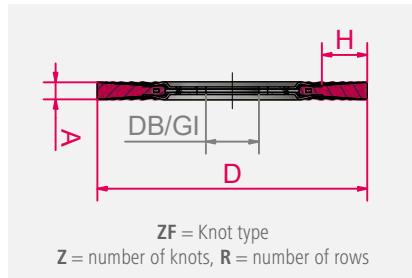
## Wheel brushes, left-right knotting

Wheel brushes with left-right knotting generally are more aggressive, meaning they are often used for heavy-duty brush work. Because the knots unravel less easily, they are ideal for working corners and edges.

## User tip:

Remember to repeatedly turn brushes during use. This automatically sharpens the wire tips!

Other numbers of rows, bore specifications or wire diameters can be supplied on request.



**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STM** = Brass-coated steel wire

**STH** = Steel wire, high tensile

**ROH** = Stainless steel wire, high tensile



## X-LOCK mount

Our wheel brushes with X-LOCK mount can be found on page 70.



You can find our **tutorials** at: [lessmann.com/en/know-how/#tutorials](http://lessmann.com/en/know-how/#tutorials)

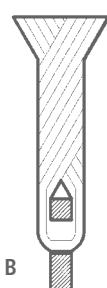


**Compact packaging**  
Many articles are packaged in handy shipping cartons of 10 pieces each.

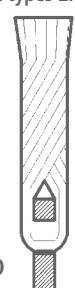


You can find our **enquiry forms** in the respective category at: [lessmann.com/en/downloads/](http://lessmann.com/en/downloads/) or in this catalogue from page 181

## Knot types ZF



**B:** Rose bud



**O:** Open knot (wire ends are cut)



**D:** Fully knotted (wire ends are cut completely)



EAN

## Knot wheel brushes ZR, one row, steel wire, brass-coated steel wire

D mm   inch	A mm   inch	DB/GI mm   inch	H mm   inch	Z 18	ZF B	R 1	RPM max.	Pack. 1	STH 0.35   0.014" Art.-No.	STH 0.50   0.020" Art.-No.	STH 0.80   0.031" Art.-No.	STM 0,50   0.020" Art.-No.	left-right knotting STH 0.50   0.020" Art.-No.
75   3	10   3/8	13   1/2	15   18	18	B	1	25,000	1	470.111*	470.211*			
100   4	12   1/2	M 14 x 2,0	22   18	18	B	1	12,500	1	471.117*	<b>471.217*</b>			
115   4 1/2	14   1/2	22.2   7/8	24   20	20	B	1	12,500	1	<b>472.111*</b>	<b>472.211*</b>		472.211.SM*	<b>472.211.WZ*</b>
115   4 1/2	14   1/2	M 14 x 2,0	24   20	20	B	1	12,500	1	<b>472.117*</b>	<b>472.217*</b>			
125   5	14   1/2	22.2   7/8	29   20	20	B	1	12,500	1	<b>473.111*</b>	<b>473.211*</b>		473.211.SM*	<b>473.211.WZ*</b>
125   5	14   1/2	M 14 x 2,0	29   20	20	B	1	12,500	1	<b>473.117*</b>	<b>473.217*</b>			<b>473.217.WZ*</b>
125   5	14   1/2	22.2   7/8	29   24	24	B	1	12,500	1		473.211.24			
150   6	14   1/2	22.2   7/8	32   26	26	B	1	12,500	1	474.111*	<b>474.211*</b>	474.311		
150   6	14   1/2	M 14 x 2,0	32   26	26	B	1	12,500	1	474.117*	<b>474.217*</b>	474.317		
178   7	14   1/2	22.2   7/8	38   32	32	B	1	12,500	1	475.111*	<b>475.211*</b>	475.311		
178   7	14   1/2	M 14 x 2,0	38   32	32	B	1	12,500	1		<b>475.217*</b>	475.317		
200   8	14   1/2	22.2   7/8	41   36	36	B	1	9,000	1	<b>476.111</b>	<b>476.211</b>	476.311		
200   8	14   1/2	50.8   2	41   36	36	B	1	9,000	1		476.210.51	On request		
230   9 1/16	14   1/2	22.2   7/8	56   40	40	B	1	9,000	1		475.211			
250   10	15   5/8	50.8   2**	42   52	52	O	1	5,000	1		<b>477.210.75</b>	477.310.75		
300   12	15   5/8	50.8   2**	56   58	58	O	1	5,000	1		478.210.75	478.310.75		

EAN

## Knot wheel brushes ZR, one row, stainless steel wire

D mm   inch	A mm   inch	d mm   inch	H mm   inch	Z 18	ZF B	R 1	RPM max.	Pack. 1	ROH 0.35   0.014" Art.-No.	ROH 0.50   0.020" Art.-No.	ROH 0.50   0.020" Art.-No.	left-right knotting ROH 0.50   0.020" Art.-No.	
100   4	12   1/2	M 14 x 2,0	22   18	18	B	1	12,500	1			471.817*		
115   4 1/2	14   1/2	22.2   7/8	24   20	20	B	1	12,500	1		<b>472.711*</b>	<b>472.811*</b>	<b>472.811.WZ*</b>	
115   4 1/2	14   1/2	M 14 x 2,0	24   20	20	B	1	12,500	1		<b>472.717*</b>	<b>472.817*</b>		
125   5	14   1/2	22.2   7/8	29   20	20	B	1	12,500	1		<b>473.711*</b>	<b>473.811*</b>	<b>473.811.WZ*</b>	
125   5	14   1/2	M 14 x 2,0	29   20	20	B	1	12,500	1			<b>473.817*</b>		
150   6	14   1/2	22.2   7/8	32   26	26	B	1	12,500	1			<b>474.811*</b>		
150   6	14   1/2	M 14 x 2,0	32   26	26	B	1	12,500	1			474.817		
178   7	14   1/2	22.2   7/8	38   32	32	B	1	12,500	1			<b>475.811*</b>		
178   7	14   1/2	M 14 x 2,0	38   32	32	B	1	12,500	1			475.817		

5/8" – 11 UNC thread on request | \* Packed 10 pieces per carton | \*\* With 13 x 7 turtle bore

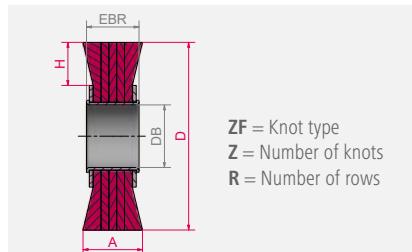
# Knot wheel brushes, multiple-row



EAN

## Knot wheel brushes ZRS, multiple-row

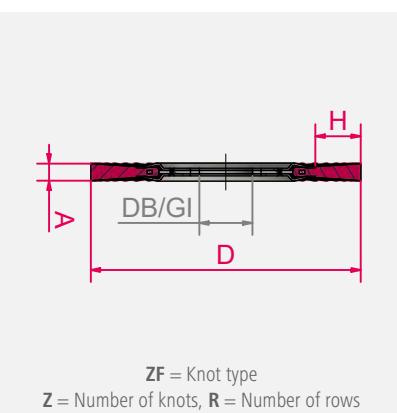
D mm   inch	A	EBR	DB <sub>Stand.</sub> mm   inch	DB <sub>min</sub>	H	ZF	Z x R	RPM max.	Pack.	STH 0.35 0.014"	STH 0.50 0.020"	ROH 0.35 0.014"	ROH 0.50 0.020"
100   4	22-24	12	20   3/4	10	21	B	20 x 2	12,500	1	471.12K	471.22K	471.72K	471.82K
100   4	30-32	18	20   3/4	10	21	B	20 x 3	12,500	1	471.13K	471.23K	471.73K	471.83K
100   4	34-36	25	20   3/4	10	21	B	20 x 4	12,500	1	471.14K	471.24K	471.74K	471.84K
115   4 1/2	22-24	18	30   1 1/4	10	23.5	B	22 x 2	12,500	1	472.12K	472.22K	472.72K	472.82K
115   4 1/2	30-32	25	30   1 1/4	10	23.5	B	22 x 3	12,500	1	472.13K	472.23K	472.73K	472.83K
115   4 1/2	34-36	30	30   1 1/4	10	23.5	B	22 x 4	12,500	1	472.14K	472.24K	472.74K	472.84K
125   5	22-24	18	30   1 1/4	13	28.5	B	24 x 2	12,500	1	473.12K	473.22K	473.72K	473.82K
125   5	30-32	25	30   1 1/4	13	28.5	B	24 x 3	12,500	1	473.13K	473.23K	473.73K	473.83K
125   5	34-36	30	30   1 1/4	13	28.5	B	24 x 4	12,500	1	473.14K	473.24K	473.74K	473.84K
150   6	22-24	18	30   1 1/4	13	31.5	O	28 x 2	12,500	1	474.12K	474.22K	474.72K	474.82K
150   6	30-32	25	30   1 1/4	13	31.5	O	28 x 3	12,500	1	474.13K	474.23K	474.73K	474.83K
150   6	36-38	30	30   1 1/4	13	31.5	O	28 x 4	12,500	1	474.14K	474.24K	474.74K	474.84K
178   7	22-24	18	50   2	16	37.5	O	34 x 2	12,500	1	475.12K	475.22K	475.72K	475.82K
178   7	30-32	25	50   2	16	37.5	O	34 x 3	12,500	1	475.13K	475.23K	475.73K	475.83K
178   7	36-38	30	50   2	16	37.5	O	34 x 4	12,500	1	475.14K	475.24K	475.74K	475.84K
200   8	22-24	18	50   2	16	41	O	38 x 2	9,000	1	476.12K	476.22K	476.72K	476.82K
200   8	30-32	25	50   2	16	41	O	38 x 3	9,000	1	476.13K	476.23K	476.73K	476.83K
200   8	36-38	30	50   2	16	41	O	38 x 4	9,000	1	476.14K	476.24K	476.74K	476.84K
250   10	26-30	18	100   4	20	42	O	52 x 2	5,000	1	477.12K	477.22K	477.72K	477.82K
250   10	38-40	26	100   4	20	42	O	52 x 3	5,000	1	477.13K	477.23K	477.73K	477.83K
250   10	50-54	34	100   4	20	42	O	52 x 4	5,000	1	477.14K	477.24K	477.74K	477.84K
300   12	26-30	18	100   4	30	56	O	58 x 2	5,000	1	478.12K	478.22K	478.72K	478.82K
300   12	38-40	26	100   4	30	56	O	58 x 3	5,000	1	478.13K	478.23K	478.73K	478.83K
300   12	50-54	34	100   4	30	56	O	58 x 4	5,000	1	478.14K	478.24K	478.74K	478.84K



# Joint cleaning brushes



D mm   inch	A mm   inch	DB/GI mm   inch	H	Z	ZF	R	RPM max.	Pack.	STA 0.50   0.020" Art.-No.	STA 0.80   0.031" Art.-No.	STM 0.50   0.020" Art.-No.
300   12	6   1/4	20   3/4	67	64	D	1	5,000	5	<b>478.200.06</b>	478.300.06	478.500.06
300   12	8   5/16	20   3/4	67	64	D	1	5,000	5	<b>478.200.08</b>	<b>478.300.08</b>	478.500.08
300   12	10   3/8	20   3/4	67	64	D	1	5,000	5	<b>478.200.10</b>	<b>478.300.10</b>	478.500.10
300   12	6   1/4	25.4   1	67	64	D	1	5,000	5	478.225.06	478.325.06	478.520.06
300   12	8   5/16	25.4   1	67	64	D	1	5,000	5	478.225.08	478.325.08	478.520.08
300   12	10   3/8	25.4   1	67	64	D	1	5,000	5	478.225.10	478.325.10	



## Joint cleaning brushes

For brushing away loose and semi-solid particles such as stones, grit, and slag from joints and expansion joints. Used in road and airfield construction.

The brushes are used when building expansion joints in new pavement, and during repaving or repair work.

Brushes with STM brass-coated steel wire are particularly durable and, for this reason, are preferred for cleaning concrete joints.

**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**STH** = Steel wire, high tensile

**STM** = Brass-coated steel wire

**ROH** = Stainless steel wire, high tensile

# Pipeline brushes / Stringer bead brushes



## Pipeline brushes / Stringer bead brushes

LESSMANN pipeline brushes (stringer bead brushes) were developed specifically for professional use on U- and V-welds in piping and pipeline construction.

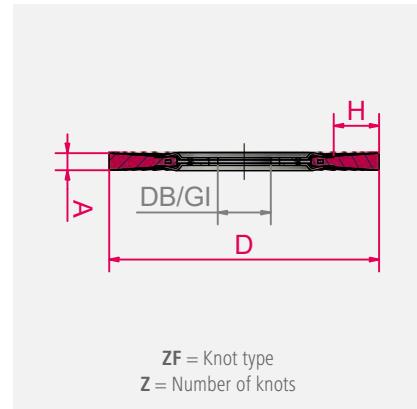
### Silence is a virtue

Users benefit significantly from these high-quality tools thanks to their outstanding service life and smooth running properties, which make them a pleasure to work with. LESSMANN pipeline brushes are extra narrow, meaning they are suitable for cleaning all pipe welds.



## Pipeline brushes / Stringer bead brushes, left-right knotted

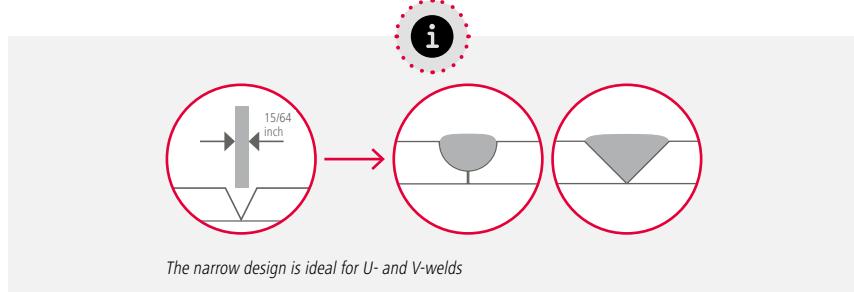
Pipeline brushes with left-right knotting generally are more aggressive, meaning they are often used for heavy-duty brush work. Because the knots unravel less easily, they are ideal for working corners and edges.



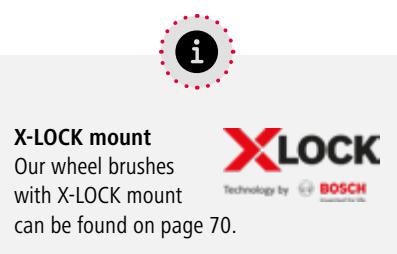
ZF = Knot type  
Z = Number of knots

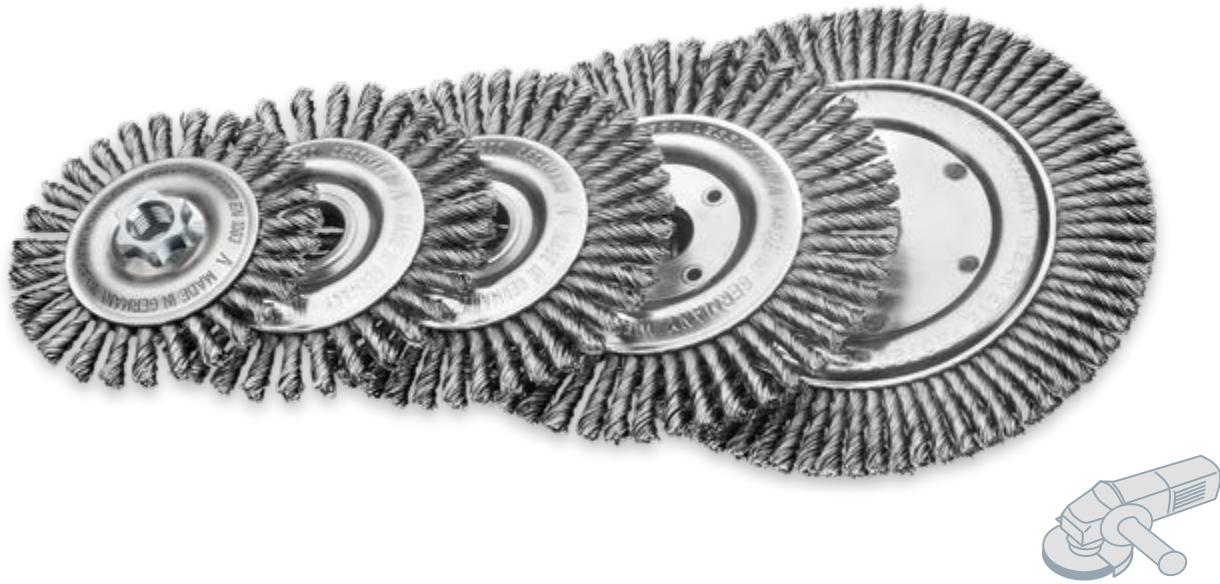
**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STH** = Steel wire, high tensile



*The narrow design is ideal for U- and V-welds*





Pipeline brushes / Stringer bead brushes ZRP, steel wire							Bo. 22.2   7/8"	M 14 x 2.0	5/8" – 11 UNC
D mm   inch	A mm   inch	H	Z	ZF	RPM	Pack.*	STH 0.50   0.020" Art.-No.	STH 0.50   0.020" Art.-No.	STH 0.50   0.020" Art.-No.
100   4	6   1/4	19	28	D	20,000	10	On request	471.207.28	471.208.28
115   4 1/2	6   1/4	22	32	D	15,000	1	<b>472.201.EZ</b>		
115   4 1/2	6   1/4	22	32	D	15,000	5/10	<b>472.201.32</b>	472.207.32	472.208.32
115   4 1/2	6   1/4	22	39	D	15,000	10	<b>472.201.39</b>	On request	On request
125   5	6   1/4	26	40	D	15,000	1	<b>473.201.EZ</b>		
125   5	6   1/4	26	40	D	15,000	5/10	<b>473.201.40</b>	<b>473.207.40</b>	473.208.40
150   6	6   1/4	30	48	D	12,500	5/10	<b>474.201.48</b>	474.207.48	474.208.48
178   7	6   1/4	36	48	D	12,500	1	<b>475.201.EZ</b>		
178   7	6   1/4	36	48	D	12,500	5/10	<b>475.201.48</b>	475.207.48	475.208.48
178   7	6   1/4	30	56	D	12,500	5/10	<b>475.201.56</b>	475.207.56	On request
178   7	6   1/4	30	76	D	12,500	5/10	<b>475.201.76</b>	475.207.76	475.208.76
230   9 1/16	6   1/4	56	76	D	12,500	1	475.201.76		

\* Brushes with thread = packed 5 pieces per carton; brushes with bore = packed 10 pieces per carton

# Pipeline brushes / Stringer bead brushes



Pipeline brushes / Stringer bead brushes ZRP, stainless steel wire							Bo. 22.2   7/8"	M 14 x 2.0	5/8" – 11 UNC
D mm   inch	A mm   inch	H	Z	ZF	RPM max.	Pack.*	ROH 0.50   0.020" Art.-No.	ROH 0.50   0.020" Art.-No.	ROH 0.50   0.020" Art.-No.
100   4	6   1/4	19	28	D	20,000	10	On request	471.807.28	471.808.28
115   4 1/2	6   1/4	22	32	D	15,000	1	<b>472.801.EZ</b>		
115   4 1/2	6   1/4	22	32	D	15,000	5/10*	<b>472.801.32</b>	472.807.32	472.808.32
115   4 1/2	6   1/4	22	39	D	15,000	10	<b>472.801.39</b>	On request	On request
125   5	6   1/4	26	40	D	15,000	1	<b>473.801.EZ</b>		
125   5	6   1/4	26	40	D	15,000	5/10*	<b>473.801.40</b>	<b>473.807.40</b>	473.808.40
150   6	6   1/4	30	48	D	12,500	5/10*	<b>474.801.48</b>	474.807.48	474.808.48
178   7	6   1/4	36	48	D	12,500	5/10*	<b>475.801.48</b>	475.807.48	475.808.48
178   7	6   1/4	30	56	D	12,500	5/10*	475.801.56	475.807.56	475.808.56
178   7	6   1/4	30	76	D	12,500	5/10*	475.801.76	475.807.76	475.808.76

\* Brushes with thread = packed 5 pieces per carton; brushes with bore = packed 10 pieces per carton

## Stainless steel brushes

You can easily identify LESSMANN pipeline brushes made with stainless steel wire by their green side plates. We use wire with material number 1.4310. 1.4401 wire is available on request.

For more information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)

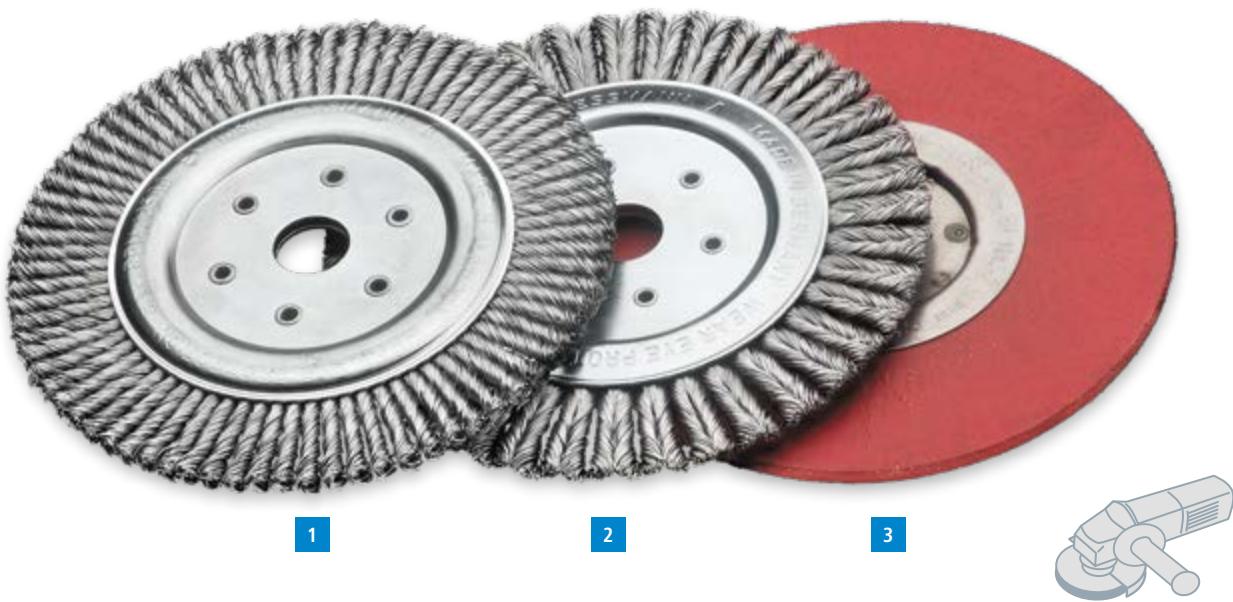


### X-LOCK mount

Our wheel brushes with X-LOCK mount can be found on page 70.



Technology by 



### 1 Pipeline brushes / Stringer bead brushes ZRP, with rose bud

D mm   inch	A mm   inch	DB mm   inch	H mm   inch	Z mm   inch	ZF mm   inch	RPM max.	Pack.	STH 0.50   0.020" Art.-No. 475.2B1.76
178   7	6   1/4	22.2   7/8	28	76	B	12,500	10	

### 2 Pipeline brushes / Stringer bead brushes ZRP, left-right knotted

D mm   inch	A mm   inch	DB mm   inch	H mm   inch	Z mm   inch	ZF mm   inch	RPM max.	Pack.	STH 0.50   0.020" Art.-No. 475.2W1.76
178   7	6   1/4	22.2   7/8	28	76	D	12,500	10	

### 3 Pipeline brushes / Stringer bead brushes RBKG, encapsulated

D mm   inch	A mm   inch	DB mm   inch	H mm   inch	RPM max.	Pack.	STA 0.35   0.014" Art.-No. 300.771.KG
150   6	6   1/4	22.2   7/8	29	9,000	1	
178   7	6   1/4	22.2   7/8	43	9,000	1	

#### Pipeline brushes / Stringer bead brushes with rose bud

Knotted brushes with rose bud have a longer service life and are used for professional weld seam finishing.

#### Pipeline brushes / Stringer bead brushes, left-right knotted

Pipeline brushes with left-right knotting generally are more aggressive, meaning they are often used for heavy-duty brush work. Because the knots unravel less easily, they are ideal for working corners and edges.

#### Pipeline brushes / Stringer bead brushes, encapsulated

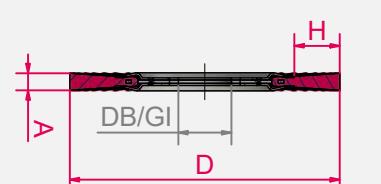
Encapsulated pipeline brushes (crimped wire) enable work of the highest precision. Premature breakage of individual wires is prevented by en-

capsulating them in a polymer compound. With a working width of 6 mm, the brushes can still reach into U- and V-weld seams.

#### Different hardnesses

Encapsulated brushes from Lessmann can now be supplied in three different Shore hardnesses:

- Black – Hard
- Red – Standard
- White – Soft



ZF = Knot type  
Z = Number of knots

**Art. Nos. in bold** are available ex warehouse.

*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire

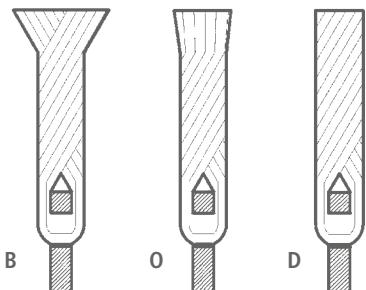
**STH** = Steel wire, high tensile

**ROH** = Stainless steel wire, high tensile

# Cutback brushes



Knot types ZF



B: Rose bud  
O: Open knot (wire ends are cut)  
D: Fully knotted (wire ends are cut completely)

## Cutback brushes

Cutback brushes are used to remove pipe coatings.

Using brushes to remove the coatings on pipes is a common application in the pipe industry.

To prevent corrosion, the outer surfaces of steel pipes are usually coated with epoxy resin and several layers of PE or PP. To be able to cleanly weld pipes together when laying a pipeline, this coating must be removed completely from the pipe ends. Special knotted wheel brushes are used for this purpose.

LESSMANN cutback brushes, with their impressive proven service life, are used in many large pipe mills operated by international corporations.

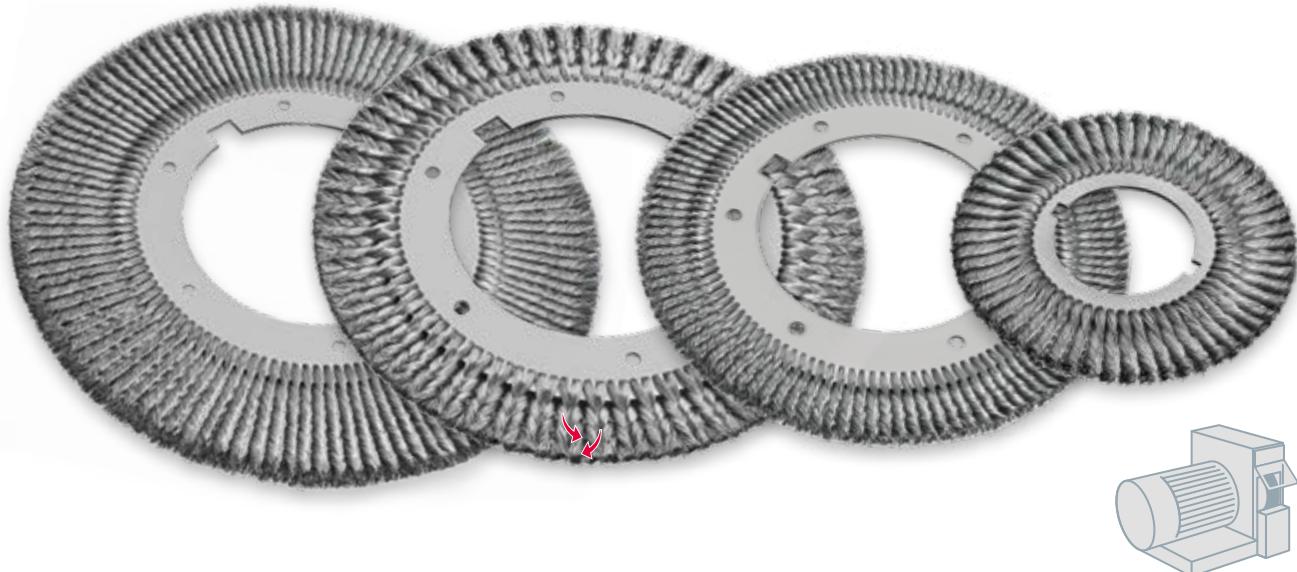
Cutback rings from LESSMANN are **pre-assembled at the factory**. This ensures perfect balancing and uniform cutting surfaces. The filling is also denser than in individually assembled cutback rings.

All our cutback brushes are also available with left-right knotting (WZ).



## Cutback brushes, left-right knotted

Cutback brushes with left-right knotting generally are more aggressive, meaning they are often used for heavy-duty brush work. Because the knots unravel less easily, they are ideal for working corners and edges.



## Cutback brushes

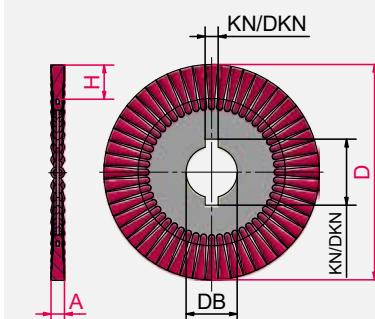
D mm   inch	A mm   inch	H mm   inch	DB mm   inch	KN/DKN	Z	ZF	STH	ROH
250   10	13   33/64	45   1 49/64	102   4 1/64	115.8 x 13	56	0	0.63	0.50 / 0.80
300   12	13   33/64	60   12 23/64	102   4 1/64	115.8 x 13	64	0	0.80	0.50 / 0.80
390   15 23/64	13   33/64	45   1 49/64	200.6   7 57/64	233 x 24	114	0 Left-right knotted (WZ)	0.63 / 0.80	0.80
465   18 5/16	13   33/64	82.5   3 1/4	200.6   7 57/64	233 x 24	114	0	0.58 / 0.80	0.80

The examples listed above give you an idea of our full product range.

In our ultra-modern production facilities, we can fabricate a wide variety of brushes (diameter, working width, bore sizes and types) to customer specifications.



On request, scribe markings to customer specifications are also available.



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STH** = Steel wire, high tensile, straight

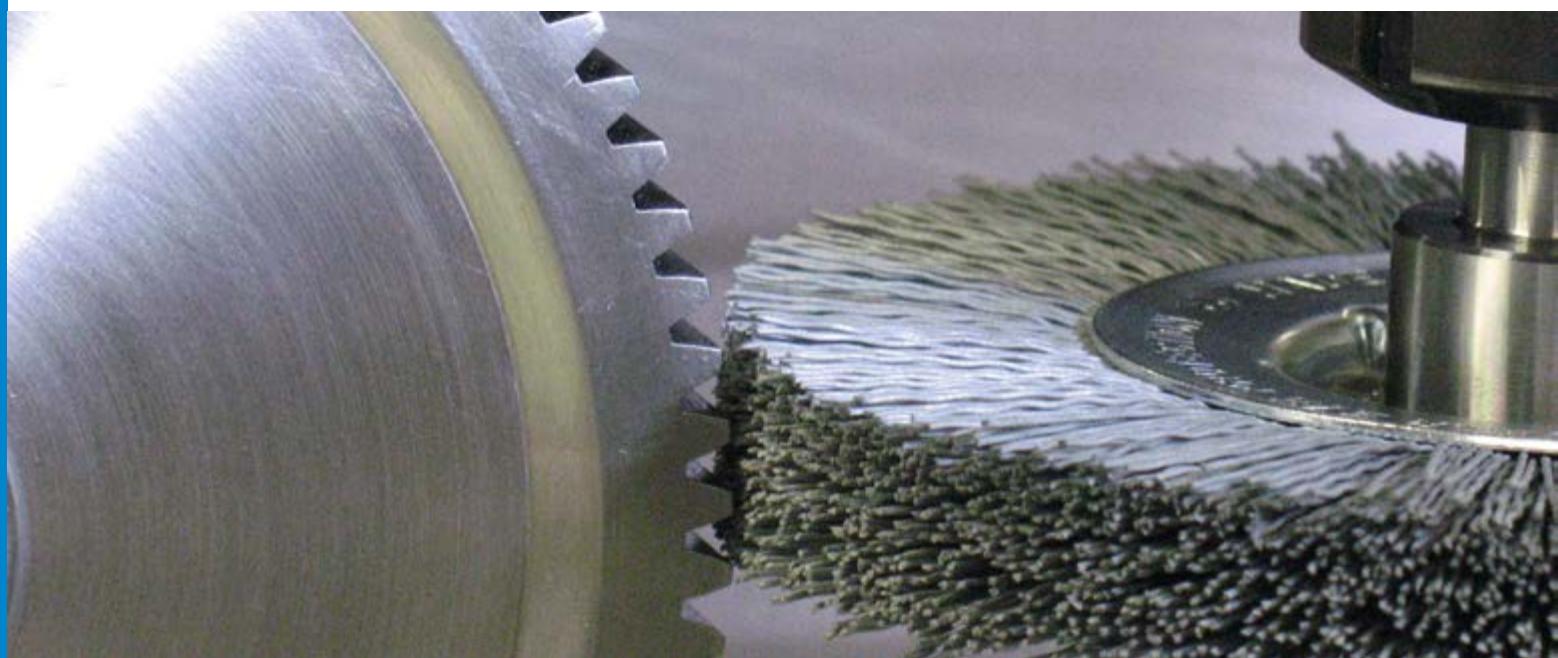
**ROH** = Stainless steel wire, high tensile, straight



You can find our **enquiry forms** in the respective category at: [lessmann.com/en/downloads/](http://lessmann.com/en/downloads/) or in this catalogue from page 181



# Single segment brushes



## Single segment brushes

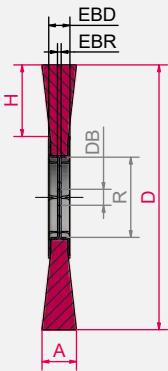
These brushes are mainly used for deburring work in stationary machines and machining centres. The construction of these brushes allows them to be assembled into wide rollers. Available filling materials include steel and stainless steel wire, as well as abrasive grit with various grit sizes.

### Superior finish

The flexible bristles mould to the shape of a workpiece. Their resulting gentle action makes these LESSMANN brushes superior to other grinding tools, such as pads or grinding discs, in many cases. In addition, the bristles do not become encrusted and retain their grinding effect. They are suitable for deburring stainless steel, light metals, and plastics. Various grit sizes are available to choose from depending on your application.



Laser etching on brushes



A can be up to 4 mm larger than EBD

EBR = 3.0 mm if R > 60

EBR = 2.4 mm if R ≤ 60

For more information on abrasive filaments, see the section on „Materials“ (pages 13 ff.).

**Art. Nos. in bold** are available ex warehouse.

*Art. Nos. in italics* require a minimum order volume (see page 186).

**SIC** = Silicon carbide bristles

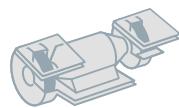
**KK** = Ceramic grit



1

2

3



## 1 Single segment brushes RBE, abrasive filaments

D mm   inch	R	EBD	H	DB <sub>Stand.</sub> mm   inch	DB <sub>min./max.</sub> mm   inch	RPM	Pack.	SIC 80/1.2 Art.-No.	SIC 120/1.1 Art.-No.	SIC 120/0.6 Art.-No.	SIC 180/1.0 Art.-No.	SIC 320/0.6 Art.-No.
80   3 1/4	26	12	17	12   1/2	12–16	12,000	5		310.831	310.841	<b>310.851</b>	310.871
100   2	30	12	21	12   1/2	12–20	8,000	5	<b>320.821</b>	320.831	<b>320.841</b>	<b>320.851</b>	<b>320.871</b>
125   5	30	12	33	12   1/2	12–20	8,000	5	330.821		<b>330.841</b>	<b>330.851</b>	330.871
150   6	50	14	32	12   1/2	12–30	6,000	5	<b>340.821</b>	<b>340.831</b>	340.841	<b>340.851</b>	<b>340.871</b>
178   7	50	14	46	12   1/2	12–30	6,000	5	350.821	350.831	<b>350.841</b>	350.851	350.871
178   7	60	16	41	12   1/2	12–40	6,000	5			351.841	351.851	351.871
200   8	60	16	52	12   1/2	12–40	6,000	5	361.821	361.831	361.841	361.851	361.871
200   8	80	16	43	16   5/8	16–60	6,000	5		362.831	362.841	362.851	362.871
200   8	100	16	32	16   5/8	16–80	6,000	5		<b>360.831</b>	<b>360.841</b>	<b>360.851</b>	<b>360.871</b>
250   10	100	16	57	16   5/8	16–80	6,000	5		<b>370.831</b>	370.841	370.851	<b>370.871</b>
250   10	120	16	45	20   3/4	20–100	3,600	5			371.841	371.851	371.871
250   10	150	19	30	25.4   1	25.4–130	3,600	5		372.831	372.841	372.851	372.871
300   12	120	16	70	20   3/4	20–100	3,600	5			380.841	380.851	380.871
300   12	150	19	35	25.4   1	25.4–130	3,600	5		381.831	381.841	381.851	381.871

## 2 Single segment wheel brushes RBE, abrasive filaments, 2 rows

D mm   inch	R	EBD	H	DB <sub>Stand.</sub> mm   inch	DB <sub>min./max.</sub> mm   inch	RPM	Pack.	SIC 120/0.6 Art.-No.	SIC 180/1.0 Art.-No.	SIC 320/0.6 Art.-No.
200   8	80	27	43	16   5/8	16–60	6,000	5	On request	362.852	On request
250   10	100	27	58	16   5/8	16–80	6,000	5	On request	370.852	On request

## 3 Single segment brushes RBE, ceramic grit

D mm   inch	R	EBD	H	DB <sub>Stand.</sub> mm   inch	DB <sub>min./max.</sub> mm   inch	RPM	Pack.	KK 120/1.1 Art.-Nr.	KK 180/1.0 Art.-Nr.	KK 320/0.6 Art.-Nr.
100   2	30	12	21	12   1/2	12–20	8,000	5	<b>320.C31</b>	320.C51	320.C71
150   6	50	14	32	12   1/2	12–30	6,000	5	<b>340.C31</b>	340.C51	<b>340.C71</b>
200   8	100	16	32	16   5/8	16–80	6,000	5	<b>360.C31</b>	360.C51	360.C71
250   10	100	16	57	16   5/8	16–80	6,000	5	<b>370.C31</b>	370.C51	370.C71

Specify required bore on your order. Standard bores available on short notice ex warehouse. Other bores are available for an added charge.

# Single segment brushes



## Single segment wheel brushes RBE, steel wire, cord wire

D mm   inch	R	EBD	H	DB <sub>Stand.</sub> mm   inch	DB <sub>min./max.</sub>	RPM max.	Pack.	STA 0.20   0.008"	STA 0.30   0.012"	STL 0.35   0.014"
								Art.-No.	Art.-No.	Art.-No.
80   3 1/4	26	12	17	12   1/2	12–16	12,000	5	310.141	<b>310.161</b>	On request
100   4	30	12	21	12   1/2	12–20	8,000	5	<b>320.141</b>	<b>320.161</b>	320.707
125   5	30	12	33	12   1/2	12–20	8,000	5	330.141	<b>330.161</b>	On request
125   5	40	12	29	12   1/2	12–25	8,000	5	On request	331.161	On request
150   6	50	14	32	12   1/2	12–30	6,000	5	<b>340.141</b>	<b>340.161</b>	340.707
178   7	50	14	46	12   1/2	12–30	6,000	5	350.141	<b>350.161</b>	On request
178   7	60	16	41	12   1/2	12–40	6,000	5	351.141	351.161	351.707
200   8	60	16	52	12   1/2	12–40	6,000	5	361.141	361.161	On request
200   8	80	16	43	16   5/8	16–60	6,000	5	362.141	362.161	362.707
200   8	100	16	32	16   5/8	16–80	6,000	5	<b>360.141</b>	<b>360.161</b>	360.707
250   10	100	16	57	16   5/8	16–80	6,000	5	370.141	<b>370.161</b>	On request
250   10	120	16	45	20   3/4	20–100	3,600	5	371.141	371.161	On request
300   12	120	16	70	20   3/4	20–100	3,600	5	380.141	380.161	On request
300   12	150	19	55	25.4   1	25.4–130	3,600	5		381.161	

## Single segment wheel brushes RBE, steel wire, 2 rows

D mm   inch	R	EBD	H	DB <sub>Stand.</sub> mm   inch	DB <sub>min./max.</sub>	RPM max.	Pack.	STH 0.35   0.014"
								Art.-No.
200   8	80	20	43	16   5/8	16–60	4,500	5	362.272
250   10	100	20	58	16   5/8	16–80	6,000	5	370.272

Specify required bore on your order. Standard bores available on short notice ex warehouse. Other bores are available for an added charge.



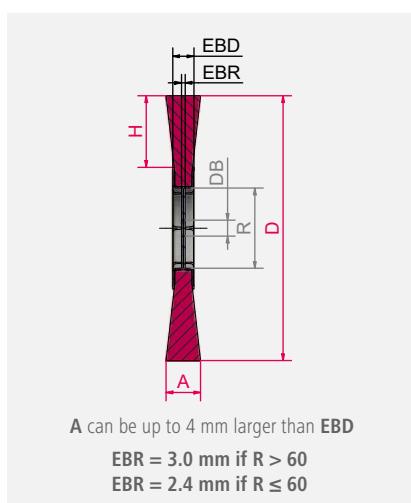
## Single segment wheel brushes RBE, stainless steel wire

D mm   inch	R	EBD	H	DB <sub>stand.</sub> mm   inch	DB <sub>min/max.</sub>	RPM max.	Pack.	ROF 0.20   0.008" Art.-No.	ROF/ROH 0.30   0.012" Art.-No.
80   3 1/4	26	12	17	12   1/2	12–16	12,000	5	310.341	310.361
100   2	30	12	21	12   1/2	12–20	8,000	5	<b>320.341</b>	<b>320.361</b>
125   5	30	12	33	12   1/2	12–20	8,000	5	330.341	<b>330.361</b>
125   5	40	12	29	12   1/2	12–25	8,000	5	331.341	331.361
150   6	50	14	32	12   1/2	12–30	6,000	5	<b>340.341</b>	<b>340.361</b>
178   7	50	14	46	12   1/2	12–30	6,000	5	350.341	350.361
178   7	60	16	41	12   1/2	12–40	6,000	5	351.341	351.361
200   8	60	16	52	12   1/2	12–40	6,000	5	361.341	361.361
200   8	80	16	43	16   5/8	16–60	6,000	5	362.341	362.361
200   8	100	16	32	16   5/8	16–80	6,000	5	360.341	<b>360.361</b>
250   10	100	16	57	16   5/8	16–80	6,000	5	370.341	370.361
250   10	120	16	45	20   3/4	20–100	6,000	5	371.341	371.361
300   12	120	16	70	20   3/4	20–100	3,600	5	380.341	380.361
300   12	150	19	55	25.4   1	25.4–130	3,600	5		381.361

Specify required bore on your order. Standard bores available on short notice ex warehouse. Other bores are available for an added charge.

### Stainless steel brushes

You can easily identify LESSMANN brushes made with stainless steel wire by their laser etching. For information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)



For more information on abrasive filaments, see the section on "Materials" (page 13 ff.).

**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**STH** = Steel wire, high tensile, crimped

**STL** = Brass-coated corded wire, crimped

**ROF** = Stainless steel wire, crimped

**ROH** = Stainless steel wire, high tensile, straight

# Wheel brushes



## Wheel brushes

Wheel brushes with crimped wire filling are used for a variety of purposes in surface finishing:

- Removing rust, paint, dirt, etc.
- Roughening, deburring, stripping, polishing

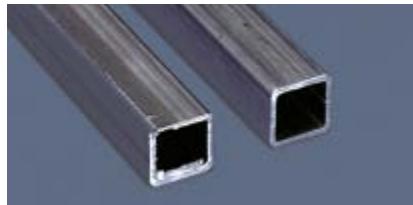
## Large or small?

The wire and tube diameters are determining factors for choosing the right article. Brushes with a large tube diameter (dimension R) contain more wire, offer harder action, and have a longer service life. This catalogue lists the standard tube sizes. Our product range includes many other versions. In addition to the specifications in the tables, interesting technical information, such as cutting speeds, is also provided on pages 9 ff.

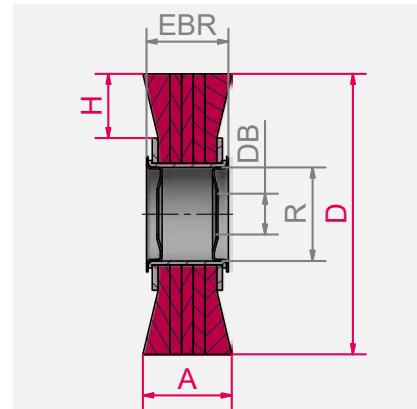
If you require a specific bore size/type, please indicate this in your order. If no information is provided, we will deliver the standard bore size "DB Stand".

## Additional wire types, diameters, and customised products

Take advantage of LESSMANN's wide range of products, as well as our experience in designing and manufacturing brushes. We can create products on request that meet your specific requirements.



Metal disc with adapter on tubes 80 and 100 (Set 4 / 5)



## Adapter Set

All brushes are supplied with adapter sets for common mounting dimensions. These adapters provide you with the following bore sizes:

### Set 1 / tube 30:

30 / 1" / 22.2 / 20 / 16 / 1/2" / 12

### Set 2 / tube 40:

40 / 32 / 1" / 22.2 / 20 / 16 / 1/2"

### Set 3 / tube 50:

50 / 32 / 1" / 22.2 / 20 / 16 / 1/2"

### Set 4 / tube 80,100 + 120:

brushes with metal discs, bore 50.8 and double keyway 7x13; plus adapter to bore 30.

### Set 5 / tube 80 + 100:

brushes with metal discs, bore 50.8 and double keyway 7x13; plus adapter to bore 32.

If used without the adapter set, the actual dimension is up to 0.2 mm less than nominal.



You can find our  
tutorials at:  
[lessmann.com/en/  
know-how/#tutorials](http://lessmann.com/en/know-how/#tutorials)

**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume  
(see page 186).

**STA** = Steel wire, crimped

**STM** = Brass-coated steel wire, crimped



EAN

## Wheel brushes RB, steel wire, brass-coated steel wire

D mm   inch	A	EBR	R	H	DB Stand. mm   inch	DB min/max. mm   inch	RPM max.	Pack. 1	1		2	
									STA 0.15   0.006"	STA 0.20   0.008"	STA 0.30   *0.35 0.012" / 0.014"	STM 0.30   0.012" Art.-No.
80   3 1/4	18-20	18	20	20	10   3/8	10-20	10,000	1	On request	<b>312.142</b>	<b>312.162</b>	
80   3 1/4	25-27	24	20	20	10   3/8	10-20	10,000	1	On request	<b>312.143</b>	<b>312.163</b>	
100   4	20-22	19	30	23	Set 1	10-30	8,000	1	<b>323.132</b>	<b>323.142</b>	<b>323.162</b>	
100   4	28-30	25	30	23	Set 1	10-30	8,000	1	<b>323.133</b>	<b>323.143</b>	<b>323.163</b>	
125   5	21-23	20	40	27	Set 2	13-40	6,000	1	<b>334.132</b>	<b>334.142</b>	<b>334.162</b>	
125   5	29-31	26	40	27	Set 2	13-40	6,000	1	On request	<b>334.143</b>	<b>334.163</b>	
150   6	22-24	20	40	33	Set 2	13-40	6,000	1	<b>344.132</b>	<b>344.142</b>	<b>344.172*</b>	
150   6	30-34	26	40	33	Set 2	13-40	6,000	1	<b>344.133</b>	<b>344.143</b>	<b>344.173*</b>	
150   6	23-25	22	50	33	Set 3	13-50	6,000	1	<b>345.132</b>	<b>345.142</b>	<b>345.162</b>	<b>345.762</b>
150   6	30-34	30	50	33	Set 3	13-50	6,000	1	<b>345.133</b>	<b>345.143</b>	<b>345.163</b>	
178   7	23-26	22	50	37	Set 3	16-50	6,000	1	On request	<b>355.142</b>	<b>355.162</b>	<b>355.762</b>
178   7	32-35	30	50	37	Set 3	16-50	6,000	1	<b>355.133</b>	<b>355.143</b>	<b>355.163</b>	
200   8	24-27	22	50	48	Set 3	16-50	6,000	1	<b>365.132</b>	<b>365.142</b>	<b>365.172*</b>	<b>365.762</b>
200   8	35-38	30	50	48	Set 3	16-50	6,000	1	<b>365.133</b>	<b>365.143</b>	<b>365.173*</b>	<b>365.763</b>
200   8	28-32	29	80	38	Set 4+1	16-80	4,500	1	On request	<b>366.142</b>	<b>366.162</b>	<b>366.762</b>
200   8	40-45	39	80	38	Set 4+1	16-80	4,500	1	On request	<b>366.143</b>	<b>366.163</b>	
250   10	30-35	29	80	50	Set 4+1	20-80	3,600	1	On request	<b>376.142</b>	<b>376.162</b>	
250   10	42-45	39	80	50	Set 4+1	20-80	3,600	1	On request	On request	<b>376.163</b>	
250   10	32-37	30	100	50	Set 4+1	20-100	3,600	1	On request	<b>377.142</b>	<b>377.162</b>	<b>377.762</b>
250   10	43-48	39	100	50	Set 4+1	20-100	3,600	1	On request	<b>377.143</b>	<b>377.163</b>	
250   10	55-60	49	100	50	Set 4+1	20-100	3,600	1	On request	<b>377.144</b>	<b>377.164</b>	
300   12	35-40	30	100	60	Set 4	30-100	3,000	1	On request	<b>387.142</b>	<b>387.162</b>	
300   12	47-52	39	100	60	Set 4	30-100	3,000	1	On request	<b>387.143</b>	<b>387.163</b>	
300   12	30-35	34	120	50	Set 4	30-120	3,000	1			<b>388.172*</b>	
300   12	42-47	46	120	50	Set 4	30-120	3,000	1			<b>388.173*</b>	
350   14	35-40	30	100	85	Set 5	32-100	2,400	1	On request	<b>397.142</b>	<b>397.172*</b>	
350   14	55-60	39	100	85	Set 5	32-100	2,400	1	On request	<b>397.143</b>	<b>397.173*</b>	

Specify required bore on your order. Standard bores available on short notice ex warehouse. Other bores are available for an added charge.

# Wheel Brushes



EAN

## Wheel brushes RB, stainless steel wire, abrasive filaments

D mm   inch	A mm   inch	EBR R	H mm   inch	DB <sub>Stand.</sub> mm   inch	DB <sub>min./max.</sub> mm   inch	RPM max.	Pack. 1	ROF/ROH 0.20   0.008" Art.-No.	ROF/ROH 0.30   0.012" Art.-No.	RO4 0.30   0.012" Art.-No.	SIC 80/1.2 Art.-No.	SIC 180/1.0 Art.-No.	
80   3 1/4	18-20	18	20	20	10   3/8	10-20	10,000	1	312.342	312.362			
80   3 1/4	25-27	24	20	20	10   3/8	10-20	10,000	1	On request	312.363			
100   4	20-22	19	30	23	Set 1	10-30	8,000	1	323.342	<b>323.362</b>			
100   4	28-30	25	30	23	Set 1	10-30	8,000	1	323.343	323.363			
125   5	21-23	20	40	27	Set 2	13-40	6,000	1	334.342	<b>334.362</b>			
125   5	29-31	26	40	27	Set 2	13-40	6,000	1	334.343	<b>334.363</b>			
150   6	22-24	20	40	33	Set 2	13-40	6,000	1	344.342	<b>344.362</b>			
150   6	30-34	26	40	33	Set 2	13-40	6,000	1	344.343	<b>344.363</b>			
150   6	18-20	20	50	33	Set 3	13-50	6,000	1			<b>345.822</b>	<b>345.852</b>	
150   6	23-25	22	50	33	Set 3	13-50	6,000	1	345.342	<b>345.362</b>	345.462.V4		
150   6	30-34	30	50	33	Set 3	13-50	6,000	1	345.343	<b>345.363</b>		<b>345.823</b>	<b>345.853</b>
178   7	23-26	22	50	37	Set 3	16-50	6,000	1	<b>355.342</b>	<b>355.362</b>			
178   7	30-32	29	50	37	Set 3	16-50	6,000	1			355.823	355.853	
178   7	32-35	30	50	37	Set 3	16-50	6,000	1	On request	<b>355.363</b>			
200   8	24-27	22	50	33	Set 3	16-50	6,000	1			365.462.V4		
200   8	24-27	22	50	48	Set 3	16-50	6,000	1	<b>365.342</b>	<b>365.362</b>			
200   8	28-30	29	50	38	Set 3	16-50	3,600	1				365.823	365.853
200   8	35-38	30	50	48	Set 3	16-50	6,000	1	365.343	<b>365.363</b>			
200   8	28-32	29	80	38	Set 4+1	16-80	4,500	1	366.342	<b>366.362</b>			
200   8	40-45	39	80	38	Set 4+1	16-80	4,500	1	366.343	<b>366.363</b>			
250   10	30-35	29	80	50	Set 4+1	20-80	3,600	1	376.342	<b>376.362</b>			
250   10	42-45	39	80	50	Set 4+1	20-80	3,600	1	376.343	<b>376.363</b>			
250   10	32-37	30	100	50	Set 4+1	20-100	3,600	1	377.342	<b>377.362</b>			
250   10	43-48	39	100	50	Set 4+1	20-100	3,600	1	377.343	<b>377.363</b>			
300   12	35-40	30	100	60	Set 4	30-100	3,000	1	387.342	<b>387.362</b>			
300   12	47-52	39	100	60	Set 4	30-100	3,000	1	387.343	387.363			
350   14	35-40	30	100	85	Set 5	32-100	2,400	1	On request	397.362			

Specify required bore on your order. Standard bores available on short notice ex warehouse. Other bores are available for an added charge.

### Stainless steel brushes

For information on brushing stainless steel, visit  
[www.lessmann.com](http://www.lessmann.com)

Metal disc with adapter on  
tubes 80 and 100 (Set 4 / 5)





EAN

## Wheel brushes RB, brass wire, bronze wire

D mm   inch	A	EBR	R	H	DB <sub>Stand.</sub> mm   inch	DB <sub>min./max.</sub>	RPM max.	Pack.	MES 0.15   0.006" Art.-No.	MES 0.20   0.008" Art.-No.	MES 0.30   0.012" Art.-No.	BRO 0.30 Art.-No.
80   3 1/4	18-20	18	20	20	10   3/8	10-20	10,000	1		<b>312.542</b>	312.562	
80   3 1/4	22-24	23	20	20	8   5/16	10-20	10,000	1	<b>302.532</b>			
80   3 1/4	25-27	24	20	20	10   3/8	10-20	10,000	1		312.543	312.563	
100   4	20-22	19	30	23	Set 1	10-30	8,000	1		<b>323.542</b>	323.562	
100   4	28-30	25	30	23	Set 1	10-30	8,000	1		323.543	323.563	
120   4 3/4	29-32	25	30	33	Set 1	10-30	8,000	1	<b>303.532</b>			
125   5	21-23	20	40	27	Set 2	13-40	6,000	1		<b>334.542</b>	334.562	
125   5	29-31	26	40	27	Set 2	13-40	6,000	1		334.543	On request	
150   6	22-24	20	40	33	Set 2	13-40	6,000	1		<b>344.542</b>	<b>344.562</b>	<b>344.662</b>
150   6	30-32	26	40	33	Set 2	13-40	6,000	1		344.543	344.563	
150   6	23-25	22	50	33	Set 3	13-50	6,000	1		<b>345.542</b>	<b>345.562</b>	345.662.MS*
150   6	30-34	30	50	33	Set 3	13-50	6,000	1		345.543	<b>345.563</b>	
178   7	23-26	22	50	37	Set 3	16-50	6,000	1		355.542	<b>355.562</b>	
178   7	32-35	30	50	37	Set 3	16-50	6,000	1		355.543	<b>355.563</b>	
200   8	24-27	22	50	48	Set 3	16-50	6,000	1		<b>365.542</b>	<b>365.562</b>	
200   8	35-38	30	50	48	Set 3	16-50	6,000	1		365.543	<b>365.563</b>	
200   8	28-32	29	80	38	Set 4+1	16-80	4,500	1		366.542	<b>366.562</b>	
200   8	40-45	39	80	38	Set 4+1	16-80	4,500	1		366.543	366.563	
250   10	30-35	29	80	50	Set 4+1	20-80	3,600	1		376.542	376.562	
250   10	42-45	39	80	50	Set 4+1	20-80	3,600	1		376.543	On request	
250   10	32-37	30	100	50	Set 4+1	20-100	3,600	1		On request	<b>377.562</b>	
250   10	43-48	39	100	50	Set 4+1	20-100	3,600	1		On request	On request	
300   12	35-40	30	100	60	Set 4	30-100	3,000	1		On request	<b>387.562</b>	
300   12	47-52	39	100	60	Set 4	30-100	3,000	1		On request	387.563	
350   14	35-40	30	100	85	Set 5	32-100	2,400	1		On request	397.562	

\* Bronze filling, brass fittings (non-sparking)

Specify required bore on your order.

Standard bores available on short notice ex warehouse.

Other bores are available for an added charge.

**Art. Nos. in bold** are available ex warehouse.

*Art. Nos. in italics* require a minimum order volume (see page 186).

**ROF** = Stainless steel wire

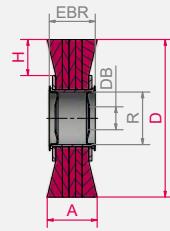
**ROH** = Stainless steel wire, high tensile

**RO4** = Stainless steel wire, premium quality

**MES** = Brass wire

**BRO** = Bronze wire

**SIC** = Silicon carbide bristles



# Brushes for the wood machining industry



## Satinising brushes

Satinising brushes are ideal for satinising, polishing, smoothing, matting, and structuring.

## Punch filled wheel and disc brushes

Wheel and disc brushes with abrasive nylon filling are ideal for applications in wood machining. On angle grinders or other hand tools, they are used for maintenance, cleaning, structuring, and polishing.

In addition, these brushes are suitable for lending wood a rustic appearance or roughening it before applying a paint or lacquer finish.

These brushes are particularly suitable for use on large surface areas.

## Structuring brushes with shank

These special-purpose brushes are used wherever wood surfaces need a structured finish.

**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STM** = Brass-coated steel wire, crimped

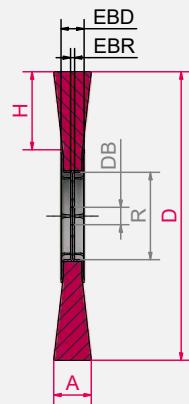
**STL** = Brass-coated corded wire, crimped

**ROF** = Stainless steel wire, crimped

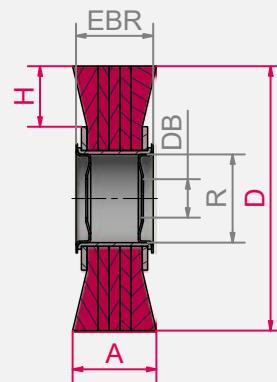
**SIC** = Silicon carbide bristles

**FIB** = Fibre, white

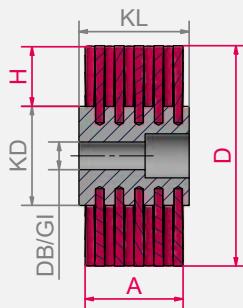
**PA** = Polyamide, crimped



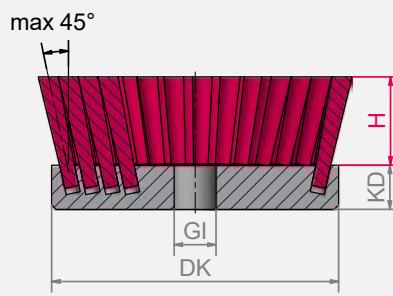
1 Satinising brushes



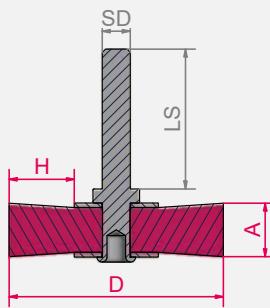
2 Satinising brushes



3 Wheel brushes



4 Disc brushes



5 Structuring brushes

# WHEEL BRUSHES



EAN

## Satinising brushes

	D mm   inch	A mm   inch	EBR mm   inch	R mm   inch	H mm   inch	DB mm   inch	RPM max.	Pack.	ROF 0.20   0.008" Art.-No.	SIC 80/1.2 Art.-No.	STL 0.25   0.010" Art.-No.	FIB/PA 0.4   0.016" Art.-No.
1	100   4	12   1/2	12   1/2	30   1 1/4	21	19.2   3/4	8,000	5	320.341.19	320.821.19	320.703.19	
2	100   4	70   2 3/4	70   2 3/4	30   1 1/4	23	19.2   3/4	8,000	1	<b>323.348.19</b>	<b>323.828.19</b>	<b>323.704.19</b>	
	100   4	100   4	102   4	30   1 1/4	23	19.2   3/4	8,000	1	323.305.19	323.805.19	<b>323.705.19</b>	<b>323.900.10</b>
	D mm   inch	A mm   inch	EBR mm   inch	R mm   inch	H mm   inch	DB mm   inch	RPM max.	Pack.	STM 0.35   0.014" Art.-No.	SIC 80/1.2 Art.-No.	SIC 120/1.1 Art.-No.	
2	100   4	120   4 3/4	122   4 3/4	30   1 1/4	23	12.7   1/2	8,000	1	323.770.13	323.820.13	323.830.13	

Specify required bore on your order. Standard bore with double keyway 5.2 x 23 mm; other bore sizes/types available for an added charge.

## 3 Punch filled wheel brushes

	D mm   inch	KL mm   inch	A mm   inch	GI	KD	RPM max.	Pack.	SIC 46/1.6 Art.-No.	SIC 60/1.5 Art.-No.	SIC 80/1.2 Art.-No.	SIC 120/1.10 Art.-No.	STM 0.30 Art.-No.
	140   5 1/2	58   2 9/32	40   1 5/8	M 14	80	2,500	1	402.881	402.882	<b>402.880</b>	402.883	<b>402.780</b>
	140   5 1/2	90   3 1/23	75   3	M 14	80	2,500	1	402.891	402.892	<b>402.890</b>	402.893	

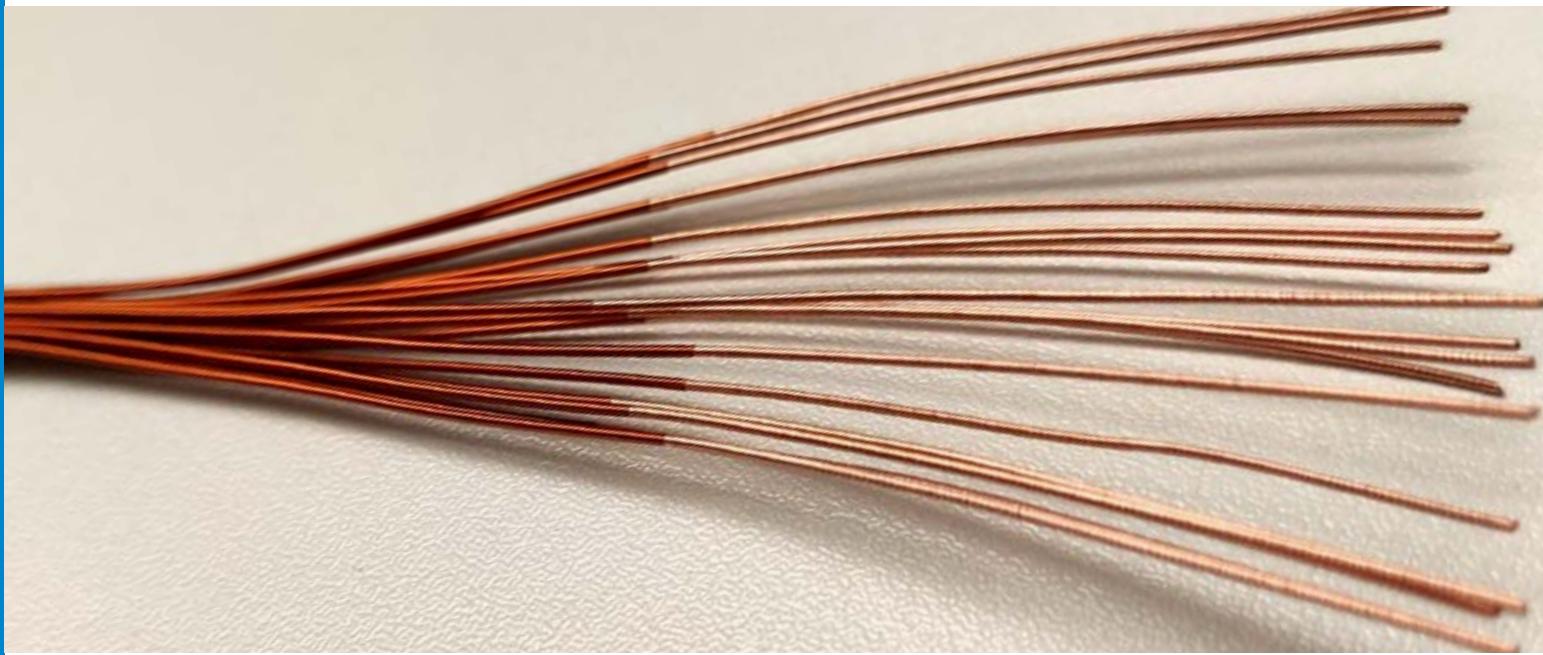
## 4 Punch filled disc brushes

Filling	DK mm   inch	KD mm   inch	H mm   inch	GI	RPM max.	Pack.	Art.-No.
SIC 46/1.6	130   5 1/8	20   3/4	50   2	M 14 x 2.0	2,500	1	<b>405.843</b>
SIC 60/1.5	130   5 1/8	20   3/4	50   2	M 14 x 2.0	2,500	1	<b>405.844</b>
SIC 80/1.2	130   5 1/8	20   3/4	50   2	M 14 x 2.0	2,500	1	<b>405.845</b>

## Structuring brushes SRB with shank, Ø 8 mm

D mm   inch	A mm   inch	H mm   inch	RPM max.	Pack.	5	STM 0.25   0.010" Art.-No.	SIC 80/1.2 Art.-No.
80   3 1/4	35   1 3/8	25   31/32	4,000	1		<b>418.704</b>	
80   3 1/4	35   1 3/8	24   15/16	15,000	1			<b>418.826</b>

# Stripping brushes



## For fast wiring

These brushes are specially designed for a single application: to remove coatings and insulating materials from cables and electrical conductors. They are installed in hand-operated or stationary machines.

Thanks to the ground surface of the wires and the precise concentric running of the brush, the coating on a cable can be removed without subjecting it to excessive wear and tear.

## How it works

In all of these machines, the cable is stripped between two rotating brushes. The rotational direction of the brushes determines whether tensile force acts on the cable. If the brushes rotate in opposite directions, the cable is drawn into the unit; if they rotate in the same direction, no tensile forces are generated.

By using different types of brushes, the degree of stripping can be adapted to the cable diameter and insulation material, and optimised. In addition, the brushes can be adapted to cables of different thickness by means of an infinitely variable set screw.

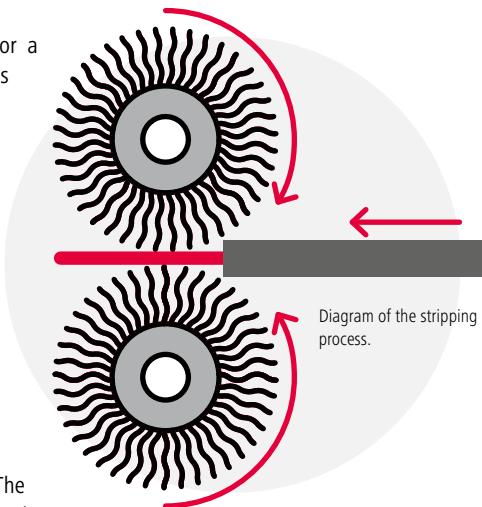
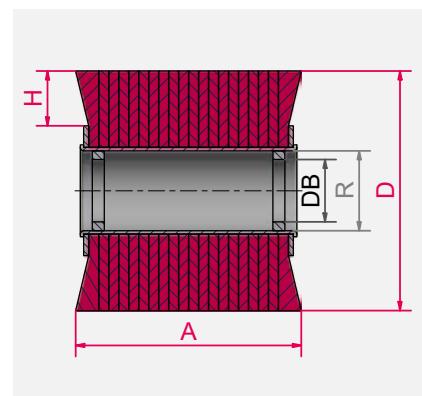


Diagram of the stripping process.



**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**STM** = Brass-coated steel wire, crimped



Our stripping brushes now feature improved labelling.

Please pay particular attention to the direction of rotation, as the brushes can only deliver their full power when used correctly.





## 1 Stripping brushes, steel wire

D mm   inch	A mm   inch	R mm   inch	DB mm	RPM max.	Pack.	STA 0.10   0.004" Art.-Nr.	STA 0.15   0.006" Art.-Nr.	STA 0.20   0.008" Art.-Nr.	STA 0.25   0.010" Art.-Nr.	STA 0.30   0.012" Art.-Nr.
30   1 1/8	20   3/4	8   3/8	6	20.000	10	301.213.10	<b>301.213.15</b>	<b>301.213.20</b>	301.213.25	301.213.30
35   1 3/8	20   3/4	8   3/8	6	18.000	10	301.214.10	301.214.15	<b>301.214.20</b>	301.214.25	301.214.30
40   1 5/8	25   1	12   1/2	10	18.000	10	301.225.10	<b>301.225.15</b>	<b>301.225.20</b>	301.225.25	<b>301.225.30</b>
80   3 1/8	30   1 1/8	30   1 1/8	16	8.000	10			301.236.20	301.236.25	301.236.30

## 2 Stripping brushes, brass-coated steel wire

D mm   inch	A mm   inch	R mm   inch	DB mm	RPM max.	Pack.	STM 0.15   0.006" Art.-Nr.	STM 0.20   0.008" Art.-Nr.	STM 0.25   0.010" Art.-Nr.	STM 0.30   0.012" Art.-Nr.
30   1 1/8	20   3/4	8   3/8	6	20.000	10		301.713.15	301.713.20	301.713.25
35   1 3/8	20   3/4	8   3/8	6	18.000	10		<b>301.714.15</b>	301.714.20	301.714.25
40   1 5/8	25   1	12   1/2	10	18.000	10			<b>301.725.20</b>	301.725.25
80   3 1/8	30   1 1/8	30   1 1/8	16	8.000	10			301.736.20	301.736.30

## 3 Stripping brushes, encapsulated steel wire

D mm   inch	A mm   inch	R mm   inch	DB mm	RPM max.	Pack.	STA 0.20   0.008" Art.-Nr.
35   1 3/8	20   3/4	8   3/8	6	18.000	10	3KG.214.20
40   1 5/8	25   1	12   1/2	10	18.000	10	3KG.215.20

# Band saw brushes



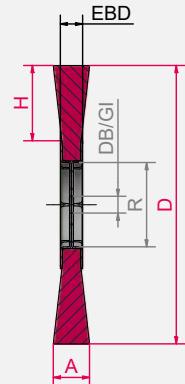
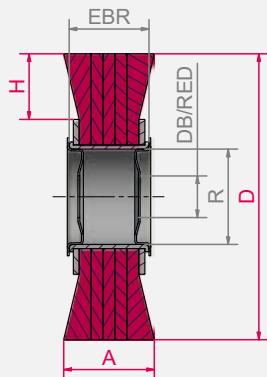
## Brushes as components of circular and band saws

Wheel brushes are used in circular and band saws to clean the chip space. A wheel brush with a diameter of 80 – 100 mm is pressed against the blade (of a circular or band saw). The motion of the blade or band causes the brush to roll off and press the chips out of the chip space. This prevents built-up edges and extends the service life of the blade. The filling material of the wheel brushes used for this purpose is usually steel wire, cord wire, or nylon filament.



### Note:

These brushes fit all common machines.



A can be up to 4 mm larger than EBR

EBD = 3.0 mm if R > 60

EBD = 2.4 mm if R ≤ 60

**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**STM** = Brass-coated steel wire, crimped

**STL** = Brass-coated corded wire, crimped

**PA** = Polyamide, crimped

# WHEEL BRUSHES

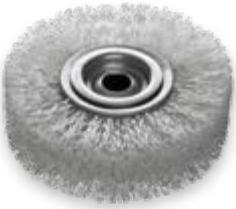
1



2



3



4



5



6



7



8



## Wheel brushes RBE for band saws, polyamide

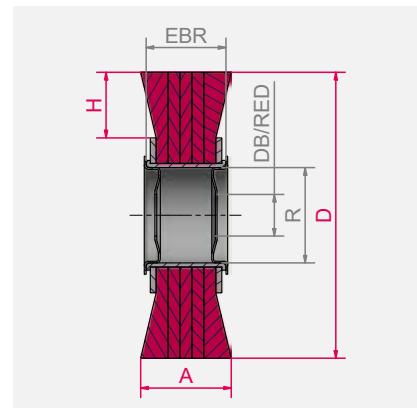
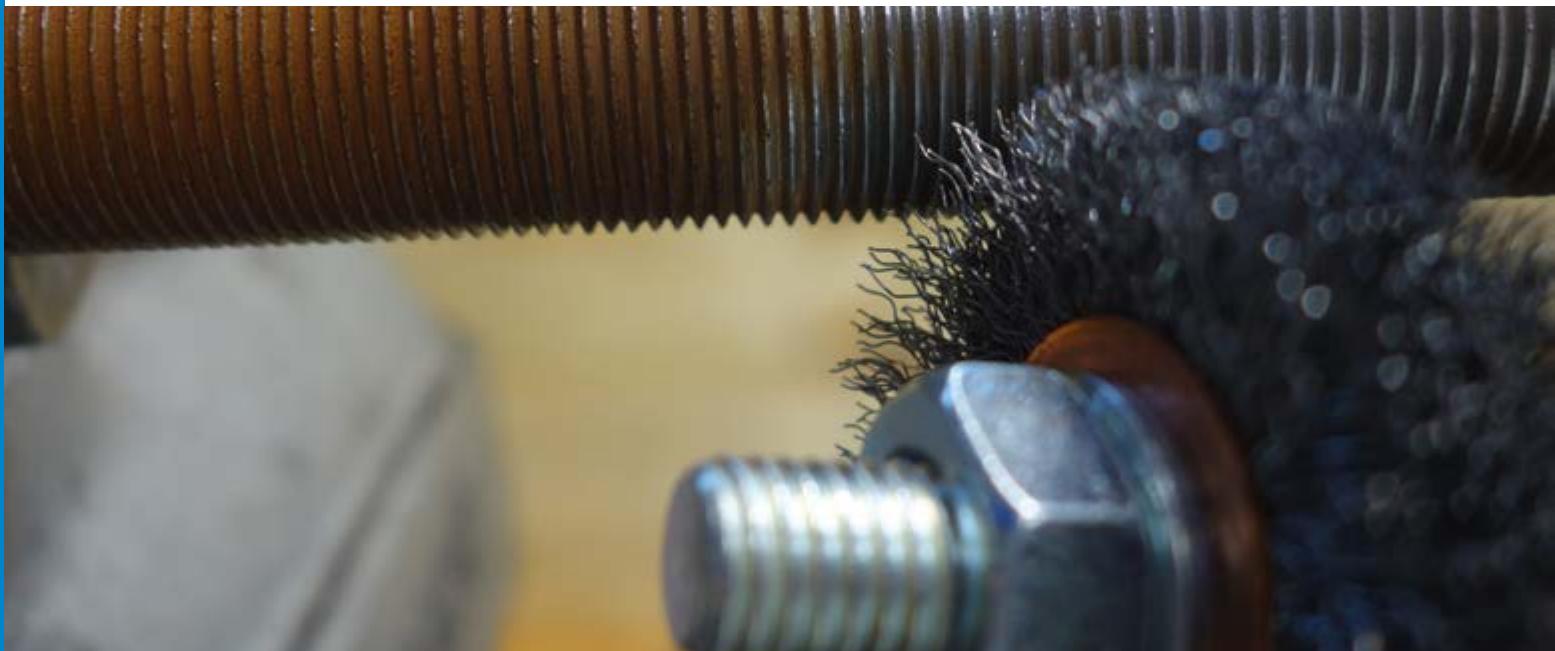
	D mm   inch	A mm   inch	R mm   inch	H mm   inch	DB mm	RPM max.	Pack.	PA 0.50   0.020" Art.-Nr.	PA 0.80   0.031" Art.-No.	PA 1.00   0.039" Art.-No.
1	85   3 11/32	10   25/64	30   1 3/16	14   35/64	12	8,000	10	<b>300.091</b>		
	100   3 15/16	13   33/64	30   1 3/16	21   53/64	12	8,000	10	<b>320.001</b>	<b>320.003</b>	<b>320.009</b>
	100   3 15/16	13   33/64	30   1 3/16	21   53/64	13	8,000	10	<b>320.004</b>		
	125   4 59/64	13   33/64	30   1 3/16	33   1 19/64	13	8,000	10			<b>330.001</b>
2	100   3 15/16	13   33/64	30   1 3/16	21   53/64	SW 17	8,000	10	<b>320.00K.17</b>	320.01K.17	
3	100   3 15/16	20-22   25/32-55/64	30   1 3/16	23   29/32	12	8,000	10		323.002	
4	100   3 15/16	20   25/32	30   1 3/16	23   29/32	12	8,000	10	323.004*	323.003*	

\* bore with plastic sleeve

## Wheel brushes RBE for band saws, steel wire, brass-coated steel wire, cord wire

	D mm   inch	A mm   inch	R mm   inch	H mm   inch	DB mm	RPM max.	Pack.	STA 0.20 Art.-Nr.	STA 0.30 Art.-No.	STM 0.20 Art.-No.	STM 0.30 Art.-No.	STL 4 x 0.25 Art.-No.
5	100   3 15/16	13   33/64	30   1 3/16	21   53/64	12	8,000	5		<b>320.161</b>			
	100   3 15/16	13   33/64	30   1 3/16	21   53/64	13	8,000	5		<b>320.161.13</b>			
6	100   3 15/16	12   15/32	30   1 3/16	21   53/64	SW 17	8,000	5		<b>320.16K.17</b>			
7	80   3 5/32	12   15/32	20   25/32	20   25/32	10	15,000	10	<b>312.141</b>				
8	60   2 23/64	10-12   25/64-5/32	8   5/16	19   3/4	6	15,000	10			300.742		
	80   3 5/32	15   19/32	10   25/64	27   1 1/6	6.8	15,000	10			311.742.01		
	80   3 5/32	15   19/32	10   25/64	27   1 1/6	8	15,000	10				<b>311.762</b>	
	80   3 5/32	18-20   45/64-25/32	10   25/64	27   1 1/6	6	15,000	10					<b>310.702.06</b>

# Special wheel brushes



## Small diameter crimped wheels **SDW** for machine use

LESSMANN small diameter crimped wheels have diverse uses, e.g. for deburring, cleaning, derusting or stripping paint on various workpieces and surfaces. One typical application, for example, is cleaning interior/exterior threads or working on other areas that are hard to reach. The brushes are inserted directly into a machine or mounted via a suitable drive arbor in the clamping fixture of a drill or lathe.

Depending on the application and requirements, one or more brushes can be mounted in a row. Corresponding adapter sets are available on request.

LESSMANN supplies these brushes with steel wire, stainless steel wire, or abrasive nylon filling as standard (also suitable for wet applications). Other wire diameters and filling materials are available on request. All brushes are manufactured with a copper sleeve.

## Wheel brushes for processing carbide

Wheel brushes with abrasive filaments filled with diamond grit are used primarily to round the cutting edges of carbide tools or for finishing diamond tools.

Rounded cutting edges on carbide tools extend service life and enable higher cutting speeds. In the case of the main cutting edges on drills, this step is performed manually. LESSMANN wheel brushes with diamond grit help to reduce wear and improve the surface quality of workpieces. The uniform filling and close filament arrangement results in clean and uniform edge preparation.

The surfaces of the chip flutes on carbide drills are smoothed using brushes with aluminium oxide filling material. Smoothed chip flutes display significantly improved behaviour in use. Smoothing is performed after coating. Smoothed chip flutes improve stability during the drilling process.

**Art. Nos. in bold** are available ex warehouse.

*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**ROF** = Stainless steel wire, crimped

**SIC** = Silicon carbide bristles

**AO** = Aluminium oxide bristles

## Stainless steel brushes

For information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)



## Small diameter crimped wheels SDW

1	D	A	EBR	DB	H	RPM	Pack.	STA 0.15   0.006"	STA 0.20   0.008"	STA 0.35   0.014"	ROF 0.15   0.006"
	mm   inch	mm   inch	mm   inch	mm   inch	mm   inch	max.		Art.-No.	Art.-No.	Art.-No.	Art.-No.
	50   2	10   3/8	7   9/32	13   1/2	13   1/2	20,000	10	35E.136	35E.146		35E.336
	63   2 1/2	10   3/8	7   9/32	13   1/2	20   3/4	20,000	10		36E.146	36E.176	
	75   3	12   1/2	7   9/32	13   1/2	20   3/4	20,000	10		37E.146		37E.336
	75   3	12   1/2	8   5/16	16   5/8	22   7/8	20,000	10	37E.137	37E.147		

2	D	A	EBR	DB	H	RPM max.	Pack.	SIC 120/0.6	SIC 180/0.9	SIC 320/0.6
	mm   inch	mm   inch	mm   inch	mm   inch	mm   inch			Art.-No.	Art.-No.	Art.-No.
	50   2	10   3/8	8   5/16	13   1/2	12   1/2	20,000	10	35E.846	35E.856	35E.876
	50   2	10   3/8	9   23/64	16   5/8	12   1/2	20,000	10	35E.847	35E.857	35E.877
	63   2 1/2	10   3/8	8   5/16	13   1/2	18   5/8	20,000	10	36E.846	36E.856	36E.876
	63   2 1/2	10   3/8	9   23/64	16   5/8	18   5/8	20,000	10	36E.847		36E.877

## Wheel brushes for processing carbide

3	D	A	EBR	DB	H	RPM	Pack.	Diam. K240	Diam. K320	Diam. K400	Diam. K600	Diam. K800	Diam. K1000
	mm   inch	mm   inch	mm   inch	mm   inch	mm   inch	max.		Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.
	150   6	5   13/64	11   7/16	20   3/4	23   59/64	3,000	1		408.817.DB	408.819.DB	408.812.DB	408.811.DB	408.813.DB
	150   6	10   3/8	16.5   21/32	20   3/4	23   59/64	3,000	1	408.825.DB	408.827.DB	408.829.DB	408.822.DB	408.821.DB	408.820.DB
	150   6	15   5/8	22   7/8	20   3/4	23   59/64	3,000	1		408.837.DB	408.839.DB			

4	D	A	EBR	DB	H	RPM max.	Pack.	AO 600	AO 800
	mm   inch			Art.-No.	Art.-No.				
	100   4	15   5/8	12   1/2	16   5/8	27   1	3,000	1		320.061*
	150   6	15   5/8	15   5/8	20   3/4	23   59/64	3,000	1		345.051*

\* Filling with angled cut

# Accessories



## Adapters

With these plastic adapters, the bores can be reduced to the required size. Our wheel brushes come with adapter sets for all common mounting dimensions, so you can easily achieve the following diameters:



### Set 1 / tube 30

30 / 1" / 22,2 / 20 / 16 / 1/2" / 12

### Set 2 / tube 40:

40 / 32 / 1" / 22,2 / 20 / 16 / 1/2"

### Set 3 / tube 50:

50 / 32 / 1" / 22,2 / 20 / 16 / 1/2"

### Set 4 / tube 80, 100 + 120:

brushes with metal discs, bore 50.8 and double keyway 7x13; plus adapter to bore 30. Further reduction possible with set 1.

### Set 5 / tube 80 + 100:

brushes with metal discs, bore 50.8 and double keyway 7x13; plus adapter to bore 32. Further reduction possible with set 1.

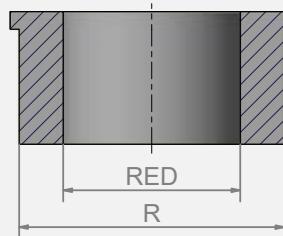
## Drive arbors

For use on drilling machines.

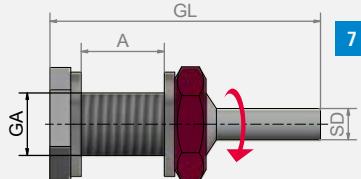
## Metal discs

Our brushes with tube diameters of 80 and 100 mm are fitted with sheet steel discs as standard. However, metal discs are also requested for brushes with smaller tubes from time to time. For this reason, the discs shown here can be added to relevant brushes on pages 32 to 35. Please specify the required bore in your order and note that two metal discs are generally required for one brush.

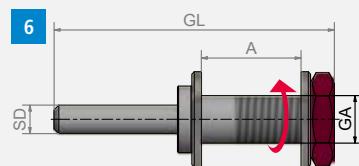
## Adapter



## Drive arbor, left-hand thread



## Drive arbor, right-hand thread



Information for correct and safe assembly is provided on the technical data sheets enclosed in the product packaging.

Our convenient adapter sets can now also be ordered separately. Note that two sets are required for each brush.

**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).



## Adapter sets

		R	RED	Pack.	Art.-No.	
1	Set 1	Tube 30	30	1" - 22.2 - 20 - 16 - 1/2" - 12	2	<b>000.886.63</b>
2	Set 2	Tube 40	40	32 - 1" - 22.2 - 20 - 16 - 1/2"	2	<b>000.886.64</b>
3	Set 3	Tube 50	50	32 - 1" - 22.2 - 20 - 16 - 1/2"	2	<b>000.886.65</b>
4	Set 4	Tube 80/100/120	50.8	30 (further adapters with Set 1)	2	<b>000.886.68</b>
5	Set 5	Tube 80/100	50.8	32	2	<b>000.888.32</b>

5 Individual plastic adapters in many common sizes are available ex warehouse.

EAN

## Drive arbors

6	D mm   inch	GL mm   inch	GA	A	RPM max.	Pack.	Art.-No.
	6   1/4	60   2 3/8	M 10 x 1,5	max. 18 mm	4,500	1	<b>000.041</b>
	10   3/8	60   2 3/8	M 10 x 1,5	max. 18 mm	4,500	1	<b>000.042</b>
	10   3/8	75   3	M 14 x 2,0	max. 29 mm	4,500	1	<b>000.043</b>

7	D mm   inch	GL mm   inch	GA	A	RPM max.	Pack.	Art.-No.
	6   1/4	40   1 3/8	M 10 left	max. 15 mm	4,500	1	<b>000.044</b>
	6   1/4	50   2	M 12 left	max. 20 mm	4,500	1	<b>000.045</b>

## 8 Metal discs as spare part

	Pack.	Art.-No.
R 30	2	<b>000.631</b>
R 40	2	<b>000.641</b>
R 50	2	<b>000.651</b>
R 80	2	<b>000.661</b>
R100*	2	<b>000.671</b>

Specify required bore on your order.

\* On request with double keyway 13 x 7 (50.8 / 52.9 / 54.5)

# LESSMANN®

THE GERMAN BRUSH COMPANY



# DEBURRING BRUSHES 02



# Deburring wheel brushes



Workpiece before brushing



Workpiece after brush process



## Deburring wheel brushes

Special-purpose brushes for all common deburring machines: high wire content, extremely uniform distribution of filaments, and every single brush is tested. What is more, these brushes have a longer service life thanks to the premium grade wire used.

The metal discs have a double keyway. Remember to specify the bore required.

Our standard dimensions are shown on the following pages. Customised dimensions are available on request.

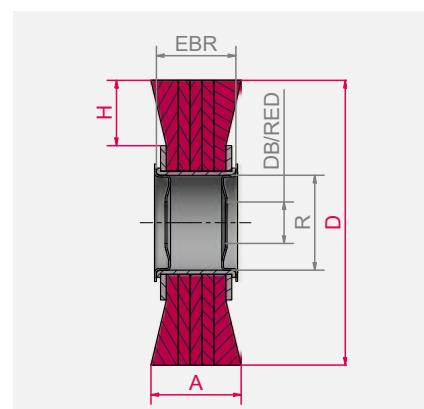
## Deburring brushes with cord wire STL / ROL

Deburring brushes with cord wire are particularly suited to working on very hard materials. The corded structure gives the individual wires added support, which significantly enhances the brushing effect.

## Encapsulated deburring wheel brushes

These brushes are ideal for aggressive and high precision work. Premature breakage of individual wires is prevented, extending service life and durability.

For more information on deburring, just ask for our "Deburring with Brushes" brochure.



**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STH** = Steel wire, high tensile, crimped

**STM** = Brass-coated steel wire, crimped

**STL** = Brass-coated corded wire, crimped



You can find our **enquiry forms** in the respective category at:  
[lessmann.com/en/downloads/](http://lessmann.com/en/downloads/) or in this catalogue from page 181



EAN

## 1 Deburring wheel brushes ERB, steel wire

D mm   inch	A mm   inch	EBR	R mm   inch	H mm   inch	DB Stand.	RPM max.	Pack.	STH 0.20   0.008" Art.-No.	STH 0.35   0.014" Art.-No.	STH 0.50   0.020" Art.-No.
250   10	60   2 3/8	58	100   4	50   2	50.8	3,600	1	<b>377.051</b>	<b>377.053</b>	<b>377.054</b>
250   10	60   2 3/8	58	100   4	50   2	52.9	3,600	1	377.051.26	377.053.26	377.054.26
250   10	60   2 3/8	58	100   4	50   2	54.5	3,600	1	377.051.27	377.053.27	377.054.27
250   10	60   2 3/8	55	100   4	50   2	100	3,600	1	377.051.00	377.053.00	377.054.00
250   10	60   2 3/8	53	100   4	50   2	50.8	3,600	1	377.051.T1	377.053.T1	377.054.T1
250   10	60   2 3/8	50	100   4	50   2	100	3,600	1	377.051.TA	<b>377.053.TA</b>	377.054.TA
250   10	80   3 1/4	79	100   4	50   2	50.8	3,600	1	377.052	377.095	377.077
250   10	100   4	99	100   4	50   2	50.8	3,600	1	377.059	377.066	377.096
300   12	60   2 3/8	49	100   4	60   2 3/8	50.8	3,000	1	<b>387.051</b>	<b>387.053</b>	387.054
300   12	100   4	93	100   4	60   2 3/8	50.8	3,000	1	On request	387.055	On request

EAN

## 2 Deburring wheel brushes ERB, cord wire, brass-coated steel wire

D mm   inch	A mm   inch	EBR	R mm   inch	H mm   inch	DB Stand.	RPM max.	Pack.	STL 0.38   0.015" Art.-No.	STM 0.38   0.015" Art.-No.
250   10	60   2 3/8	58	100   4	50   2	50.8	3,600	1	<b>377.043</b>	377.063
250   10	60   2 3/8	55	100   4	50   2	100	3,600	1	377.043.00	377.063.00
250   10	60   2 3/8	53	100   4	50   2	50.8	3,600	1	377.043.T1	377.063.T1
250   10	60   2 3/8	50	100   4	50   2	100	3,600	1	377.043.TA	377.063.TA
250   10	80   3 1/4	79	100   4	50   2	50.8	3,600	1	377.045	On request
250   10	100   4	99	100   4	50   2	50.8	3,600	1	377.048	On request
250   10	100   4	96	100   4	50   2	100	3,600	1	377.048.00	

All brushes with Ø 50.8 mm, 52.9 mm or 54.5 mm with metal disc and double keyway 13 x 7 mm; brushes with Ø 100 mm without metal disc and double keyway. Other bores and tube sizes on request.

# Deburring wheel brushes



EAN

## Deburring wheel brushes ERB, stainless steel wire, cord wire

D mm   inch	A mm   inch	EBR	R	H	DB	RPM	Pack.	1			2			
								Stand.	max.	Art.-No.	ROH 0.20   0.008"	ROH 0.35   0.014"	ROH 0.50   0.020"	Art.-No.
250   10	60   2 3/8	58	100	50	50.8	3,600	1			<b>377.044</b>	<b>377.089</b>		377.094	<b>377.707</b>
250   10	60   2 3/8	58	100	50	52.9	3,600	1			377.044.26	377.089.26		377.094.26	377.707.26
250   10	60   2 3/8	58	100	50	54.5	3,600	1			377.044.27	377.089.27		377.094.27	377.707.27
250   10	60   2 3/8	55	100	50	100	3,600	1			377.044.00	377.089.00		377.094.00	377.707.00
250   10	60   2 3/8	53	100	50	50.8	3,600	1			377.044.T1	377.089.T1		377.094.T1	377.707.T1
250   10	60   2 3/8	50	100	50	100	3,600	1			377.044.TA	377.089.TA		377.094.TA	377.707.TA
250   10	80   3 1/4	79	100	50	50.8	3,600	1			377.047	377.090		377.097	On request
250   10	100   4	99	100	50	50.8	3,600	1			377.049	377.093		377.099	On request
300   12	100   4	95	100	60	50.8	3,000	1	On request	On request	On request	On request	On request	On request	On request

All brushes with Ø 50.8 mm, 52.9 mm or 54.5 mm with metal disc and double keyway 13 x 7 mm; brushes with Ø 100 mm without metal disc and double keyway. Other bores and tube sizes on request.

EAN

## Deburring wheel brushes RBKG, encapsulated

D mm   inch	A mm   inch	R	H	DB	Pack.	3		4	
						Stand.	Art.-No.	Art.-No.	Art.-No.
250   10	13   1/2		100	58	33	1	370.241.KG	<b>370.271.KG</b>	<b>370.441.KG</b>
250   10	20   3/4		100	57	33	1	370.242.KG	370.272.KG	<b>370.442.KG</b>

### Stainless steel brushes

You can easily identify LESSMANN brushes made with stainless steel wire by their green side plates.

For more information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)

**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

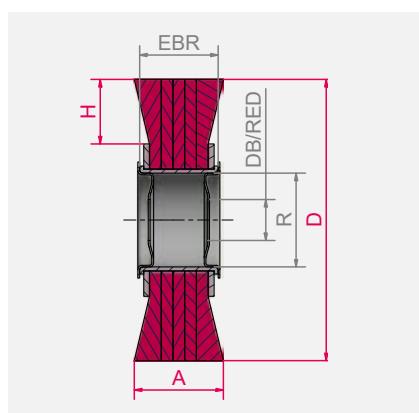
**STH** = Steel wire, high tensile, crimped

**ROL** = Stainless steel wire, cord wire

**ROH** = Stainless steel wire, high tensile, crimped

**ROF** = Stainless steel wire, crimped

**SIC** = Silicon carbide bristles





EAN	1	Deburring wheel brushes ERB, abrasive filaments											
		D mm   inch	A mm   inch	EBR	R mm   inch	H mm   inch	DB Stand.	RPM max.	Pack.	SIC 80/1.2 Art.-No.	SIC 120/1.1 Art.-No.	SIC 180/1.0 Art.-No.	SIC 320/0.6 Art.-No.
250   10	60   2 3/8	58	100   4	50   2	50.8	3,600	1	377.824	<b>377.835</b>	<b>377.854</b>	377.875		
250   10	60   2 3/8	55	100   4	50   2	100	3,600	1	377.824.00	377.835.00	377.854.00	377.875.00		
250   10	45-50   1 3/4-2	53	100   4	50   2	50.8	3,600	1	377.824.T1	377.835.T1	377.854.T1	377.875.T1		
250   10	45-50   1 3/4-2	50	100   4	50   2	100	3,600	1	377.824.TA	377.835.TA	377.854.TA	377.875.TA		
250   10	80   3 1/4	79	100   4	50   2	50.8	3,600	1	On request	377.837	On request	On request		
250   10	100   4	99	100   4	50   2	50.8	3,600	1	On request	377.839	On request	On request		
300   12	60   2 3/8	55	100   4	60   2 3/8	50.8	3,000	1	387.824	On request	On request	On request		
300   12	100   4	95	100   4	60   2 3/8	50.8	3,000	1	On request	On request	On request	On request		

EAN	Deburring wheel brushes ERB, ceramic grit									
	D mm   inch	A mm   inch	EBR	R mm   inch	H mm   inch	DB Stand.	RPM max.	Pack.	KK 180/1.1   0.04" Art.-No.	KK 180/1.0   0.043" Art.-No.
250   10	50   2	58	100   4	50   2	50.8	3,600	1		<b>377.C35</b>	377.C55

EAN	2	Deburring wheel brushes ERB, mixed filaments									
		D mm   inch	A mm   inch	EBR	R mm   inch	H mm   inch	DB Stand.	RPM max.	Pack.	ROF 0.20 - SIC 120	
Mixed filaments in mixing proportion 1:1											
Art.-No.											
377.091											
377.091.00											

All brushes with Ø 50.8 mm, 52.9 mm or 54.5 mm with metal disc and double keyway 13 x 7 mm; brushes with Ø 100 mm without metal disc and double keyway. Other bores and tube sizes on request.

# Deburring roller brushes



## Deburring roller brushes

Roller brushes for use in deburring machines. For deburring cut edges on tubes, for example.

Available filling materials include steel and stainless steel wire, brass-coated steel wire, and cord wire. These brushes are characterised by their dense filling.

**Deburring roller brushes:**  
Are available with diameters  
**D = 250–400 mm** and working widths  
**A = 55–700 mm**

**In your enquiry, always indicate dimensions D, A, and the bore size/type, e.g. 50.8 mm, 82.9 mm or 54.5 mm with double keyway 13 x 7 mm. Other bore sizes up to 120 mm available on request.**

Moreover we can offer to weld in specific metal plates for our roller brushes, according to the fittings of your machine. Bores and keyways are fabricated to customer specifications.

**Note:** With our advanced manufacturing technology, we can produce balanced roller brushes without balancing weights. As a result, our brushes run smoothly and quietly, with low vibration throughout their service life.

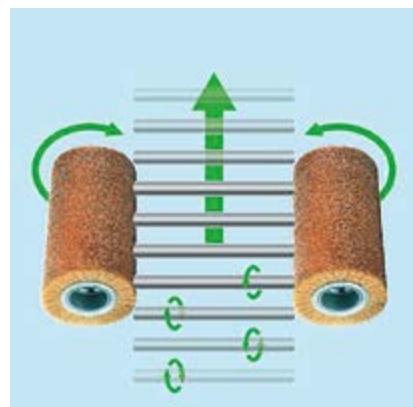
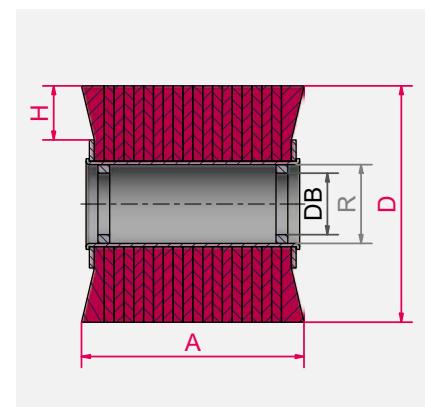


Diagram showing the function of a deburring machine with roller brushes



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STH** = Steel wire, high tensile, straight

**STL** = Brass-coated corded wire, crimped

**ROH** = Stainless steel wire, high tensile, crimped

**SIC** = Silicon carbide bristles



Strip brushes for deburring machines can be found on pages 164 ff.


**Deburring roller brushes EWB, steel wire, cord wire**

D mm   inch	A mm   inch	R mm   inch	H mm   inch	DB Stand.	RPM max.	Pack. 1	STH 0.20   0.008" Art.-No.	STH 0.35   0.014" Art.-No.	STH 0.50   0.020" Art.-No.	STL 0.38   0.015" Art.-No.
250   10	300   12	100   4	50   2	100	3,600	1	377.240.30	377.270.30	377.290.30	377.780.30
250   10	460   18	100   4	50   2	100	3,600	1	377.240.46	377.270.46	377.290.46	377.780.46
250   10	600   24	100   4	50   2	100	3,600	1	377.240.60	377.270.60	377.290.60	377.780.60
300   12	460   18	100   4	60   2 3/8	100	3,000	1	387.240.46	387.270.46	387.290.46	387.780.46
300   12	450   17 7/8	120   4 3/4	50   2	120	3,000	1		388.270.45		
300   12	460   18	120   4 3/4	50   2	120	3,000	1	388.240.46	388.270.46	388.290.46	388.780.46
300   12	600   24	120   4 3/4	50   2	120	3,000	1	388.240.60	388.270.60	388.290.60	388.780.60

**Deburring roller brushes EWB, stainless steel wire, abrasive filaments**

D mm   inch	A mm   inch	R mm   inch	H mm   inch	DB Stand.	RPM max.	Pack. 1	ROH 0.20   0.008" Art.-No.	ROH 0.35   0.014" Art.-No.	ROH 0.50   0.020" Art.-No.	SIC 120 / 1.1 Art.-No.
250   10	300   12	100   4	50   2	100	3,600	1	377.440.30	377.470.30	377.490.30	377.830.30
250   10	460   18	100   4	50   2	100	3,600	1	377.440.46	377.470.46	377.490.46	377.830.46
250   10	600   24	100   4	50   2	100	3,600	1	377.440.60	377.470.60	377.490.60	377.830.60
300   12	460   18	100   4	60   2 3/8	100	3,000	1	387.440.46	387.470.46	387.490.46	387.830.46
300   12	460   18	120   4 3/4	50   2	120	3,000	1	388.440.46	388.470.46	388.490.46	388.830.46
300   12	600   24	120   4 3/4	50   2	120	3,000	1	388.440.60	388.470.60	388.490.60	388.830.60

Other dimensions, filling materials and collets available on request.

# Deburring end brushes



## Deburring end brushes

These brushes are used for deburring cut edges on tubes and sections, and for deburring surfaces. Deburring end brushes are used in sets of 8, 16 or 24 individual brushes inserted in a deburring device.

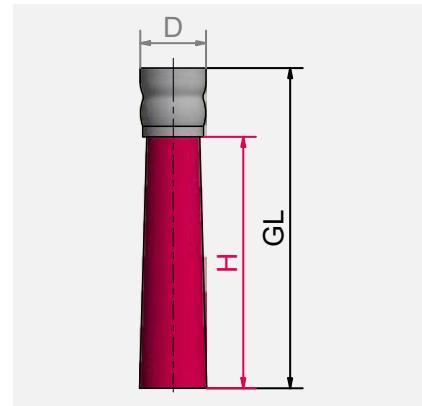
The metal bush can be mounted in all standard collets.

## Stainless steel brushes

For information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)



Diagram of a deburring device for deburring end brushes



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STH** = Steel wire, high tensile, straight

**STL** = Brass-coated corded wire, crimped

**ROH** = Stainless steel wire, high tensile, crimped

**SIC** = Silicon carbide bristles



## 1 Deburring end brushes EP, steel wire

D mm   inch	GL mm   inch	H mm   inch	Pack.	STH 0.20   0.008" Art.-No.	STH 0.35   0.014" Art.-No.	STH 0.50   0.020" Art.-No.
25   1	120   4 <sup>3</sup> / <sub>4</sub>	95   3 <sup>1</sup> / <sub>2</sub>	16	048.241	048.271	048.291

## 2 Deburring end brushes EP, corded wire

D mm   inch	GL mm   inch	H mm   inch	Pack.	STL 0.35   0.014" Art.-No.
25   1	120   4 <sup>3</sup> / <sub>4</sub>	95   3 <sup>1</sup> / <sub>2</sub>	16	048.701

## 3 Deburring end brushes EP, stainless steel wire

D mm   inch	GL mm   inch	H mm   inch	Pack.	ROH 0.20   0.008" Art.-No.	ROH 0.35   0.014" Art.-No.	ROH 0.50   0.020" Art.-No.
25   1	120   4 <sup>3</sup> / <sub>4</sub>	95   3 <sup>1</sup> / <sub>2</sub>	16	048.441	048.471	048.491

## Deburring end brushes EP, abrasive filaments, mixed filaments

D mm   inch	GL mm   inch	H mm   inch	Pack.	4			5
				SIC 80 / 1.2 Art.-No.	SIC 120 / 1.1 Art.-No.	SIC 180 / 1.0 Art.-No.	SIC 120 / 1.1 - ROH 0.20 Art.-No.
25   1	120   4 <sup>3</sup> / <sub>4</sub>	95   3 <sup>1</sup> / <sub>2</sub>	16	048.821	048.841	048.851	048.901*
25   1	120   4 <sup>3</sup> / <sub>4</sub>	95   3 <sup>1</sup> / <sub>2</sub>	16				048.941**

\* Mixing proportion 1:1 | \*\* Mixing proportion 2:1

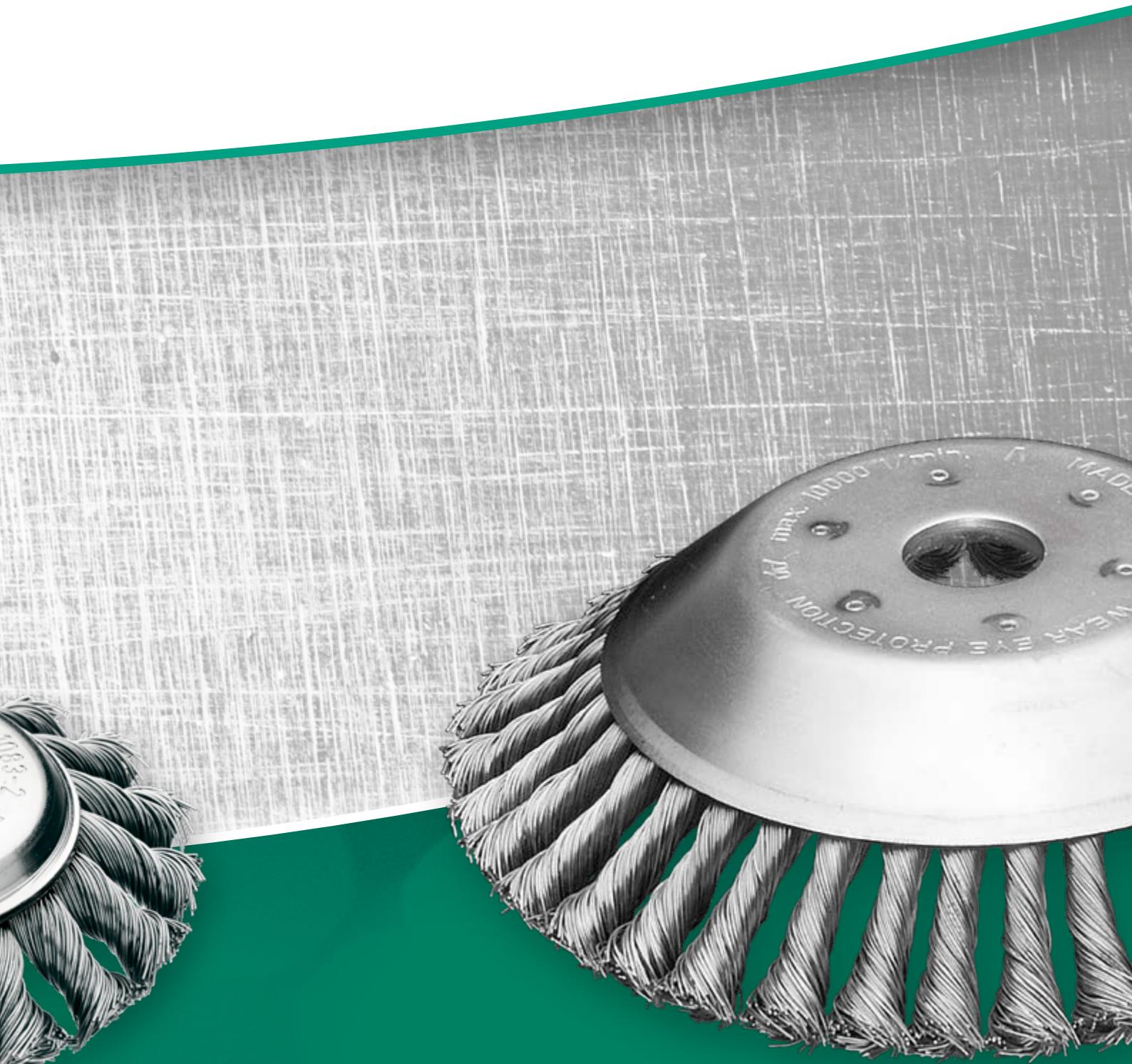
# LESSMANN®

THE GERMAN BRUSH COMPANY



# CUP AND BEVEL BRUSHES

# 03



# Cup brushes



## Cup brushes, knotted wire

Knot cup brushes are ideal for heavy duty use, e.g. to prepare metal surfaces for painting, or to remove slag, rust, scale or residual concrete. The brushes with Ø 80, 100 and 125 mm (Art. No. 484/486/487) also have a convenient **bridle**. The bridle stabilises the brush and can easily be removed once the exposed wire filling has worn down, uncovering another 20 mm of wire!

**User tip:** Try our Ø 90 mm brush for small angle grinders. Compared to the common 65 mm brush, this model has 50% more wire and is the only one of its kind in this size on the brush market!

## Cup brushes with narrow knots

Our new range of cup brushes with narrower, six-millimetre knots has been optimised for use on flat surfaces, weld seams and stubborn dirt deposits:

- Removes more, making work more efficient
- Reduced rotating imbalance for smoother operation
- Long service life
- Good price-performance ratio

## Knot cup brushes with extra-long filling

These brushes are for the flexible cleaning and derusting of large surface areas, e.g. in shipyards. For use in hand-operated angle grinders; also suitable for working on hard-to-reach corners.

## Cup brushes, left-right knotted

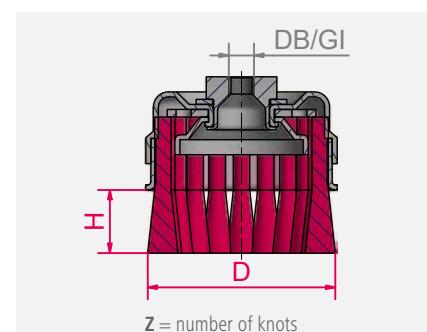
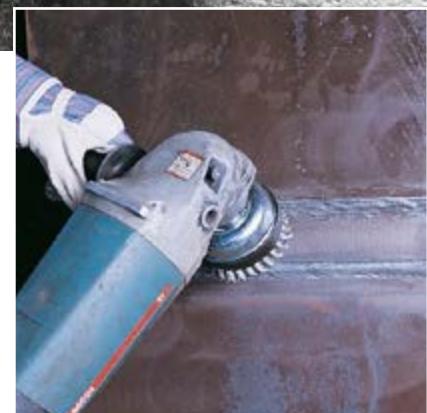
Cup brushes with left-right knotting generally are more aggressive, meaning they are often used for heavy-duty brush work. Because the knots unravel less easily, they are ideal for working corners and edges.

## Cup brushes, crimped wire

Cup brushes with crimped wire are used on angle grinders to work on large surface areas: derusting, polishing, or removing paint, dirt or scale.

## Special models

Cup brushes can be provided with bronze cups and bronze wire for low-sparking conditions. All brushes are also available with different types of wire and wire diameters. Contact us for more information.



All cup brushes are available packaged individually for sales promotion purposes, or in bulk.



You can find our **tutorials** at:  
[lessmann.com/en/know-how/#tutorials](http://lessmann.com/en/know-how/#tutorials)



You can find our **enquiry forms** in the respective category at:  
[lessmann.com/en/downloads/](http://lessmann.com/en/downloads/) or  
in this catalogue from page 181



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STH** = Steel wire, high tensile, straight

**STM** = Brass-coated steel wire, straight

**MES** = Brass wire

**BRO** = Bronze wire

**ROH** = Stainless steel wire, high tensile, straight

# CUP AND BEVEL BRUSHES



EAN

## Knotted cup brushes ZT without bridle, one row, steel wire, brass-coated steel wire

	D mm   inch	GI	H mm   inch	Z	RPM	Pack. max.	STH 0.35   0.014"	STH 0.50   0.020"	STH 0.80   0.031"	STM 0.35   0.014"	STM 0.50   0.020"
							Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.
1	65   2 1/2	M 10 x 1.5	20   3/4	18	12,500	1	482.114*	<b>482.214*</b>	On request		
1	65   2 1/2	M 14 x 2.0	20   3/4	18	12,500	1	<b>482.117*</b>	<b>482.217*</b>	482.317*	<b>482.117.SM*</b>	<b>482.217.SM*</b>
1	75   3	M 14 x 2.0	20   3/4	20	12,500	1	<b>483.117*</b>	<b>483.217*</b>	483.317		
2	90   3 1/2	M 14 x 2.0	22   7/8	20	11,500	1	485.137*	<b>485.237*</b>	485.337		485.237.SM*
3	100   4	M 14 x 2.0	25   1	26	9,000	1	On request	<b>486.237*</b>	On request		
3	125   5	M 14 x 2.0	25   1	32	7,000	1	On request	<b>487.237</b>	On request		
3	150   6	M 14 x 2.0	30   1 1/4	36	6,600	1	On request	<b>488.237</b>	On request		
3	150   6	5/8" - 11 UNC	30   1 1/4	36	6,600	1	On request	488.238	On request		
4	65   2 1/2	M 14 x 2.0	20   3/4	18	12,500	1	On request	<b>482.217.WZ*</b>			

EAN

## Cup brushes ZT with narrow knots

	D mm   inch	GI	H mm   inch	Z	RPM	Pack.	STH 0,50   0.020" Art.-No.
	65   2 1/2	M14 x 2,0	20   3/4	30	12,500	1	<b>482.207</b>
	65   2 1/2	5/8" - 11 UNC	20   3/4	30	12,500	1	482.208
	65   2 1/2	M10 x 1,5	20   3/4	30	12,500	1	482.204

EAN

## Knotted cup brushes ZT without bridle, one row, steel wire, extra-long filling

	D mm   inch	GI	H mm   inch	Z	RPM	Pack.	STH 0.35   0.014" Art.-No.	STH 0.50   0.020" Art.-No.
	80   3 1/4	M 14 x 2.0	33   1 1/4	18	12,500	25	<b>480.117</b>	480.217

EAN

## Knotted cup brushes ZT without bridle, two rows, steel wire

	D mm   inch	GI	H mm   inch	Z	RPM	Pack.	STH 0.35   0.014" Art.-No.	STH 0.50   0.020" Art.-No.	STH 0.80   0.031" Art.-No.
	100   4	5/8" - 11 UNC	25   1	26+20	9,000	1	486.148	486.248	486.348
	125   5	5/8" - 11 UNC	25   1	32+26	7,000	1	On request	487.248	On request
	150   6	5/8" - 11 UNC	25   1	36+32	6,600	1	On request	488.248	On request

\* Packed 10 pieces per carton

# Cup brushes



EAN

## Knotted cup brushes ZT with bridle, one row, steel wire

D mm   inch	DB/GI mm   inch	H mm   inch	H <sub>1</sub> mm   inch	Z	RPM max.	Pack. 1	1		
							STH 0.35   0.014"	STH 0.50   0.020"	STH 0.80   0.031"
80   3 1/4	22.2   7/8	25   1	15   5/8	20	9,000	1			484.311*
80   3 1/4	M 14 x 2.0	25   1	15   5/8	20	9,000	1	484.117*	484.217*	484.317*
80   3 1/4	5/8" - 11 UNC	25   1	15   5/8	20	9,000	1	484.118	484.218	484.318
100   4	22.2   7/8	23   7/8	12   1/2	26	9,000	1	486.111	486.211*	486.311*
100   4	M 14 x 2.0	23   7/8	12   1/2	26	9,000	1	486.117*	486.217*	486.317*
100   4	5/8" - 11 UNC	23   7/8	12   1/2	26	9,000	1	486.118	486.218*	486.318*
125   5	22.2   7/8	23   7/8	15   5/8	32	6,600	1			487.311**
125   5	M 14 x 2.0	23   7/8	15   5/8	32	6,600	1	487.117	487.217	487.317
125   5	5/8" - 11 UNC	23   7/8	15   5/8	32	6,600	1	487.118	487.218	487.318

EAN

## Knotted cup brushes ZT with bridle, one row, bronze wire, brass fittings

D mm   inch	DB/GI mm   inch	H mm   inch	H <sub>1</sub> mm   inch	Z	RPM max.	Pack. 1	2	
							BRO 0.50   0.020"	Art.-No.
125   5	16   5/8	23   7/8	15   5/8	32	4,000	1		487.011.MS***

After removing the bridle, the added filling length is as shown (see dimension H<sub>1</sub>).

\* Packed 10 pieces per carton. | \*\* This brush is not compatible with the angle grinder. | \*\*\* In the case of a variable angle grinder, comply with RPM.

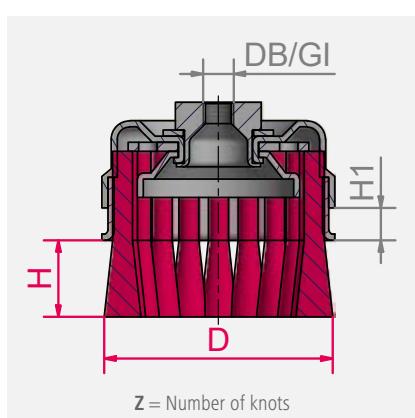
**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STH** = Steel wire, high tensile, straight

**ROH** = Stainless steel wire, high tensile, straight

**RO4** = Premium-quality stainless steel wire

**BRO** = Bronze wire



Z = Number of knots

# CUP AND BEVEL BRUSHES



EAN

## Knotted cup brushes ZT without bridle, one row, stainless steel wire

	D mm   inch	Gl mm   inch	H mm   inch	Z	RPM max.	Pack.	ROH 0.35   0.014" Art.-No.	ROH 0.50   0.020" Art.-No.	RO4 0.50   0.020" Art.-No.
1	65   2 1/2	M 10 x 1.5	20   3/4	18	12,500	1	482.714	482.814*	
	65   2 1/2	M 14 x 2.0	20   3/4	18	12,500	1	<b>482.717*</b>	<b>482.817*</b>	<b>482.517*</b>
	75   3	M 14 x 2.0	20   3/4	20	12,500	1	On request	<b>483.817*</b>	
	80   3 1/4	M 14 x 2.0	33   1 1/4	18	15,500	25	<b>480.717</b>	On request	
2	65   2 1/2	M 14 x 2.0	20   3/4	18	12,500	1	On request	<b>482.817.WZ*</b>	

EAN

## Knotted cup brushes ZT with bridle, one row, stainless steel wire

	D mm   inch	Gl mm   inch	H mm   inch	H <sub>1</sub> mm   inch	Z	RPM max.	Pack.	ROH 0.35   0.014" Art.-No.	ROH 0.50   0.020" Art.-No.
	80   3 1/4	M 14 x 2.0	25   1	15   5/8	20	9,000	1	<b>484.717</b>	<b>484.817*</b>
	80   3 1/4	5/8" - 11 UNC	25   1	15   5/8	20	9,000	1	484.718	484.818
	100   4	M 14 x 2.0	23   7/8	12   1/2	26	9,000	1	<b>486.717*</b>	<b>486.817*</b>
	100   4	5/8" - 11 UNC	23   7/8	12   1/2	26	9,000	1	486.718	486.818
	125   5	M 14 x 2.0	23   7/8	15   5/8	32	6,600	1	On request	<b>487.817</b>

\* Packed 10 pieces per carton

EAN

## Cup brushes ZT with narrow knots, stainless steel wire

	D mm   inch	Gl mm   inch	H mm   inch	Z	RPM max.	Pack.	ROH 0.50   0.020" Art.-No.
	65   2 1/2	M14 x 2,0	20   3/4	30	12,500	1	<b>482.807</b>
	65   2 1/2	5/8" - 11 UNC	20   3/4	30	12,500	1	482.808

EAN

## Knotted cup brushes ZT without bridle, one row, brass wire, bronze wire

	D mm   inch	Gl mm   inch	H mm   inch	Z	RPM max.	Pack.	MES 0.35   0.014" Art.-No.	5	MES 0.50   0.020" Art.-No.	6	BRO 0.50   0.020" Art.-No.
	65   2 9/16	M 14 x 2.0	20   51/64	18	12,500	1	<b>482.017</b>		<b>482.027</b>		<b>482.057</b>

### Stainless steel brushes

You can easily identify LESSMANN brushes made with stainless steel wire by their green cups.

For more information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)

# Cup brushes



EAN

## Cup brushes TB, crimped wire

D mm   inch	DB/GI	H mm   inch	RPM max.	Pack. 1	STA 0.20   0.008" Art.-No.	STA 0.35   0.014" Art.-No.	STA 0.50   0.020" Art.-No.	1	2 ROF 0.35   0.012" Art.-No.	2 RO4 0.30   0.012" Art.-No.	3 MES 0.30   0.012" Art.-No.
65   2 3/8	M 10 x 1.5	20	12,000	1		421.164*			421.364		421.564
65   2 3/8	M 14 x 2.0	20	12,000	1	421.147	421.167*	421.197		421.367*	421.467*	421.567*
75   3	M 14 x 2.0	22	12,500	1		423.167*		On request	423.367*		On request
75   3	5/8" - 11 UNC	22	12,500	1		423.168*		On request	423.368		On request
80   3 1/4	22.2   7/8	25	8,500	1		424.171*		On request	424.361		On request
80   3 1/4	M 14 x 2.0	25	8,500	1	424.147	424.177*	424.197		424.367*		424.567
80   3 1/4	5/8" - 11 UNC	25	8,500	1		424.178	424.198		424.368		On request
100   4	22.2   7/8	30	9,000	1		426.171*			426.361		
100   4	M 14 x 2.0	30	9,000	1	426.147*	426.177*	426.197*		426.367*		426.567
100   4	5/8" - 11 UNC	30	9,000	1		426.178*	426.198		426.368		426.568
125   5	22.2   7/8	30	8,000	1		427.171**		On request			On request
125   5	M 14 x 2.0	30	8,000	1	427.147	427.177	427.297		427.367*		427.567*
125   5	5/8" - 11 UNC	30	8,000	1		427.178	427.298				
150   6	22.2   7/8	40	6,500	1		429.171					
150   6	M 14 x 2.0	40	6,500	1		429.177	429.197		429.367		
150   6	5/8" - 11 UNC	40	6,500	1		429.178	429.198				

\* Packed 10 pieces per carton.

\*\* This brush is not compatible with the angle grinder.

EAN

## Cup brushes TB, cord wire, brass-coated steel wire, abrasive filaments

D mm   inch	DB/GI	H mm   inch	RPM max.	Pack. 1	STL 0.35   0.014" Art.-No.	STM 0.30   0.012" Art.-No.	4 SIC 80/1.2 Art.-No.	4 SIC 180/0.9 Art.-No.
65   2 3/8	M 14 x 2.0	20	12,000	1		421.767		421.827
100   4	22.2   7/8	30	9,000	1	426.701			
100   4	M 14 x 2.0	30	9,000	1		426.767		421.857



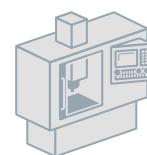
1



2



3



EAN

## Cup brushes TB, straight filling material

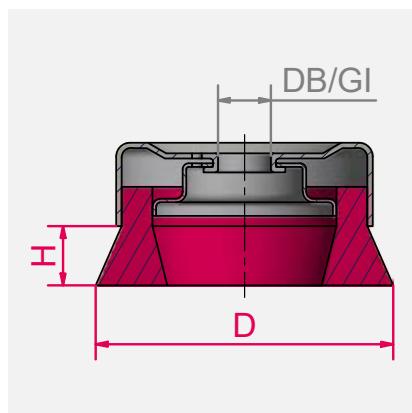
	D mm   inch	DB/GI mm   inch	H RPM max.	Pack. 1	STH 0.35   0.014" Art.-No.	STM 0.35   0.014" Art.-No.	STL 0.35 Art.-No.	SIC 80/1.2 Art.-No.	SIC 180/1.0 Art.-No.
1	90   3½	M 14 x 2.0	25	9,000	1			<b>446.827*</b>	<b>446.857*</b>
	90   3½	22.2   7/8	25	9,000	1			On request	446.851**
3	100   4	M 14 x 2.0	30	9,000	1	446.277*	446.777*		
	100   4	22.2   7/8	30	9,000	1	446.271*	446.771*	446.701*	
2	110   4½	M 14 x 2.0	30	7,000	1				<b>447.827*</b>
3	125   5	M 14 x 2.0	30	5,000	1	<b>447.277*</b>	On request	447.707	

1 With bridle | \* Packed 10 pieces per carton

\*\* This brush is not compatible with the angle grinder.

### Cup brushes with straight filling

These brushes are used for deburring surfaces, primarily in machining centres. The brushes are available with steel wire, stainless steel wire, abrasive filaments or any other filling material. Due to the straight cup, the filling is not pushed outwards as much, meaning that more of the bristle tips act on the surface. Contact us for more information.



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**STH** = Steel wire, high tensile, straight

**STM** = Brass-coated steel wire, crimped

**STL** = Brass-coated corded wire, crimped

**ROH** = Stainless steel wire, high tensile, crimped

**RO4** = Premium-quality stainless steel wire

**MES** = Brass wire, crimped

**SIC** = Silicon carbide bristles

# Bevel brushes



## Bevel brushes

Because of their special shape, these are the preferred brushes for hard-to-reach areas. Knot bevel brushes have left-twisted knots that increase durability. All bevel brushes are available packaged individually for sales promotion purposes, or in bulk.

## Wheel brushes with thread

Like bevel brushes, wheel brushes with thread are ideal for getting into hard-to-reach areas. These brushes usually are used on angle grinders.

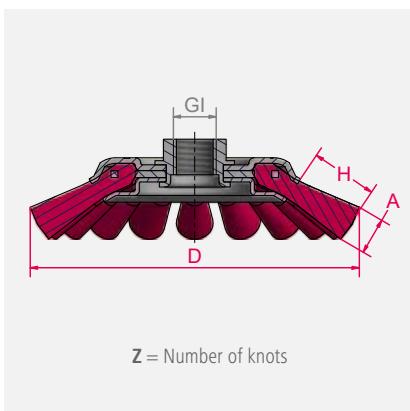
Other dimensions and filling materials are available on request.

## Stainless steel brushes

You can easily identify LESSMANN brushes made with stainless steel wire by their green cups. For more information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)

## Bevel brushes, left-right knotted

Bevel brushes with left-right knotting generally are more aggressive, meaning they are often used for heavy-duty brush work. Because the knots unravel less easily, they are ideal for working corners and edges.



**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**STM** = Brass-coated steel wire

**STH** = Steel wire, high tensile

**ROF** = Stainless steel wire

**ROH** = Stainless steel wire, high tensile

# CUP AND BEVEL BRUSHES



EAN

## Bevel brushes ZK, knotted wire, steel wire, stainless steel wire

D mm   inch	A mm   inch	Gl mm   inch	H mm   inch	Z	RPM	Pack. max.	1 STH 0.35   0.014"	1 STH 0.50   0.020"	2 ROH 0.35   0.014"	2 ROH 0.50   0.020"
							Art.-No.	Art.-No.	Art.-No.	Art.-No.
100   4	12   1/2	M 10 x 1.5	20	18	15,000	1		471.254		
100   4	12   1/2	M 14 x 2.0	20	18	15,000	1	471.157*	471.257	471.757*	471.857*
115   4 1/2	12   1/2	M 14 x 2.0	24	20	15,000	1	472.157*	472.257	472.757*	472.857*
115   4 1/2	12   1/2	M 14 x 2.0	24	24	15,000	1		472.257.V4*		
125   5	12   1/2	M 14 x 2.0	29	20	15,000	1		473.257*		473.857
3   115   4 1/2	12   1/2	M 14 x 2.0	24	20	15,000	1		472.257.WZ*		472.857.WZ*

EAN

## Bevel brushes ZK, knotted wire, brass-coated steel wire

D mm   inch	A mm   inch	Gl mm   inch	H mm   inch	Z	RPM	Pack. max.	STM 0.35   0.014"	
							Art.-No.	Art.-No.
100   4	12   1/2	M 14 x 2.0	20	18	15,000	1		471.157.SM*
115   4 1/2	12   1/2	M 14 x 2.0	24	20	15,000	1		472.257.SM*

EAN

## Bevel brushes KB, crimped wire

D mm   inch	A mm   inch	Gl mm   inch	H mm   inch	RPM	Pack. max.	5 STA 0.35   0.014"	5 ROF 0.30   0.012"	6 STM 0.30   0.012"
						Art.-No.	Art.-No.	Art.-No.
100   4	10   3/8	M 14 x 2.0	20	15,000	1	422.177*	422.367*	422.767

EAN

## Wheel brushes RBE, crimped wire, with thread

D mm   inch	A mm   inch	Gl mm   inch	H mm   inch	RPM	Pack. max.	STA 0.30   0.012"	ROH 0.30   0.012"	STM 0.30   0.012"
						Art.-No.	Art.-No.	Art.-No.
115   4 1/2	12   1/2	M 14	24	12,500	1	304.161.14	304.361.14	304.761.14
125   5	13   1/2	M 14	19.5	12,500	1	335.161.14	335.361.14	335.761.14

\* Packed 10 pieces per carton

# Brushes for grass trimmers



## Brushes for grass trimmers

Mounted on grass trimmers, knotted wheel and bevel brushes and bevel brushes with PBT filling are ideal for removing weeds on yard pavers, kerbstones, cobbled areas or other areas that are hard to reach.

These special brushes effortlessly and lastingly clean large surface areas, such as courtyards, terraces and long pathways. What is more, removing weeds with brushes is eco-friendly, removing weeds fast and effectively.

In sensitive areas, such as agricultural applications, synthetic filaments are a decisive criterion. Synthetic bristles are soft and therefore ideally suited to sensitive surfaces, because they do not cause scratching. Brushes with synthetic bristles are very lightweight, making them ideal for rechargeable grass trimmers. They also boast a longer service life and even wear.

## Brushes for battery-powered brushcutters

We have developed brushes of considerably more compact and smaller design specifically for use with battery-powered brushcutters. With a smaller radius, fewer knots and therefore less weight, these brushes achieve outstanding results even when used with less powerful machines.

The cup on our brushes has been specially designed for easy mounting on brushcutters from all leading brands, using the original tool holder and without any added adapters, as long as the machine allows tool changes.

Just mount the brush in the holder, insert the rechargeable battery and get started!



### Attention:

Strict safety rules apply when working with brushes on grass trimmers. Be sure to read the data sheets provided with the brushes or learn more at [www.lesmann.com](http://www.lesmann.com).



You can find our **tutorials** at:  
[lessmann.com/en/  
know-how/#tutorials](http://lessmann.com/en/know-how/#tutorials)



### Please note:

Lessmann offers these brushes in two common bore sizes: 20 and 25.4 mm. To ensure secure assembly on a grass trimmer, we intentionally do not use **any reducing adapters**.

## ADVANTAGES OF LESSMANN BRUSHES

### Low clamping height

With a clamping height of just 3.5 mm, the brushes can be **easily and securely** connected to the **original mounts** on the grass trimmer.



3.5 mm

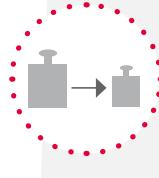
### Optimum angulation of knots

The knots wear more evenly, noticeably increasing the **service life**. The knots also have a larger area of contact with the surface, which means a **stronger abrasive effect** and **less physical effort** during work.



### Pleasantly smooth running

There is much less oscillation and vibration, which is better for the grass trimmer's **gear unit**. This also makes working with the grass trimmer more **ergonomic**, meaning it can be used longer without fatigue.



### Little weight in the hand

We continuously optimise our brushes, also in terms of weight. This guarantees **easier use** but at the same level of quality!

## THE RIGHT APPLICATION

### Bevel brushes, PP



#### Application



#### Version

Durable PP bristles, 1.6 mm, with X profile

#### Surface

For sensitive surfaces such as paving stones and terrace paving stones

#### Advantages

Low weight, good service life, less physical effort compared to a PBT filling

#### Use

Home and garden, maintenance personnel, building maintenance, agriculture, municipalities

### Bevel brushes, PBT



#### Bevel brushes for battery-powered models



#### Application



#### Version

High-quality, heat-resistant PBT bristles (polyester), 2.5 mm

#### Surface

For sensitive surfaces such as paving stones and terrace paving stones

#### Advantages

Lower weight, long service life  
Home and garden, maintenance personnel, building maintenance, agriculture

### Bevel brushes, STA crimped



#### Application



#### Version

Crimped steel wire, STA 0.50 mm

#### Surface

For sensitive concrete and paved surfaces with sparse growth

#### Advantages

Low abrasion but still effective for gradually increasing growth

#### Use

Home and garden, janitorial and building maintenance, gardening and landscaping

### Bevel brushes, STH knotted



#### Application



For special-purpose machines\*

#### Version

High tensile steel wire, STH 0.50 mm

#### Surface

Very good cleaning effect for grass, weeds and moss that have grown very high/dense

#### Advantages

Good abrasive effect, long service life

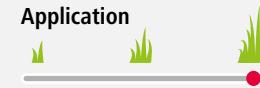
#### Use

Road maintenance depots, construction yards, municipalities, gardening and landscaping

### Bevel brushes, STM knotted



#### Application



#### Version

Steel wire, brass-coated, STM 0.50 mm, rust protection

#### Surface

Very good cleaning effect for grass, weeds and moss that have grown very high/dense

#### Advantages

Very good abrasive effect, very long service life

#### Use

Road maintenance depots, construction yards, municipalities, gardening and landscaping



1

Yellow = PBT, Red = PP



4



2

3



EAN

## Bevel brushes KBMK, for brushcutters, PBT/PP

1	D mm   inch	A mm   inch	EBD	DM	H mm   inch	GH mm   inch	DB mm   inch	RPM max.	Pack.	PBT 2.50 Art.-No.	PP 1.60 Art.-No.
	180   7	10   3/8	3.5	60	55   2 3/16	70	20   3/4	10,000	1	425.000.01	425.010.01
	180   7	10   3/8	3.5	60	55   2 3/16	70	25.4   1	10,000	1	425.001.01	425.011.01
	200   8	10   3/8	3.5	80	60   2 3/8	82	20   3/4	8,000	1	426.000.01	426.010.01
	200   8	10   3/8	3.5	80	60   2 3/8	82	25.4   1	8,000	1	426.001.01	426.011.01

EAN

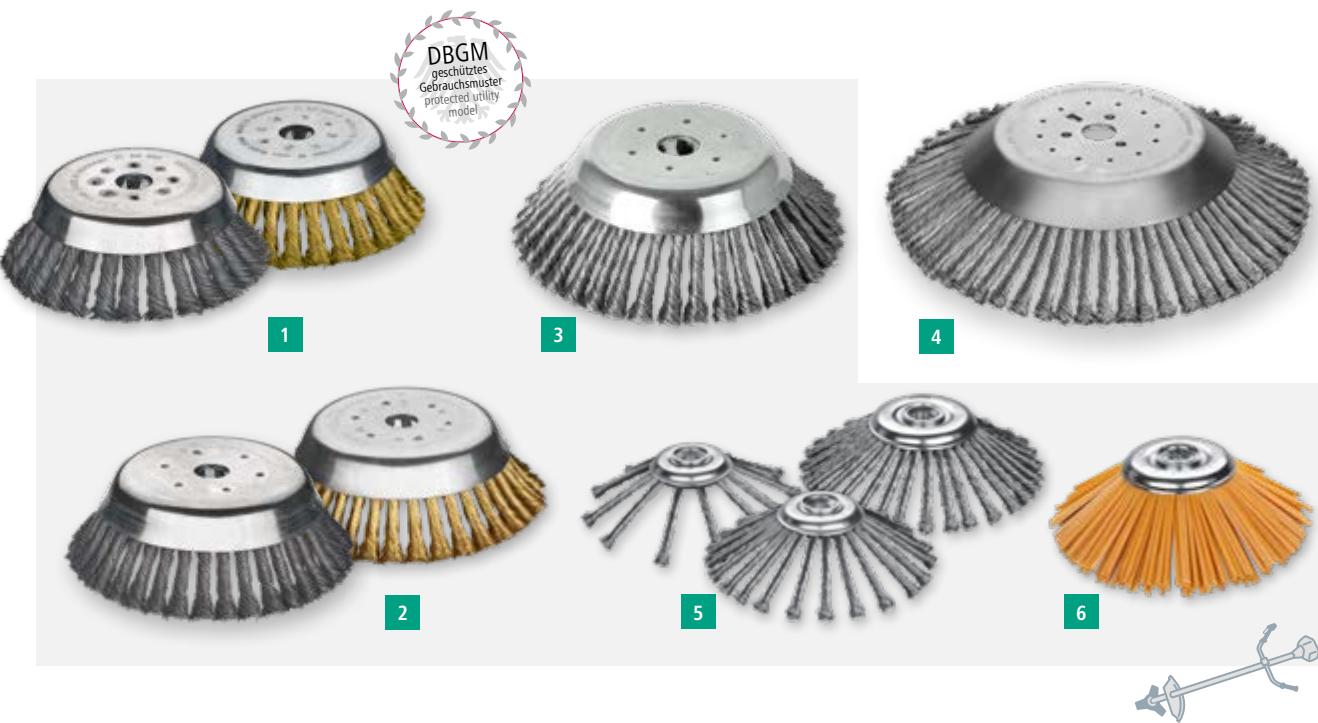
## Bevel brushes KBM, for brushcutters, crimped

2	D mm   inch	A mm   inch	EBD	DM	H mm   inch	GH mm   inch	DB mm   inch	RPM max.	Pack.	STA 0.50 Art.-No.
	180   7	18   23/32	3.5	60	50   1 31/32	70	20   3/4	6,000	1	425.290
	180   7	18   23/32	3.5	60	50   1 31/32	70	25.4   1	6,000	1	425.291
	210   8 1/4	25   1	3.5	80	60   2 3/8	82	20   3/4	6,000	1	426.290
	210   8 1/4	25   1	3.5	80	60   2 3/8	82	25.4   1	6,000	1	426.291

EAN

## Knotted wheel brushes ZRM, for brushcutters

3	D mm   inch	A mm   inch	EBR	DM	H mm   inch	Z	ZF	RPM max.	Pack.	DB = 20 mm STH 0.50   0.020" Art.-No.	DB = 25.4 mm STH 0.50   0.020" Art.-No.
	175   6 7/8	6   1/4	8	68	34   1 1/4	40	B	12,500	1	475.260.01	475.261.01
	200   8	6   1/4	8	68	46   1 49/64	40	B	12,500	1	476.260.01	476.261.01
	250   10	6   1/4	3	90	42   1 5/8	56	B	10,000	1	477.260.01	477.261.01
	300   12	6   1/4	3	90	67   2 5/8	56	B	10,000	1	478.260.01	478.261.01



EAN

## Knotted bevel brushes ZKM, for brushcutters

	D mm   inch	A mm   inch	EBD	DM	H mm   inch	GH	Z	DB mm   inch	ZF	RPM max.	Pack.	STH 0.50   0.020" Art.-No.	STM 0.50   0.020" Art.-No.	STH 0.80   0.032" Art.-No.
<b>1</b>	155   6 1/8	12   1/2	3.5	50	35   1 3/8	54	30	20   3/4	B	10,000	1	<b>475.2M0.01</b>	<b>475.5M0.01</b>	
	155   6 1/8	12   1/2	3.5	50	35   1 3/8	54	30	25.4   1	B	10,000	1	<b>475.2M1.01</b>	<b>475.5M1.01</b>	
<b>2</b>	180   7	14   9/16	3.5	64	35   1 3/8	58	36	20   3/4	B	8,000	1	<b>476.2M0.01</b>	<b>476.5M0.01</b>	
	180   7	14   9/16	3.5	64	35   1 3/8	58	36	25.4   1	B	8,000	1	<b>476.2M1.01</b>	<b>476.5M1.01</b>	
<b>3</b>	200   8	14   9/16	3,5	64	45   1 3/4	62	36	20   3/4	B	8,000	1	<b>477.2M0.01</b>		
	200   8	14   9/16	3,5	64	45   1 3/4	62	36	25.4   1	B	8,000	1	<b>477.2M1.01</b>		
<b>4</b>	350   14	14   9/16	5	115	78   3 1/16	86	64	30   1 3/16	B	900	1			<b>479.3M2.01*</b>

\* For special-purpose machines

EAN

## Knotted bevel brushes ZKM, for battery-powered brushcutters

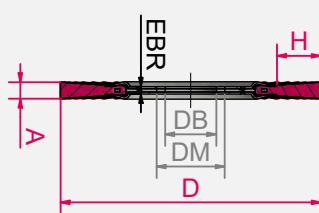
	D	A	DM	H	GH	Z	DB	ZF	RPM max.	Pack.	STH 0.50 Art.-Nr.		
<b>5</b>	175	12	28	65	52	12	25,4/12	B	8.000	1	<b>47A.241.01</b>		
	175	12	28	65	52	22	25,4/12	B	8.000	1	<b>47A.251.01</b>		
	175	12	35	59	50	30	25,4/12	B	8.000	1	<b>47A.261.01</b>		

EAN

## Bevel brushes KBMK, PBT, for battery-powered brushcutters

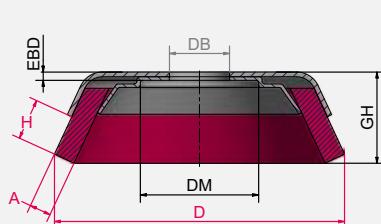
	D	A	DM	H	GH	DB	RPM max.	Pack.	PBT 2.50 Art.-Nr.		
<b>6</b>	165	8	29	60	62	25,4/12	8.000	1	<b>42A.000.01</b>		

### Wheel brushes



ZF = Knot type  
Z = Number of knots  
R = Number of rows

### Bevel brushes



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume  
(see page 186).

**STM** = Brass-coated steel wire, straight

**STH** = Steel wire, high tensile, straight

**PBT** = Polyester PBT

**PP** = Polypropylene

# X-LOCK brush assortment

**LESSMANN®**  
THE GERMAN BRUSH COMPANY



**XLOCK**

Technology by BOSCH  
Invented for life



## Quick. Simple. Safe.

The new X-LOCK quick-change system for angle grinders from Bosch greatly simplifies the process of changing tools. It saves time and increases productivity – a big advantage for professional applications.

In partnership with Bosch, Lessmann offers a complete range of brushes compatible with the X-LOCK system. All brushes meet the high quality standards expected from Lessmann. Developed and manufactured in Germany.

## Advantages of X-LOCK

- Change tools in just one step: The brush can be mounted on an angle grinder quickly and easily
- No accessories or additional tools are needed to mount or change tools
- Safe: The brush audibly locks in place so you know it is securely mounted
- Meets the highest quality and safety standards



## TOOL CHANGES MADE EASY

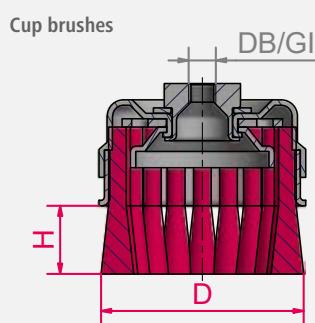


### Mounting a brush

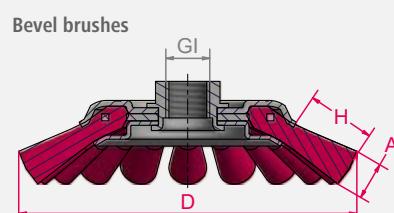
Position the brush on the X-LOCK mount of the angle grinder and press down lightly. An audible click indicates that the tool is locked in place. Done!

### Removing a brush

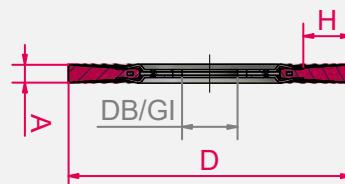
Press the lever on the angle grinder. Remove the brush from the X-LOCK mount.



ZF = Knot type  
Z = Number of knots  
R = Number of rows



### Wheel brushes



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**STH** = Steel wire, high tensile

**ROF** = Stainless steel wire

**ROH** = Stainless steel wire, high tensile

# CUP AND BEVEL BRUSHES



X-LOCK cup brushes		Knotted ZT				Crimped TB						
		D mm   inch	A mm   inch	H mm   inch	Z ZF	RPM max.	Pack.	STH 0,50 Art.-No.	ROH 0,50 Art.-No.	STA 0,35 Art.-No.	ROF 0,35 Art.-No.	
1		85   3 3/8	12   1/2	20   13/16	20	B	11.500	1	483.21X	483.81X		
2		85   3 3/8	16   5/8	22   7/8	—	—	12.500	1		423.16X	423.36X	
X-LOCK bevel brushes										Crimped KB		
		D mm   inch	A mm   inch	H mm   inch	Z ZF	RPM max.	Pack.	STH 0,50 Art.-No.	ROF 0,50 Art.-No.	STA 0,35 Art.-No.	ROF 0,35 Art.-No.	
3		115   4 1/2	12   1/2	24   15/16	20	B	15.000	1	472.25X	472.85X		
4		115   4 1/2	16   5/8	20   13/16	—	—	15.000	1		423.17X	423.37X	
X-LOCK knotted wheel brushes ZR												
		D mm   inch	A mm   inch	H mm   inch	Z ZF	RPM max.	Pack.	STH 0,50 Art.-No.	ROH 0,50 Art.-No.	STA 0,35 Art.-No.	ROF 0,35 Art.-No.	
5		115   4 1/2	14   9/16	23,5   15/16	20	B	12.500	1	472.21X	472.81X		
		125   4 15/16	14   9/16	28,5   1 1/8	20	B	15.000	1	473.21X	473.81X		
X-LOCK knotted pipeline brushes ZRP												
		D mm   inch	A mm   inch	H mm   inch	Z ZF	RPM max.	Pack.	STH 0,50 Art.-No.	ROH 0,50 Art.-No.	STA 0,35 Art.-No.	ROF 0,35 Art.-No.	
6		115   4 1/2	6   1/4	21,5   7/8	32	D	15.000	1	472.20X.32	472.80X.32		
		125   4 15/16	6   1/4	26,5   1 1/16	40	D	15.000	1	473.20X.40	473.80X.40		

# Non-sparking brushes



## LESSMANN Non-sparking brushes

These brushes are recommended for working in areas where combustible or highly flammable vapours, liquids or dusts are present, and in all other situations in which sparks post a potential risk of fire or an explosion hazard.

The body of power-driven brushes is made of brass, that of hand brushes is made of wood. The filling material is bronze CuSn6. These materials cause only minimum sparking, ensuring low-sparking operation. Another benefit of bronze is its very high corrosion resistance.

### Typical fields of application

Industries and facilities in which flying sparks pose a risk of explosion or fire, e.g.:

- Oil and gas industry
- Pipeline industry
- Chemical industry
- Nuclear power plants

- Plastics industry
- Food industry, e.g. bakeries
- Steel works
- And many more

Common applications include, for instance, cleaning tanks or work in the vicinity of potentially explosive environments.

### Important points to note

- Depending on the specific application, non-sparking brushes are softer than conventional ones. For this reason, they display a higher rate of wear and must be used with greater caution.
- Avoid overstraining the brushes.
- Protective measures for fire and explosion hazard zones must go beyond the use of low-sparking tools.
- To ensure comprehensive protection of personnel and property, work in compliance with safety regulations issued by relevant authori-

**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**BRO** = Bronze wire



Sparking capable of causing ignition cannot be prevented with 100 % certainty using these tools.

ties, e.g. employer liability insurance associations, employer rules and regulations, and country-specific legislation.

## 1 Standard hand brushes; KL 290

Rows	H	Pack.	BRO 0.20/BRO 0.40*
mm   inch			Art.-No.
3	25   1	12	108.331
4	25   1	12	<b>108.341</b>
5	25   1	12	108.351
4	25   1	12	108.041*

## 2 Hand brushes KS, export models; KL 350

Rows	H	Pack.	BRO 0.30
mm   inch			Art.-No.
3	30   1 3/16	6	<b>122.771</b>
4	30   1 3/16	6	<b>122.821</b>
5	30   1 3/16	6	122.871

## 3 Dusters; KL 320

Rows	H	Pack.	BRO 0.30
mm   inch			Art.-No.
4	40   1 5/8	12	124.181

## 4 Spark plug brushes; KL 200

Rows	H	Pack.	BRO 0.15
mm   inch			Art.-No.
3	15   19/32	12	<b>132.801</b>

## 5 Brooms and scrub brushes

Rows	KL	KB	H	Pack.	BRO 0.40
mm   inch			mm   inch	mm   inch	Art.-No.
6	300   12	70   2 3/4	55   2 11/64	12	146.270
6	220   8 5/8	60   2 3/8	40   1 5/8	12	148.170

# CUP AND BEVEL BRUSHES



## Special hand brushes

	Rows	KL mm   inch	KB mm   inch	A mm   inch	H mm   inch	Pack.	BRO 0.15 crimped Art.-No.	BRO 0.08 crimped Art.-No.
6	7	150   6	50   2	140   5 <sup>533/64</sup>	20   51/64	12	<b>144.011</b>	
	6	180   7 <sup>3/32</sup>	60   2 <sup>3/8</sup>	170   6 <sup>11/16</sup>	20   51/64	12	<b>144.111</b>	
	6	150   6	50   2	130   15 <sup>1/8</sup>	15   19/32	12	<b>144.311</b>	
7	6	180   7 <sup>3/32</sup>	60   2 <sup>3/8</sup>	160   6 <sup>19/64</sup>	20   51/64	12	<b>144.411</b>	
8	11	120   4 <sup>23/32</sup>	70   2 <sup>3/4</sup>	110   4 <sup>21/64</sup>	14   9/16	4		<b>152.811</b>

## Cup brushes ZT

	D mm   inch	d mm   inch	H mm   inch	H1 mm   inch	Z	RPM max.	Cup	Pack.	BRO 0.50 knotted Art.-No.
9	125   5	16   5/8	23   29/32	15   19/32	32	4,000	brass	1	<b>487.011.MS*</b>

\* In the case of a variable angle grinder, comply with RPM.

## Wheel brushes RB

	D mm   inch	A mm   inch	EB mm   inch	R mm   inch	H mm   inch	d. Stand	d. min./max.	RPM	Pack.	BRO 0.30 crimped Art.-No.
10	150   6	23-25   7/8-1	22   7/8	50   2	33   1 <sup>19/64</sup>	Set 3	13-50	6,000	1	<b>345.662.MS</b>

## Cylinder brushes IBZ; GL330

	D mm   inch	A mm   inch	GL mm	drilling wire	Pack.	BRO 0.20 Art.-No.
11	10   25/64	100   4	330	<b>MES 2.5</b>	10	<b>542.034</b>
	20   51/64	100   4	330	<b>MES 2.5</b>	10	<b>543.006</b>
	35   1 <sup>3/8</sup>	100   4	330	<b>MES 2.5</b>	10	<b>543.926</b>

GL = Total length

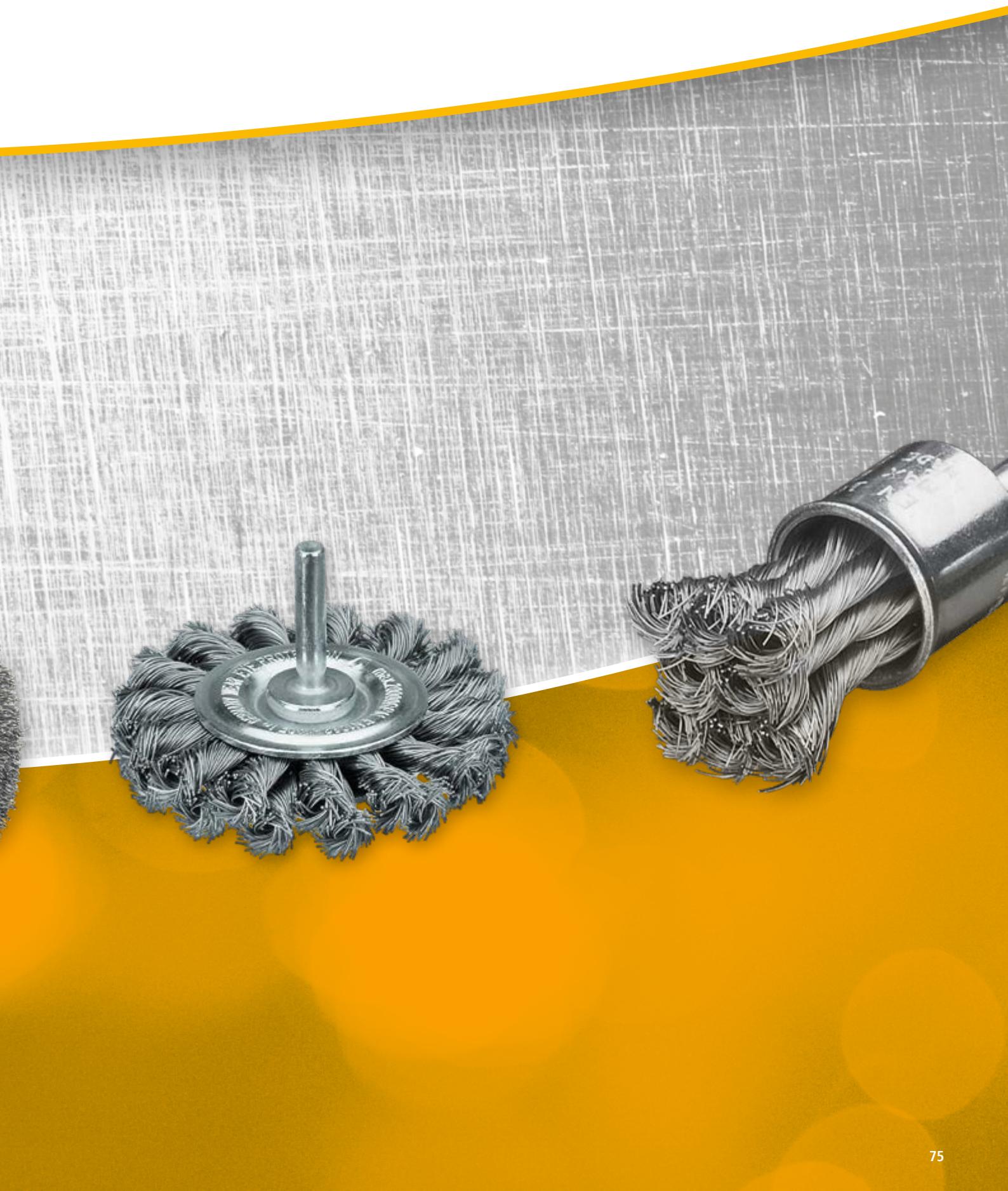
KL = Body length

# LESSMANN®

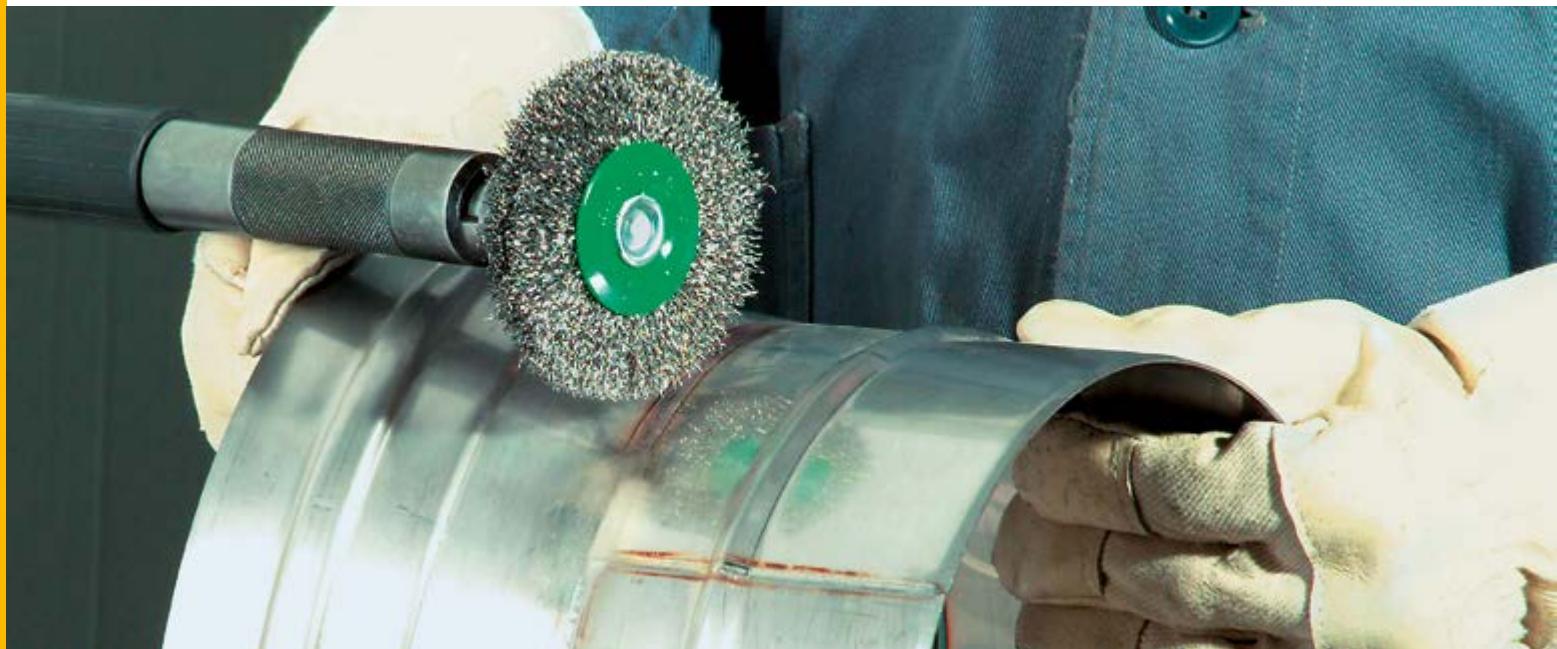
THE GERMAN BRUSH COMPANY



# SHANK BRUSHES 04



# Wheel brushes with shank



## Wheel brushes with shank

The wheel brushes shown on these pages, with their permanently mounted shank, are versatile tools for professional use. A dense wire filling and perfectly balanced running properties set them apart.

## Stainless steel brushes

You can easily identify LESSMANN brushes made with stainless steel wire by their green side plate. We use wire with material number 1.4301. 1.4401 wire is available on request. For more information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)



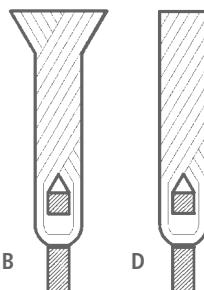
You can find our **tutorials** at:  
[lessmann.com/en/know-how/#tutorials](http://lessmann.com/en/know-how/#tutorials)



You can find our **enquiry forms** in the  
respective category at:  
[lessmann.com/en/downloads/](http://lessmann.com/en/downloads/)  
or in the catalog from page 181

## Knotted wheel brushes with shank

Whether with one or two rows, these brushes are ideal tools for removing underseal, as well as for derusting, deburring, roughening, etc. For work in narrow spaces, we recommend our very narrow No. 417.198.11 brush.



### Knot types ZF

**B:** Rose bud

**D:** Fully knotted (wire ends cut completely)



The brushes have a 6 mm shank. We can also provide a 1/4" shank on request.



We also sell  
many of these  
brushes in  
display-ready single-unit  
packaging. Find out more  
on pages 142 ff.

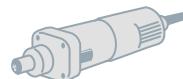
Brushes with other diameters, filling  
widths and filling materials are available  
on request.



1

2

3



#### Wheel brushes SZR with shank Ø 6 mm, knotted

	D mm   inch	A mm   inch	H mm   inch	Z	ZF	R	RPM max.	Pack.	STH 0.35   0.014" Art.-No.	STH 0.50   0.020" Art.-No.	ROH 0.50   0.020" Art.-No.
1	75   3	9   3/8	15   5/8	18	D	1	25,000	10		<b>417.198.11</b>	
	75   3	12   1/2	15   5/8	18	B	1	25,000	10	<b>417.168</b>	<b>417.198</b>	<b>417.398</b>
2	75   3	16   5/8	15   5/8	18	B	2	25,000	10		<b>417.199</b>	417.399

#### Wheel brushes SRBKG with shank Ø 6 mm, encapsulated

	D mm   inch	A mm   inch	H mm   inch	RPM max.	Pack.	STA 0.30   0.012" Art.-No.
	50   2	8   5/16	13   1/2	15,000	10	<b>415.160</b>
3	60   2 3/8	8   5/16	18   3/4	15,000	10	<b>416.160</b>
	76   3	8   5/16	23   7/8	15,000	10	<b>417.160</b>

#### Encapsulated brushes

In these encapsulated brushes, the steel wire filling is embedded in a tough polymer compound. The filling width remains constant during use as a result, and encapsulation prevents premature breakage of individual wires. The colour of the polymer compound may differ from that shown in the picture.

#### Clearly marked

In future you will be able to recognise our encapsulated brushes even more clearly by their stamped or laser-etched product information – your guarantee that you are holding a premium quality product "Made in Germany" in your hands. What is more, all important safety information is provided for easy reference right on the product.

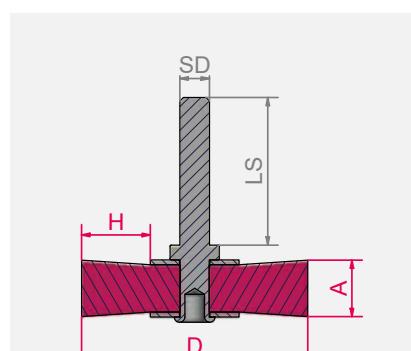
#### Different hardnesses

Encapsulated brushes from Lessmann can now be supplied in three different Shore hardnesses:

- Black – Hard
- Red – Standard
- White – Soft

Keep in mind in this context:

The more aggressive the application, the harder the plastic material should be. Another advantage of harder plastic material is its dimensional stability.



Z = Number of knots, R = Number of rows

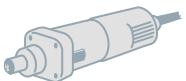
**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**STH** = Steel wire, high tensile, straight

**ROH** = Stainless steel wire, high tensile

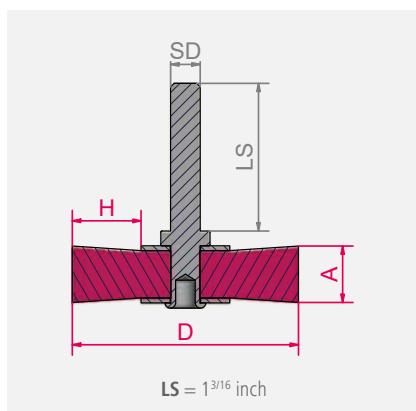
# Wheel brushes with shank



Wheel brushes SRB with shank Ø 6 mm, steel wire

	D mm   inch	A mm   inch	H mm   inch	RPM max.	Pack. 10	STA 0.15   0.006" Art.-No.	STA 0.20   0.008" Art.-No.	STA 0.30   0.012" Art.-No.	STA 0.50   0.020" Art.-No.
1	20   51/64	6   15/64	3   1/8	20,000	10	411.132	<b>411.142</b>		
	30   1 3/16	6   15/64	6   15/64	20,000	10	<b>413.132</b>	<b>413.142</b>	<b>413.162</b>	
	30   1 3/16	9   23/64	6   15/64	20,000	10	413.133	<b>413.143</b>	<b>413.163</b>	
2	40   1 3/8	9   23/64	9   23/64	18,000	10	<b>414.132</b>	<b>414.142</b>	<b>414.162</b>	<b>414.192</b>
	40   1 3/8	12   15/32	9   23/64	18,000	10	414.133	<b>414.143</b>	<b>414.163</b>	414.193
	50   2	11   7/16	12   15/32	15,000	10	415.132	<b>415.142</b>	<b>415.162</b>	<b>415.192</b>
	50   2	15   19/32	12   15/32	15,000	10	<b>415.133</b>	<b>415.143</b>	<b>415.163</b>	415.193
3	60   2 3/8	13   33/64	17   43/64	15,000	10	416.132	<b>416.142</b>	<b>416.162</b>	On request
	60   2 3/8	18   45/64	17   43/64	15,000	10	<b>416.133</b>	<b>416.143</b>	<b>416.163</b>	416.193
	70   2 3/4	9   23/64	19   3/4	15,000	10	417.132	<b>417.142</b>	<b>417.162</b>	
	70   2 3/4	13   33/64	19   3/4	15,000	10	<b>417.133</b>	<b>417.143</b>	<b>417.163</b>	<b>417.193</b>
4	80   3 1/4	9   23/64	20   51/64	15,000	10	On request	<b>418.142</b>		
	80   3 1/4	13   33/64	20   51/64	15,000	10	On request	<b>418.143</b>	<b>418.162</b>	418.192
	80   3 1/4	19   3/4	20   51/64	15,000	10			<b>418.163*</b>	
	100   4	14   9/16	25   1	12,000	10		<b>41Z.143*</b>	<b>41Z.163*</b>	
	100   4	19   3/4	25   1	12,000	10		41Z.144*	<b>41Z.164*</b>	

\* Shank length for these articles is 20 mm instead of 30 mm.



Art. Nos. in **bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**ROF** = Stainless steel wire, crimped

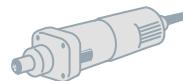
**ROH** = Stainless steel wire, high tensile

**RO4** = Stainless steel wire, straight, 1.4401



1

2



## Wheel brushes SRB with shank, Ø 6 mm, stainless steel wire

D mm   inch	A mm   inch	H mm   inch	RPM max.	Pack. 10	1				
					ROF 0.10   0.004"	ROF/ROH 0.20   0.008"	ROH 0.30   0.012"	RO4 0.20   0.008"	RO4 0.30   0.012"
Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.
20   51/64	6   15/64	3   1/8	20,000	10		411.342			
30   1 3/16	6   15/64	6   15/64	20,000	10		413.342	413.362		
30   1 3/16	9   23/64	6   15/64	20,000	10		413.343	413.363		
40   1 3/8	9   23/64	9   23/64	18,000	10		414.342	414.362		414.462
40   1 3/8	12   15/32	9   23/64	18,000	10		414.343	On request		
50   2	11   7/16	12   15/32	15,000	10	415.312	415.342	415.362	415.442	415.462
50   2	15   19/32	12   15/32	15,000	10		415.343	415.363		
60   2 3/8	13   33/64	17   43/64	15,000	10	416.312	416.342	416.362		416.462
60   2 3/8	18   45/64	17   43/64	15,000	10		416.343	416.363		
70   2 3/4	9   23/64	19   3/4	15,000	10		417.342	417.362		417.462
70   2 3/4	13   33/64	19   3/4	15,000	10	417.312	417.343	417.363		
80   3 1/4	9   23/64	20   51/64	15,000	10		418.342			418.462
80   3 1/4	13   33/64	20   51/64	15,000	10	418.312	418.343	418.362		
80   3 1/4	19   3/4	20   51/64	15,000	10			418.363*		
100   4	14   9/16	25   1	12,000	10		41Z.343*	41Z.363*		
100   4	19   3/4	25   1	12,000	10		41Z.344*	41Z.364*		

\* Shank length for these articles is 20 mm instead of 30 mm.

## 2 Wheel brushes SRB with shank, Ø 6 mm, completely stainless

D mm   inch	A mm   inch	H mm   inch	RPM max.	Pack. 10	ROH 0.20   0.008"		ROH 0.30   0.012"	
					Art.-No.	Art.-No.	Art.-No.	Art.-No.
50   2	15   19/32	12   15/32	15,000	10		415.301		415.302
60   2 3/8	17   43/64	17   43/64	15,000	10		416.303		416.302
70   2 3/4	18   45/64	19   3/4	15,000	10		417.306		417.309

## Wheel brushes with shank, completely stainless

All the inner and outer parts of these brushes, e.g. shanks, side plates, rings and loops, are made of stainless steel, making them ideal for use in very damp and aggressive environments.



### Attention:

Brushes made entirely of stainless steel do not have green painted side plates.

# Wheel brushes with shank



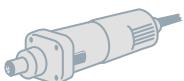
1



2



3



## 1 Wheel brushes SRB with shank Ø 6 mm, brass-coated steel wire

D mm   inch	A mm   inch	H mm   inch	RPM max.	Pack.	STM 0.25   0.010" Art.-No.
40   1 3/8	9   23/64	9   23/64	18,000	10	414.752
50   2	11   7/16	12   15/32	15,000	10	<b>415.752</b>
50   2	15   19/32	12   15/32	15,000	10	415.753
60   2 3/8	13   33/64	17   43/64	15,000	10	416.752
70   2 3/4	9   23/64	19   3/4	15,000	10	<b>417.752</b>
70   2 3/4	13   33/64	19   3/4	15,000	10	417.753
80   3 1/4	9   23/64	20   51/64	15,000	10	418.752

## 2 Bodywork brushes SRB with shank, Ø 6 mm

D mm   inch	A	H	RPM max.	Pack.	STM 0.15   0.006" Art.-No.	STM 0.20   0.008" Art.-No.
26   1	3   1/8	4   5/32	20.000	10	<b>412.731</b>	
50   2	3   1/8	10   25/64	15.000	10		<b>415.741</b>

## Structuring brushes SRB with shank, Ø 8 mm

D mm   inch	A	H	RPM max.	Pack.	STM 0.25   0.010" Art.-No.	SIC 80/1.2 Art.-No.
80   3 1/4	35   1 3/8	25   31/32	4,000	1	<b>418.704</b>	
80   3 1/4	35   1 3/8	24   15/16	15,000	1		<b>418.826</b>

### Structuring brushes with shank

These special-purpose brushes are used wherever wood surfaces need a structured finish.

### Bodywork brushes with shank

These brushes can access hard-to-reach areas in the body of a car, such as folds and grooves for solder joints or inside corners. Rust, sealant, paint and scale can easily be removed with these brushes.

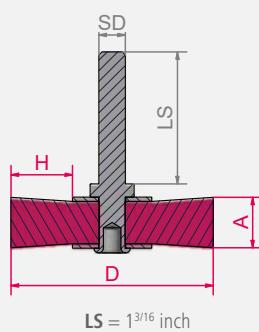
They are also used to clean or activate surfaces for tin plating.

**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STM** = Brass-coated steel wire, crimped

**MES** = Brass wire, crimped

**SIC** = Silicon carbide bristles





## 1 Wheel brushes SRB with shank, Ø 6 mm, brass wire

D mm   inch	A mm   inch	H mm   inch	RPM max.	Pack. 10	MES 0.20   0.008" Art.-No.	MES 0.30   0.012" Art.-No.
20   51/64	5   13/64	3   1/8	20,000	10	<b>411.542</b>	
30   1 3/16	5   13/64	6   1/4	20,000	10	<b>413.542</b>	
30   1 3/16	8   5/16	6   1/4	20,000	10	413.543	
40   1 3/8	7   9/32	9   3/8	18,000	10	<b>414.542</b>	
40   1 3/8	10   25/64	9   3/8	18,000	10	414.543	
50   2	10   25/64	12   15/32	15,000	10	<b>415.542</b>	
50   2	14   9/16	12   15/32	15,000	10	<b>415.543</b>	
60   2 3/8	12   15/32	17   43/64	15,000	10	<b>416.542</b>	415.562
60   2 3/8	16   5/8	17   43/64	15,000	10	<b>416.543</b>	
70   2 3/4	8   5/16	19   3/4	15,000	10	<b>417.542</b>	417.562
70   2 3/4	12   15/32	19   3/4	15,000	10	<b>417.543</b>	
80   3 1/4	8   5/16	20   51/64	15,000	10	<b>418.542</b>	
80   3 1/4	12   15/32	20   51/64	15,000	10	<b>418.543</b>	

## 2 Wheel brushes SRBK with shank, Ø 6 mm, abrasive filaments

D mm   inch	A mm   inch	H mm   inch	RPM max.	Pack. 10	SIC 120/0.6 Art.-No.	SIC 120/1.1 Art.-No.	SIC 180/1.0 Art.-No.	SIC 320/0.6 Art.-No.
30   1 3/16	6   15/64	6   15/64	20,000	10	<b>413.841</b>			413.871
40   1 3/8	15   19/32	12   15/32	18,000	10		<b>414.842</b>		414.872
50   2	10   25/64	12   15/32	15,000	10		<b>415.842</b>	<b>415.852</b>	415.872
60   2 3/8	10   25/64	14   9/16	15,000	10		416.842	416.852	416.872
70   2 3/4	10   25/64	19   3/4	15,000	10		<b>417.84K*</b>		
70   2 3/4	10   25/64	20   51/64	15,000	10		<b>417.842</b>	<b>417.852</b>	<b>417.872</b>
80   3 1/4	12   15/32	20   51/64	15,000	10		<b>418.842</b>	418.852	418.872

\* with plastic side plate

## 3 Wheel brushes SRBK with shank, Ø 6 mm, ceramic grit

D mm   inch	A mm   inch	H mm   inch	RPM max.	Pack. 10	KK 120/1,1 Art.-Nr.	KK 180/1,0 Art.-Nr.	KK 320/0,6 Art.-Nr.
50   2	10   25/64	12   15/32	15,000	10	<b>415.C42</b>	415.C52	<b>415.C72</b>
70   2 3/4	10   25/64	12   15/32	15,000	10	<b>417.C42</b>	417.C52	<b>417.C72</b>

### Shank wheel brushes with abrasive filaments

The high-quality silicon carbide bristles meet the special requirements for deburring, polishing

and structuring stainless steel, aluminium and plastic. In addition to the articles listed, we also

supply brushes to suit your needs, with other grit types, diameters and filling widths.

# Cup shank brushes



## Cup brushes with shank

The models with shank shown here are primarily for working on small to mid-sized surface areas.

## Cup shank brushes with plastic cup

Cup shank brushes with plastic cup and stainless steel wires are specially suited to applications on stainless steel materials. The plastic cup prevents contact with stainless steel workpieces, protecting them from corrosion and foreign particles.

## Bevel brushes with shank

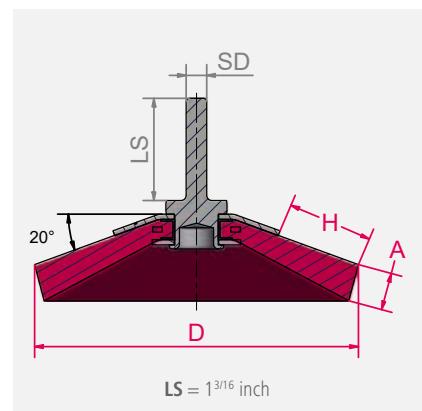
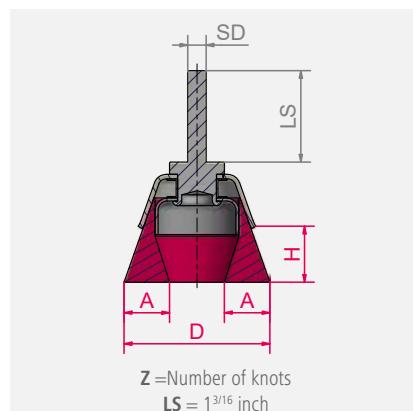
With their conical shape, these universal tools are ideal for grooves, corners, creases, inside edges and irregular surfaces. These professional brushes can be mounted on drills and cordless screwdrivers as well as on high-speed straight grinders and compressed-air drives.

## High speed – low wear

Because brushes with steel and stainless steel wire can withstand operation at relatively high RPMs, they can be used in electric and air-powered grinders.

The high filling density ensures a long service life.

The brushes with abrasive filaments are suitable for deburring, polishing and structuring stainless steel, aluminium and plastic.



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**STH** = Steel wire, high tensile, straight

**ROF** = Stainless steel wire, crimped

**ROH** = Stainless steel wire, high tensile

**MES** = Brass wire, crimped

**SIC** = Silicon carbide bristles



We also sell many of these brushes in display-ready single-unit packaging. Find out more on pages 142 ff.

# SHANK BRUSHES



## 1 Cup brushes STB with shank, Ø 6 mm

D mm   inch	A mm   inch	H mm   inch	RPM	Pack. max.	1 STA 0.20   0.008"	STA 0.30   0.012"	2 ROF/ROH 0.20   0.008"	ROH 0.30   0.012"	3 MES 0.20   0.008"	MES 0.30   0.012"
					Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.
40   1 3/8	15   5/8	20   3/4	10,500	10	<b>434.142</b>	<b>434.162</b>	434.342	<b>434.362</b>	<b>434.542</b>	
50   2	16   5/8	20   3/4	10,500	10	<b>435.142</b>	<b>435.162</b>	435.342	<b>435.362</b>	<b>435.542</b>	<b>435.562</b>
60   2 3/8	18   3/4	25   1	8,000	10	On request		<b>436.162</b>	On request	<b>436.362</b>	On request
70   2 3/4	20   3/4	25   1	6,000	10	<b>437.142</b>	<b>437.162</b>	437.342	<b>437.362</b>	<b>437.542</b>	

## 4 Cup brushes STBP with shank, Ø 6 mm, plastic cup

D mm   inch	A mm   inch	H mm   inch	RPM	Pack. max.	ROH 0.20   0.008"	ROF 0.25   0.010"	ROH 0.30   0.012"
					Art.-No.	Art.-No.	Art.-No.
40   1 3/8	20   3/4	30   1 1/4	15,000	10	<b>434.345</b>	<b>434.355</b>	<b>434.365</b>
50   2	25   1	28   1 7/64	10,500	10	<b>435.345</b>	<b>435.355</b>	<b>435.365</b>

## 5 Cup brushes DSTB with shank, Ø 6 mm, abrasive filaments

D mm   inch	A mm   inch	H mm   inch	RPM	Pack. max.	SIC 80/1.2 Art.-No.	SIC 320/0.6 Art.-No.
50   2	10   3/8	20   3/4	4,500	10	<b>430.128</b>	<b>430.129</b>
75   3	15   5/8	22   7/8	4,500	10	<b>430.138</b>	<b>430.139</b>

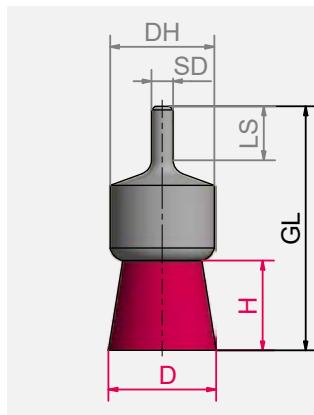
## 6 Cup brushes SZT with shank, Ø 6 mm, knotted

D mm   inch	H mm   inch	Z mm   inch	RPM	Pack. max.	STH 0.50   0.020" Art.-No.
75   3	20   3/4	18   3/4	8,500	10	<b>483.230</b>

## 7 Bevel brushes KB with shank, Ø 6 mm

D mm   inch	A mm   inch	H mm   inch	RPM	Pack. max.	STA 0.30 Art.-No.	ROH 0.30 Art.-No.
70   2 3/4	10   3/8	15   5/8	15,000	10	<b>4K7.161</b>	<b>4K7.361</b>
90   3 3/4	12   1/2	25   1	12,000	10	<b>4K9.161</b>	<b>4K9.361</b>

# End brushes



**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**STH** = Steel wire, high tensile, straight

**ROF** = Stainless steel wire, crimped

**SIC** = Silicon carbide bristles



We also sell many of these brushes in display-ready single-unit packaging. Find out more on pages 142 ff.



## End brushes with shank

These brushes are used to best advantage to clean and deburr very hard-to-reach areas, remove residual paint and rubber, and to clean moulds and castings. They are also effective for working on corners, rounded contours and recessed areas inside bore holes, etc.

These brushes are suitable for use in all high-speed rotating tools. They also are available on request with a 1/4" shank.

## Special end brushes, crimping

The wire in our special end brushes with crimping is narrowly crimped. As a result, the brushes can be very densely filled and achieve a harder effect than brushes with conventional wire crimping. These brushes are also available with extra-long shanks or different diameters.

## Square end brushes

These special tools can be used to clean blind holes, for example, where they clean the bottom and side surfaces all in one step. They are suitable for cleaning and light deburring of, e.g., bore holes. Other diameters are available on request.

## Encapsulated brushes

In these encapsulated brushes, the steel wire filling is embedded in a tough polymer compound. The filling width remains constant during use as a result, and encapsulation prevents premature breakage of individual wires.

The colour of the polymer compound may differ from that shown in the picture.

## Clearly marked

In future you will be able to recognise our encapsulated brushes even more clearly by their stamped or laser-etched product information – your guarantee that you are holding a premium quality product "Made in Germany" in your hands. What is more, all important safety information is provided for easy reference right on the product.

## Different hardnesses

Encapsulated brushes from Lessmann can now be supplied in three different Shore hardnesses:

- Black – hard
- Red – standard
- White – soft



Keep in mind in this context: The more aggressive the application, the harder the plastic material should be. Another advantage of harder plastic material is its dimensional stability.

## Stainless steel brushes

You can easily identify LESSMANN brushes made with stainless steel wire by their markings. We use wire with material number 1.4301. 1.4401 wire is available on request.

For more information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)

## Customised products

Let us know which dimensions and wires best meet your needs.



## Special end brushes with shank, Ø 6 mm, crimping

	D mm   inch	DH mm   inch	H mm   inch	GL mm   inch	RPM max.	Pack.	STH 0.35   0.014" Art.-No.	STH 0.50   0.020" Art.-No.
1	11   7/16	12   1/2	25   1	71   2 3/4	12,000	10	<b>466.171</b>	On request
2	11   7/16	12   1/2	25   1	71   2 3/4	12,000	10	<b>466.172*</b>	On request*
1	19   3/4	22   7/8	29   1 1/8	72   2 3/4	12,000	10	<b>460.121</b>	On request
2	19   3/4	22   7/8	29   1 1/8	72   2 3/4	12,000	10	<b>460.122*</b>	On request*

## 3 Special end brushes with shank, Ø 6 mm, square

	D mm   inch	A mm   inch	GL mm   inch	RPM max.	Pack.	STA 0.15   0.006" Art.-No.	STA 0.25   0.010" Art.-No.	ROF 0.30   0.012" Art.-No.
	25.4   1	8   5/16	84   3 1/4	4,500	10	469.131	469.151	469.362
	31.8   1 1/4	8   5/16	87   3 3/8	4,500	10	469.133	469.153	On request

## 4 End brushes SPBKG with shank, Ø 6 mm, encapsulated

	D mm   inch	DH mm   inch	H mm   inch	GL mm   inch	RPM max.	Pack.	STA 0.30   0.012" Art.-No.
	10   3/8	10   3/8	20   3/4	65   2 1/2	15,000	10	<b>451.160</b>
	16   5/8	16   5/8	25   1	72   2 7/8	15,000	10	<b>452.160</b>
	22   7/8	22   7/8	25   1	72   2 7/8	15,000	10	<b>453.160</b>
	28   1 1/8	28   1 7/64	30   1 1/4	75   3	10,000	10	<b>456.160</b>

## 5 End brushes SPBK with shank, Ø 6 mm, abrasive filaments

	D mm   inch	DH mm   inch	H mm   inch	GL mm   inch	RPM max.	Pack.	SIC 120/1.1 Art.-No.	SIC 180/1.0 Art.-No.	SIC 320/0.6 Art.-No.
	12   1/2	10   3/8	20   3/4	60   2 3/8	20,000	10	<b>451.831</b>	451.851	451.871
	17   5/8	16   5/8	22   7/8	67   2 5/8	10,000	10	<b>452.831</b>	452.851	On request
	23   7/8	22   7/8	25   1	68   2 5/8	18,000	10	<b>454.831</b>	<b>454.851</b>	<b>454.871</b>
	30   1 1/4	29   1 1/8	30   1 1/4	73   2 7/8	18,000	10	<b>456.831</b>	<b>456.851</b>	<b>456.871</b>

\* Pointed shape

# End brushes



## End brushes SPB with shank, Ø 6 mm, steel wire

	D mm   inch	DH mm   inch	H mm   inch	GL mm   inch	RPM max.	Pack. 10	Shape	STA 0.15   0.006" Art.-No.	STA 0.20   0.008" Art.-No.	STA 0.30   0.012" Art.-No.	STA 0.50   0.020" Art.-No.
1	12   1/2	10   3/8	20   3/4	60   2 3/8	20,000	10	□■■	451.131	451.141	451.161	451.191
2	12   1/2	10   3/8	20   3/4	60   2 3/8	20,000	10	□■■			451.162*	451.192*
3	12   1/2	10   3/8	20   3/4	120   4 3/4	15,000	10	□■■■■	458.131	458.141	458.161	458.191
4	17   5/8	16   5/8	22   7/8	65   2 1/2	20,000	10	□■■	452.131	452.141	452.161	452.191
5	23   7/8	22   7/8	25   1	68   2 3/4	18,000	10	□■■	453.131	453.141	453.161	453.191
	30   1 1/4	29   1 1/8	25   1	68   2 3/4	18,000	10	□■■	456.131	456.141	456.161	456.191
	50   2	22   7/8	18   3/4	68   2 3/4	18,000	10	□■■			453.163**	
6	70   2 3/4	29   1 1/8	25   1	68   2 3/4	18,000	10	□■■			456.163**	

## End brushes SPB with shank Ø 6 mm, brass-coated steel wire, cord wire

	D mm   inch	DH mm   inch	H mm   inch	GL mm   inch	RPM max.	Pack. 10	Shape	STM 0.25   0.010" Art.-No.	7	8	STL 0.175   0.007" Art.-No.	STL 0.22   0.009" Art.-No.	
	17   5/8	16   5/8	22   7/8	65   2 1/2	20,000	10	□■■	452.751		452.703		452.705	
	23   7/8	22   7/8	25   1	68   2 3/4	18,000	10	□■■	453.751		453.703		453.705	
	30   1 1/4	29   1 1/8	25   1	68   2 3/4	18,000	10	□■■	456.751		456.703		456.705	

## 9 End brushes SPB with shank, Ø 6 mm, steel wire, high tensile, dense version, longer service life

	D mm   inch	DH mm   inch	H mm   inch	GL mm   inch	RPM max.	Pack. 10	Shape	STH 0.30   0.012" Art.-No.
	12   1/2	12   1/2	20   3/4	66   2 1/2	20,000	10	□■■	451.261.BD
	17   5/8	16   5/8	22   7/8	65   2 1/2	20,000	10	□■■	452.261.BD
	23   7/8	22   7/8	25   1	68   2 3/4	18,000	10	□■■	453.261.BD
	30   1 1/4	29   1 1/8	25   1	68   2 3/4	18,000	10	□■■	456.261.BD

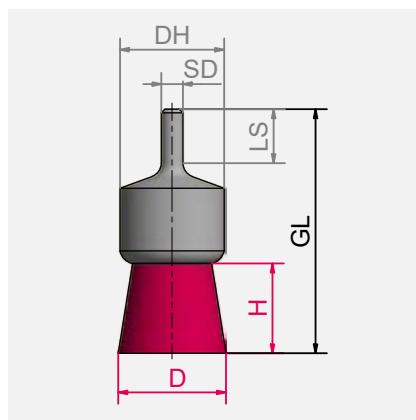


## End brushes SPB with shank, Ø 6 mm, stainless steel wire, brass wire

	D mm   inch	DH mm   inch	H mm   inch	GL mm   inch	RPM max.	Pack. Shape	ROF/ROH 0.20   0.008" Art.-No.	ROF/ROH 0.30   0.012" Art.-No.	RO4 0.30   0.012" Art.-No.	MES 0.20   0.008" Art.-No.	MES 0.30   0.012" Art.-No.
<b>1</b>	12   1/2	10   3/8	20   3/4	60   2 3/8	20,000	10	<b>451.341</b>	<b>451.361</b>	451.461	<b>451.541</b>	<b>451.561</b>
<b>2</b>	12   1/2	10   3/8	20   3/4	60   2 3/8	20,000	10		<b>451.362</b>		451.542	451.562
<b>3</b>	12   1/2	10   3/8	20   3/4	120   4 3/4	15,000	10	<b>458.341</b>	<b>458.361</b>		<b>458.541</b>	<b>458.561</b>
<b>4</b>	17   5/8	16   5/8	22   7/8	65   2 1/2	20,000	10	<b>452.341</b>	<b>452.361</b>		<b>452.541</b>	<b>452.561</b>
	23   7/8	22   7/8	25   1	68   2 3/4	18,000	10	<b>453.341</b>	<b>453.361</b>		<b>453.541</b>	<b>453.561</b>
<b>5</b>	30   1 1/4	29   1 1/8	25   1	68   2 3/4	18,000	10	<b>456.341</b>	<b>456.361</b>		<b>456.541</b>	<b>456.561</b>
<b>6</b>	50   2	22   7/8	18   3/4	68   2 3/4	18,000	10		<b>453.363</b>			

## End brushes SPB with shank, Ø 6 mm, completely stainless

D mm   inch	DH mm   inch	H mm   inch	GL mm   inch	RPM max.	Pack. Shape	ROF 0.30   0.012" Art.-No.
12   1/2	10   3/8	20   3/4	60   2 3/8	20,000	10	<b>451.305</b>
17   5/8	16   5/8	22   7/8	65   2 1/2	20,000	10	452.304
23   7/8	22   7/8	25   1	68   2 3/4	18,000	10	<b>453.301</b>



Brushes also available with shrink tubing (added charge).

**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**STH** = Steel wire, high tensile, crimped

**STM** = Brass-coated steel wire, crimped

**STL** = Brass-coated corded wire, crimped

**ROF** = Stainless steel wire, crimped

**ROH** = Stainless steel wire, high tensile

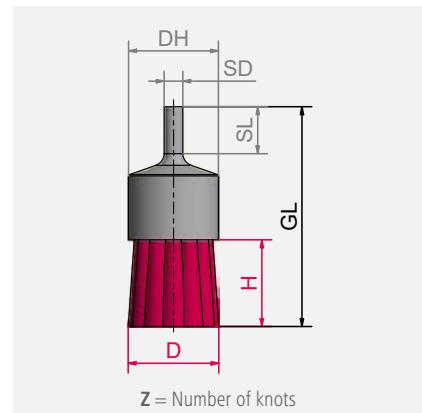
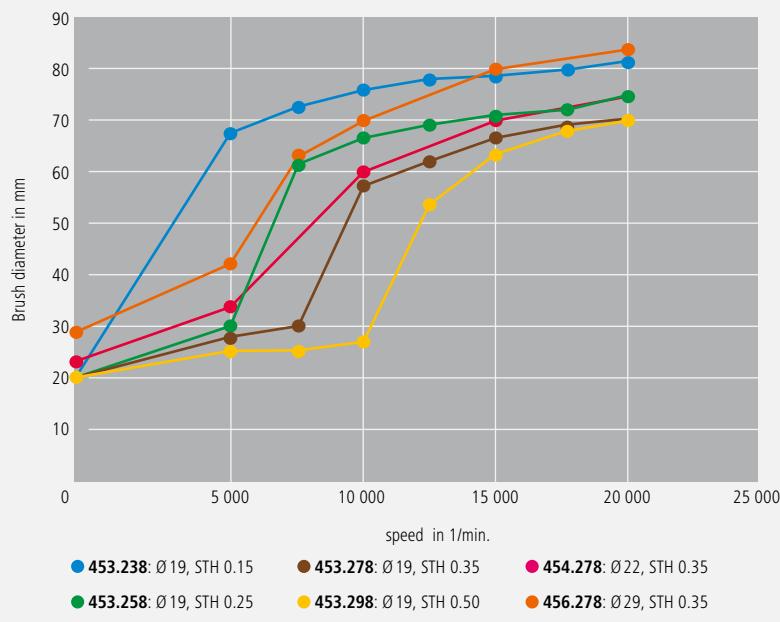
**MES** = Brass wire, crimped

# Knotted end brushes



i

Opening of end brushes as a function of speed



Z = Number of knots

**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STH** = Steel wire, high tensile, straight

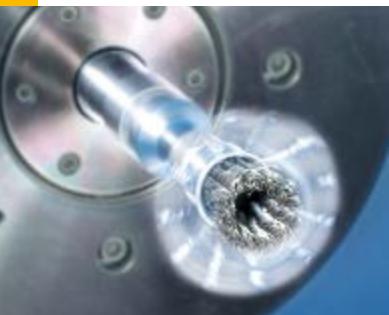
**STM** = Brass-coated steel wire, crimped

**RO4** = Stainless steel wire, straight, 1.4401



## Knotted end brushes with shank

A brush of this type opens more or less wide, depending on the RPM, making it possible to work in hard-to-reach areas, such as bore holes and recesses in housings. The cups of knotted end brushes with stainless steel wire have a **plastic covering** and are marked with a green dot. This guarantees protection of stainless steel surfaces.

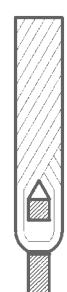
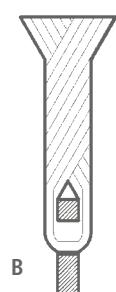


For more information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)

**End brushes with shank, Ø 6 mm, one knot**  
Brushes with one knot for precision work.

## End brushes filled with epoxy resin

End brushes filled with epoxy resin can be used on small, defined surface areas. These brushes have a more aggressive effect, allow precision work, and for this reason are used in electrical cabinet manufacturing or on surfaces with screw connections.



**Knot types ZF**

**B:** Rose bud

**D:** Fully knotted (wire ends are cut completely)

# SHANK BRUSHES



## End brushes SZP with shank, Ø 6 mm, knotted, steel wire

D/DH mm   inch	GL mm   inch	H mm   inch	Z	ZF	RPM max.	Pack.	STH 0.15   0.006" Art.-No.	STH 0.25   0.010" Art.-No.	STH 0.35   0.014" Art.-No.	STH 0.50   0.020" Art.-No.
1 6/10   1/4/3/8	65   2 1/2	25   1	1	D	4,500	10	On request	451.258	451.278	On request

## End brushes SZP with shank, Ø 6 mm, knotted, stainless steel wire

D/DH mm   inch	GL mm   inch	H mm   inch	Z	ZF	RPM max.	Pack.	RO4 0.15   0.006" Art.-No.	RO4 0.25   0.010" Art.-No.	RO4 0.35   0.014" Art.-No.	RO4 0.50   0.020" Art.-No.
2 6/10   1/4/3/8	65   2 1/2	25   1	1	D	4,500	10	On request	451.458	451.478	On request

## End brushes SZP with shank, Ø 6 mm, knotted, steel wire

D/DH mm   inch	GL mm   inch	H mm   inch	Z	ZF	RPM max.	Pack.	STH 0.15   0.006" Art.-No.	STH 0.25   0.010" Art.-No.	STH 0.35   0.014" Art.-No.	STH 0.50   0.020" Art.-No.
3 19   3/4	72   2 7/8	28   1	6	B	20,000	10	453.238	453.258	453.278	453.298
4 22   7/8	72   2 7/8	28   1	8	B	20,000	10	454.238	454.258	454.278	454.298
5 29   1 1/8	72   2 7/8	28   1	12	B	20,000	10	456.238	456.258	456.278	456.298
6 19   3/4	72   2 7/8	28   1	4	B	20,000	50	On request	On request	452.278.GH*	On request

\* Filled with epoxy resin

## 7 End brushes SZP with shank, Ø 6 mm, knotted, brass-coated steel wire

D/DH mm   inch	GL mm   inch	H mm   inch	Z	ZF	RPM max.	Pack.	STM 0.25   0.010" Art.-No.	STM 0.35   0.014" Art.-No.
19   3/4	72   2 7/8	28   1	6	D	20,000	10	453.758	453.778
22   7/8	72   2 7/8	28   1	8	D	20,000	10	454.758	454.778
29   1 1/8	72   2 7/8	28   1	12	D	20,000	10	456.758	456.778

## 8 End brushes SZP with shank, Ø 6 mm, knotted, stainless steel wire

D/DH mm   inch	GL mm   inch	H mm   inch	Z	ZF	RPM max.	Pack.	RO4 0.15   0.006" Art.-No.	RO4 0.25   0.010" Art.-No.	RO4 0.35   0.014" Art.-No.	RO4 0.50   0.020" Art.-No.
19   3/4	72   2 7/8	28   1	6	B	20,000	10	453.338	453.358	453.378	453.398
22   7/8	72   2 7/8	28   1	8	B	20,000	10	454.338	454.358	454.378	454.398
29   1 1/8	72   2 7/8	28   1	12	B	20,000	10	456.338	456.358	456.378	456.398

# Miniature brushes

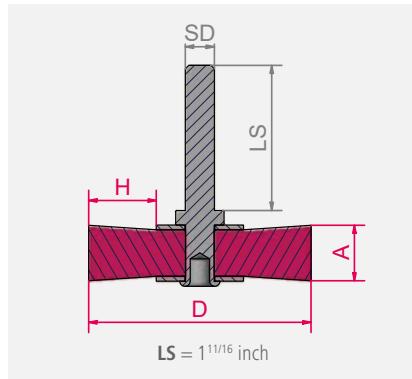


## Miniature brushes

Miniature brushes are suitable for polishing, cleaning, or deburring small surface areas or workpieces. Miniature brushes can remove waste and scale from weld seams or soldered points. These brushes can be used on metal surfaces, steel, aluminium, cast iron, plastic, stone or wood.

Typical fields of application:

- Precision tools
- Precision mechanics
- Pneumatics and hydraulics
- Electronic components, e.g. circuit boards



Different types of miniature brushes are available, i.e. wheel, cup and end brushes. Available shank diameters: 3 mm, 2.34 mm and 3.17 mm.

The typical filling materials are steel wire, stainless steel wire, brass wire or abrasive filaments. Diamond filaments are available on request.

## Stainless steel brushes

For more information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)

**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STH** = Steel wire, high tensile, straight

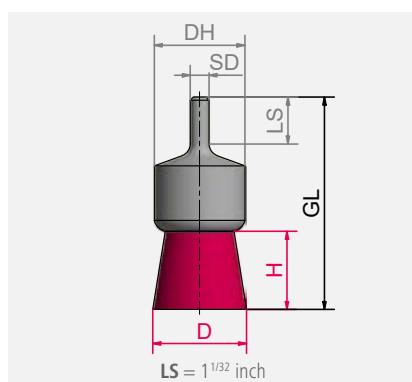
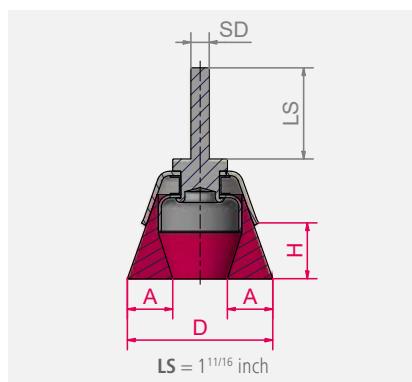
**ROF** = Stainless steel wire, crimped

**MES** = Brass wire, crimped

**PA** = Polyamide

**SIC** = Silicon carbide bristles

**AO** = Aluminium oxide bristles



All miniature brushes are also available with shank Ø 0.234 and 3.17 mm.



## 1 Miniature wheel brushes SRB with shank, Ø 3 mm

D mm   inch	A	H	RPM	Pack.	STH 0.10 max. Art.-No.	ROF 0.10 Art.-No.	MES 0.10 Art.-No.	SIC 320/0.55 Art.-No.	SIC 500/0.46 Art.-No.	SIC 800/0.25 Art.-No.	AO 320/0.50 Art.-No.
16   5/8	2	3	15,000	10	<b>410.221</b>	<b>410.321</b>	410.521				
19   3/4	2	5	12,000	10	<b>410.222</b>	<b>410.322</b>	<b>410.522</b>	410.872	410.882	410.892	410.872.A0
22   7/8	2	6	10,000	10	<b>410.223</b>	<b>410.323</b>	<b>410.523</b>	410.873	<b>410.883</b>	410.893	410.873.A0

D mm   inch	A	H	RPM	Pack.	AO 500/0.46 max. Art.-No.	AO 600/0.30 Art.-No.	Diamond K400 Art.-No.	PA 0.15 Art.-No.	Bristles, white Art.-No.	Bristles, black Art.-No.	Goat hair Art.-No.
16   5/8	2	3	15,000	10			410.811.DB	410.031	410.001.WB	On request	410.001.ZH
19   3/4	2	5	12,000	10	410.802	On request	410.812.DB	410.032	410.002.WB	On request	410.002.ZH
22   7/8	2	6	10,000	10	410.803	On request	410.813.DB	<b>410.033</b>	<b>410.003.WB</b>	<b>410.003.SB</b>	<b>410.003.ZH</b>

## 2 Miniature cup brushes STB with shank, Ø 3 mm

D mm   inch	A	H	RPM	Pack.	STH 0.10 max. Art.-No.	ROF 0.10 Art.-No.	MES 0.10 Art.-No.	SIC 320/0.55 Art.-No.	SIC 500/0.46 Art.-No.	SIC 800/0.25 Art.-No.	AO 320/0.50 Art.-No.
15   5/8	2	5	15,000	10	<b>430.222</b>	<b>430.322</b>	<b>430.522</b>		430.882		430.872.A0
18   3/4	2	6	15,000	10	<b>430.223</b>	<b>430.323</b>	<b>430.523</b>	430.873	<b>430.883</b>	430.893	430.873.A0

D mm   inch	A	H	RPM	Pack.	AO 500/0.46 max. Art.-No.	AO 600/0.30 Art.-No.	Diamond K400 Art.-No.	PA 0.15 Art.-No.	Bristles, white Art.-No.	Bristles, black Art.-No.	Goat hair Art.-No.
15   5/8	2	5	15,000	10	On request	On request	On request	<b>430.031</b>	<b>430.001.WB</b>	<b>430.001.SB</b>	<b>430.001.ZH</b>
18   3/4	2	6	15,000	10	On request	On request	On request	430.032	On request	On request	On request

## 3 Miniature end brushes SPB with shank, Ø 3 mm

D mm   inch	H	RPM	Pack.	STH 0.10 max. Art.-No.	ROF 0.10 Art.-No.	MES 0.10 Art.-No.	SIC 320/0.55 Art.-No.	SIC 500/0.46 Art.-No.	SIC 800/0.25 Art.-No.	AO 320/0.50 Art.-No.
5   13/64	8	15,000	10	<b>450.221</b>	<b>450.311</b>	<b>450.521</b>	450.871	<b>450.881</b>	450.891	450.871.A0

D mm   inch	H	RPM	Pack.	AO 500/0.46 max. Art.-No.	AO 600/0.30 Art.-No.	Diamond K400 Art.-No.	PA 0.15 Art.-No.	Bristles, white Art.-No.	Bristles, black Art.-No.	Goat hair Art.-No.
5   13/64	8	15,000	10	450.801	On request	450.821.DB	<b>450.031</b>	<b>450.001.WB</b>	<b>450.001.SB</b>	<b>450.001.ZH</b>

All miniature brushes are also available with shank Ø 2.34 and 3.17 mm.

# LESSMANN®

THE GERMAN BRUSH COMPANY



# HAND BRUSHES AND BROOMS

05



# Hand brushes



## Old acquaintance

We need them all the time and encounter them everywhere: in the metalworking industry, on construction sites, in everybody's toolbox ... No wonder LESSMANN's full range of hand brushes encompasses all types of filling, from durable steel to the finest brass wire.

## Perfect balance

LESSMANN hand brushes unite outstanding quality with low cost thanks to our efficient manufacturing processes with fully automated machines. Also low-priced: custom markings on brushes, made with modern methods, from company logos branded on the surface to EAN barcodes.

## ROKI® brake calliper brush

This special brush is for cleaning brake callipers. It can effectively remove tough build-up caused by wearing brakes. This brush is an example of how LESSMANN develops products in collaboration with the industry. It was engineered together with an automotive manufacturer. What is new is the two-component handle, which makes the brush even easier to use. In addition, the brush is of very narrow design, the filling exceedingly strong. This prevents any damage to the sensitive brake seals during cleaning.

The filling on the 182.431 brush tapers towards the tip, making it very stiff. Thanks to its particularly good brushing effect and ergonomic handle, customers also use this brush for many other purposes.

## Hand brushes with two-component handles

These brushes meet all demands on modern, high-quality tools with optimised ergonomic features.



## Rivet brushes

With their V-shaped filling material, these brushes effectively clean slag and scale from hard-to-reach welds and fillet welds.

## Hand brushes with scraper

These brushes are indispensable to painters and bricklayers for brushing and scraping off tough deposits, such as cement splatter, at construction sites.

## Hand brushes, heavy duty

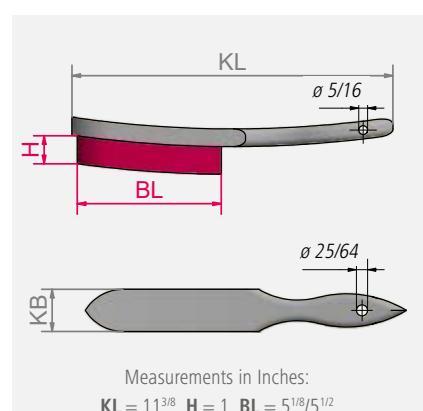
The main difference between these brushes and the standard versions are the larger wooden handle and the denser, longer filling.

## Universal wire brushes

Multitalented brushes for all kinds of applications, especially in the DIY segment.

## Stainless steel brushes

For information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)



All standard brushes bear an EAN barcode and the LESSMANN imprint.



All standard brush bodies are made of beechwood and provided with two holes in the end of the brush for hanging it up.

# Standard hand brushes



EAN

Hand brushes							
	Rows >	1	2	3	4	5	6
	Filling	Pack.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.
1	STA straight 0.35   0.014"	12	<b>100.011</b>	<b>100.021</b>	<b>100.031</b>	<b>100.041</b>	<b>100.051</b>
	STM crimped ~0.30   0.012"	12		105.421	105.431	105.441	105.451
	STA crimped 0.20   0.008"	12				102.441	
	STA crimped 0.30   0.012"	12	<b>102.611</b>	<b>102.621</b>	<b>102.631</b>	<b>102.641</b>	102.651
2	ROF crimped 0.15   0.006"	12		<b>104.321</b>	104.331	<b>104.341</b>	
	ROF crimped 0.20   0.008"	12		<b>104.421</b>		104.441	<b>104.451</b>
	ROF crimped 0.35   0.014"	12	<b>104.611</b>	<b>104.621</b>	<b>104.631</b>	<b>104.641</b>	<b>104.651</b>
	RO8 straight 0.35   0.014"	12	<b>103.711</b>	<b>103.721</b>	103.731	103.741	103.751
	RO8 straight 0.30   0.012"	12			<b>105.731</b>	<b>105.741</b>	
3	MES crimped 0.15   0.006"	12		<b>107.321</b>	107.331	<b>107.341</b>	<b>107.351</b>
	MES crimped 0.25   0.010"	12	107.411	<b>107.421</b>	<b>107.431</b>	<b>107.441</b>	<b>107.451</b>
	MES crimped 0.35   0.014"	12	107.611	<b>107.621</b>	107.631	107.641	107.651
	MES straight 0.35   0.014"	12			<b>106.631</b>	<b>106.641</b>	
4	BRO crimped 0.20   0.008"	12			108.331	<b>108.341</b>	108.351
	BRO crimped 0.40   0.016"	12				108.041	
	PA straight 0.40   0.016"	12			<b>109.431</b>	<b>109.441</b>	<b>109.451</b>
4	<b>FIB</b>	12				<b>109.741</b>	

Other filling materials and lengths available on request.

Art. Nos. in **bold** are available ex warehouse.  
 Art. Nos. in *italics* require a minimum order volume  
 (see page 186).



Promoting sustainable  
 forest management  
[www.pefc.org](http://www.pefc.org)

**STA** = Steel wire

*STM* = Brass-coated steel wire

**ROF** = Stainless steel wire

**RO8** = Stainless steel wire, extremely heat  
 resistant

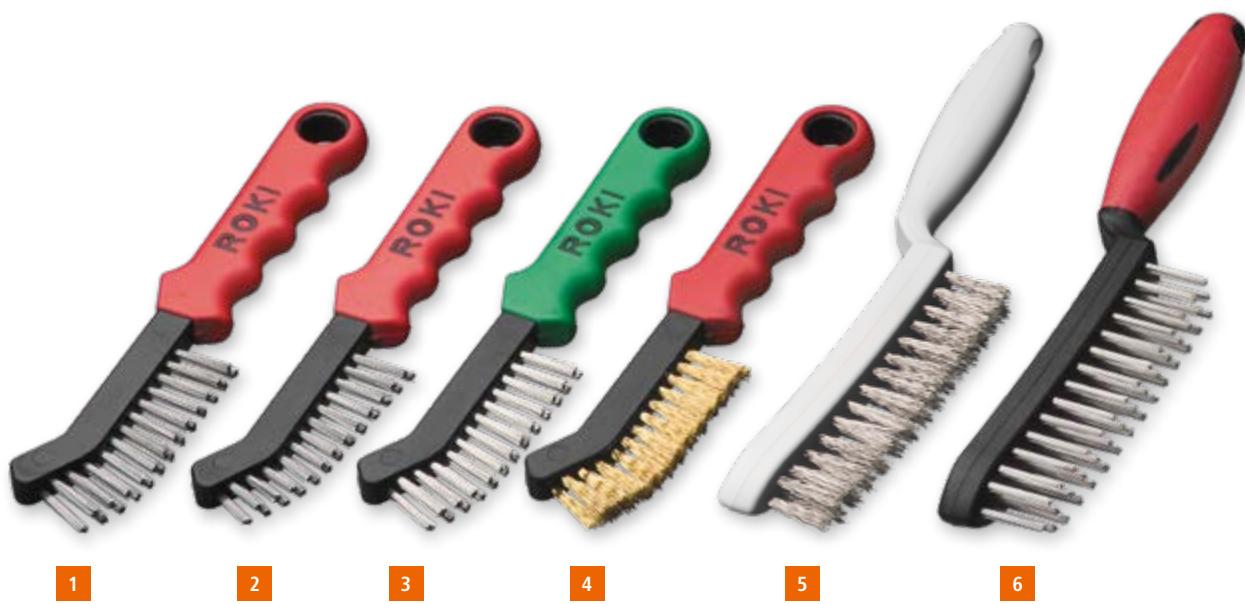
**MES** = Brass wire

**BRO** = Bronze wire

**PA** = Polyamide

**FIB** = Fibre, white

# Professional hand brushes



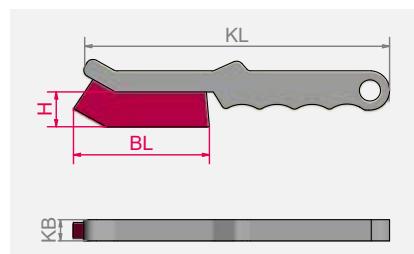
## Professional hand brushes

	Filling	Rows	KL	KB	BL	H	Pack.	Art.-No.
<b>ROKI® brake calliper brushes with two-component handle</b>								
<b>1</b>	<b>STA straight 0.35   0.014"</b>	2 x 12/13	225   9	12   1/2	90   3 1/2	22   7/8	10	<b>182.401</b>
	<b>STA crimped 0.30   0.012"</b>	2 x 12/13	225   9	12   1/2	90   3 1/2	22   7/8	10	<b>182.411</b>
<b>2</b>	<b>STA straight 0.35   0.014"</b>	2 x 12/13	225   9	12   1/2	90   3 1/2	14/22   1/2   7/8	10	<b>182.431*</b>
<b>3</b>	<b>ROF straight 0.35   0.014"</b>	2 x 12/13	225   9	12   1/2	90   3 1/2	22   7/8	10	<b>182.421</b>
	<b>RO4 straight 0.35   0.014"</b>	2 x 12/13	225   9	12/18   1/2/3/4	85   3 3/8	22   7/8	10	<b>182.441</b>
<b>4</b>	<b>MES crimped 0.25   0.010"</b>	2 x 12/13	225   9	12   1/2	90   3 1/2	22   7/8	10	<b>182.451</b>
<b>Hand brushes with plastic handles (PP)</b>								
	<b>STA straight 0.35   0.014"</b>	2	285   11 1/4	20   3/4	130   5 1/8	25   1	10	<b>185.121</b>
	<b>STA straight 0.35   0.014"</b>	3	285   11 1/4	26   1	130   5 1/8	25   1	10	<b>185.131</b>
	<b>STA straight 0.35   0.014"</b>	4	285   11 1/4	31   1 1/4	130   5 1/8	25   1	10	<b>185.141</b>
	<b>STA straight 0.35   0.014"</b>	5	285   11 1/4	31   1 1/4	130   5 1/8	25   1	10	<b>185.151</b>
	<b>ROF crimped 0.35   0.014"</b>	2	285   11 1/4	20   3/4	130   5 1/8	25   1	10	<b>185.421</b>
<b>5</b>	<b>ROF crimped 0.35   0.014"</b>	3	285   11 1/4	26   1	130   5 1/8	25   1	10	<b>185.431</b>
	<b>ROF crimped 0.35   0.014"</b>	4	285   11 1/4	31   1 1/4	130   5 1/8	25   1	10	<b>185.441</b>
	<b>ROF crimped 0.35   0.014"</b>	5	285   11 1/4	31   1 1/4	130   5 1/8	25   1	10	<b>185.451</b>
	<b>MES straight 0.35   0.014"</b>	2	285   11 1/4	20   3/4	130   5 1/8	25   1	10	<b>185.621</b>
	<b>MES straight 0.35   0.014"</b>	3	285   11 1/4	26   1	130   5 1/8	25   1	10	<b>185.631</b>
	<b>MES straight 0.35   0.014"</b>	4	285   11 1/4	31   1 1/4	130   5 1/8	25   1	10	<b>185.641</b>
	<b>MES straight 0.35   0.014"</b>	5	285   11 1/4	31   1 1/4	130   5 1/8	25   1	10	<b>185.651</b>

## Hand brushes with two-component handles

<b>6</b>	<b>ROF straight 0.35   0.014"</b>	3	285   11 1/4	26   1	130   5 1/8	25   1	10	<b>186.431</b>
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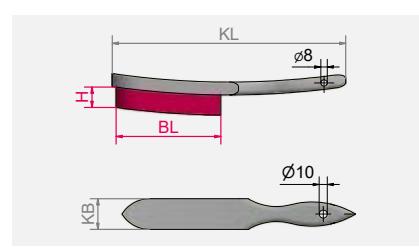
\* The filling tapers towards the tip, making it very stiff  
 Suitable for use in the food industry



## Special hand brushes



Special hand brushes								
	Filling	Rows	KL mm   inch	KB mm   inch	Bl mm   inch	H mm   inch	Pack.	Art.-No.
<b>1</b>	<b>Rivet brushes</b>							
	STA straight 0.35   0.014"	3 x 15	290   11 3/8	35   1 1/2	135   5 3/8	35   1 1/2	12	<b>120.801</b>
	ROF straight 0.35   0.014"	3 x 15	290   11 3/8	35   1 1/2	135   5 3/8	35   1 1/2	12	<b>120.811</b>
	RO8 straight 0.30   0.012"	3 x 15	290   11 3/8	35   1 1/2	135   5 3/8	35   1 1/2	12	<b>120.831</b>
	ROF straight 0.35   0.014" with plastic handles	3 x 15	290   11 3/8	31   1 1/4	135   5 3/8	35   1 1/2	10	<b>185.811</b>
<b>2</b>	<b>Hand brushes with scraper</b>							
	STA straight 0.35   0.014"	4 x 14	290   11 3/8	33   1 1/4	130   5 1/8	25   1	12	<b>120.401</b>
	STA straight 0.35   0.014"	6 x 14	290   11 3/8	38   1 1/2	130   5 1/8	25   1	12	<b>120.601</b>
	ROF straight 0.35   0.014" w. stainless steel scraper	4 x 14	290   11 3/8	33   1 1/4	130   5 1/8	25   1	12	<b>120.412</b>
<b>3</b>	<b>Hand brushes KS, heavy duty</b>							
	STA straight 0.35   0.014"	2 x 16	290   11 3/8	30   1 1/4	150   6	32   1 1/4	12	<b>136.101</b>
	STA straight 0.35   0.014"	3 x 16	290   11 3/8	35   1 1/2	150   6	32   1 1/4	12	<b>136.102</b>
	STA straight 0.35   0.014"	4 x 15	290   11 3/8	40   1 3/8	150   6	32   1 1/4	12	<b>136.103</b>
	<b>Hand brushes, export models</b>							
<b>4</b>	STA straight 0.35   0.014"	4 x 17	300   12	30   1 1/4	130   5 1/8	25   1	12	<b>122.401</b>
<b>5</b>	STA straight 0.35   0.014"	4 x 19	350   14	30   1 1/4	160   6 3/8	30   1 1/4	6	<b>122.801</b>
<b>6</b>	BRO straight 0.30   0.012"	3 x 19	350   14	25   1	153   6 1/32	30   1 1/4	6	<b>122.771</b>
<b>6</b>	BRO straight 0.30   0.012"	4 x 19	350   14	30   1 1/4	150   6	30   1 1/4	6	<b>122.821</b>
<b>6</b>	BRO straight 0.30   0.012"	5 x 19	350   14	30   1 1/4	153   6 1/32	30   1 1/4	6	<b>122.871</b>
<b>7</b>	<b>Universal wire brushes</b>							
	STM crimped 0.30   0.012"	1	260   10 1/4	10   3/8	135   5 3/8	28   1	24	<b>056.001</b>
	STA crimped 0.30   0.012"	1	260   10 1/4	10   3/8	135   5 3/8	28   1	24	<b>056.301</b>
	ROF crimped 0.30   0.012"	1	260   10 1/4	10   3/8	135   5 3/8	28   1	24	<b>056.501</b>
	MES crimped 0.30   0.012"	1	260   10 1/4	10   3/8	135   5 3/8	28   1	24	<b>056.701</b>



Art. Nos. in **bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

- STA = Steel wire
- STM = Brass-coated steel wire
- ROF = Stainless steel wire
- RO4 = Stainless steel wire, premium quality
- RO8 = Stainless steel wire, extremely heat resistant
- MES = Brass wire
- BRO = Bronze wire

# Spark plug brushes



## Spark plug brushes

	Filling	Rows	KL mm   inch	KB mm   inch	BL mm   inch	H mm   inch	Pack.	Art.-No.
1	MES crimped 0.15   0.006"	2 x 5	100   4	15   5/8	25   1	15   5/8	12	125.111
2	MES crimped 0.15   0.006"	3 x 5/6	150   6	15   5/8	40   1 3/8	15   5/8	12	125.211
3	STA crimped 0.15   0.006"	3 x 5/6	150   6	15   5/8	40   1 3/8	15   5/8	12	125.201
4	ROF crimped 0.15   0.006"	3 x 5/6	150   6	15   5/8	40   1 3/8	15   5/8	12	125.231
5	MES crimped 0.15   0.006" / PP	3 x 5/6	150   6	15   5/8	40   1 3/8	15   5/8	12	125.221
6	MES crimped 0.15   0.006"	3 x 5/6	150   6	15   5/8	40   1 3/8	15   5/8	12	125.311*
7	ROF crimped 0.20   0.008"	3 x 5/6	150   6	15   5/8	40   1 3/8	15   5/8	12	125.241
	PA straight 0.30   0.012"	3 x 5/6	150   6	15   5/8	40   1 3/8	15   5/8	12	125.251
8	BRO crimped 0.15   0.006"	3 x 5/6	200   8	15   5/8	40   1 3/8	15   5/8	12	132.801
9	MES crimped 0.15   0.006"	5 x 8/10	190   1 1/2	25   1	55   2 1/4	18   3/4	12	125.511
10	MES crimped 0.15   0.006" / PP	5 x 8/10	190   1 1/2	25   1	55   2 1/4	12   1/2	12	125.521
11	MES crimped 0.15   0.006"	4 x 6	155   6	22   7/8	40   1 3/8	18   3/4	12	182.331**

## Soldering tip brush KS, extra dense filling, wooden body, orange

12	ROF crimped 0.10   0.004"	3 x 7/8	150   6	15   5/8	39   1 3/8	9   3/8	12	125.234
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## Gas hob brush KS

13	STA crimped 0.20   0.008"	3 x 7/8	200   8	25   1	80   3 1/8	23   7/8	10	132.208
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\* Wooden body varnished | \*\* Plastic body

### Spark Plug Brushes

These small brushes are used for all fine brush-work that usually requires thin wire. This product range includes a number of beechwood models of various sizes and filling materials.

### Soldering tip brushes

Soldering tip brushes have extra dense and thin filling material. They are ideal for soldering tips, cleaning circuit boards after soldering and many other precision tasks.

### Gas hob brush

The soft, yet durable bristles reliably remove grime and light rust without scratching sensitive surfaces. The ergonomic, compact wooden body is easy to grip and has no trouble reaching hard-to-access areas. Ideal for cleaning gas hobs and other metal surfaces.

**Art. Nos. in bold** are available ex warehouse.

*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**ROF** = Stainless steel wire

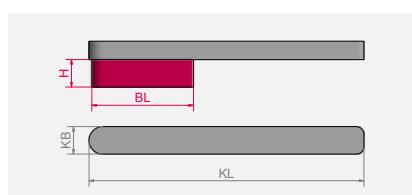
**MES** = Brass wire

**BRO** = Bronze wire

**PA** = Polyamide

**PP** = Polypropylene

**ROS** = Horse hair, black



# Fine Scratch Brushes



1      2      3      4      5      6      7      8      9      10

Fine scratch brushes									
	Filling	Rows	KL mm   inch	KB mm   inch	BL mm   inch	H mm   inch	Pack.		Art.-No.
1	MES crimped 0.15   0.006"	3	225   9	16   5/8	110   4 3/8	20   3/4	12		126.311
	MES crimped 0.15   0.006"	4	225   9	20   3/4	110   4 3/8	20   3/4	12		126.411
	MES crimped 0.15   0.006"	5	225   9	24   1	110   4 3/8	20   3/4	12		126.511
	MES crimped 0.15   0.006"	6	225   9	28   1	110   4 3/8	20   3/4	12		126.611
	MES crimped 0.15   0.006"	8	225   9	36   1 1/2	110   4 3/8	20   3/4	12		126.811
	MES crimped 0.08   0.003"	4	220   8 5/8	18   11/16	100   4	20   3/4	12		126.441
	MES crimped 0.10   0.004"	4	225   9	20   3/4	110   4 3/8	20   3/4	12		126.431
2	ROF crimped 0.15   0.006"	4	225   9	20   3/4	110   4 3/8	20   3/4	12		126.481
	STA crimped 0.15   0.006"	4	225   9	20   3/4	110   4 3/8	20   3/4	12		126.401
	RO4 crimped 0.15   0.006"	4	225   9	20   3/4	100   4	20   3/4	12		126.491
3	PA straight 0.30   0.012"	4	225   9	20   3/4	110   4 3/8	20   3/4	12		126.451
4	ROS	4	225   9	20   3/4	110   4 3/8	20   3/4	12		126.472
5	ROF crimped 0.15   0.006" 	4	225   9	20   3/4	100   4	20   3/4	12		182.152**
	MES crimped 0.15   0.006"	4	225   9	20   3/4	100   4	20   3/4	12		182.162**
	ROS	4	225   9	20   3/4	100   4	20   3/4	12		182.472**
6	PP straight 0.30   0.012" 	4	225   9	20   3/4	100   4 3/8	20   3/4	12		182.172**
Special brushes									
7	MES crimped 0.35   0.014"	4 x 11/12	350   14	22   7/8	77   3	10   3/8	12		182.807**
	MES crimped 0.35   0.014"	4 x 11/12	400   15 3/4	20   3/4	77   3	10   3/8	12		183.704**
	MES crimped 0.35   0.014"	4 x 11/12	450   17 3/4	22   7/8	77   3	10   3/8	12		182.811**
	MES crimped 0.30   0.012"	5 x 9/8	700   27 1/2	25   1	54   2 1/4	6   1/4	12		183.706**
8	MES crimped 0.35   0.014"	4 x 11/12	350   14	22   7/8	80   3	10   3/8	12		137.701
9	MES crimped 0.30   0.012"	5 x 9	700   27 1/2	25   1	54   2 1/4	6   1/4	12		138.704
	MES crimped 0.30   0.012"	4 x 11/12	450   17 3/4	22   7/8	80   3	8   5/16	12		138.705
10	MES crimped 0.25   0.010"	2 x 10	200   8	15   5/8	80   3	19   3/4	12		132.701

\*\* Plastic handle |  Suitable for use in the food industry

## Fine scratch brushes

Also known as watchmaker or goldsmith brushes, these brushes have a very high filling density. Among other things, they frequently are used to apply solvents or cleaning agents. They are available in various widths.

## Special brushes

These brushes were developed and manufactured exactly to customer specifications. They are a good example of the custom product modifications we generally are capable of thanks to the structure and flexibility of LESSMANN's production operations.



# Barbecue grill brushes

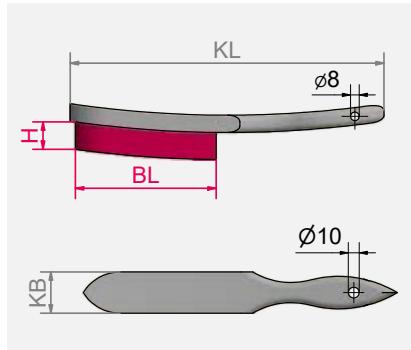


## Barbecue grill brushes

Barbecue grill brushes are excellently suited to regularly cleaning grill grates to remove stubborn, burned, stuck-on food and grease. With the right brush, you can make sure your grate shines like new again.



All barbecue grill brushes bear an EAN barcode and the LESSMANN imprint.



## Standard barbecue grill brushes, with scraper

All-rounder for every grill: the standard barbecue grill brush with stainless steel scraper.

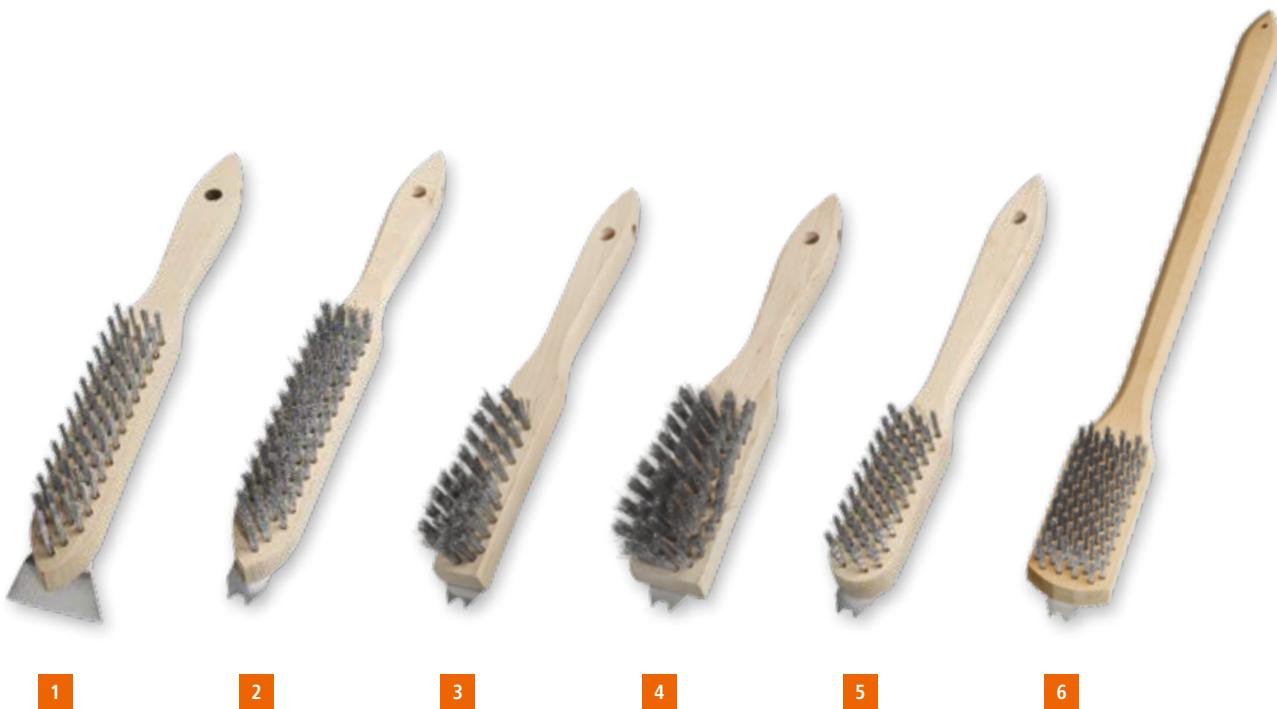


All barbecue grill brushes feature a convenient hanging hole and are delivered in cut-case packaging.



Scraper, flat

Scraper, round



EAN

## Barbecue grill brushes, crimped wire

### Standard, with scraper

	KL mm   inch	KB mm   inch	H mm   inch	Rows	BL mm   inch	Scraper	Pack.	ROF 0.35 Art.-Nr.
<b>1</b>	290   11 3/8	33   1 1/4	25   1	4	130   5 1/8	flat	6	<b>120.413</b>
<b>2</b>	290   11 3/8	33   1 1/4	25   1	4	130   5 1/8	round	8	<b>120.423</b>

### Curved version, dense, with scraper

	KL mm   inch	KB mm   inch	H mm   inch	Rows	BL mm   inch	Scraper	Pack.	ROF 0.20 Art.-Nr.
<b>3</b>	250   10	25   1	23   7/8	3	90   3 1/2	round	12	<b>120.433</b>
<b>4</b>	250   10	38   1 1/2	23   7/8	4	90   3 1/2	round	8	<b>120.443</b>

### Straight version, with scraper

	KL mm   inch	KB mm   inch	H mm   inch	Rows	BL mm   inch	Scraper	Pack.	ROF 0.30 Art.-Nr.
<b>5</b>	290   11 3/8	33   1 1/4	20   3/4	5	90   3 1/2	round	12	<b>135.455</b>
<b>6</b>	500   20	50   2	20   3/4	9	90   3 1/2	round	9	<b>138.469</b>

**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume  
(see page 186).

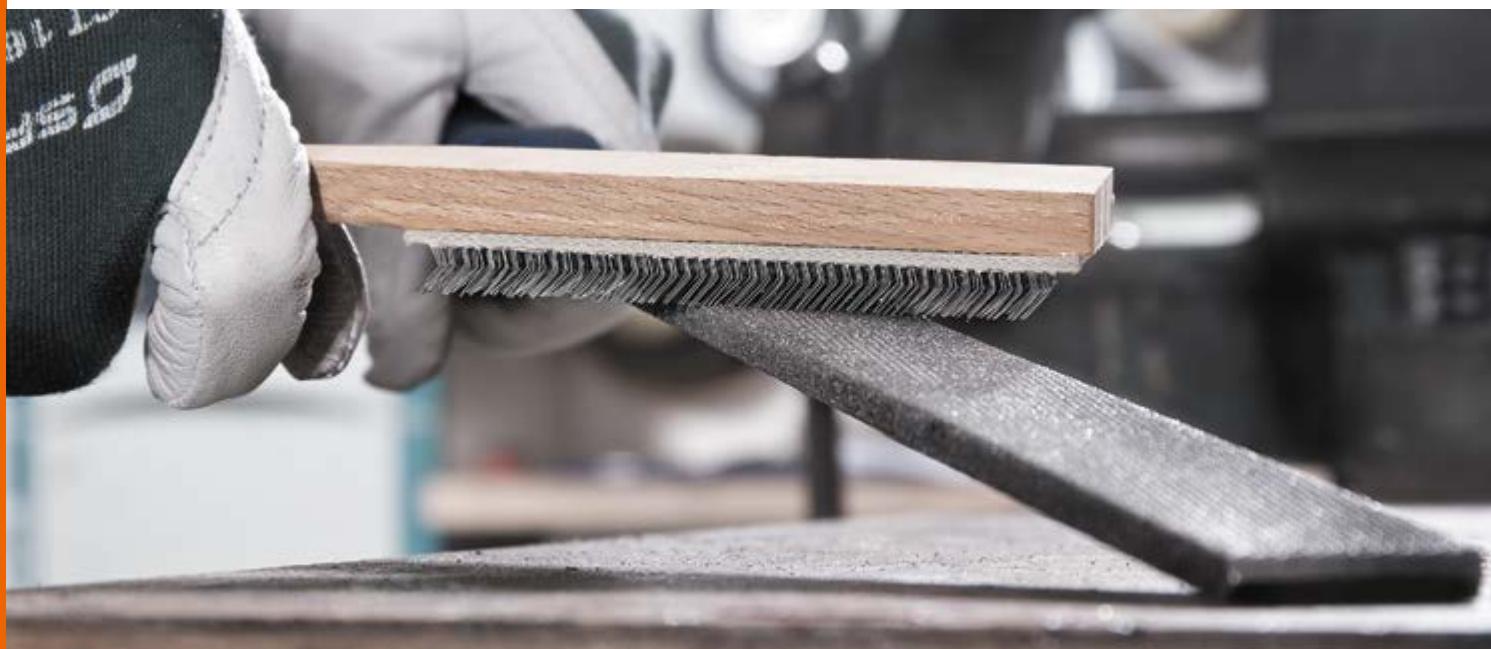
**ROF** = Stainless steel wire



Promoting sustainable  
forest management  
[www.pefc.org](http://www.pefc.org)



# Special models



## Hand brushes, rectangular and violin

Extremely sturdy: strong, universal brushes with dense wire filling.

## Hand brushes with top handle

The wooden body is pointed to the front; the plastic handle nailed onto it. The model 140.901 brush has an intermediate base that makes it possible to adjust the hardness of the brush.

These special models are mainly ordered by our export customers.

## Brushes for removing wet storage stain

Galvanised surfaces are intended to provide protection from corrosion. After workpieces have been galvanised, wet weather conditions can often trigger chemical reactions that cause wet storage stain.

Thanks to the special bronze wire used for the brush filling, spots affected by wet storage staining can be cleaned effectively without damaging the galvanised finish.

## Radiator brushes

With their narrow, long shape, these brushes can be used to brush out hard-to-reach spots on radiators.

## Staining brushes

Staining brushes are used to prepare wood for treatment. With their fibres and bronze wires, these brushes are impervious to all commercial alkaline solutions. The 140.901 model brush has an adjustable intermediate base that makes it possible to adjust the hardness of the brush. With the 144.701 model brush, any raised wood fibres remaining after staining can be smoothed and polished with the integrated leather strips.

## File cleaners

We offer brushes for cleaning wood and metal files in several sizes and with different types of file card. The file card is glued onto the wooden body.

## File card, in rolls

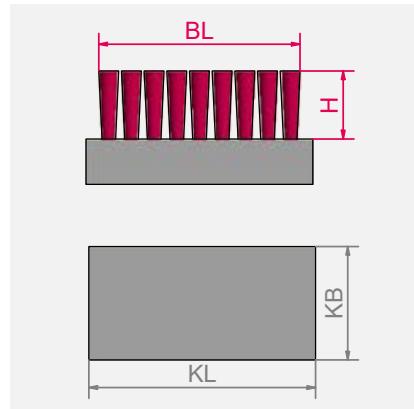
We also provide file card in rolls by the metre, or as individual units.

## Bricklayer's brushes

All models have a jute or plastic strap.

## Plasterer's brushes

This beechwood tool, with its hardened steel pins, is perfect for roughening and structuring plaster.



**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**STM** = Brass-coated steel wire

**BRO** = Bronze wire



## Special hand brushes

	Filling	Rows	KL mm   inch	KB mm   inch	BL mm   inch	H mm   inch	Pack.	Art.-No.
<b>Hand brushes, rectangular and violin</b>								
<b>1</b>	<b>STA</b> straight 0.35   0.014"	6 x 19	185   7 1/4	57   2 1/4	175   7	30   1 1/4	12	<b>140.201</b>
<b>2</b>	<b>STA</b> straight 0.35   0.014"	5	200   8	60   2 3/8	190   7 1/2	35   1 1/2	16	<b>141.231</b>
<b>3</b>	<b>STM</b> straight 0.35   0.014"	5	200   8	55   2 1/4	170   6 5/8	40   1 3/8	36	<b>140.641</b>
<b>4</b>	<b>STA</b> crimped ca. 0.20   0.008"	5	127   5	50   2	110   4 3/8	23   7/8	10	<b>152.208</b>
<b>5</b>	<b>STA</b> straight ca. 0.35   0.014"	6	200   8	50   2	195   7 5/8	26   1	10	<b>153.108</b>

## Hand brushes with strap

<b>6</b>	<b>STA</b> straight 0.50   0.020"	7	200   8	70   2 3/4	185   7 1/4	35   1 1/2	12	<b>141.421</b>
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## Hand brushes with top handle

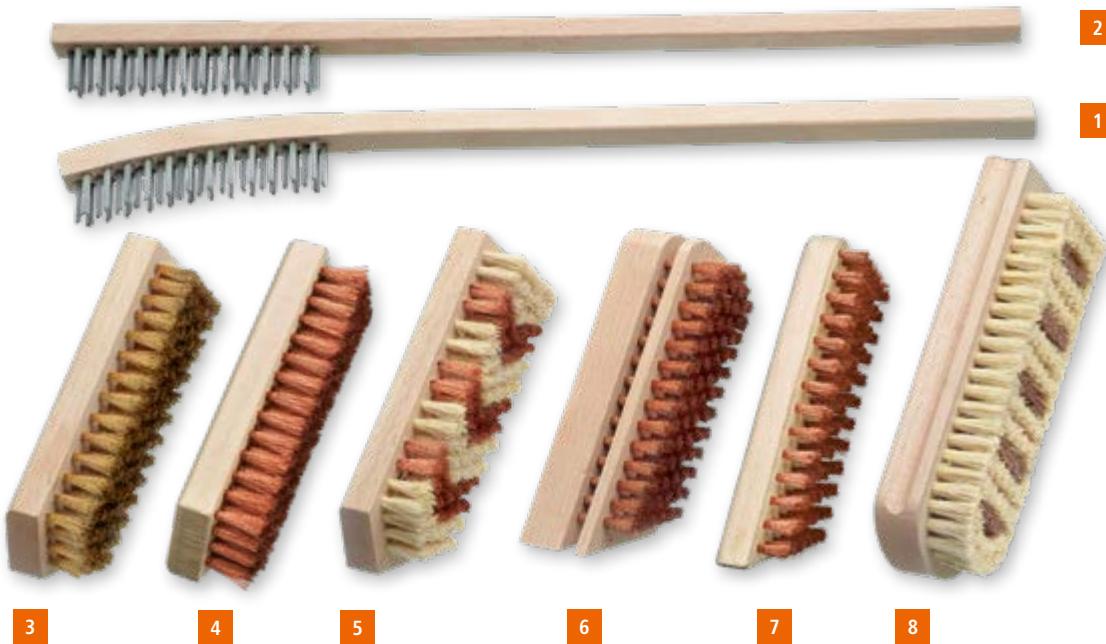
<b>7</b>	<b>STA</b> straight ca. 0.35   0.014"	5	225   9	55   2 1/4	200   8	38   1 1/2	16	<b>140.901*</b>
<b>8</b>	<b>STM</b> crimped 0.35   0.014"	5	225   9	55   2 1/4	200   8	38   1 1/2	16	<b>140.811</b>

## Hand brushes for removing wet storage stain

<b>9</b>	<b>BRO</b> crimped 0.08   0.003"	11 x 18	120   4 3/4	70   2 3/4	110   4 3/8	14   4/7	4	<b>152.811</b>
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\* With intermediate base

# Special models



## Radiator brushes

	Filling	Rows	KL mm   inch	KB mm   inch	BL mm   inch	H mm   inch	Pack.	Art.-No.
<b>1</b>	<b>STA</b> straight 0.25   0.010"	3 x 13	420   16 1/2	20   3/4	115   4 1/2	20   3/4	12	121.111*
<b>2</b>	<b>STA</b> straight 0.25   0.010"	3 x 13	420   16 1/2	20   3/4	115   4 1/2	20   3/4	12	<b>121.211**</b>

\* Wooden body, curved | \*\* Wooden body, straight

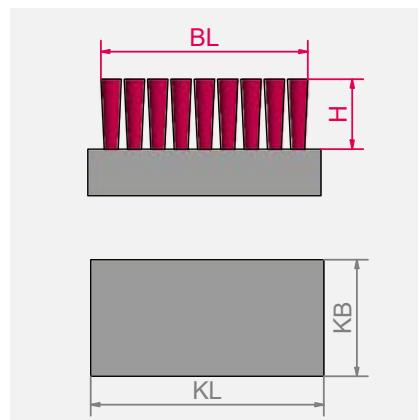
## Staining brushes

	Filling	Rows	KL mm   inch	KB mm   inch	BL mm   inch	H mm   inch	Pack.	Art.-No.
<b>3</b>	<b>MES</b> crimped 0.15   0.006"	7	150   6	50   2	140   5 1/2	20   3/4	12	<b>144.001</b>
<b>4</b>	<b>BRO</b> crimped 0.15   0.006"	7	150   6	50   2	140   5 1/2	20   3/4	12	<b>144.011</b>
<b>5</b>	<b>BRO</b> 0.15   0.006" / <b>FIB</b>	7	150   6	50   2	140   5 1/2	20   3/4	12	<b>144.021</b>
	<b>BRO</b> crimped 0.15   0.006"	7	180   7	60   2 3/8	170   6 5/8	20   3/4	12	<b>144.111</b>
<b>6</b>	<b>BRO</b> crimped 0.15   0.006"	6	150   6	50   2	130   5 1/8	20   3/4	12	<b>144.211***</b>
<b>7</b>	<b>BRO</b> crimped 0.15   0.006"	6	180   7	60   2 3/8	160   6 3/8	15   5/8	12	144.411

\*\*\* With intermediate base

## Wax polishing brush

	Filling	Rows	KL mm   inch	KB mm   inch	BL mm   inch	H mm   inch	Pack.	Art.-No.
<b>8</b>	<b>Leather + FIB</b>	3/7	175   6 7/8	60   2 3/8	160   6 3/8	20   3/4	12	<b>144.701</b>



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume  
(see page 186).

**STA** = Steel wire

**ROF** = Stainless steel wire

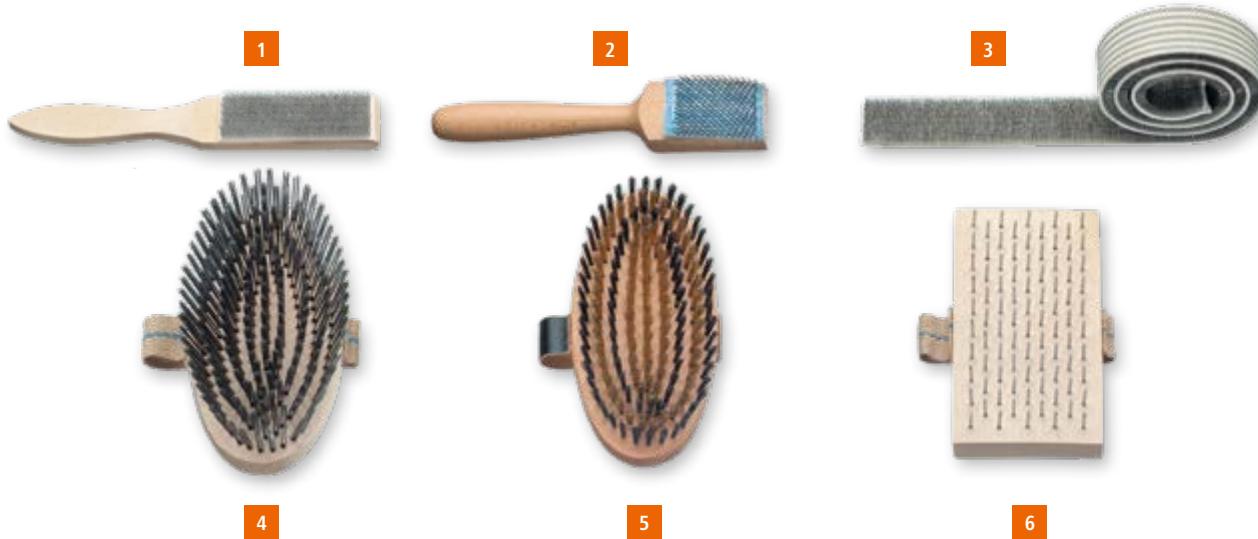
**MES** = Brass wire

**BRO** = Bronze wire

**FIB** = Fibre, white

**PVC** = Polyvinyl chloride





## File cleaners / Roughing brushes

	File card	KL mm   inch	KB mm   inch	BL mm   inch	Pack.	Art.-No.
1	<b>STA</b> 0.30   0.012"	210   8 1/4	25   1	100   4	12	<b>037.101</b>
	<b>STA</b> 0.30   0.012"	250   10	40   1 3/8	115   4 1/2	12	<b>037.201</b>
	<b>STA</b> 0.30   0.012"	250   10	40   1 3/8	115   4 1/2	100	<b>037.200</b>
	<b>ROF</b> 0.30   0.012"	250   10	40   1 3/8	115   4 1/2	12	<b>037.221</b>
2	<b>ROF</b> 0.60	170   6 3/4	30   1 1/4	24   1	20	<b>037.710</b>

## 3 File card

Filling, without interval	STA 0.30 width 25 Art.-No. 000.311*	STA 0.30 width 38 Art.-No. 000.321*	STA 0.30 width 51 Art.-No. 000.331*	ROF 0.30 width 38 Art.-No. 000.323*
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## Bricklayer's brushes with strap

	Filling	Rows	KL mm   inch	KB mm   inch	BL mm   inch	H mm   inch	Pack.	Art.-No.
4	<b>STA</b> straight 0.25   0.010"	9	210   8 1/4	100   4	200   8	35   1 1/2	12	<b>142.101</b>
5	<b>MES</b> crimped 0.20   0.008" / <b>PVC</b>	9	210   8 1/4	95   3 3/4	200   8	20   3/4	12	<b>142.211**</b>

\* Indicate desired length. | \*\* Wooden body, varnished

## Plasterer's brushes with strap

	Filling	KL mm   inch	KB mm   inch	BL mm   inch	H mm   inch	Pack.	Art.-No.
6	86 steel pins, hardend	190   7 1/2	97   3 3/4	165   6 1/2	16   5/8	12	<b>061.101</b>

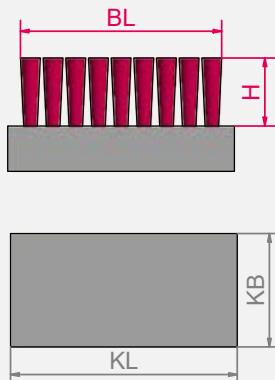
# Brooms, scrub brushes and dusters



## Brooms and scrub brushes

Brooms and scrub brushes are used in industrial and commercial businesses of all kinds, as well as at construction sites.

The most common brooms and scrub brushes are shown here. All models have a hole for the broom handle.



**Art. Nos. in bold** are available ex warehouse.

*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**ROF** = Stainless steel wire, crimped

**MES** = Brass wire

**PP** = Polypropylene

**ROS** = Horse hair

**BRO** = Bronze wire

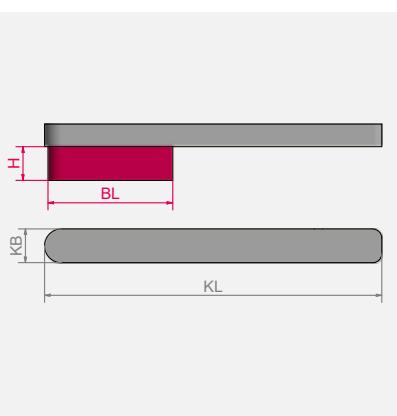
## Duster

Dusters of different types and with various filling materials are available depending on your application and environment.

Dusters with wire filling are good for coarse, slightly stubborn grime, because the wires give only slightly.

Our duster with polypropylene filling (straight plastic fibres) is easy to clean, meaning it will not dirty or scratch other surfaces.

Polypropylene absorbs very little water, so the duster is also effective in damp conditions.



## Great dusters to specifications

In addition to the duster models shown here, we also manufacture special designs with filling materials and heights to your specifications.

# HAND BRUSHES AND BROOMS



## 1 Brooms, flat wooden stock, with handle hole, Ø 23 mm

Filling	Rows	KL mm   inch	KB mm   inch	BL mm   inch	H mm   inch	Pack.	Art.-No.
<b>STA</b> straight approx. 0.50   0.020"	6 x 20/21	300   12	70   2 3/4	330   13	70   2 3/4	12	<b>147.201</b>
<b>ROF</b> straight approx. 0.50   0.020"	6 x 20	300   12	70   2 3/4	330   13	70   2 3/4	12	147.261

## Brooms, raised wooden stock, with handle hole, Ø 23 mm

Filling	Rows	KL mm   inch	KB mm   inch	BL mm   inch	H mm   inch	Pack.	Art.-No.
<b>STA</b> straight approx. 0.50   0.020"	6 x 20/21	300   12	70   2 3/4	330   13	70   2 3/4	12	<b>146.201</b>
<b>BRO</b> straight approx. 0.40   0.016"	6 x 20/21	300   12	70   2 3/4	320   12 51/64	55   2 1/8	12	146.270

## Scrub brushes, with handle hole, Ø 23 mm

Filling	Rows	KL mm   inch	KB mm   inch	BL mm   inch	H mm   inch	Pack.	Art.-No.
<b>STA</b> straight approx. 0.35   0.014"	6 x 16/17	220   8 5/8	60   2 3/8	225   9	35   1 1/2	12	<b>148.101</b>
<b>ROF</b> straight approx. 0.35   0.014"	6 x 16/17	220   8 5/8	60   2 3/8	225   9	35   1 1/2	12	<b>148.161</b>
<b>MES</b> crimped 0.25   0.010"	6 x 16/17	220   8 5/8	60   2 3/8	225   9	25   1	12	<b>148.141</b>
<b>BRO</b> straight 0.40   0.016"	6 x 16/17	220   8 5/8	60   2 3/8	225   9	40   1	12	148.170

## Dusters

Filling	Rows	KL mm   inch	KB mm   inch	BL mm   inch	H mm   inch	Pack.	Art.-No.
<b>Artificial COCO</b> , long version	4	430   17	40   1 3/8	165   6 1/2	70   2 3/4	20	<b>124.402</b>
<b>MES</b> crimped 0.25   0.010"	4	320   12 1/2	35   1 1/2	180   7	40   1 3/8	12	<b>124.121</b>
<b>BRO</b> crimped 0.30   0.012"	4	320   12 1/2	35   1 1/2	170   6 3/4	40   1 3/8	12	124.181
<b>STA</b> straight approx. 0.25   0.010"	4	320   12 1/2	35   1 1/2	180   7	60   2 3/8	12	<b>124.101</b>
<b>ROS</b>	6	300   12	43   1 3/4	165   6 1/2	50   2	20	<b>124.301*</b>
<b>PP</b>	4	320   12 1/2	35   1 1/2	175   6 7/8	70   2 3/4	12	<b>124.801</b>
<b>PP</b> long version	4	450   17 3/4	33   1 1/4	165   6 1/2	70   2 3/4	12	<b>124.841</b>

\* Wooden body, varnished

# Weed brushes and weed brooms



## Lawnmower brush

With this brush, you can effortlessly clean the underside and blades of your lawnmower after cutting grass. The convenient plastic scraper on the top removes stubborn, caked-on grass without dulling the edges of the cutting blades. With the PVC filling, you can then easily sweep the rest of the grass out of the housing.

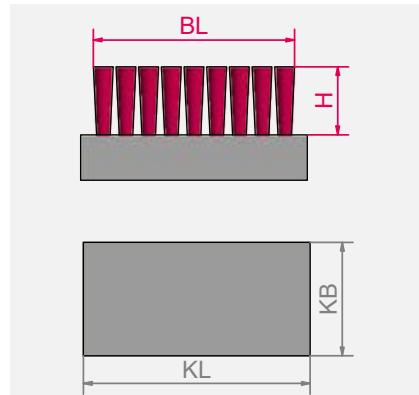
## Weed brushes

This brush, with its V-shaped filling, is ideal for removing moss and weeds in joints and along edges of pavements, driveways and cobbled surfaces.

With its specially designed handle, you can perform tasks effectively and ergonomically. Avoid stooping and protect your back while still sweeping firmly and accurately.

With its angled, crossed filling, this brush makes it possible to clean hard-to-reach corners and edges.

All standard brushes bear an EAN barcode and the LESSMANN imprint.



## Weed broom

Like our weed brushes, the weed broom is for outdoor use.

It is designed for cleaning moss and weeds off terrace planking and paving stones. This effective tool with deep-cleaning effect allows you to work efficiently and cleanly without any stooping. High-quality, brass-coated steel bristles guarantee a long service life and offer familiar LESSMANN quality, Made in Germany.

**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**STM** = Brass-coated steel wire

**PVC** = Polyvinyl chloride



## 1 Lawnmower brush

	Filling	Rows	KL mm   inch	KB mm   inch	BL mm   inch	H mm   inch	Pack.	Art.-No.
	PVC straight 0.70 mm   0.027"	4+1 x 10	290   11 3/8	38   1 1/2	105   1 1/8	50   6	8	<b>120.451</b>

## EAN Weed brushes, with handle hole, Ø 23 mm

	Filling	KL mm   inch	KB mm   inch	H mm   inch	Rows	Pack.	Art.-No.
<b>Without handle</b>							
<b>2</b>	STM 0.35   0.014"	100   4	35   1 1/2	36   1 1/2	3	25	<b>151.511</b>

Filling angled and crossed in working direction

<b>3</b>	STA 0.35   0.014" with scraper	100   4	35   1 1/2	42   1 5/8	3	25	<b>151.109</b>
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## With handle, 1400 mm long, Ø 28 mm

<b>4</b>	STA 0.35   0.014" with scraper	100   4	35   1 1/2	36   1 1/2	3	24	151.992.07*
	STM 0.35   0.014"	100   4	35   1 1/2	36   1 1/2	3	30	151.995.07*

Filling angled and crossed in working direction

## EAN Weed broom, with handle hole, Ø 23 mm

	Filling	KL mm   inch	KB mm   inch	H mm   inch	Rows	Pack.	Art.-No.
<b>Without handle</b>							
<b>5</b>	STM 0.50   0.020"	140   5 1/2	60   2 3/8	70/60   2 3/4/2 3/8	10/9	16	<b>152.510</b>

## With handle, 1400 mm long, Ø 28 mm

	STM 0.50   0.020"	140   5 1/2	60   2 3/8	70/60   2 3/4/2 3/8	10/9	12	152.995.07*
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\* Sold only in full packaging units.

# LESSMANN®

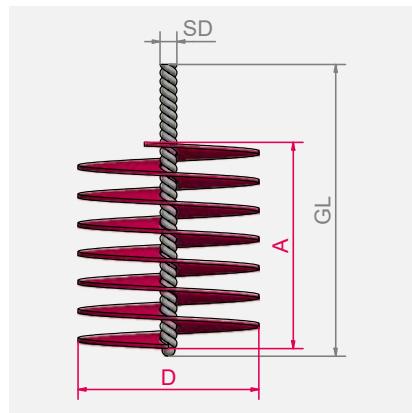
THE GERMAN BRUSH COMPANY



# 06 INTERIOR BRUSHES



# Microabrasive interior brushes



**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**AO** = Aluminium oxide bristles

**KK** = Ceramic grit

## Microabrasive interior brushes, abrasive filaments

Interior brushes with galvanised twisted wire and single spiral. Thanks to their aluminium oxide or silicon carbide bristles, these brushes are more versatile than conventional interior brushes.

Interior brushes with abrasive filaments are particularly suited to deburring bore holes, cross bores and O-ring recesses in complex workpieces, and to polishing and cleaning nozzles and small bore holes.

With their flexible bristles, these brushes mould to the contour of a bore in a workpiece to get into hard-to-reach spots. The abrasive filaments also act on the sides, making it possible to round the edges on intersecting bores.

LESMANN also supplies brushes with **diamond** filling for use on very hard materials.

## Interior brushes, steel wire

Interior brushes with steel wire filling are used for descaling, deburring or cleaning e.g.:

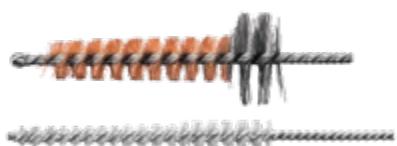
- Cross bores
- Grooves
- Blind holes
- Through-bores

The brushes can be machine-powered or used manually.

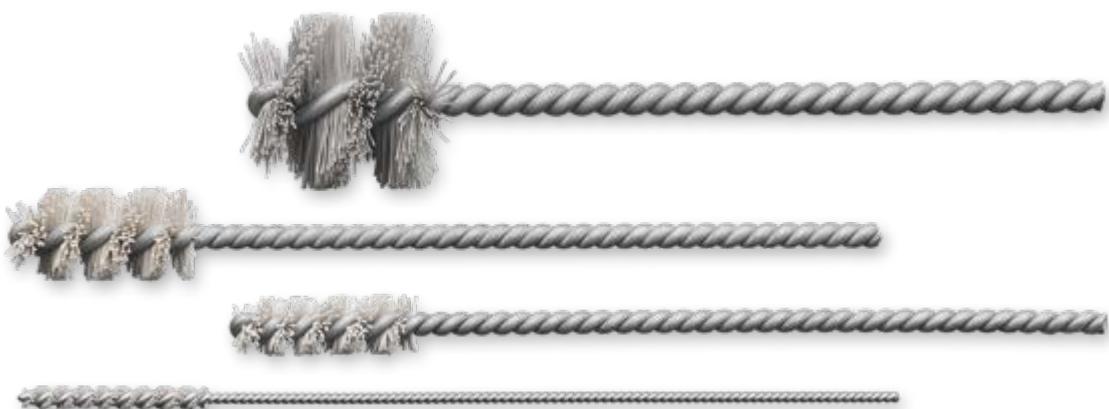
Contact our Technical Service specialists, who will help you find the right solutions even for special applications. Thanks to fully automated production, LESSMANN can offer consistently high quality at reasonable prices.

## Use with machines

When using machine-powered interior brushes, be sure to adhere to the maximum specified speed. Only use a brush at maximum RPM if the brush is clamped to a depth of at least 10 mm and inserted in the respective workpiece before it begins to rotate. **Brushes should rotate in the clockwise direction.**



Interior brushes are also available with special contours, e.g. a **layer cut**.



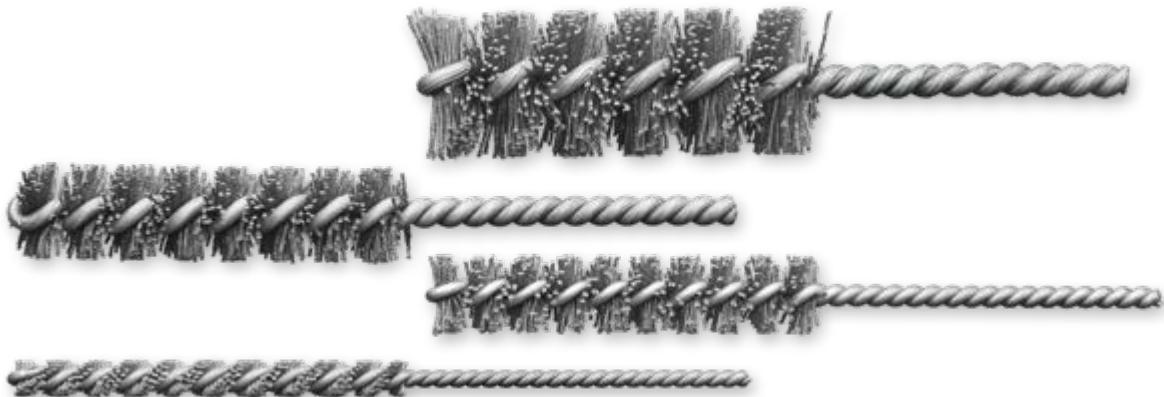
## Microabrasive interior brushes IBE, aluminium oxide bristles

D mm   inch	GL mm   inch	A mm   inch	SD mm   inch	RPM	Pack. max.	AO 600/0.30 Art.-No.	AO 1000/0.25 Art.-No.
3.2   1/8	125   5	25   1	1.5   1/16	800	10	<b>541.084</b>	540.067
3.5   1/8	100   4	25   1	1.7   1/16	800	10		<b>541.030</b>
4.2   11/64	125   5	25   1	2.2   3/32	1,000	10	<b>541.045</b>	540.068
4.8   3/16	125   5	25   1	2.2   3/32	1,000	10	<b>541.083</b>	540.069
5.5   7/32	125   5	25   1	2.2   3/32	1,000	10	<b>541.079</b>	540.070
6.6   17/64	125   5	25   1	2.5   3/32	1,000	10	<b>541.037</b>	540.071
8.2   21/64	125   5	25   1	3.2   1/8	2,000	10	<b>541.076</b>	540.072
9.8   25/64	125   5	25   1	3.2   1/8	2,000	10	<b>541.077</b>	540.073
11.5   29/64	125   5	25   1	3.7   5/32	2,000	10	<b>541.085</b>	540.074
13   33/64	125   5	25   1	3.7   5/32	2,000	10	<b>541.087</b>	540.075
16   5/8	125   5	25   1	3.7   5/32	2,000	10	<b>541.089</b>	540.076
17.5   11/16	125   5	25   1	4.7   3/16	2,000	10	<b>541.039</b>	
20   51/64	125   5	25   1	4.7   3/16	2,000	10	<b>541.093</b>	540.077
25   1	125   5	25   1	4.7   3/16	2,000	10	<b>541.095</b>	540.078



You can find our **enquiry forms**  
in the respective category at:  
[lessmann.com/en/downloads/](http://lessmann.com/en/downloads/) or  
in this catalogue from page 181

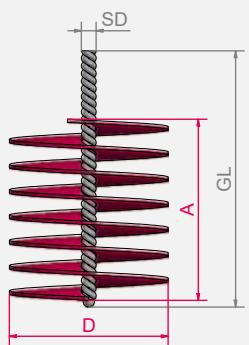
# Microabrasive interior brushes



Microabrasive interior brushes IBE, silicon carbide bristles

D mm   inch	GL mm   inch	A mm   inch	SD mm   inch	RPM max.	Pack. 10	SIC 120/0.6 Art.-No.	SIC 320/0.6/**0.3 Art.-No.	SIC 1000/0.25 Art.-No.
1.2   3/64	100   4	12   15/32	0.7   1/32	500	10			<b>545.200.12*</b>
1.9   5/64	100   4	18   45/64	0.7   1/32	500	10			<b>545.200.19</b>
2.2   3/32	100   4	18   45/64	0.7   1/32	1,000	10			<b>545.200.22</b>
2.2   3/32	100   4	18   45/64	1.0   3/64	1,000	10		543.200.22**	
2.6   7/64	100   4	25   1	1.0   3/64	1,000	10		543.200.26**	<b>545.200.26</b>
3.2   1/8	100   4	25   1	1.7   1/16	1,000	10		543.200.32**	<b>545.200.32</b>
4.2   11/64	125   5	25   1	2.2   3/32	1,000	10	541.200.42	543.200.42**	<b>545.200.42</b>
5.5   7/32	125   5	25   1	2.2   3/32	1,000	10	541.200.55	543.200.55**	<b>545.200.55</b>
6   15/64	125   5	65   2 9/16	3.0   1/8	1,500	10	<b>541.200.60</b>	<b>543.200.60</b>	545.200.60
8   5/16	125   5	65   2 9/16	3.0   1/8	1,500	10	<b>541.200.80</b>	<b>543.200.80</b>	545.200.80
10   25/64	125   5	65   2 9/16	3.7   9/64	2,000	10	<b>541.201.00</b>	<b>543.201.00</b>	545.201.00
13   33/64	125   5	65   2 9/16	3.7   9/64	2,000	10	<b>541.201.30</b>	<b>543.201.30</b>	545.201.30
16   5/8	125   5	65   2 9/16	5.2   13/64	2,000	10	<b>541.201.60</b>	<b>543.201.60</b>	545.201.60
19   3/4	125   5	65   2 9/16	5.2   13/64	2,000	10	<b>541.201.90</b>	<b>543.201.90</b>	545.201.90
20   51/64	125   5	65   2 9/16	5.7   7/32	2,000	10	<b>541.202.00</b>	<b>543.202.00</b>	
22   7/8	125   5	65   2 9/16	5.7   7/32	2,000	10	<b>541.202.20</b>	<b>543.202.20</b>	545.202.20
25   1	125   5	65   2 9/16	5.7   7/32	2,000	10	<b>541.202.50</b>	<b>543.202.50</b>	545.202.50
28   1 7/64	125   5	65   2 9/16	5.7   7/32	2,000	10	<b>541.202.80</b>	<b>543.202.80</b>	545.202.80
30   1 3/16	125   5	65   2 9/16	5.7   7/32	2,000	10	<b>541.203.00</b>	<b>543.203.00</b>	545.203.00
32   1 17/64	125   5	65   2 9/16	5.7   7/32	2,000	10	<b>541.203.20</b>	543.203.20	545.203.20
38   1 1/2	125   5	65   2 9/16	5.7   7/32	2,000	10	<b>541.203.80</b>		

\* Type IB: with straight/clipped off tip



## Use with machines

When using machine-powered interior brushes, be sure to adhere to the maximum specified speed. Only use a brush at maximum RPM if the brush is clamped to a depth of at least 10 mm and inserted in the respective workpiece before it begins to rotate. **Brushes should rotate in the clockwise direction.**

Art. Nos. in **bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

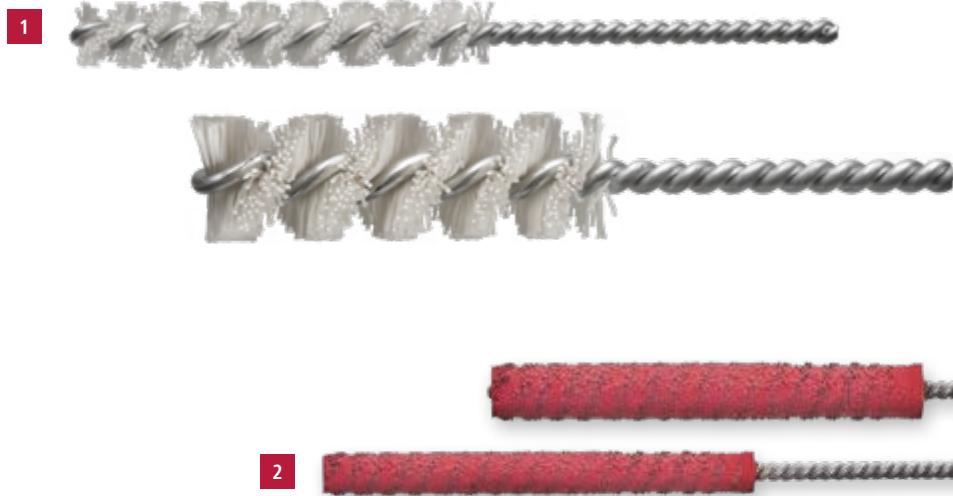
**STH** = Steel wire, high tensile, straight

**ROH** = Stainless steel wire, high tensile

**MES** = Brass wire

**PA** = Polyamide

**SIC** = Silicon carbide bristles

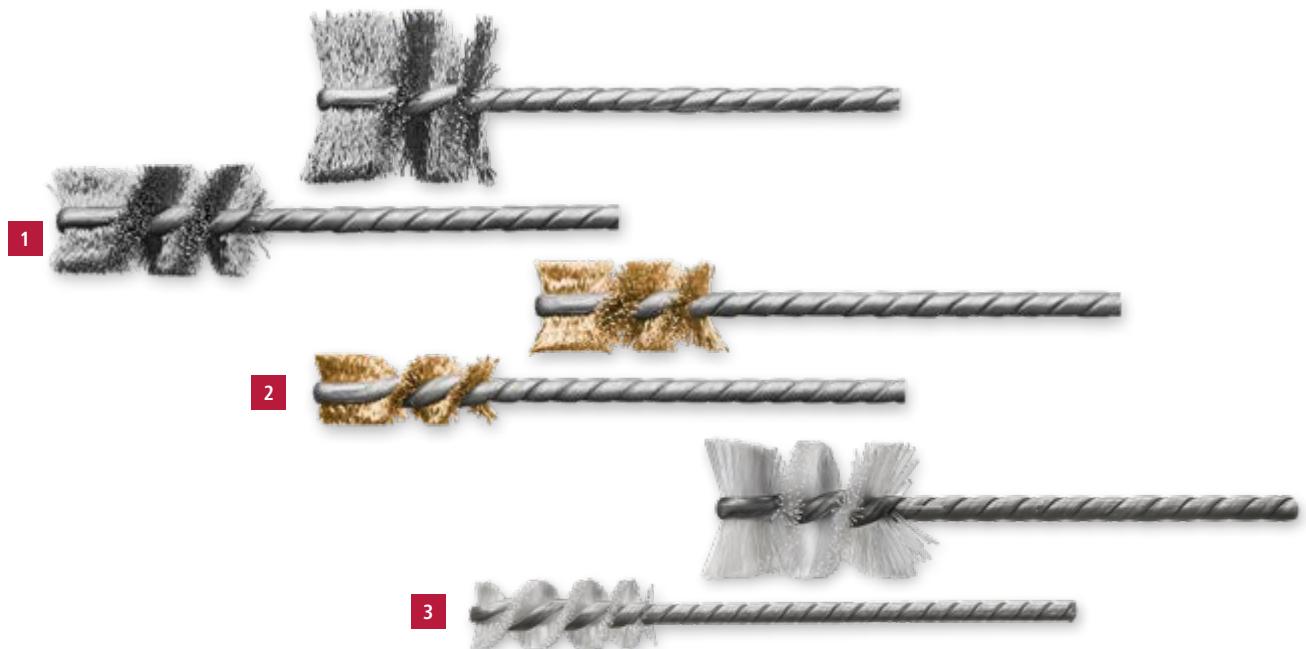

**1 Microabrasive interior brushes IBE, ceramic grit**

D mm   inch	GL mm   inch	A mm   inch	SD mm   inch	RPM max.	Pack.	KK 120/0,60 Art.-Nr.	KK 320/0,60 Art.-Nr.
10   13/32	125   5	65   2 9/16	3.7   5/32	2,000	10	<b>541.2C1.00</b>	<b>543.2C1.00</b>
13   1/2	125   5	65   2 9/16	3.7   5/32	2,000	10	<b>541.2C1.30</b>	<b>543.2C1.30</b>
16   5/8	125   5	65   2 9/16	5.2   13/64	2,000	10	<b>541.2C1.60</b>	<b>543.2C1.60</b>
20   25/32	125   5	65   2 9/16	5.7   7/32	2,000	10	<b>541.2C2.00</b>	<b>543.2C2.00</b>
25   1	125   5	65   2 9/16	5.7   7/32	2,000	10	<b>541.2C2.50</b>	<b>543.2C2.50</b>

**2 Interior brushes IBE, encapsulated**

D mm   inch	GL mm   inch	A mm   inch	SD mm	RPM max. min <sup>-1</sup>	Pack.	STA 0,15   0.006" Art.-Nr.
7   1/4	125   5	65   2 1/2	2,8	1.000	10	<b>548.304.KG</b>
9   3/8	125   5	65   2 1/2	2,8	900	10	<b>548.305.KG</b>
13   33/64	125   5	65   2 1/2	2,8	900	10	On request
15   19/32	125   5	65   2 1/2	2,8	900	10	On request

# Interior brushes



## 1 Interior brushes IBH, steel wire, stainless steel wire

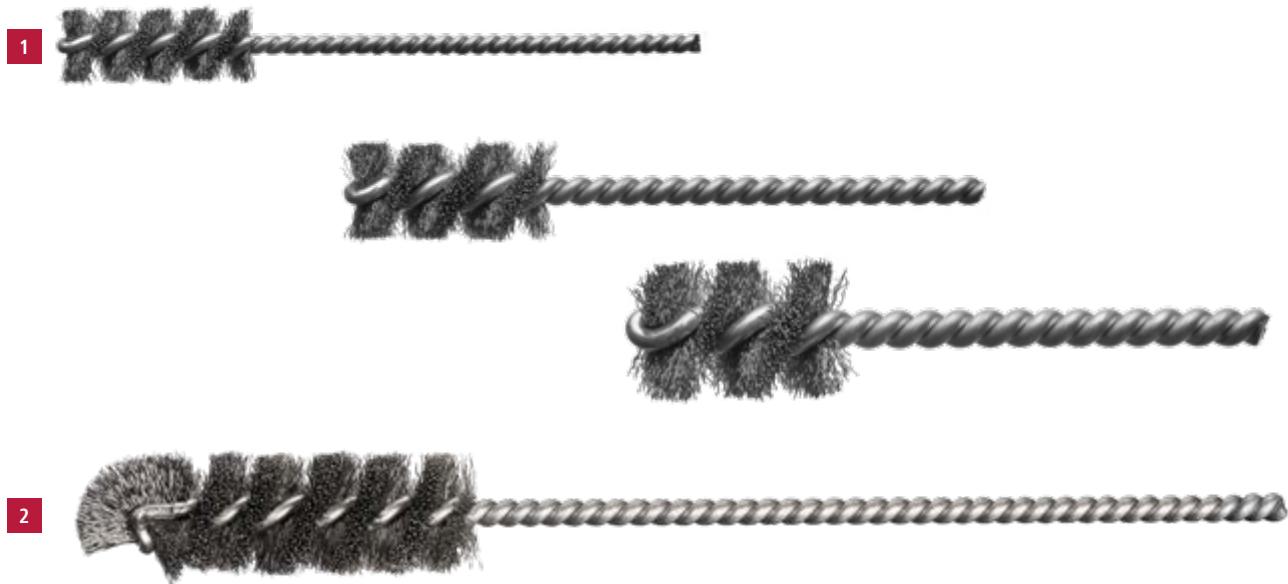
D mm   inch	GL mm   inch	A mm   inch	SD mm   inch	RPM max.	Pack. 10	STH 0.12   0.005" Art.-No.	STH 0.20   0.008" Art.-No.	ROH 0.12   0.005" Art.-No.	ROH 0.20   0.008" Art.-No.
6   $\frac{15}{64}$	90   3 $\frac{1}{2}$	25   1	3.0   $\frac{1}{8}$	3,500	10	<b>564.220.60</b>			
8   $\frac{5}{16}$	90   3 $\frac{1}{2}$	25   1	3.3   $\frac{1}{8}$	3,500	10	<b>564.220.80</b>			
10   $\frac{25}{64}$	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,500	10	<b>565.321.00</b>	<b>565.341.00</b>	<b>565.521.00</b>	
13   $\frac{33}{64}$	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,500	10	<b>565.321.30</b>	<b>565.341.30</b>	<b>565.521.30</b>	
16   $\frac{5}{8}$	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,000	10	<b>565.321.60</b>	<b>565.341.60</b>	<b>565.521.60</b>	565.541.60
19   $\frac{3}{4}$	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,000	10	<b>565.321.90</b>	<b>565.341.90</b>	565.521.90	565.541.90
20   $\frac{51}{64}$	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,000	10		<b>565.342.00</b>		<b>565.542.00</b>
21   $\frac{53}{64}$	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,000	10	565.322.10	565.342.10		
24   $\frac{15}{16}$	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,000	10	565.322.40			
25   1	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,000	10	<b>565.322.50</b>	<b>565.342.50</b>	<b>565.522.50</b>	<b>565.542.50</b>
29   $1 \frac{9}{64}$	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,000	10	565.322.90	565.342.90		565.542.90
32   $1 \frac{17}{64}$	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,000	10	<b>565.323.20</b>	<b>565.343.20</b>		565.543.20

## Interior brushes IBH, brass wire and polyamide

D mm   inch	GL mm   inch	A mm   inch	SD mm   inch	RPM max.	Pack. 10	MES 0.15   0.006" Art.-No.	MES 0.20   0.008" Art.-No.	PA 0.30   0.012" Art.-No.
8   $\frac{5}{16}$	90   3 $\frac{1}{2}$	25   1	3.2   $\frac{1}{8}$	3,500	10	565.730.80		
10   $\frac{25}{64}$	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,500	10	<b>565.731.00</b>		<b>565.061.00</b>
13   $\frac{33}{64}$	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,500	10	<b>565.731.30</b>		565.061.30
16   $\frac{5}{8}$	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,000	10	<b>565.731.60</b>		565.061.60
20   $\frac{51}{64}$	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,000	10		<b>565.742.00</b>	565.062.00
25   1	90   3 $\frac{1}{2}$	25   1	3.8   $\frac{5}{32}$	3,000	10		<b>565.742.50</b>	<b>565.062.50</b>

## Stainless steel brushes

For information on brushing stainless steel, visit  
[www.lessmann.com](http://www.lessmann.com)



### 1 Interior brushes IBE, steel wire

D mm   inch	GL mm   inch	A mm   inch	SD mm	RPM	Pack. max.	STH 0.12   0.005" Art.-Nr.	STH 0.20   0.008" Art.-Nr.
10   $\frac{25}{64}$	90   $3\frac{1}{2}$	25   1	2.9	2,500	10	<b>569.321.00</b>	
13   $\frac{33}{64}$	90   $3\frac{1}{2}$	25   1	4.1	2,500	10	<b>569.321.30</b>	
16   $\frac{5}{8}$	90   $3\frac{1}{2}$	25   1	4.7	2,500	10	<b>569.321.60</b>	
19   $\frac{3}{4}$	90   $3\frac{1}{2}$	25   1	5.7	2,500	10		<b>569.341.90</b>
25   1	90   $3\frac{1}{2}$	25   1	5.7	2,500	10		<b>569.342.50</b>
32   $1\frac{1}{4}$	90   $3\frac{1}{2}$	25   1	5.7	2,500	10		<b>569.343.20</b>

### 2 Interior brushes IB with bent tip, stainless steel wire

D mm   inch	GL mm   inch	A mm   inch	SD mm	RPM	Pack. max.	ROF 0.12   0.005" Art.-Nr.
16   $\frac{5}{8}$	200   8	50   2	3.7	500	200	On request

**Art. Nos. in bold** are available ex warehouse.

Art. Nos. in *italics* require a minimum order volume (see page 186).

**STH** = Steel wire, high tensile, straight

**ROH** = High-tensile stainless steel wire

**ROF** = Stainless steel wire

**MES** = Brass wire

**PA** = Polyamide

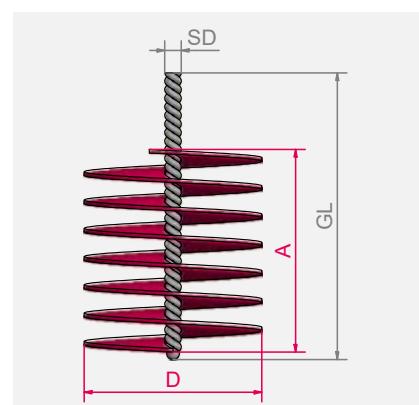
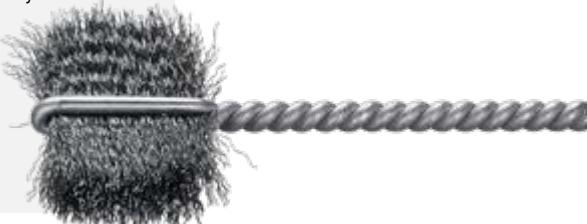
**SIC** = Silicon carbide bristles



We also manufacture interior brushes with wing-shaped filling.

These brushes are ideally suited for cleaning hard-to-reach bore holes and cross bores.

Just send us your enquiry!



# Flexible honing brushes



## Flexible honing brushes

Honing brushes from Lessmann are used to work on the insides of tubes, bores and cylinder walls. They are equally suitable for deburring, grinding, cleaning and surface finishing.

On account of the elasticity and flexibility of the filling material, cross bores, openings and channels can be deburred in a single pass.

Using honing brushes also results in a cross-hatch finish, achieved by the simultaneously rotating and back-and-forth motion of the brush during processing. This finish reduces friction and promotes more uniform distribution of lubricant on the surface.

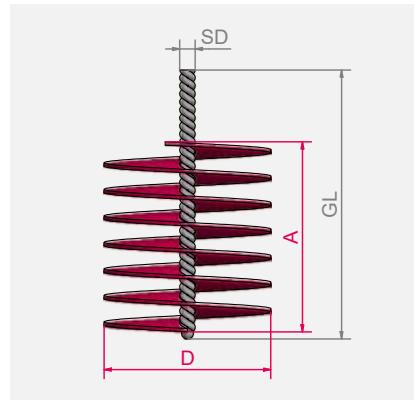
## Use with machines

When using machine-powered interior brushes, be sure to adhere to the maximum specified speed. Only use a brush at maximum RPM if the brush is clamped to a depth of at least 10 mm and inserted in the respective workpiece before it begins to rotate. **Brushes should rotate in the clockwise direction.**



### Attention!

When using honing brushes, we recommend working with a suitable lubricant at all times (grease or drilling emulsion).



**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**SIC** = Silicon carbide bristles



Example of the cross-hatch finish achieved by honing.



## Flexible honing brushes IBFH, silicon carbide bristles

D mm   inch	max. bore Ø mm   inch	GL mm   inch	A mm   inch	SD mm	RPM	Pack. max.	SIC K120 Art.-Nr.	SIC K180 Art.-Nr.
5.5   $\frac{3}{16}$	5   $\frac{3}{16}$	200   8	40   $1\frac{9}{16}$	2.1	1,200	1		<b>591.310.55</b>
6.5   $\frac{1}{4}$	5.5   $\frac{3}{16}$	200   8	40   $1\frac{9}{16}$	2.5	1,200	1	<b>591.210.65</b>	<b>591.310.65</b>
7   $\frac{1}{4}$	6   $\frac{1}{4}$	200   8	40   $1\frac{9}{16}$	2.5	1,200	1	<b>591.210.70</b>	<b>591.310.70</b>
8   $\frac{5}{16}$	7   $\frac{1}{4}$	200   8	50   2	3.2	1,200	1	<b>591.210.80</b>	<b>591.310.80</b>
9   $\frac{3}{8}$	8   $\frac{5}{16}$	200   8	50   2	3.6	1,200	1	<b>591.210.90</b>	<b>591.310.90</b>
10   $\frac{3}{8}$	9   $\frac{3}{8}$	200   8	50   2	3.6	1,200	1	<b>591.211.00</b>	<b>591.311.00</b>
11   $\frac{7}{16}$	10   $\frac{3}{8}$	200   8	60   $2\frac{3}{8}$	3.6	1,200	1	<b>591.211.10</b>	<b>591.311.10</b>
12   $\frac{1}{2}$	11   $\frac{7}{16}$	200   8	60   $2\frac{3}{8}$	3.6	1,200	1	<b>591.211.20</b>	<b>591.311.20</b>
13   $\frac{1}{2}$	12   $\frac{1}{2}$	200   8	60   $2\frac{3}{8}$	3.6	1,200	1	<b>591.211.30</b>	<b>591.311.30</b>
15.5   $\frac{5}{8}$	13   $\frac{1}{2}$	200   8	60   $2\frac{3}{8}$	3.6	1,200	1	<b>591.211.55</b>	<b>591.311.55</b>
18   $\frac{11}{16}$	16   $\frac{5}{8}$	200   8	60   $2\frac{3}{8}$	4.6	1,200	1	<b>591.211.80</b>	<b>591.311.80</b>
20   $\frac{13}{16}$	18   $\frac{11}{16}$	200   8	60   $2\frac{3}{8}$	4.6	1,200	1	<b>591.212.00</b>	<b>591.312.00</b>
22   $\frac{7}{8}$	20   $\frac{13}{16}$	200   8	70   $2\frac{3}{4}$	4.6	1,200	1	<b>591.212.20</b>	<b>591.312.20</b>
25   1	22   $\frac{7}{8}$	200   8	70   $2\frac{3}{4}$	4.6	1,200	1	<b>591.212.50</b>	<b>591.312.50</b>
27   $1\frac{1}{16}$	24   $\frac{15}{16}$	200   8	70   $2\frac{3}{4}$	5.1	1,200	1	<b>591.212.70</b>	<b>591.312.70</b>
28   $1\frac{1}{8}$	25   1	200   8	70   $2\frac{3}{4}$	5.1	1,200	1	<b>591.212.80</b>	<b>591.312.80</b>
30   $1\frac{3}{16}$	27   $1\frac{1}{16}$	200   8	70   $2\frac{3}{4}$	5.1	1,200	1	<b>591.213.00</b>	<b>591.313.00</b>
32   $1\frac{1}{4}$	29   $1\frac{1}{8}$	200   8	70   $2\frac{3}{4}$	5.1	1,200	1	<b>591.213.20</b>	<b>591.313.20</b>
35   $1\frac{3}{8}$	32   $1\frac{1}{4}$	200   8	70   $2\frac{3}{4}$	5.7	1,200	1	<b>591.213.50</b>	<b>591.313.50</b>
38   $1\frac{1}{2}$	35   $1\frac{3}{8}$	200   8	70   $2\frac{3}{4}$	5.7	1,200	1	<b>591.213.80</b>	<b>591.313.80</b>
41   $1\frac{5}{8}$	38   $1\frac{1}{2}$	200   8	70   $2\frac{3}{4}$	5.7	800	1	<b>591.214.10</b>	<b>591.314.10</b>
45   $1\frac{3}{4}$	41   $1\frac{5}{8}$	200   8	70   $2\frac{3}{4}$	5.7	800	1	<b>591.214.50</b>	<b>591.314.50</b>
48   $1\frac{7}{8}$	45   $1\frac{3}{4}$	200   8	70   $2\frac{3}{4}$	5.7	800	1	591.214.80	591.314.80
51   2	48   $1\frac{7}{8}$	200   8	70   $2\frac{3}{4}$	6.5	800	1	591.215.10	591.315.10
54   $2\frac{1}{8}$	51   2	200   8	70   $2\frac{3}{4}$	6.5	800	1	<b>591.215.40</b>	591.315.40
57   $2\frac{1}{4}$	54   $2\frac{1}{8}$	200   8	70   $2\frac{3}{4}$	7.3	800	1	591.215.70	591.315.70
60   $2\frac{3}{8}$	57   $2\frac{1}{4}$	200   8	70   $2\frac{3}{4}$	7.3	800	1	591.216.00	591.316.00
64   $2\frac{1}{2}$	60   $2\frac{3}{8}$	200   8	70   $2\frac{3}{4}$	7.3	800	1	591.216.40	591.316.40

# Cylinder brushes



## Cylinder brushes

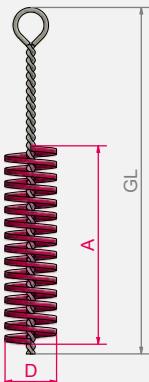
For manually cleaning and deburring tubes, bores, etc. Cylinder brushes are also available with other dimensions and materials. When ordering, be sure to indicate: total length, filling length, filling material, diameter, and quantity.

## Cylinder brushes, flat filaments

These brushes with flat filaments and thin, crimped steel wire are ideal for cleaning hard-to-reach areas. A typical application is removing insulation debris from grooves in stators and electric motors.

## Stainless steel brushes

For information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)



**Art. Nos. in bold** are available ex warehouse.

*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**ROF** = Stainless steel wire

**MES** = Brass wire

**PA** = Polyamide

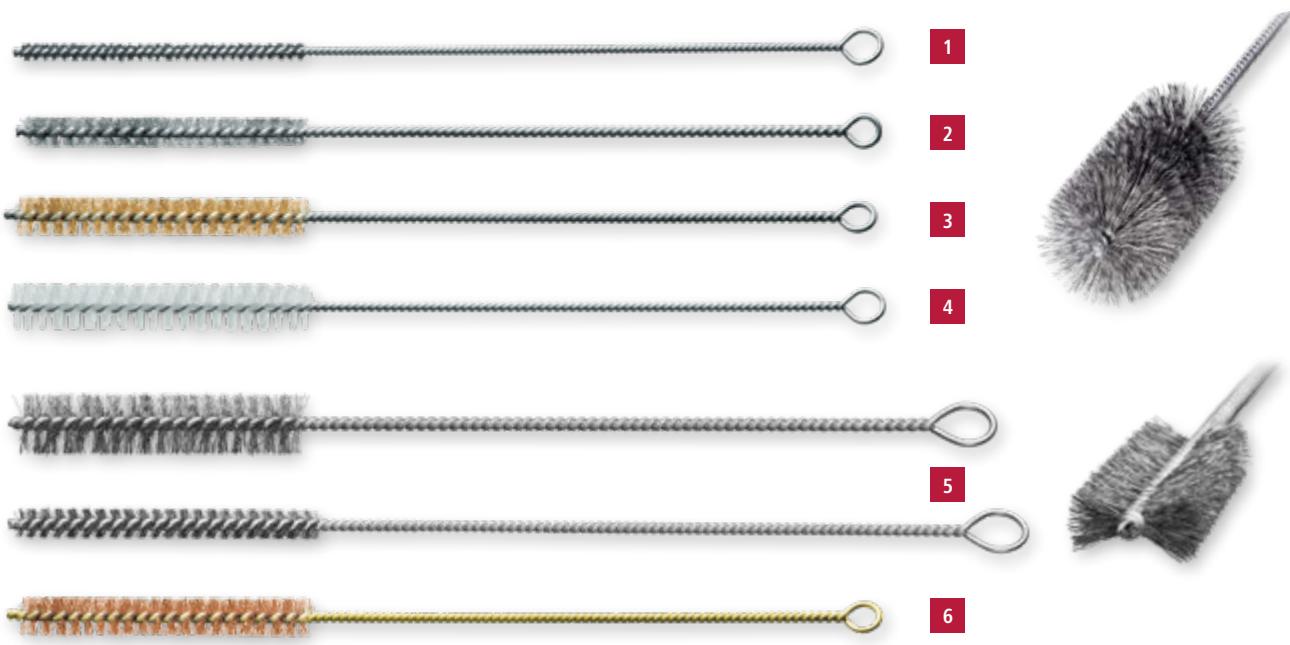
## 5 Cylinder brushes with loop IBZ (flat filaments)

D mm   inch	GL mm   inch	A mm   inch	Pack.	STA 0,15 Art.-No.	STA 0,20 Art.-No.
4 x 10   5/32 x 25/64	350   14	100   4	10	<b>559.810</b>	
7 x 10   9/32 x 25/64	350   14	100   4	10	<b>559.806</b>	
8 x 12   5/16 x 15/32	350   14	100   4	10		<b>559.802</b>
8 x 15   5/16 x 19/32	350   14	100   4	10		<b>559.803</b>
10 x 18   25/64 x 45/64	350   14	100   4	10		<b>559.804</b>
10 x 22   25/64 x 7/8	350   14	100   4	10		<b>559.805</b>
12 x 26   15/32 x 1 1/32	350   14	100   4	10		<b>559.807</b>

## 6 Cylinder brushes with loop IBZ, bronze filling, brass fittings (non-sparking)

D mm   inch	GL mm   inch	A mm   inch	Pack.	BRO 0,20 Art.-No.
10   25/64	330   13 3/16	100   4	10	<b>542.034</b>
20   51/64	330   13 3/16	100   4	10	<b>543.006</b>
35   1 3/8	330   13 3/16	100   4	10	543.926

## INTERIOR BRUSHES



### Cylinder brushes with loop IBZ

D mm   inch	GL mm   inch	A mm   inch	Pack.	STA Art.-No.	ROF Art.-No.	MES Art.-No.	PA Art.-No.
3   1/8	300   12	100   4	10	542.381	542.541	542.741	542.881
4   5/32	300   12	100   4	10	542.351	542.508	542.740	542.823
5   13/64	300   12	100   4	10	542.347	542.538	542.739	542.822
6   15/64	300   12	100   4	10	542.301	542.501	542.701	542.801
8   5/16	300   12	100   4	10	542.302	542.502	542.702	542.802
10   25/64	300   12	100   4	10	542.303	542.503	542.703	542.803
12   15/32	300   12	100   4	10	542.304	542.504	542.704	542.804
13   33/64	300   12	100   4	10	542.305	542.505	542.705	On request
14   9/16	300   12	100   4	10	542.306	542.506	542.706	542.812
15   19/32	300   12	100   4	10	542.307	542.507	542.707	542.807
16   5/8	300   12	100   4	10	542.308	542.547	542.708	542.808
18   45/64	300   12	100   4	10	542.309	542.542	542.709	542.818
20   51/64	300   12	100   4	10	542.311	542.511	542.711	542.811
25   1	300   12	100   4	10	542.313	542.513	542.713	542.813
30   1 3/16	300   12	100   4	10	542.315	542.515	542.715	542.815
35   1 5/8	300   12	100   4	10	542.317	On request	542.717	On request
40   1 5/8	300   12	100   4	10	542.319	542.519	542.719	542.819
50   2	300   12	100   4	10	542.320	542.520	542.720	542.820

### Cylinder brushes with loop IBZ (long version)

D mm   inch	GL mm   inch	A mm   inch	Pack.	STA Art.-No.	ROF Art.-No.	MES Art.-No.	PA Art.-No.
10   25/64	500   20	100   4	10	547.303	On request	547.703	547.803
15   19/32	500   20	100   4	10	547.307	On request	547.707	547.807
20   51/64	500   20	100   4	10	547.311	On request	547.711	547.811
25   1	500   20	100   4	10	547.313	On request	547.713	547.813
30   1 3/16	500   20	100   4	10	547.315	On request	547.715	547.815

# Hole cleaning brushes



## Hole cleaning brushes with wooden handle IBM

	D mm   inch	GL mm   inch	A mm   inch	Filling Ø mm   inch	Pack.	STA Art.-No.	ROF Art.-No.	MES Art.-No.
1	10   25/64	300   12	100   4	0.15	10	<b>560.310</b>	<b>560.510</b>	<b>560.710</b>
	15   19/32	300   12	100   4	0.20	10	<b>560.315</b>	<b>560.515</b>	<b>560.715</b>
	20   51/64	300   12	100   4	0.20	10	<b>560.320</b>	<b>560.520</b>	<b>560.720</b>
	25   1	300   12	100   4	0.25	10	<b>560.325</b>	<b>560.525</b>	<b>560.725</b>
	30   1 3/16	300   12	100   4	0.25	10	<b>560.330</b>	<b>560.530</b>	<b>560.730</b>
<b>4</b>	<b>10/18   25/64 / 45/64</b>	<b>200   8</b>	<b>70   2 3/4</b>	<b>0.15</b>	<b>10</b>	<b>561.304*</b>		

\* Conical filling

## 5 Cylinder brushes with shank Ø 8 IBG

	D mm   inch	GL mm   inch	A mm   inch	Filling Ø mm   inch	RPM max.	Pack.	STA Art.-No.
	13   33/64	200   8	55   2 11/64	0.15	1.000	10	<b>503.311</b>
	20   51/64	200   8	55   2 11/64	0.20	1.000	10	<b>503.313</b>
	26   1 1/32	200   8	55   2 11/64	0.25	800	10	<b>503.314</b>
	32   1 17/64	200   8	55   2 11/64	0.25	800	10	<b>503.316</b>
	38   1 1/2	200   8	55   2 11/64	0.30	800	10	<b>503.318</b>

### Hole cleaning brushes

Hole cleaning brushes have a wooden handle, which makes them very comfortable to work with in various fields of application.

They are typically used in the construction industry or by tradespeople to manually clean bore holes or recesses. Hole cleaning brushes are also ideal for cleaning threads and nozzles, or for deburring cross bores.

### Use with machines

When using machine-powered interior brushes, be sure to adhere to the maximum specified speed. Only use a brush at maximum RPM if the brush is clamped to a depth of at least 10 mm and inserted in the respective workpiece before it begins to rotate. **Brushes should rotate in the clockwise direction.**



# Bore hole cleaning brushes



## Interior brushes for cleaning bore holes IBE, steel wire, without thread

D mm   inch	GL mm   inch	A mm   inch	Suitable for bore hole mm   inch	RPM max.	Pack. 10	STA 0.10   0.004" Art.-No.	STA 0.15   0.006" Art.-No.	STA 0.20   0.008" Art.-No.
12   15/32	130   5 1/8	80   3	10   25/64	1,500	10	<b>504.301</b>		
14   9/16	140   5 1/2	80   3	12   15/32	1,500	10	<b>504.302</b>		
16   5/8	180   7	80   3	14   9/16	800	10		<b>504.333</b>	
20   51/64	200   8	100   4	18   45/64	800	10		<b>504.334</b>	
24   15/16	220   8 5/8	100   4	22   7/8	800	10		<b>504.335</b>	
26   1 1/32	250   10	100   4	24   15/16	500	10			<b>504.346</b>
28   1 7/64	290   11 3/8	100   4	26   1 1/32	500	10			<b>504.347</b>

## Bore hole cleaning brushes IBG, stainless steel wire, with thread

D mm   inch	GL mm   inch	A mm   inch	Suitable for bore hole mm   inch	GA	Pack. 10	ROF 0.12   0.004" Art.-No.	ROF 0.15   0.006" Art.-No.	ROF 0.20   0.008" Art.-No.
12   15/32	130   5 1/8	80   3	10   25/64	M 6	10	<b>504.501.06</b>		
14   9/16	140   5 1/2	80   3	12   15/32	M 6	10	<b>504.502.06</b>		
16   5/8	180   7	80   3	14   9/16	M 6	10	<b>504.533.06</b>		
18   45/64	200   8	100   4	16   5/8	M 6	10		504.532.06	
20   51/64	200   8	100   4	18   45/64	M 6	10		<b>504.534.06</b>	
22   7/8	220   8 5/8	100   4	20   51/64	M 6	10		504.536.06	
24   15/16	220   8 5/8	100   4	22   7/8	M 6	10		<b>504.535.06</b>	
26   1 1/32	250   10	100   4	24   15/16	M 6	10			<b>504.546.06</b>
28   1 7/64	290   11 3/8	100   4	26   1 1/32	M 6	10			<b>504.547.06</b>
31   1 1/4	260   10 3/8	100   4	29   1 9/64	M 6	10			504.548.06
33   1 1/4	350   14	100   4	31   1 1/4	M 6	10			504.549.06
35   1 3/8	350   14	100   4	33   1 1/4	M 6	10			504.550.06
38   1 1/2	350   14	100   4	36   1 1/2	M 6	10			504.551.06
43   2	350   14	100   4	41   1 39/64	M 6	10			504.552.06

## Bore hole cleaning brushes

These twisted brushes are designed specifically for fastening applications. They are ideal for cleaning bore holes in a variety of materials, either manually or with power-driven tools. Screws or dowels can then easily be inserted in the bore holes and bonded.



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**ROF** = Stainless steel wire

**MES** = Brass wire

# Tube and sleeve brushes



## Tube brushes with exterior thread

These brushes are preferred tools in any number of applications. They can be used to clean tubes, grates, sleeves and cylinders – and even to regulate the flow rate in pipeline systems. Like tube brushes with the filling inserted crosswise, these brushes are suitable for deburring cross bores and the like. The standard brushes shown here are: single spiral with two wires and double spiral with four wires.

## Sleeve brushes

Sleeve brushes are particularly stable tube brushes with their filling inserted crosswise and cut in conical shape. They are used primarily in container construction to machine-clean sleeves (with internal threads), for example after galvanisation.

## Use with machines

When using machine-powered interior brushes, be sure to adhere to the maximum specified speed. Only use a brush at maximum RPM if the brush is clamped to a depth of at least 10 mm and inserted in the respective workpiece before it begins to rotate. **Brushes should rotate in the clockwise direction.**

## Brushes with double spiral

Brushes with a double spiral are mainly used in fairly large diameters to work on hard materials. A double spiral is more stable and more resistant to untwisting, meaning the brush can be exposed to higher forces.

## Stainless steel brushes

For information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)



**Special diameters and threads** are available on request for an added charge

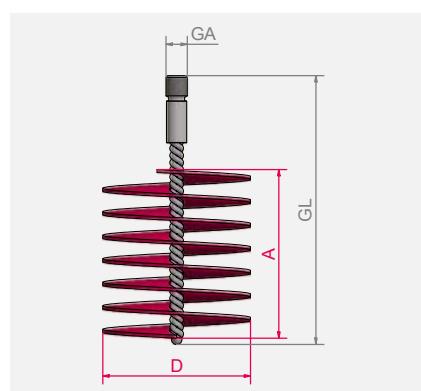
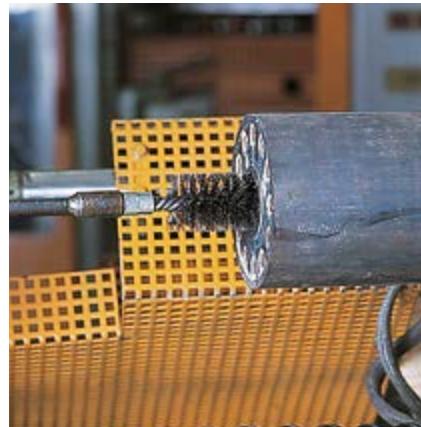
## Corresponding thread adapters

See page 133

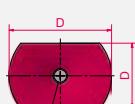
## Handles and extensions

See page 133

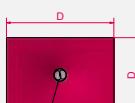
All tube brushes are available on request with other dimensions, filling materials and thread sizes.



Cut on 2 sides



Cut on 4 sides on request





1

2

3

4



Matching handles, extensions and thread adapters can be found on page 133

## Tube brushes with exterior thread IBG

D	GL	A	GA	RPM	Pack.	1 STA crimped Art.-No.	1 ROF crimped Art.-No.	2 MES crimped Art.-No.	3 PA straight Art.-No.
<b>Single spiral</b>									
mm   inch	mm   inch	mm   inch							
6   15/64	115   4 1/2	80   3	M 4	2,000	10	501.301	501.501	501.701	501.801
8   5/16	115   4 1/2	80   3	M 6	3,000	10	500.308	500.508	500.708	500.808
10   25/64	115   4 1/2	80   3	M 6	3,000	10	500.310	500.510	500.710	500.810
12   15/32	115   4 1/2	80   3	M 6	3,000	10	500.312	500.512	500.712	500.812
13   33/64	115   4 1/2	80   3	M 6	3,000	10	500.313	500.513	500.713	500.813
14   9/16	115   4 1/2	80   3	M 6	3,000	10	500.314	500.514	500.714	500.814
15   19/32	115   4 1/2	80   3	M 6	3,000	10	500.315	500.515	500.715	500.815
16   5/8	115   4 1/2	80   3	M 6	3,000	10	500.316	500.516	500.716	500.816
18   45/64	115   4 1/2	80   3	M 6	3,000	10	500.318	500.518	500.718	500.818
19   3/4	115   4 1/2	80   3	M 6	3,000	10	500.319	500.519	500.719	500.819
20   51/64	115   4 1/2	80   3	M 6	3,000	10	500.320	500.520	500.720	500.820

## 4 Tube brushes with exterior thread IBG, silicon carbide

D	GL	A	GA	RPM	Pack.	SIC 180/1.0 Art.-No.
<b>Single spiral</b>						
mm   inch	mm   inch	mm   inch				
10   25/64	115   4 1/2	80   3	M 6	4,000	10	500.010
16   5/8	115   4 1/2	80   3	M 6	4,000	10	500.016
20   51/64	150   6	100   4	W 1/2"	3,500	10	502.050.24
22   7/8	150   6	100   4	W 1/2"	3,500	10	502.052.24
25   1	150   6	100   4	W 1/2"	3,500	10	502.055.24
28   1 7/64	150   6	100   4	W 1/2"	3,500	10	502.058.24

Special diameters and threads are available on request for an added charge



For all brushes with thread sizes M 6, M 10 and W 1/2", convenient hangers with euro holes are available for displaying the brushes individually. See also page 144.

# Tube and sleeve brushes



Matching handles, extensions and thread adapters can be found on page 133

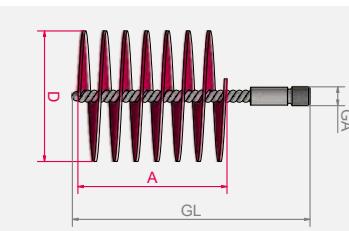
## Tube brushes with exterior thread W 1/2"

				1	2	3	4	5		
				Single spiral IBG				Double spiral IBGD		
D	GL	A	Pack.	RPM max.	STA straight Art.-No.	ROF straight Art.-No.	MES crimped Art.-No.	PA straight Art.-No.	RPM max.	STA straight Art.-No.
mm	mm	mm	mm							
20	150	100	10	2,500	<b>502.120.24</b>	<b>502.420.24</b>	<b>502.720.24</b>	<b>502.820.24</b>	2,000	<b>522.120.24</b>
22	150	100	10	2,500	<b>502.122.24</b>	<b>502.422.24</b>	<b>502.722.24</b>	<b>502.822.24</b>	2,000	<b>522.122.24</b>
25	150	100	10	2,500	<b>502.125.24</b>	<b>502.425.24</b>	<b>502.725.24</b>	<b>502.825.24</b>	2,000	<b>522.125.24</b>
28	150	100	10	2,500	<b>502.128.24</b>	<b>502.428.24</b>	<b>502.728.24</b>	<b>502.828.24</b>	2,000	<b>522.128.24</b>
30	160	100	10	1,000	<b>506.130</b>	<b>506.430</b>	<b>506.730</b>	<b>506.830</b>	1,500	<b>526.130</b>
32	160	100	10	1,000	<b>506.132</b>	<b>506.432</b>	<b>506.732</b>	<b>506.832</b>	1,500	<b>526.132</b>
35	160	100	10	1,000	<b>506.135</b>	<b>506.435</b>	<b>506.735</b>	<b>506.835</b>	1,500	<b>526.135</b>
38	160	100	10	1,000	<b>506.138</b>	<b>506.438</b>	<b>506.738</b>	<b>506.838</b>	1,500	<b>526.138</b>
40	160	100	10	1,000	<b>506.140</b>	<b>506.440</b>	<b>506.740</b>	<b>506.840</b>	1,500	<b>526.140</b>
44	160	100	5	1,000	<b>506.144</b>	<b>506.444</b>	<b>506.744</b>	<b>506.844</b>	1,500	<b>526.144</b>
50	160	100	5	1,000	<b>506.150</b>	<b>506.450</b>	<b>506.750</b>	<b>506.850</b>	1,500	<b>526.150</b>
57	160	100	5	1,000	<b>506.157</b>	<b>506.457</b>	<b>506.757</b>	<b>506.857</b>	1,500	<b>526.157</b>
63	160	100	5	1,000	<b>506.163</b>	<b>506.463</b>	<b>506.763</b>	<b>506.863</b>	1,500	<b>526.163</b>
69	160	100	5	1,000	<b>506.169</b>	<b>506.469</b>	<b>506.769</b>	<b>506.869</b>	1,500	<b>526.169</b>
75	160	100	5	1,000	<b>506.175</b>	<b>506.475</b>	<b>506.775</b>	<b>506.875</b>	1,500	<b>526.175</b>
82	160	100	5	1,000	<b>506.182</b>	<b>506.482</b>	<b>506.782</b>	<b>506.882</b>	1,500	<b>526.182</b>
88	160	100	5	1,000	<b>506.188</b>	506.488	506.788	<b>506.888</b>	1,500	<b>526.188</b>
94	160	100	5	1,000	<b>506.194</b>	506.494	506.794	<b>506.894</b>	1,500	<b>526.194</b>
101	160	100	5	1,000	<b>506.101</b>	<b>506.401</b>	<b>506.701</b>	<b>506.801</b>	1,500	<b>526.101</b>
125	160	100	5	1,000	<b>506.106</b>	506.406	<b>506.706</b>	506.806	1,500	<b>526.106</b>
150	160	100	5	1,000	<b>506.211</b>	506.411	<b>506.711</b>	<b>506.811</b>	1,000	526.111
200	160	100	5	1,000	<b>506.220</b>	On request	506.720	<b>506.820</b>	1,000	On request

Special diameters and threads are available on request for an added charge

### Use with machines

When using machine-powered interior brushes, be sure to adhere to the maximum specified speed. Only use a brush at maximum RPM if the brush is clamped to a depth of at least 10 mm and inserted in the respective workpiece before it begins to rotate. **Brushes should rotate in the clockwise direction.**



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**ROF** = Stainless steel wire

**MES** = Brass wire

**PA** = Polyamide



1

3

2

## Tube brushes with internal thread / boiler brushes IBG

	D mm   inch	Version	GL mm   inch	A mm   inch	GA	RPM	Pack. max.	STA straight Art.-No.	PA straight Art.-No.
<b>Single spiral</b>									
1	30   1 3/16	(•)	160   6 1/4	100   4	M 10i	1,000	10	506.130.60	
	40   1 5/8	(•)	160   6 1/4	100   4	M 10i	1,000	10	506.140.60	
	50   2	(•)	160   6 1/4	100   4	M 10i	1,000	10	506.150.60	
	60   2 3/8	(•)	160   6 1/4	100   4	M 10i	1,000	10	506.160.60	
	80   3	(•)	160   6 1/4	100   4	M 10i	1,000	10	506.180.60	
	90   3 1/2	(•)	160   6 1/4	100   4	M 10i	1,000	10	<b>507.190</b>	
	101   4	(•)	160   6 1/4	100   4	M 10i	1,000	10	506.101.60	
	120   4 3/4	(•)	160   6 1/4	100   4	M 10i	1,000	10	<b>507.105</b>	506.805.60
2	20 x 30   51/64 x 1 3/16	(□)	140   5 1/2	80   3	M 10i	10		<b>533.405</b>	
	30 x 50   1 3/16 x 2	(□)	160   6 1/4	100   4	M 10i	10		532.218.60	
	50 x 100   2 x 4	(□)	160   6 1/4	100   4	M 10i	10		532.303.60	

Corresponding back board brushes can be found on page 131.

(•) Round | (□) Cut on 2 sides | Cut on 4 sides on request

## Sleeve brushes without thread, conical

	D mm   inch	GL mm   inch	A mm   inch	RPM	Pack. max.	Single spiral IBE	Double spiral IBD
						STA crimped Art.-No.	STA straight Art.-No.
3	10-20   25/64 - 51/64	170   6 3/4	100   4	1,000	10	<b>541.372</b>	<b>549.101</b>
	15-25   19/32 - 1	170   6 3/4	100   4	1,000	10	<b>540.321</b>	<b>549.102</b>
	20-30   51/64 - 1 3/16	170   6 3/4	100   4	1,000	10	<b>541.373</b>	<b>549.103</b>
	25-35   1 - 1 3/8	170   6 3/4	100   4	1,000	10	<b>540.323</b>	<b>549.104</b>
	32-42   1 17/64 - 1 5/8	170   6 3/4	100   4	1,000	5	<b>540.324</b>	<b>549.105</b>
	40-50   1 5/8 - 2	170   6 3/4	100   4	1,000	5	<b>540.325</b>	<b>549.106</b>
	38-70   1 1/2 - 2 3/4	170   6 3/4	100   4	1,000	5	540.225	<b>549.107</b>
	60-95   2 3/8 - 3 3/4	170   6 3/4	100   4	1,000	5	<b>540.327</b>	<b>549.108</b>

Tube and sleeve brushes are also available with crimped wire on request.

Special diameters and threads are available on request for an added charge

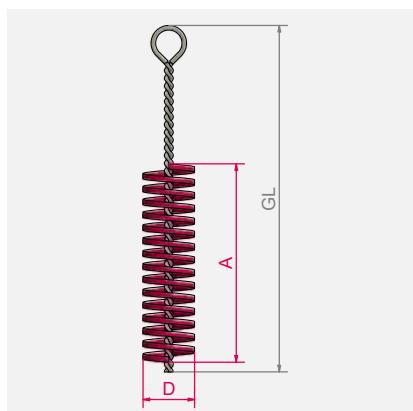
# Boiler brushes / stovepipe brushes



## Boiler brushes

Cleaning boilers increases the systems' efficiency and reduces pollutant emissions.

LESSMANN boiler brushes boast high-quality materials and precision manufacturing, which set them apart from similar products. Our current product range includes brushes in standard dimensions and numerous customised versions. As an OEM supplier to leading boiler manufacturers, we are geared for high volumes and efficient manufacturing processes. Add to that our considerable know-how in adhering to critical tolerances.



## Stovepipe brushes

Two types of stovepipe brushes are available: brush with attached twisted handle or brush with an external thread for attaching a separate handle or extension.

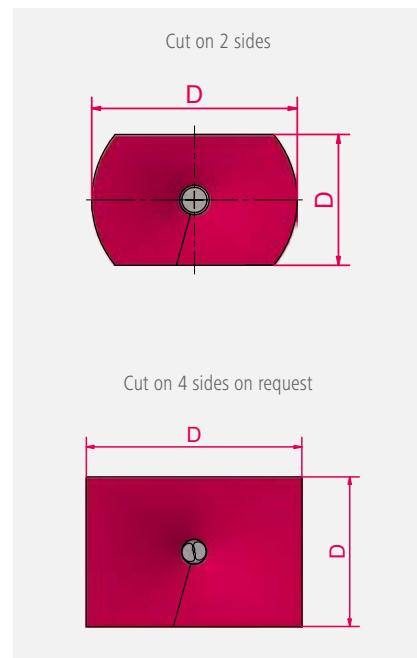
### Handles and extensions

For tube brushes, stovepipe brushes and boiler brushes on pages 124 ff.

The handles have an internal thread and handle, the extensions have both internal and external threads.

### Corresponding thread adapters

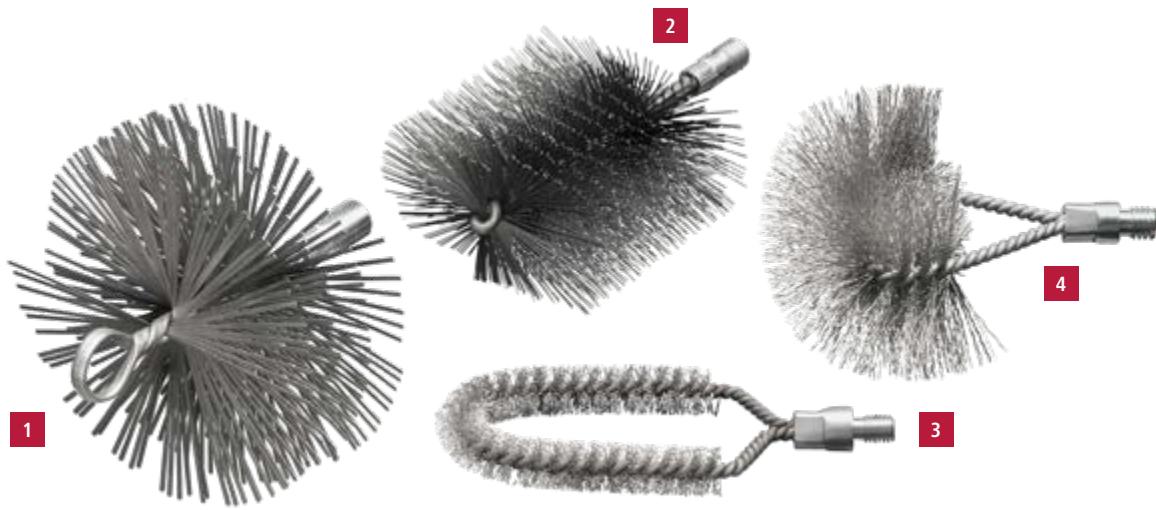
See page 133



**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**PA** = Polyamide



EAN

## 1 Chimney brushes with loop and internal thread IBZG, flat wire 2.0 x 0.40

Filling	D	GL	A	Internal thread	Pack	Art.-No.	Filling	D	GL	A	Internal thread	Pack	Art.-No.
STA flat	125	160	55	M 12 i	1	507.007	STA flat	200	160	55	M 12 i	1	507.003
STA flat	150	160	55	M 12 i	1	507.001	STA flat	250	160	55	M 12 i	1	507.004
STA flat	175	160	55	M 12 i	1	507.002							

## Boiler brushes with external thread/internal thread IBG, steel wire, rectangular/curved

Filling	D mm   inch	Version	GL mm   inch	A mm   inch	GA/GI	Pack.	Art.-No.
PA straight	30 x 50   1 3/16 x 2	•	160   6 3/8	100   4	W 1/2"	5	533.008.24
PA straight	50 x 100   2 x 4	•	160   6 3/8	100   4	W 1/2"	5	533.010.24
STA straight	30 x 50   1 3/16 x 2	•	160   6 3/8	100   4	W 1/2"	5	532.218
2 STA straight	30 x 80   1 3/16 x 3	•	160   6 3/8	100   4	W 1/2"	5	532.211
STA straight	40 x 80   1 5/8 x 3	•	160   6 3/8	100   4	W 1/2"	5	532.202
STA straight	50 x 100   2 x 4	•	160   6 3/8	100   4	W 1/2"	5	532.203
STA straight	50 x 120   2 x 4 3/4	•	160   6 3/8	100   4	W 1/2"	5	532.205
3 STA crimped	18 x 70   45/64 x 2 3/4	Curved	160   6 3/8	100   4	W 1/2"	5	529.301.24
STA crimped	30 x 80   1 3/16 x 3	Curved	175   6 7/8	120   4 3/4	W 1/2"	5	529.302
4 STA crimped	80 x 150   3 x 6	Curved	150   6	120   4 3/4	W 1/2"	5	529.311
PA straight	80 x 150   3 x 6	Curved	150   6	120   4 3/4	W 1/2"	5	529.811

• Cut on 2 sides

Cut on 4 sides on request

# Boiler brushes



1

2

3

## Boiler brushes with handle IBZ

	Filling	D mm   inch	Version	GL mm   inch	A mm   inch	Pack.	Art.-No.
1	<b>PA</b> straight	20   5 1/64	∅	600   23 5/8	100   4	10	<b>544.804</b>
	<b>STA</b> crimped	50   2	∅	700   27 1/2	100   4	10	<b>544.301</b>
	<b>STA</b> crimped	90   3 1/2	∅	600   23 5/8	100   4	10	544.302
	<b>STA</b> crimped	10   25/64	∅	850   33 1/2	100   4	10	545.320
	<b>STA</b> crimped	15   19/32	∅	850   33 1/2	100   4	10	545.321
2	<b>STA</b> crimped	20   51/64	∅	850   33 1/2	100   4	10	<b>545.322</b>
	<b>STA</b> crimped	25   1	∅	850   33 1/2	100   4	10	<b>545.307</b>
	<b>STA</b> crimped	35   1 3/8	∅	850   33 1/2	100   4	10	<b>545.311</b>
	<b>STA</b> crimped	50   2	∅	850   33 1/2	100   4	10	<b>545.312</b>
	<b>STA</b> crimped	60   2 3/8	∅	850   33 1/2	100   4	10	545.338
	<b>PA</b> straight	12 x 14   15/32 x 9/16	◻	600   23 5/8	150   6	10	<b>554.903</b>
	<b>STA</b> straight	17 x 50   43/64 x 2	◻	960   38	60   2 3/8	10	<b>564.101*</b>
3	<b>STA</b> crimped	30 x 50   1 3/16 x 2	◻	800   31 1/2	100   4	10	551.801
	<b>STA</b> crimped	40 x 50   1 5/8 x 2	◻	1,000   39 3/8	80   3	10	<b>553.711</b>
	<b>STA</b> straight	40 x 80   1 5/8 x 3	◻	1,000   39 3/8	100   4	10	<b>552.404</b>
	<b>STA</b> straight	50 x 100   2 x 4	◻	1,000   39 3/8	100   4	10	<b>552.403</b>

\* With scooped scratcher in the handle

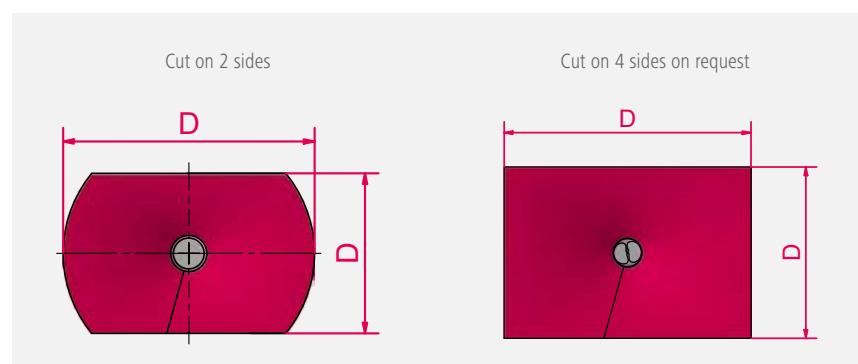
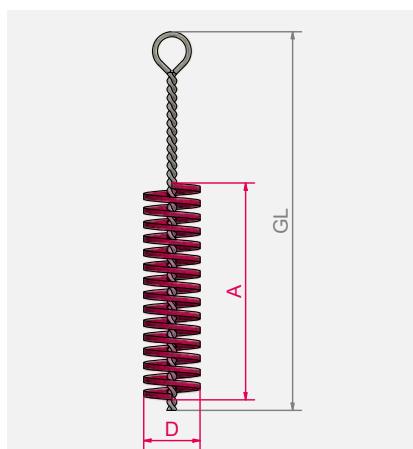
Cut on 2 sides |  Cut on 4 sides on request

Round

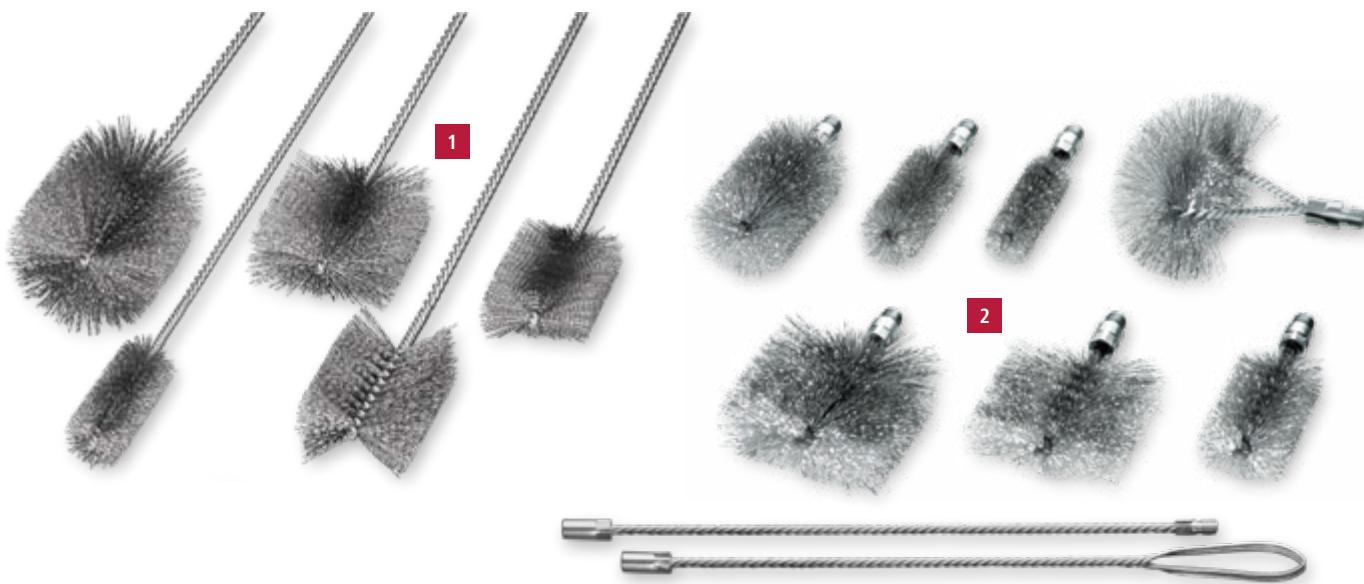
**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume  
(see page 186).

**STA** = Steel wire

**PA** = Polyamide



# Boiler brush sets



EAN

## 1 Brush set, 5 pieces

Includes 1 each	A	Version	Set with handle, large version, steel wire			Set with handle, small version, steel wire		
			Art.-No.	D	GL	Art.-No. Set	Art.-No.	D
Cylinder brush	100	⊕	545.303	38	1.000	<b>599.921</b>	544.307	15
Cylinder brush	100	⊕	545.331	100	1.000		544.361	25
Boiler brush	100	⊕	552.811	30 x 70	1.000		559.831	31 x 20
Boiler brush	100	⊕	552.816	50 x 100	1.000		551.811	30 x 20
Boiler brush	100	Flat filaments	559.713	75 x 30	1.000		551.812	50 x 40

EAN

## 2 Brush set, steel wire, external thread W 1/2", crimped, 9 pieces

Includes 1 each	D mm   inch	GL mm   inch	A mm   inch	Version	Art.-No. Set
506.330 Interior brushes	30   1 3/16	160   6 1/4	100   4	⊕	<b>599.962</b>
506.340 Interior brushes	40   1 5/8	160   6 1/4	100   4	⊕	
506.363 Interior brushes	63   2 1/2	160   6 1/4	100   4	⊕	
532.718 Boiler brush	30 x 50   1 3/16 x 2	160   6 1/4	100   4	⊕	
532.716 Boiler brush	30 x 90   1 3/16 x 3 1/2	160   6 1/4	100   4	⊕	
532.703 Boiler brush	50 x 100   2 x 4	160   6 1/4	100   4	⊕	
529.311 Back board brush	80 x 150   3 x 6	150   6			
567.671 Handle with loop		500   20			
567.771 Extension		500   20			

EAN

## Brush set, synthetic bristles, polyamide, external thread W 1/2", straight, 9 pieces

Includes 1 each	D mm   inch	GL mm   inch	A mm   inch	Version	Art.-No. Set
506.838 Interior brushes	38   1 1/2	160   6 1/4	100   4	⊕	<b>599.991</b>
506.855 Interior brushes	55   2 1/4	160   6 1/4	100   4	⊕	
506.860 Interior brushes	60   2 3/8	160   6 1/4	100   4	⊕	
533.008.24 Boiler brush	30 x 50   1 3/16 x 2	160   6 1/4	100   4	⊕	
533.009.24 Boiler brush	30 x 90   1 3/16 x 3 1/2	160   6 1/4	100   4	⊕	
533.010.24 Boiler brush	50 x 100   2 x 4	160   6 1/4	100   4	⊕	
529.811 Back board brush	80 x 150   3 x 6	150   6			
567.671 Handle with loop		500   20			
567.771 Extension		500   20			

# Stovepipe brushes



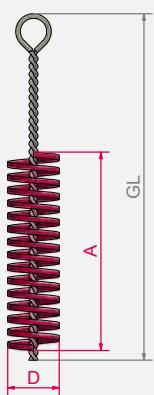
## Stovepipe brush with twisted handle IBZ

	Filling	D mm   inch	GL mm   inch	A mm   inch	Pack.	Art.-No.
1	<b>STM</b>	130   5 1/8	2,000   78 3/4	200   8	10	<b>546.302</b>
	<b>STM</b>	150   6	2,000   78 3/4	200   8	10	<b>546.306</b>
	<b>STM</b>	180   7	2,000   78 3/4	200   8	10	546.314
	<b>STM</b>	200   8	2,000   78 3/4	200   8	10	546.318
2	<b>BAS</b>	150   6	2,000   78 3/4	200   8	10	546.906

Sold only in the packaging unit indicated. If you need smaller quantities, please order stovepipe brushes with separate handle.

## 3 Stovepipe brushes with external thread, separate handle IBZG

	Filling	D mm   inch	GL mm   inch	A mm   inch	GA	Pack.	Art.-No.
	<b>STM</b>	80   3	275   10 7/8	200   8	M 10	5	<b>507.307</b>
	<b>STM</b>	100   4	275   10 7/8	200   8	M 10	5	<b>507.308</b>
	<b>STM</b>	130   5 1/8	275   10 7/8	200   8	M 10	5	<b>507.301</b>
	<b>STM</b>	150   6	275   10 7/8	200   8	M 10	5	<b>507.302</b>
	<b>STM</b>	160   6 3/8	275   10 7/8	200   8	M 10	5	507.303
	<b>STM</b>	180   7	275   10 7/8	200   8	M 10	5	<b>507.304</b>
	<b>STM</b>	200   8	275   10 7/8	200   8	M 10	5	<b>507.305</b>
	<b>BAS</b>	150   6	275   10 7/8	200   8	M 10	5	507.959



Art. Nos. in **bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STM** = Brass-coated steel wire

**BAS** = Bassine black

# Accessories



## Handles with loop

	GL mm   inch	GI/GA	Version	Pack.	Art.-No.
1	400   16	External M 10	Round steel, straight	1	568.805
	800   31 1/2	External M 10	Round steel, straight	1	568.802
	1,000   40	External M 10	Round steel, straight	1	568.806
2	1,000   40	Internal M 4	Twisted wire	1	566.603
	1,000   40	Internal M 6	Twisted wire	1	566.601
	1,000   40	Internal M 10	Twisted wire	1	566.602
	1,000   40	External M 12	Twisted wire	1	567.201
	500   20	Internal W 1/2"	Twisted wire	1	567.671
	1,000   40	Internal W 1/2"	Twisted wire	1	567.601

## 3 Extensions

	GL mm   inch	GI/GA	Version	Pack.	Art.-No.
	1,000   40	Internal / External M 4	Twisted wire	1	566.703
	200   8	Internal / External M 6	Twisted wire	1	566.707.01
	1,000   40	Internal / External M 6	Twisted wire	1	566.701
	1,000   40	Internal / External M 10	Twisted wire	1	566.702
	1,000   40	Internal / External M 12	Twisted wire	1	567.731
	500   20	Internal / External W 1/2"	Twisted wire	1	567.771
	1,000   40	Internal / External W 1/2"	Twisted wire	1	567.701

## 4 Thread adapters / handles

		GL mm   inch	Pack.	Art.-No.
4	Internal W 1/2"	Internal M 12	40   1 3/8	001.211
	Internal W 1/2"	Internal M 10	40   1 3/8	001.212
	Internal W 3/8"	Internal M 10	40   1 3/8	001.215
5	External M 10	Internal W 1/2"	40   1 3/8	001.222
	External M 10	Internal W 3/8"	40   1 3/8	001.225
6	Internal W 1/2"	Shank Ø 6 mm	50   2	000.071
	Internal M 6	Shank Ø 6 mm	50   2	000.072
	Internal W 1/2"		155   6	599.002
	Internal M 6		130   5 1/8	599.001

# Fitting brushes



EAN

## Fitting brushes for interior cleaning IBM

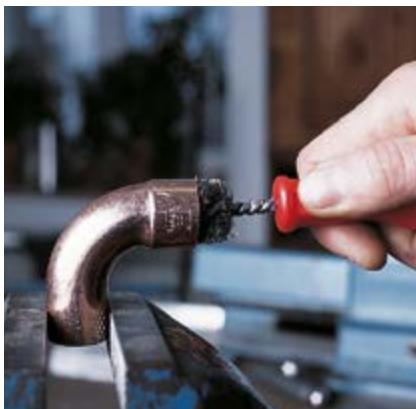
D mm   inch	GL	A	Filling	Pack.	Art.-No.
8   5/16	185	12	<b>ROF 0.10   0.004"</b>	10	562.508
10   25/64	185	12	<b>ROF 0.10   0.004"</b>	10	562.510
12   15/32	185	15	<b>ROF 0.10   0.004"</b>	10	562.512
15   19/32	185	20	<b>ROF 0.15   0.006"</b>	10	562.515
18   45/64	185	20	<b>ROF 0.15   0.006"</b>	10	562.518
22   7/8	185	25	<b>ROF 0.20   0.008"</b>	10	562.522
28   1 7/64	185	25	<b>ROF 0.20   0.008"</b>	10	562.528
35   1 3/8	185	25	<b>ROF 0.20   0.008"</b>	10	562.535

### Fitting brushes

#### with ergonomic two-component handle

These brushes are used for cleaning tube ends prior to soldering in the gas, water, air conditioning and refrigeration sectors. All fitting brushes come with an ergonomic handle and stainless steel wire filling.

**User tip:** When purchasing interior fitting brushes, be sure to choose only stainless steel wire fillings. It is the only way to avoid the dreaded pitting caused by wire particles that rust.



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**ROF** = Stainless steel wire

**PP** = Polypropylene

# Brushes and scratchers



## 1 Battery terminal brushes

Filling	D mm   inch	GL mm   inch	A mm   inch	Pack.	Art.-No.
STA	17+24   43/64+15/16	120/180   4 3/4 / 7	50   2	12	563.301*

## 2 Soluble oil brushes

Filling	Ø Bundle mm   inch	GL mm   inch	H mm   inch	Pack.	Art.-No.
Mixed hair	7   9/32	150   6	40   1 5/8	100	570.907
Mixed hair	10   25/64	240   9 1/2	55   2 1/4	100	570.910

## 3 Soldering fluid brushes

Filling	D mm   inch	GL mm   inch	H mm   inch	Pack.	Art.-No.
Light bristles	10   25/64	123   4 7/8	20   51/64	100	045.910
Light bristles	15   19/32	140   5 1/2	25   1	100	045.915

## 4 Rust scratchers

Filling	D mm   inch	GL mm   inch	H mm   inch	Pack.	Art.-No.
STA straight 0.23	5/8   13/64 / 5/16	100   4	6   15/64	180	184.101
STA Straight 0.23   0.009" + PP 0.15   0.006"	5/8   13/64 / 5/16	100   4	6+15   15/64 + 19/32	180	184.104

\* Conical filling

## 5 End brushes, with double-sided filling

	D mm   inch	GL mm   inch	H mm   inch	Pack.	Art.-No.
ROF straight 0.30 + spring steel 6.4 x 0.8	15   19/32	180   7	22/25   7/8/1	100	184.412

## 6 Contact cleaning brush, with black shrink tubing, in brass sleeve

	D mm   inch	GL mm   inch	H mm   inch	Pack.	Art.-No.
STA crimped 0.15	5   3/16	105   4 1/8	5   3/16	100	184.412

### Battery terminal brushes

With their conical filling, battery terminal brushes are designed for cleaning the clamps on battery cables. The battery terminals are cleaned using the file card, which is glued inside the round plastic handle.

### Soluble oil brushes

Used to apply soluble and other oils in a variety of workshop settings.

### Soldering fluid brushes

The handle is made of tinned sheet metal.

### End brushes, with double-sided filling

Used to manually remove zinc ash without damaging the zinc surface. Zinc ash is the result of oxidation on the surface of the zinc bath, and usually occurs on the corners of steel beams with top and bottom plates. The spring steel strip on one side of the end brush serves to re-

move stubborn grime. The other end, with stainless steel wire filling, is for brushing off minor residual grime.

### Contact cleaning brush

Used to clean electrical contacts of all types, e.g., in X-ray fluorescence analysers.

# LESSMANN®

THE GERMAN BRUSH COMPANY



# DIY BRUSHES AND SALES PROMOTION



# Do-it-yourself brushes



## DIY brushes with shank

In this product line, LESSMANN offers a full selection of low-cost alternatives to the professional tools on previous pages: cup shank brushes with 50 – 75 mm diameter, wheel from brushes with 50 – 100 mm diameter, end and cylinder brushes.

## Stainless steel brushes

For more information on brushing stainless steel, visit [www.lessmann.com](http://www.lessmann.com)

## Attractive assortment

Thanks to the variety of filling materials, sellers have yet another way of offering customers an attractive range of products in this DIY segment: coarse and fine steel wire, stainless steel, brass wire and abrasive filaments.

The brushes are packed in small display cartons with 10 articles per carton.

We offer various alternatives to choose from for presenting current LESSMANN shank brushes in a way that promotes sales and suits individual needs.

**Art. Nos. in bold** are available ex warehouse.

*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**ROF** = Stainless steel wire

**ROH** = Stainless steel wire, high tensile

**MES** = Brass wire, crimped

**SIC** = Silicon carbide bristles



We sell many of these brushes in individual packaging suitable for display as well. You can find these on pages 142 ff.



## 1 Wheel brushes DSRB with shank Ø 6 mm

D mm   inch	A mm   inch	RPM	Pack. max.	STA 0.25   0.010" Art.-No.	STA 0.35   0.014" Art.-No.	ROF/ROH 0.20   0.008" Art.-No.	ROH 0.30   0.012" Art.-No.
50   2	7   1/4	15,000	10	410.122*	410.123**		
75   3	8   3/8	4,500	10	410.132	410.133	410.134	410.135
75   3	12   1/2	4,500	10		410.173		
100   4	10   3/8	4,500	10	410.152	410.153	410.154	410.155
100   4	15   5/8	4,500	10		410.183		410.185

## 2

D mm   inch	A mm   inch	RPM	Pack. max.	MES 0.20   0.008" Art.-No.	MES 0.25   0.010" Art.-No.	SIC 80/1.2 Art.-No.	SIC 180/0.9 Art.-No.
75   3	8   3/8	4,500	10		410.136	410.138	
100   4	10   3/8	4,500	10	410.156		410.158	410.159

\* Filament for this article has a 0.20 mm / 0.008" diameter

\*\* Filament for this article has a 0.30 mm / 0.012" diameter

## 3 Cup brushes DSTB with shank, Ø 6 mm

D mm   inch	RPM	Pack. max.	STA 0.20   0.008" Art.-No.	STA 0.30   0.012" Art.-No.	ROH 0.20   0.008" Art.-No.	ROH 0.30   0.012" Art.-No.
50   2	4,500	10	430.122	430.123	430.124	430.125
75   3	4,500	10	430.132	430.133	430.134	430.135

## 4

D mm   inch	RPM	Pack. max.	MES 0.30   0.012" Art.-No.	SIC 80/1.2 Art.-No.	SIC 320/0.6 Art.-No.
50   2	4,500	10		430.126	430.128
75   3	4,500	10	430.136	430.138	430.139

## 5 Cylinder brushes IBE with shank, Ø 6 mm

D mm   inch	RPM	Pack. max.	STA 0.30   0.012" Art.-No.
28   1	1,500	10	541.301

# Sales presentation in cut cases



EAN

## Brushes in cut cases

Designation	Filling material	Pack.	Carton size	Art.-No.		
File cleaner	<b>STA</b> straight 0.30	250 x 40	10	1	037.201.CC	
Hand brush	<b>STA</b> straight 0.35	2 rows	10	1	100.021.CC	
Hand brush	<b>STA</b> straight 0.35	3 rows	10	1	100.031.CC	
Hand brush	<b>STA</b> straight 0.35	4 rows	10	1	100.041.CC	
Hand brush	<b>STA</b> straight 0.35	5 rows	8	1	100.051.CC	
Hand brush	<b>STA</b> straight 0.35	6 rows	8	1	100.061.CC	
Hand brush	<b>ROF</b> crimped 0.35	3 rows	10	1	104.631.CC	
Hand brush	<b>ROF</b> crimped 0.35	4 rows	10	1	104.641.CC	
Hand brush	<b>MES</b> crimped 0.35	3 rows	10	1	107.631.CC	
Hand brush	<b>MES</b> crimped 0.35	4 rows	10	1	107.641.CC	
Hand brush	<b>STA</b> straight 0.35	4 rows	8	1	120.401.CC	
Rivet brush	<b>STA</b> straight 0.35	3 rows	8	1	120.801.CC	
Rivet brush	<b>ROF</b> straight 0.35	3 rows	8	1	120.811.CC	
Duster	<b>PP</b> straight 0.40	4 rows	6	2	124.801.CC	
Spark plug brush	<b>MES</b> crimped 0.15	3 rows	25	1	125.211.CC	
Fine scratch brush	<b>MES</b> crimped 0.15	4 rows	15	1	126.411.CC	
Fine scratch brush	<b>PA</b> straight 0.30	4 rows	15	1	126.451.CC	
Staining brush	<b>MES</b> crimped 0.15	7 rows	6	1	144.001.CC	
Staining brush	<b>Leather/fibre</b>	3/7 rows	4	1	144.701.CC	
Professional hand brush	<b>STA</b> straight 0.35	2 rows	Two-component handle	10	1	182.401.CC
Professional hand brush	<b>ROF</b> straight 0.35	2 rows	Two-component handle	10	1	182.421.CC
Professional hand brush	<b>MES</b> crimped 0.25	2 rows	Two-component handle	10	1	182.451.CC

Dimensions in mm: Carton size 1: 300x100x130 | Carton size 2: 300x200x130

### Cut cases for product presentation

Cut cases are the perfect alternative for presenting a relatively large number of products. The brushes can be quickly and easily placed in a modular self-service wall.



EAN

Brushes in cut cases						
Designation	Filling material		Pack.	Carton size		Art.-No.
Wheel brush, PP body	<b>SIC</b> 80 / 1.2	7 rows	Thread M 14	2	1	<b>402.880.CC</b>
Disc brush, PP body	<b>SIC</b> 80 / 1.2	4 rows	Thread M 14	2	1	<b>405.845.CC</b>
Wheel brush with shank	<b>STA</b> crimped 0,25	DIA 75	Shank 6 mm	25	1	410.132.CC
Wheel brush with shank	<b>STA</b> crimped 0,35	DIA 100	Shank 6 mm	15	1	410.153.CC
Cup brush	<b>STA</b> crimped 0,35	DIA 65	Thread M 14	15	1	421.167.CC
Cup brush	<b>ROF</b> crimped 0,35	DIA 65	Thread M 14	15	1	421.367.CC
Cup brush with shank	<b>STA</b> crimped 0,30	DIA 50	Shank 6 mm	15	1	430.123.CC
Cup brush with shank	<b>STA</b> crimped 0,30	DIA 75	Shank 6 mm	15	1	430.133.CC
Bevel brush, knotted	<b>STH</b> straight 0,50	DIA 100	Thread M 14	5	1	471.257.CC
Wheel brush, knotted	<b>STH</b> straight 0,50	DIA 115	Bore 22,2	6	1	472.211.CC
Cup brush, knotted	<b>STH</b> straight 0,50	DIA 65	Thread M 14	12	1	482.217.CC
Cup brush, knotted	<b>STH</b> straight 0,50	DIA 90	Thread M 14	8	1	485.237.CC
Cylinder brush	<b>STA</b> crimped 0,30	DIA 100	Shank 6 mm	20	1	541.301.CC

Dimensions in mm: Carton size 1: 300x100x130 | Carton size 2: 300x200x130

**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**STH** = Steel wire, high tensile, straight

**ROF** = Stainless steel wire

**ROH** = Stainless steel wire, high tensile, straight

**MES** = Brass wire

**PA** = Polyamide

**PP** = Polypropylene

**SIC** = Silicon carbide bristles

# Presentation: Single-unit cardboard packaging



Sustainability is one of the core values of our organisation. For this reason, we have eliminated conventional plastic blister packaging and now sell all of our brushes in eco-friendly cardboard packaging.

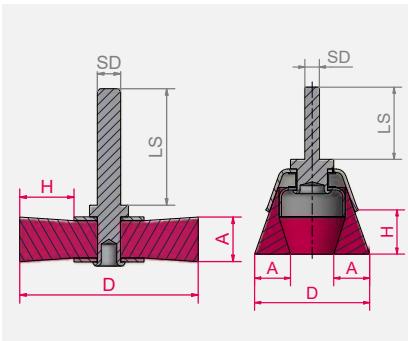
In developing this new packaging, we also ensured effective presentation of our products.

We believe that quality and sustainability can go hand-in-hand. Accordingly, we set very high standards for the strength and security of our packaging designs. The large windows on the front and sides reveal every detail of the brush inside, so that you can immediately see its design characteristics and excellent workmanship while keeping it in the packaging.

EAN

## Brushes in single-unit cardboard packaging

Designation	Filling material	D mm	A mm	H mm	RPM max,	Art.-No.
DIY wheel brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	50 mm	7 mm	12 mm	15,000	<b>410.123.EP</b>
DIY wheel brush, 6 mm shank	<b>STA</b> crimped 0.35 mm	75 mm	8 mm	14.5 mm	4,500	<b>410.133.EP</b>
DIY wheel brush, 6 mm shank	<b>ROF</b> crimped 0.30 mm	75 mm	8 mm	14.5 mm	4,500	<b>410.135.EP</b>
DIY wheel brush, 6 mm shank	<b>MES</b> crimped 0.25 mm	75 mm	8 mm	14.5 mm	4,500	<b>410.136.EP</b>
DIY wheel brush, 6 mm shank	<b>SIC</b> crimped 1.20 mm	75 mm	8 mm	14.5 mm	4,500	<b>410.138.EP</b>
DIY wheel brush, 6 mm shank	<b>STA</b> crimped 0.35 mm	100 mm	10 mm	22.5 mm	4,500	<b>410.153.EP</b>
DIY wheel brush, 6 mm shank	<b>SIC</b> crimped 1.20 mm	100 mm	10 mm	21 mm	4,500	<b>410.158.EP</b>
Wheel brush, 6 mm shank	<b>STA</b> crimped 0.20 mm	30 mm	6 mm	6 mm	20,000	<b>413.142.EP</b>
Wheel brush, 6 mm shank	<b>ROF</b> crimped 0.20 mm	30 mm	6 mm	6 mm	20,000	<b>413.342.EP</b>
Wheel brush, 6 mm shank	<b>MES</b> crimped 0.20 mm	30 mm	5 mm	6 mm	20,000	<b>413.542.EP</b>
Wheel brush, 6 mm shank	<b>STA</b> crimped 0.20 mm	40 mm	9 mm	9 mm	18,000	<b>414.142.EP</b>
Wheel brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	40 mm	9 mm	9 mm	18,000	<b>414.162.EP</b>
Wheel brush, 6 mm shank	<b>MES</b> crimped 0.20 mm	40 mm	7 mm	9 mm	18,000	<b>414.542.EP</b>
Wheel brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	50 mm	11 mm	12 mm	15,000	<b>415.162.EP</b>
Wheel brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	50 mm	15 mm	12 mm	15,000	<b>415.163.EP</b>
Wheel brush, 6 mm shank	<b>ROF</b> crimped 0.30 mm	50 mm	11 mm	12 mm	15,000	<b>415.362.EP</b>
Wheel brush, 6 mm shank	<b>MES</b> crimped 0.20 mm	50 mm	10 mm	12 mm	15,000	<b>415.542.EP</b>
Wheel brush, 6 mm shank	<b>MES</b> crimped 0.20 mm	50 mm	14 mm	12 mm	15,000	<b>415.543.EP</b>
Wheel brush, 6 mm shank	<b>SIC</b> crimped 1.10 mm	50 mm	10 mm	12.5 mm	15,000	<b>415.842.EP</b>
Wheel brush, 6 mm shank	<b>SIC</b> crimped 0.60 mm	50 mm	10 mm	12.5 mm	15,000	<b>415.872.EP</b>
Wheel brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	60 mm	8 mm	17 mm	15,000	<b>416.160.EP</b>
Wheel brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	60 mm	18 mm	17 mm	15,000	<b>416.163.EP</b>
Wheel brush, 6 mm shank	<b>ROF</b> crimped 0.30 mm	60 mm	13 mm	17 mm	15,000	<b>416.362.EP</b>
Wheel brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	70 mm	13 mm	19 mm	15,000	<b>417.163.EP</b>
Knot wheel brush, 6 mm shank	<b>STH</b> straight 0.50 mm	75 mm	12 mm	14.5 mm	25,000	<b>417.198.EP</b>
Knot wheel brush, 6 mm shank	<b>STH</b> straight 0.50 mm	75 mm	16 mm	14.5 mm	25,000	<b>417.199.EP</b>
Wheel brush, 6 mm shank	<b>ROF</b> crimped 0.30 mm	70 mm	13 mm	19 mm	15,000	<b>417.363.EP</b>
Wheel brush, 6 mm shank	<b>SIC</b> crimped 1.10 mm	70 mm	10 mm	19 mm	15,000	<b>417.842.EP</b>
Wheel brush, 6 mm shank	<b>SIC</b> crimped 0.60 mm	70 mm	10 mm	19 mm	15,000	<b>417.872.EP</b>
Wheel brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	80 mm	19 mm	20 mm	15,000	<b>418.163.EP</b>
Wheel brush, 6 mm shank	<b>ROF</b> crimped 0.30 mm	80 mm	19 mm	20 mm	15,000	<b>418.363.EP</b>
Wheel brush, 6 mm shank	<b>MES</b> crimped 0.20 mm	80 mm	12 mm	20 mm	15,000	<b>418.543.EP</b>



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**STH** = Steel wire, high tensile, straight

**MES** = Brass wire, crimped

**SIC** = Silicon carbide bristles

**ROF** = Stainless steel wire

**RO4** = Premium-quality stainless steel wire

Brushes in single-unit cardboard packaging						
Designation	Filling material	D mm	A mm	H mm	RPM max,	Art.-No.
Structuring brush, <b>8 mm</b> shank	<b>STM</b> crimped 0.25 mm	80 mm	35 mm	25 mm	4,000	<b>418.704.EP</b>
Wheel brush, <b>8 mm</b> shank	<b>SIC</b> crimped 1.20 mm	80 mm	35 mm	24 mm	15,000	<b>418.826.EP</b>
Wheel brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	100 mm	14 mm	25 mm	12,000	<b>412.163.EP</b>
Wheel brush, 6 mm shank	<b>ROF</b> crimped 0.30 mm	100 mm	14 mm	25 mm	12,000	<b>412.363.EP</b>
DIY cup shank brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	50 mm		20 mm	4,500	<b>430.123.EP</b>
DIY cup shank brush, 6 mm shank	<b>MES</b> crimped 0.30 mm	50 mm		20 mm	4,500	<b>430.126.EP</b>
DIY cup shank brush, 6 mm shank	<b>SIC</b> crimped 1.20 mm	50 mm		20 mm	4,500	<b>430.128.EP</b>
DIY cup shank brush, 6 mm shank	<b>STA</b> crimped 0.20 mm	75 mm		22 mm	4,500	<b>430.132.EP</b>
DIY cup shank brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	75 mm		22 mm	4,500	<b>430.133.EP</b>
DIY cup shank brush, 6 mm shank	<b>SIC</b> crimped 1.20 mm	75 mm		22 mm	4,500	<b>430.138.EP</b>
Cup shank brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	50 mm	16 mm	20 mm	10,500	<b>435.162.EP</b>
Cup shank brush, 6 mm shank	<b>ROF</b> crimped 0.30 mm	50 mm	16 mm	20 mm	10,500	<b>435.362.EP</b>
Cup shank brush, 6 mm shank	<b>MES</b> crimped 0.20 mm	50 mm	16 mm	20 mm	10,500	<b>435.542.EP</b>
Cup shank brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	70 mm	20 mm	25 mm	6,000	<b>437.162.EP</b>
End brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	12 mm		20 mm	20,000	<b>451.161.EP</b>
End brush, 6 mm shank	<b>ROF</b> crimped 0.30 mm	12 mm		20 mm	20,000	<b>451.361.EP</b>
End brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	17 mm		22 mm	20,000	<b>452.161.EP</b>
End brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	22 mm		25 mm	15,000	<b>453.160.EP</b>
End brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	23 mm		25 mm	18,000	<b>453.161.EP</b>
Knot end brush, 6 mm shank	<b>STH</b> straight 0.35 mm	19 mm	8 mm	28 mm	20,000	<b>453.278.EP</b>
End brush, 6 mm shank	<b>ROF</b> crimped 0.30 mm	23 mm		25 mm	18,000	<b>453.361.EP</b>
Knot end brush, 6 mm shank	<b>RO4</b> straight 0.35 mm	19 mm	8 mm	28 mm	20,000	<b>453.378.EP</b>
Knot end brush, 6 mm shank	<b>STH</b> straight 0.35 mm	22 mm	8 mm	28 mm	20,000	<b>454.278.EP</b>
Knot end brush, 6 mm shank	<b>RO4</b> straight 0.25 mm	22 mm	8 mm	28 mm	20,000	<b>454.358.EP</b>
End brush, 6 mm shank	<b>STH</b> crimped 0.30 mm	30 mm		25 mm	18,000	<b>456.161.EP</b>
Knot end brush, 6 mm shank	<b>STH</b> straight 0.35 mm	29 mm	8 mm	28 mm	20,000	<b>456.278.EP</b>
Knot end brush, 6 mm shank	<b>STH</b> straight 0.50 mm	29 mm	8 mm	28 mm	20,000	<b>456.298.EP</b>
End brush, 6 mm shank	<b>STA</b> crimped 0.30 mm	12 mm		20 mm	15,000	<b>458.161.EP</b>
DIY cylinder brush, IB 100 x 55 mm	<b>STA</b> crimped 0.30 mm	28 mm			1,500	<b>541.301.EP</b>

# Presentation: Hanger



2

## Presentation of interior brushes

With these convenient hangers, threaded interior brushes can now be displayed on self-service walls in retail shops.

The hangers are available with thread sizes M 6, M 10 and W 1/2" and fitted with a euro hole. The label is affixed to the hanger, ensuring good visibility.

**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire, crimped

**STH** = Steel wire, high tensile, straight

**MES** = Brass wire, crimped

**SIC** = Silicon carbide bristles

### 1 Hanger for interior brushes, PP black with euro hole

Internal thread	Total length mm   inch	Width mm   inch	Height mm   inch	Pack.	Art.-No.
M 6	135   5	42   1 5/8	2   5/64	10	<b>000.501</b>
M 10	135   5	42   1 5/8	2   5/64	10	<b>000.503</b>
W 1/2"	135   5	42   1 5/8	2   5/64	10	<b>000.507</b>

### 2 Brushes with thread IBG, including hanger

	Diameter brush mm   inch	Total length brush mm   inch	Filling length brush mm   inch	Thread brush	Pack.	STA Art.-No.
Interior brushes	20   3/4	150   6	100   4	W 1/2"	10	502.120.03
	30   1 1/4	160   6 1/4	100   4	W 1/2"	10	<b>506.130.03</b>
	35   1 1/2	160   6 1/4	100   4	W 1/2"	10	506.135.03
	40   1 3/8	160   6 1/4	100   4	W 1/2"	10	506.140.03
	50   2	160   6 1/4	100   4	W 1/2"	10	506.150.03
	63   2 1/2	160   6 1/4	100   4	W 1/2"	10	506.163.03
	75   3	160   6 1/4	100   4	W 1/2"	10	506.175.03
	101   4	160   6 1/4	100   4	W 1/2"	10	506.101.03
Boiler brushes	40 x 80   1 3/8 x 3	160   6 1/4	100   4	W 1/2"	10	532.202.03
	50 x 100   2 x 4	160   6 1/4	100   4	W 1/2"	10	532.203.03

# Sales promotion

## A perfect fit for you

### Professionalism, service, quality

LESSMANN self-service walls are designed to promote both your image and your sales by creating maximum impact on your customers. These diverse, yet clearly arranged product displays induce spontaneous purchases and make it easier for your customers to find just the tools they need.

Take advantage of our experience to exploit these solutions to the full. Apart from your specific requirements, we take account of the main industries your customers are coming from, as well as their typical needs. We have various, tried-and-tested product ranges that meet an array of requirements. For us, manufacturing extraordinary brushes is just as important as your success with them. Let us help in designing your self-service walls!

## 1 | Self-service wall

The most effective sales promotion solution for your LESSMANN brush range in 100 x 220 cm. Available with the LESSMANN logo or our Brush Know-How label.

A great alternative: our convenient, smaller self-service wall measuring 67 x 180 cm.

## Assistance in purchasing shelving

The easiest way to your perfect solution. On request, we can source the right shelving components for you or advise you on selecting them.

## 2 | Your custom mix for success

Together with you, we select products that suit your (most important) customers and their main needs. The focus can be on either industrial brushes or hand brushes.

## 4 | Hand Brushes with EAN Code

Only at LESSMANN: all standard hand brushes (Art. No. 10x.xxx) have an EAN barcode. No added charge and no added effort for you!

## 5 | Display boxes for shank brushes

Use our simple but effective branded displays. Available as standard for all wheel, cup and end brushes with shanks.

## 7 | Hangers for interior brushes

This hanger with euro hole is the ideal display option for brushes with threads.

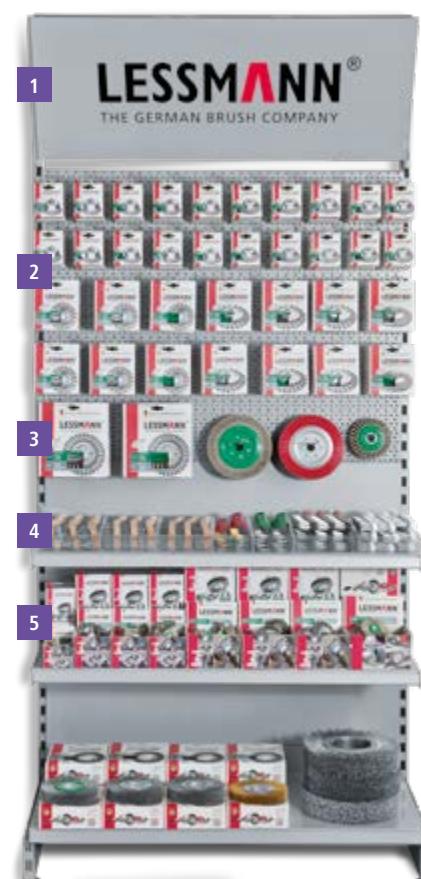
## Private label packaging

Your own CI! One good idea – various solutions. Get your own brand name on the packaging.



## Stainless steel marking

LESSMANN brushes made with stainless steel wire can easily be identified by their green cups or side plates.



## 6 | Brush Know-How flyer

Inform your customers at low cost. The flyer explains the main applications of our entire range of brushes, in DIN long format, with lots of technical information and tips.

Order now:

German: Art. No. 99BKHDEU

English: Art. No. 99BKHENG



## 3 | Cardboard packaging

Insights into product quality and features. All technical data and safety information, plus a window showing the actual brushes (green marking for stainless steel, as applicable).

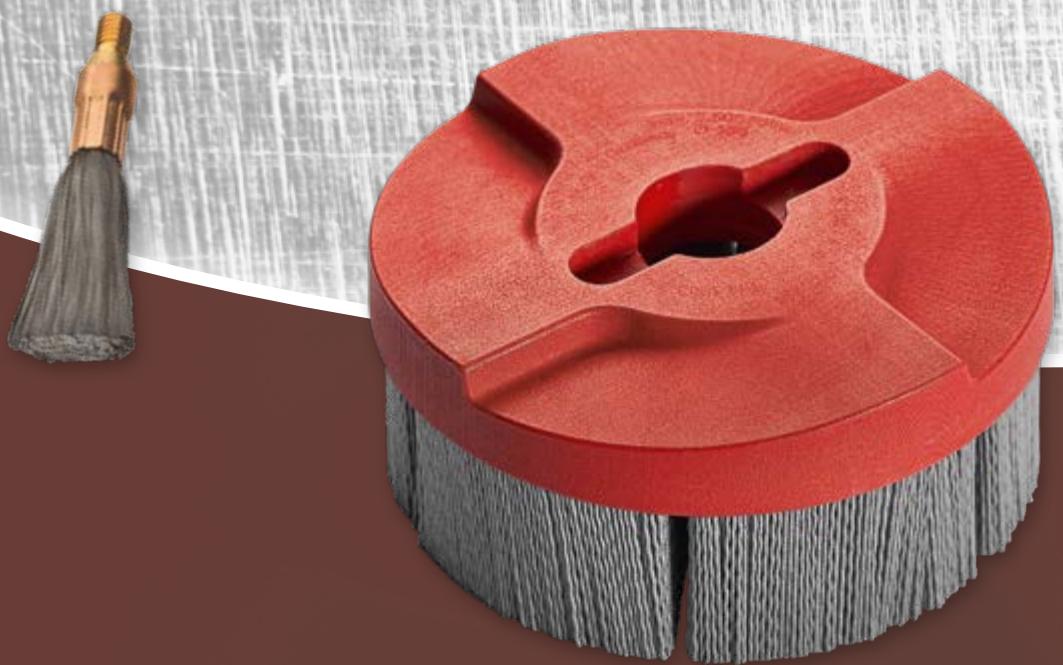


## 8 | Cut cases

Cut cases are ideal for presenting products in large quantities.

# LESSMANN®

THE GERMAN BRUSH COMPANY



# 08 INDUSTRIAL BRUSHES



# Carbon fibre brushes



## Carbon fibre brushes for electrochemical cleaning

### For use in weld cleaning machines

Stainless steel surfaces can experience oxidation when exposed to high temperatures, resulting in heat colouring. Surface post-treatment often is necessary for this reason to restore the surface finish. End brushes with carbon fibre filling are used in weld cleaning machines. Typical electrochemical tasks include:

#### Cleaning

To remove heat colouring and residual scale on stainless steel surfaces, e.g. along weld seams.

#### Polishing

To polish stainless steel surfaces. Any residues can be removed with end brushes.

#### Marking

Special stencils can be used to apply electrochemical markings that are permanent.

#### Galvanisation / coating

These brushes can be used to apply various coatings or finishes to surfaces.



Cleaning hard-to-reach areas



Before cleaning | After cleaning  
Cleaning weld seams

## End brushes for standard machines

LESSMANN offers suitable brushes for many standard weld cleaning machines. Depending on requirements, brushes with different mounting systems are available, e.g. with internal or external threads.

## Time-saving and effective

Unlike other processes, working with weld cleaning machines is eco-friendly and, if using them properly, generates no toxic fumes. Thanks to the flexibility of the filling material, the brushes can easily reach hard-to-access areas.

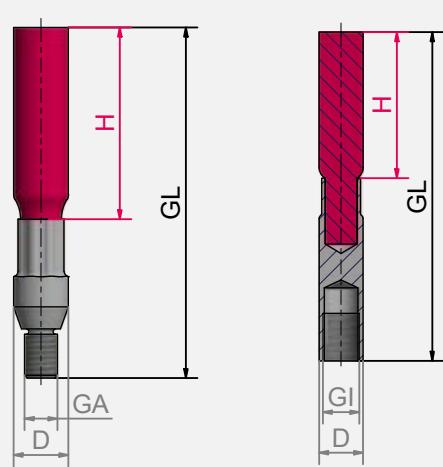
Using LESSMANN brushes, you can get clean results in no time at all. The brushes clean weld seams without leaving behind any residues, and finish surfaces without damaging them.



## Carbon fibre brushes CP

Sleeve	D mm   inch	GL mm   inch	H mm   inch	Thread type	GA/GI	Design	Pack.	Art.-No.
<b>1</b> Copper	10   25/64	65   2 3/8	30   1 3/16	outside	M6		10	<b>047.700</b>
<b>2</b> Copper	12   15/32	90   3 1/2	40   1 5/8	inside	M10 x 0.75	Plastic sleeve, black	10	<b>047.705</b>
<b>3</b> Copper	12   15/32	90   3 1/2	40   1 5/8	inside	M10 x 1.0	Plastic sleeve, black + side thread M4	10	<b>047.707</b>
Copper	10   25/64	80   3 1/4	30   1 3/16	inside	M8 x 1.0	Plastic sleeve, black	10	047.708
<b>4</b> Stainless steel	8   5/16	50   2	30   1 3/16	outside	M6 x 1.0	Teflon protective sleeve (DRM 12 mm)	10	047.750
<b>5</b> Stainless steel	8   5/16	50   2	30   1 3/16	outside	M6 x 1.0		10	047.755
<b>6</b> Stainless steel	8   5/16	72   2 53/64	42   1 21/32	outside	M6 x 0.75	Plastic sleeve, black	10	047.754
<b>5</b> Stainless steel	12   15/32	75   3	40   1 5/8	inside	M10		10	<b>047.757</b>
<b>6</b> Stainless steel	10   25/64	130   5 1/8	60   2 3/8	outside	M6 x 0.75	Plastic sleeve, black + thread M12	10	047.763*
<b>6</b> Stainless steel	10.5   13/32	130   5 1/8	60   2 3/8	outside	M6 x 0.75	Plastic sleeve, black + thread M14	10	047.764*
<b>7</b> Brass	12   15/32	75   3	40   1 5/8	inside	M10		10	<b>047.801</b>

\* Teflon protective sleeve on request



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

# High performance filament brushes



## HFB disc brushes

These highly abrasive surface tools from LESSMANN are excellent for deburring and edge rounding on workpieces with flat surfaces. They can achieve high efficiency not only in machining centres, but also in continuous deburring machines with planetary brush systems.

HFB brushes are used on flat surfaces, e.g.:

- Punched and pressed parts
- Sintered parts
- Hydraulic and pneumatic workpieces
- Aluminium components
- and many more

HFB brushes are also ideally used on workpieces which are exposed to high pressures and which impose high demands on leakproofness and edge rounding.

## Filling

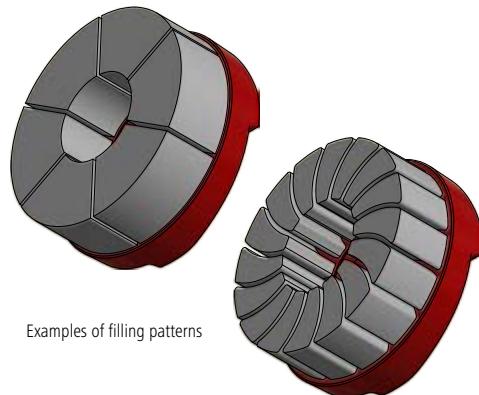
LESSMANN HFB brushes are manufactured with a very high filling density in a special production process. Highly abrasive filaments with silicon carbide, aluminium oxide, ceramic or diamond grit are available. High-quality filling material (PA 6.12) is used in LESSMANN HFB brushes as standard. It is highly rigid and abrasion-resistant.

By selecting the filling material to suit the application, deburring work and uniform edge rounding can be completed in a shorter time, while simultaneously ensuring a longer service life.

Depending on the application, HFB brushes can be used in dry conditions or with added coolants.

## Filling material pattern

Depending on requirements, the brushes can be manufactured with custom filling fields. For example, the body of the brush can be fully filled, or the abrasive filaments can be divided among predefined fields, or the filling can be angled. Depending on the direction of rotation, this can promote more effective processing, for example because the pattern optimally channels off the cooling water.



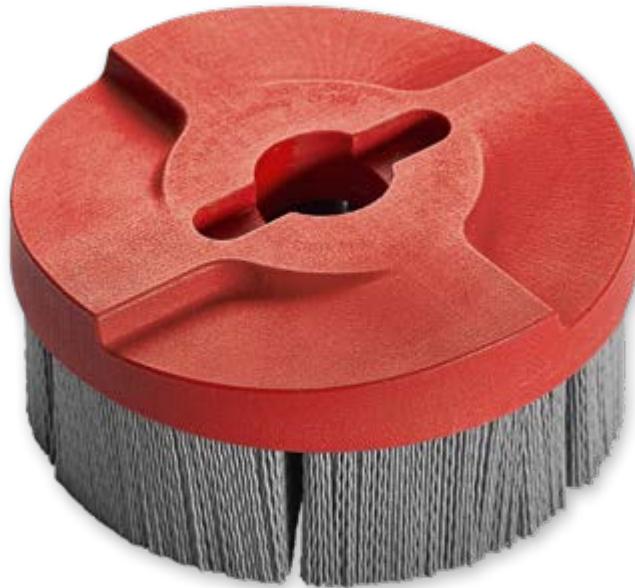
Examples of filling patterns



We would also be happy to supply you with HFB **wheel brushes** with diameters ranging from 100 to 150 mm and a filling width of 20 mm. The smaller working width enables much finer brush applications.



Typical workpieces machined with LESSMANN HFB brushes.



#### Redesigned clamping system

LESSMANN manufactures brush types for all machine brands and drilling patterns according to customer specifications. Our basic versions, suitable for common machines with cutter head holder (DIN 6357) or combination milling arbor holder (DIN 6358), and special models are available on short notice. LESSMANN HFB brushes are also suitable for accessories used to work under wet conditions, e.g. clamp screws with coolant holes.

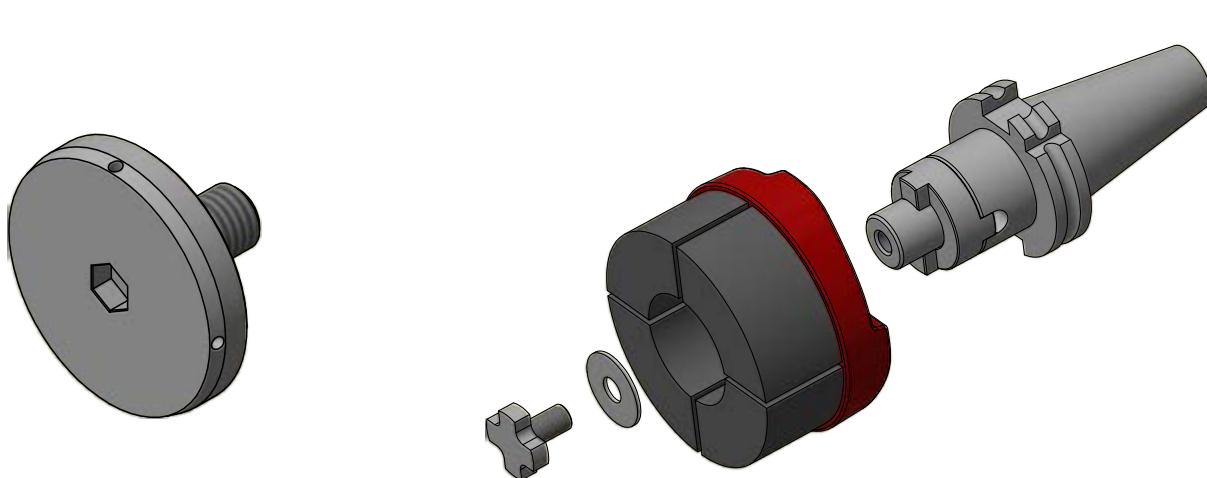
On request, we can supply the brushes with a bore hole to suit your tool holder.

#### New design

LESSMANN HFB brushes are constantly being improved to meet the latest technical requirements. The most recent modification is the redesigned brush disc, which now has a curved shape. This makes the brushes more flexible for various applications and the brush body even more stable. With the resulting dynamic rotation, the brushes are perfect for precision tasks. What is more, fewer chips and less grease get trapped in the brushes during machining, which means less wear.

#### User tips

- The optimum speed is usually significantly less than the maximum speed. Be sure to adhere to the information on the brush body. See details on page 12.
- The feed rate of the brush depends on the desired brushing result and must be determined on a case-by-case basis.
- During use, be sure that all edges and surfaces to be machined are reached. To ensure uniform machining, it is important not to remove the brush from the workpiece prematurely, particularly during start-up and gradual shutdown.



Clamp screw with bore holes for coolant

Common combination milling arbor holder for HFB brushes

Contact us for further information and a no-obligation consultation.

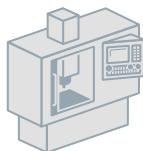
# High performance filament brushes



1



2



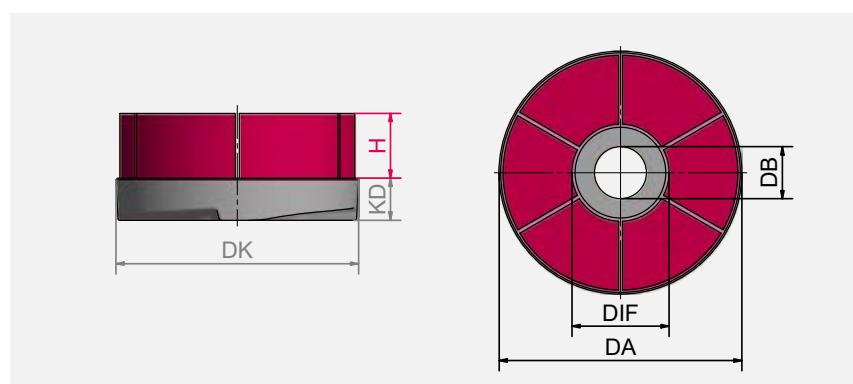
## 1 HFB disc brushes, full-body, abrasive filaments

Body Ø DK	Filling Ø DA	Open Space DIF	Filling Length H	Bore DB	Body Thickness KD	RPM max.	Pack.	SIC 80/1,2 Art.-Nr.	SIC 120/1,1 Art.-Nr.	SIC 180/1,0 Art.-Nr.
mm   inch	mm   inch	mm   inch	mm   inch	mm   inch	mm   inch					
50   2	45   2	25   1	35   1 <sup>3</sup> / <sub>8</sub>	16 DKN	18   5/8	4,500	1	<b>601.204.20</b>	<b>601.304.20</b>	<b>601.404.20</b>
75   3	70   2 <sup>3</sup> / <sub>4</sub>	34   1 <sup>1</sup> / <sub>4</sub>	35   1 <sup>3</sup> / <sub>8</sub>	22 DKN	20   3/4	4,500	1	<b>602.214.20</b>	<b>602.314.20</b>	<b>602.414.20</b>
100   4	95   3 <sup>1</sup> / <sub>2</sub>	45   2	35   1 <sup>3</sup> / <sub>8</sub>	22 DKN	20   3/4	3,600	1	<b>603.214.20</b>	<b>603.314.20</b>	<b>603.414.20</b>
125   5	120   4 <sup>3</sup> / <sub>4</sub>	55   2 <sup>3</sup> / <sub>4</sub>	40   1 <sup>5</sup> / <sub>8</sub>	27 DKN	22   7/8	3,000	1	<b>604.225.20</b>	<b>604.325.20</b>	<b>604.425.20</b>
150   6	145   5 <sup>7</sup> / <sub>100</sub>	60   2 <sup>3</sup> / <sub>8</sub>	40   1 <sup>5</sup> / <sub>8</sub>	32 DKN	25   1	2,500	1	<b>605.265.20</b>	<b>605.365.20</b>	<b>605.465.20</b>

## 2 HFB disc brushes, full-body, ceramic grit

Body Ø DK	Filling Ø DA	Open Space DIF	Filling Length H	Bore DB	Body Thickness KD	RPM max.	Pack.	KK 80/1,2 Art.-Nr.	KK 120/1,1 Art.-Nr.
mm   inch	mm   inch	mm   inch	mm   inch	mm   inch	mm   inch				
50   2	45   2	25   1	35   1 <sup>3</sup> / <sub>8</sub>	16 DKN	18   5/8	4,500	1	<b>601.204.30</b>	<b>601.304.30</b>
75   3	70   2 <sup>3</sup> / <sub>4</sub>	34   1 <sup>1</sup> / <sub>4</sub>	35   1 <sup>3</sup> / <sub>8</sub>	22 DKN	20   3/4	4,500	1	<b>602.214.30</b>	<b>602.314.30</b>
100   4	95   3 <sup>1</sup> / <sub>2</sub>	45   2	35   1 <sup>3</sup> / <sub>8</sub>	22 DKN	20   3/4	3,600	1	<b>603.214.30</b>	<b>603.314.30</b>
125   5	120   4 <sup>3</sup> / <sub>4</sub>	55   2 <sup>3</sup> / <sub>4</sub>	40   1 <sup>5</sup> / <sub>8</sub>	27 DKN	22   7/8	3,000	1	<b>604.225.30</b>	<b>604.325.30</b>
150   6	145   5 <sup>7</sup> / <sub>100</sub>	60   2 <sup>3</sup> / <sub>8</sub>	40   1 <sup>5</sup> / <sub>8</sub>	32 DKN	25   1	2,500	1	<b>605.265.30</b>	<b>605.365.30</b>

DKN = double keyway



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**SIC** = Silicon carbide bristles

**KK** = Ceramic grit

# Enquiry: High performance filament brushes

## Drawing / description of application

Large area for drawing or description of application.

No. pieces \_\_\_\_\_

Application  dry  wet

Deburring

Other \_\_\_\_\_

Material to be processed \_\_\_\_\_ °C temperature

Steel

Aluminium

Stainless steel

Other \_\_\_\_\_

## Filling material

Silicon carbide bristles (SIC)

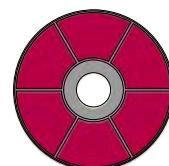
Aluminium oxide bristles (AO)

Ceramic grit (KK)

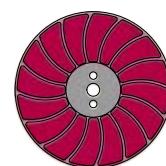
Diamond grit (DIA)

Filling diameter \_\_\_\_\_

## Filling placement



Full-body



Turbo

Turbo fill right/left (standard: right) \_\_\_\_\_

Please specify the dimensions according to the technical drawing (mm):

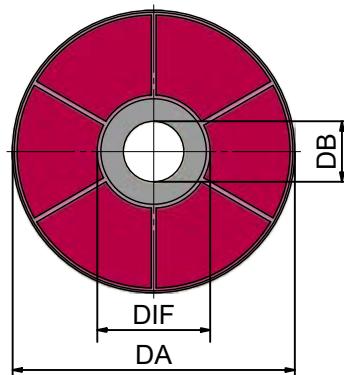
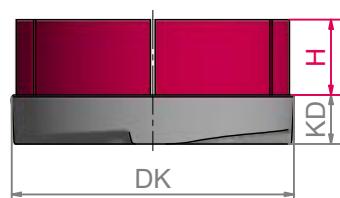
DK Body diameter \_\_\_\_\_ mm

DA Outer filling dia. \_\_\_\_\_ mm

DIF Inner filling dia. \_\_\_\_\_ mm

H Filling height \_\_\_\_\_ mm

Filling angle \_\_\_\_\_ °



Sender: Company, contact person

Standard bore

(adapted to body diameter, see table at left)

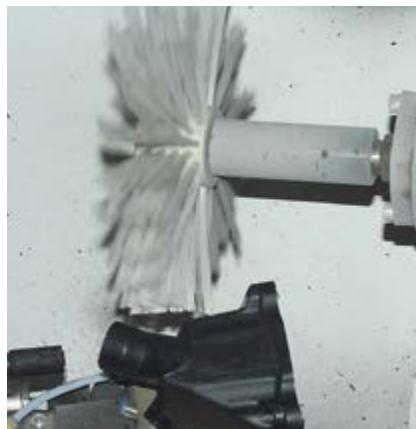
Special bore \_\_\_\_\_

## Enquiries and information:

Tel.: +49 9082 707-0 info@lessmann.com  
 Fax: +49 9082 707-76 www.lessmann.com



# Punch filled brushes



## Punch filled brushes

Punch filled brushes are designed for work involving weaker mechanical forces.

Typical applications for punch filled wheel, roller, disc and lath brushes include cleaning, deburring, surface finishing, structuring, smoothing, transporting, sorting and moistening.

Depending on requirements, the filling material can be arranged in a custom pattern on the body. The distance between bundles and their distribution are variable and depend on the application.

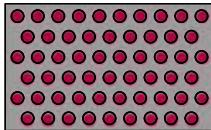
In addition to wire, plastic, plant and animal fibres are available as filling materials. Mixed filament types in different proportions are also an option.

As standard, punch filled wheel and roller brushes come only with a bore, disc brushes with a bore or thread for mounting.

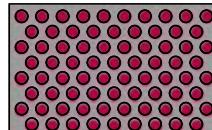
Learn more about our product range on the following pages. For more information or a personal consultation, do not hesitate to contact us and arrange to meet with our Technical Service technicians.

## Possible filling densities

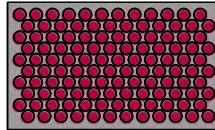
for wheel, roller, disc and lath brushes



Low-density filling



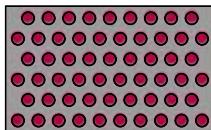
Moderate-density filling



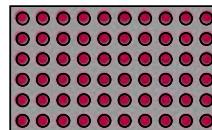
Dense filling

## Possible filling placement

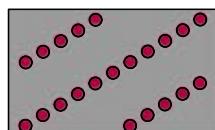
for wheel, roller, disc and lath brushes



Staggered filling



Straight filling



Spiral filling

# Disc brushes



### Disc brushes – dimensions

DA	KD	H	DB/GI	Body material	Filling material	Filling density	
Outer diameter mm	Body thickness mm	Filling height mm	Filling angle	Thread/bore			
10–800	10–100	8–95 steel 8–135 plastic	max. 45°	variable	PP, PE, PA, wood, plywood	STA, STM, MES, ROF, PP, PE, PA, FIB, ROS, SIC, AO	Low, moderate, high

### Disc brushes for cleaning and deburring

Disc brushes are used for large, flat surfaces made of a variety of materials. One common application is in continuous deburring machines. The range of applications is virtually unlimited thanks to the many combinations of disc materials, filling materials and mounting systems. When it comes to deburring workpieces, disc brushes can achieve just as outstanding edge rounding in single machines as they do in machining centres for removing secondary burrs.

### Disc brushes for wood machining

Disc brushes with extra-long abrasive nylon filling are ideal for applications in wood machining. On angle polishers and cylindrical grinders, they are used for refinishing, cleaning, structuring and polishing. The brushes are very well suited to use on large surfaces areas.

### Disc brushes – standard body

If your application allows the sizes specified, we recommend our standard discs for customised products.

**Art. Nos. in bold** are available ex warehouse.

*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**STM** = Brass-coated steel wire

**ROF** = Stainless steel wire

**MES** = Brass wire

**PP** = Polypropylene

**PA** = Polyamide

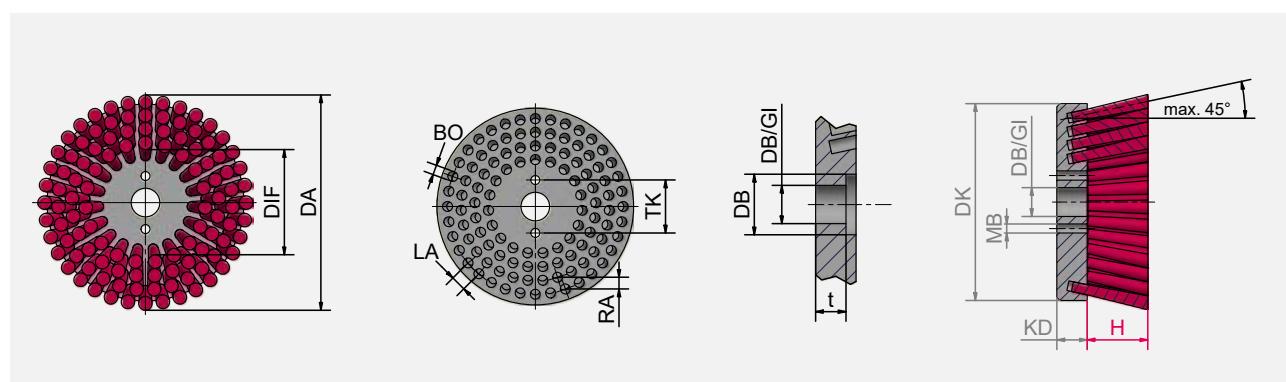
**PE** = Polyethylene

**FIB** = Fibre

**ROS** = Horse hair

**SIC** = Silicon carbide bristles

**AO** = Aluminium oxide bristles



# Disc brushes



## Disc brushes

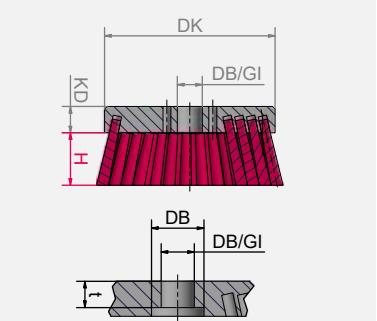
Filling	DK	H	DB/GI	KD	RPM	Pack.	Art.-No.
	mm   inch	mm   inch	mm   inch	mm   inch	max.		
<b>STA 0.20   0.008"</b>	150   6	25   1	M 14	25   1	2,500	1	<b>405.006</b>
<b>SIC 180/1.0</b>	125   5	25   1	22.2   7/8	25   1	3,000	5	<b>405.854</b>
<b>SIC 180/1.0</b>	150   6	20   3/4	25   1	25   1	2,500	1	<b>405.835</b>
<b>SIC 120/1.1</b>	150   6	25   1	25   1	25   1	2,500	4	<b>405.864</b>
<b>1 Mixed filament STA 0.30 / PA 0.35</b>	130   5 1/8	40   1 3/8	M 14	25   1	2,500	10	<b>405.908</b>
<b>Mixed filament STA 0.30 / PA 0.35</b>	200   8	40   1 3/8	M 14	25   1	2,000	10	<b>405.905</b>

## 2 Disc brushes for wood machining

Filling	DK	H	DB/GI	KD	RPM max.	Pack.	Art.-No.
	mm   inch	mm   inch	mm   inch	mm   inch			
<b>SIC 46/1.6</b>	130   5 1/8	50   2	M 14	20   3/4	2,500	1	<b>405.843</b>
<b>SIC 60/1.5</b>	130   5 1/8	50   2	M 14	20   3/4	2,500	1	<b>405.844</b>
<b>SIC 80/1.2</b>	130   5 1/8	50   2	M 14	20   3/4	2,500	1	<b>405.845</b>

## Disc brushes – standard body dimensions (in stock) in body material (red)

DK	KD	DB	DB/GI	t	Additional information
mm   inch	mm   inch	mm   inch	mm   inch	mm   inch	
130   5 1/8	20   3/4	22.5   7/8	19   3/4	12   1/2	M14 possible
150   6	25   1	12   1/2			
150   6	25   1	35   1 3/8	25   1	15.1   5/8	Driving pin hole 2 x Ø 11 mm, TK 56
165   8 1/2	25   1	20   3/4	30   1 3/16	11.5   1/2	Driving pin hole 1 x Ø 7 mm, TK 48
180   7	18   3/4		M12		
180   7	18   3/4		M12 left		
200   8	25   1	12   1/2			
200   8	25   1	35   1 3/8	25   1	15.1   5/8	Driving pin hole 2 x Ø 11 mm, TK 56
220   8 5/8	20   3/4	40   1 5/8			



The standard bodies in stock can be adapted as needed (dressed to size, bore hole enlarged) to achieve different dimensions.

## 3 Brush mounting adapters with shaft

D	KL	Adapter for		Art.-No.
mm   inch	mm   inch	mm   inch		
16   5/8	81   3 3/16	Bore hole 35/25   1 3/8/1		<b>000.051</b>

# Enquiry: Disc brushes

## Drawing / description of application

No. pieces: \_\_\_\_\_

Application  Dry  Wet

- Deburring
- Cleaning
- Surface finishing
- Other \_\_\_\_\_

Material to be processed \_\_\_\_\_ °C temperature

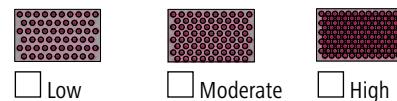
- Steel
- Aluminium
- Wood
- Stainless steel
- Plastic
- Other \_\_\_\_\_

## Filling material

- Steel wire
- Steel, brass-coated
- Brass
- Stainless steel
- Polypropylene
- Polyethylene
- Polyamide
- Silicon carbide bristles (SiC)
- Aluminium oxide bristles (AO)
- Fibre
- Horse hair
- Other \_\_\_\_\_

Filling diameter \_\_\_\_\_

## Filling density



Low  Moderate  High

## Filling placement



Full-body  Block fill  Dynamic fill

Please specify the dimensions according to the technical drawing (mm):

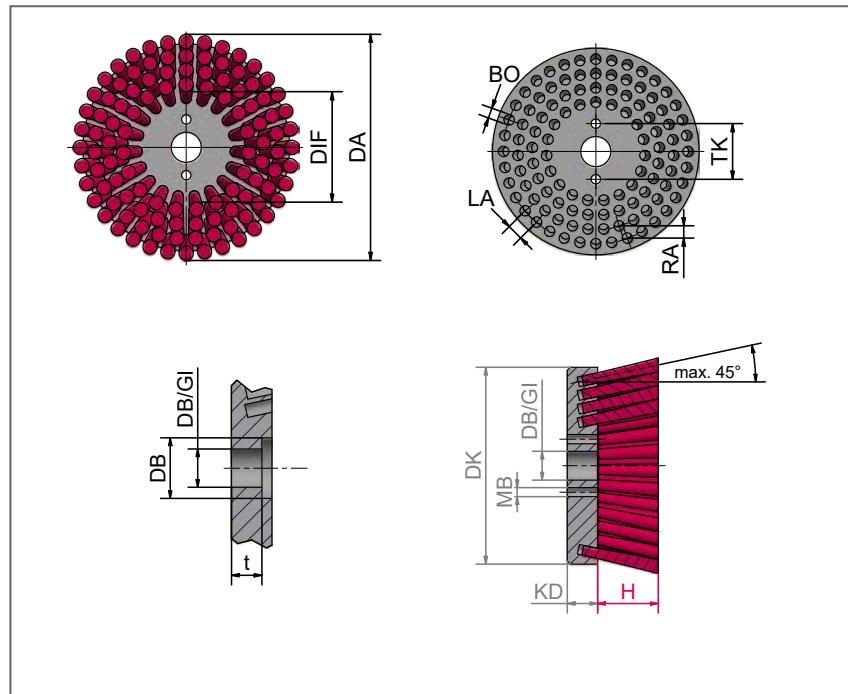
DK	body diameter	mm
DA	outer diameter	mm
DIF	inner diameter	mm
KD	body thickness	mm
DB/GI	bore/thread	mm
DB	counterbore diameter	mm
TK	driving pin hole pitch diameter	mm
MB	driving pin hole diameter	mm
H	filling height	mm
	Filling angle	°

## Body material

- Polypropylene (standard)
- Other \_\_\_\_\_

## Disc brushes – standard body dimensions (in stock) in body material (red)

DK	KD	DB	DB/GI	t	Additional information
mm   inch	mm   inch	mm   inch	mm   inch	mm   inch	
130   5 1/8	20   3/4	22.5   7/8	19   3/4	12   1/2	M14 possible
150   6	25   1	12   1/2			
150   6	25   1	35   1 3/8	25   1	15.1   5/8	Driving pin hole 2 x Ø 11 mm, TK 56
165   8 1/2	25   1	20   3/4	30   1 3/16	11.5   1/2	Driving pin hole 1 x Ø 7 mm, TK 48
180   7	18   3/4			M12	
180   7	18   3/4			M12 left	
200   8	25   1	12   1/2			
200   8	25   1	35   1 3/8	25   1	15.1   5/8	Driving pin hole 2 x Ø 11 mm, TK 56
220   8 5/8	20   3/4	40   1 5/8			



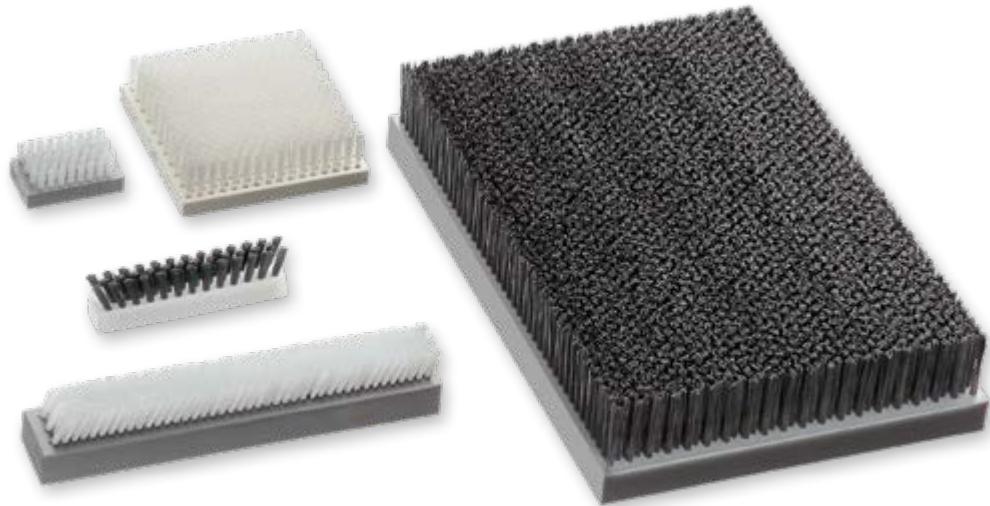
Sender: Company, contact person

## Enquiries and information:

Tel.: +49 9082 707-0 info@lessmann.com  
 Fax: +49 9082 707-76 www.lessmann.com



# Lath brushes



**Lath brushes – dimensions**

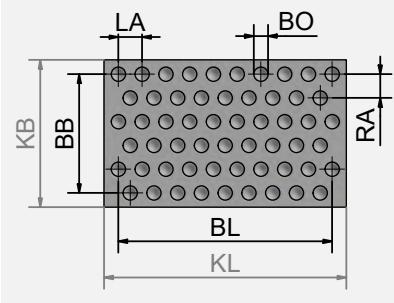
KB mm	KL mm	KD mm	H mm	Filling angle	Body material	Filling material	Filling density
8–750	8–2400	10–100	8–95 steel 8–135 plastic	max. 35°	PP, PE, PA, wood, plywood	STA, STM, MES, ROF, PP, PE, PA, FIB, ROS, SIC, AO	Low, moderate, high

## Lath brushes

Lath brushes are used primarily to clean, slow, strip, transport, discharge electric charges, guide, etc.

Available body materials are plastic or wood. For the filling material, you have a choice of everything from premium horse hair to steel wire. The filling material can be inserted in the body at an angle (up to 35°). This may be expedient for working corners and edges.

The standard bodies in stock can be adapted as needed (dressed to size, bore hole enlarged) to achieve different dimensions.



**Art. Nos. in bold** are available ex warehouse.  
*Art. Nos. in italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**STM** = Brass-coated steel wire

**ROF** = Stainless steel wire

**MES** = Brass wire

**PP** = Polypropylene

**PA** = Polyamide

**PE** = Polyethylene

**FIB** = Fibre

**ROS** = Horse hair

**SIC** = Silicon carbide bristles

**AO** = Aluminium oxide bristles

# Enquiry: Lath brushes

## Drawing / description of application

No. pieces \_\_\_\_\_

Application  dry  wet

- Sealing
- Cleaning
- Holding in place
- Transporting
- Other \_\_\_\_\_

Material to be processed \_\_\_\_\_ °C temperature

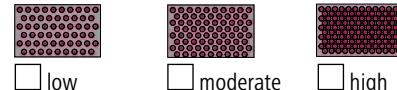
- Steel
- Aluminium
- Wood
- Stainless steel
- Plastic
- Other \_\_\_\_\_

## Filling material

- Steel wire
- Steel, brass-coated
- Brass
- Stainless steel
- Polypropylene
- Polyethylene
- Polyamide
- Silicon carbide bristles (SiC)
- Aluminium oxide bristles (AO)
- Fibre
- Horse hair
- Other \_\_\_\_\_

Filling diameter \_\_\_\_\_

## Filling density



- low
- moderate
- high

## Filling placement



- Offset
- Straight

Please specify the dimensions according to the technical drawing (mm):

KL body length \_\_\_\_\_ mm

KB body width \_\_\_\_\_ mm

KD body thickness \_\_\_\_\_ mm

BL filled length \_\_\_\_\_ mm

BB filled width \_\_\_\_\_ mm

H filling height \_\_\_\_\_ mm

filling angle \_\_\_\_\_ °

## Body material

- Polypropylene (standard)
- Other \_\_\_\_\_

Sender: Company, contact person

## Enquiries and information:

Tel.: +49 9082 707-0 info@lessmann.com  
 Fax: +49 9082 707-76 www.lessmann.com



# Wheel and roller brushes



## Wheel and roller brushes – dimensions

D mm	KD mm	KL mm	A mm	DB/GI mm	Body material	Filling material	Filling density
45–440 steel	25–250	5–800	3–780	variable	PP, PE, PA, wood	STA, STM, MES, ROF, PP, PE, PA, FIB, ROS, SIC, AO	Low, moderate, high
45–500 plastic							

**Standard body diameter (in stock) with body material PP**

50, 80, 100, 140

### Punch filled wheel and roller brushes

Punch filled wheel and roller brushes are used, e.g. for cleaning, deburring, surface finishing, structuring, smoothing or transporting.

The body is made of plastic or wood; the filling material depends on the application. Temperature as well as chemical and mechanical properties must be taken into account.

The filling height, material, diameter and density are critical parameters for the effect of these brushes. The filling density can be adapted to requirements by varying the distance between, and size of, the holes. Punch filled wheel and roller brushes can optionally be fabricated with a bore hole or shaft, or made to customer specifications. An overview of our standard body types, with dimensions, is provided in the table above. For further information, please get in touch. We will be happy to answer any questions you may have.



#### Note:

For applications that expose brushes to high mechanical loads, we recommend using LESSMANN wheel or roller brushes with knotted or crimped wire (see the „Wheel Brushes“ and „Deburring Brushes“ sections in this catalogue).

The standard bodies in stock can be adapted as needed (dressed to size, bore hole enlarged) to achieve different dimensions.



**Art. Nos. in bold** are available ex warehouse.  
Art. Nos. in *italics* require a minimum order volume (see page 186).

**STA** = Steel wire

**STM** = Brass-coated steel wire

**ROF** = Stainless steel wire

**MES** = Brass wire

**PP** = Polypropylene

**PA** = Polyamide

**PE** = Polyethylene

**FIB** = Fibre

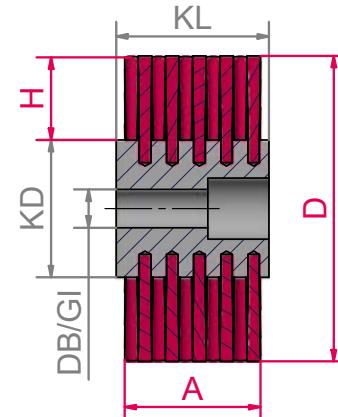
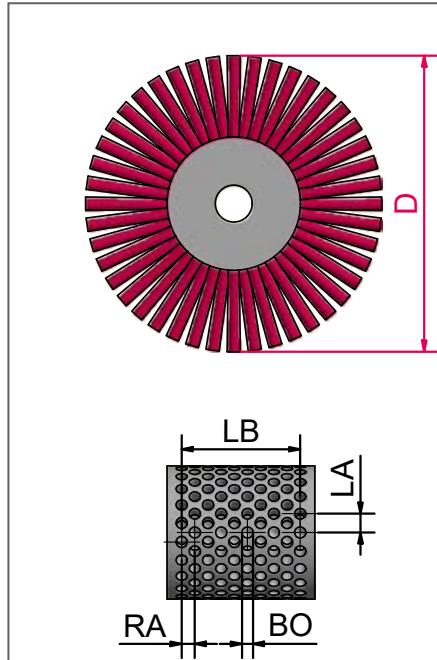
**ROS** = Horse hair

**SIC** = Silicon carbide bristles

**AO** = Aluminium oxide bristles

# Enquiry: Punch filled wheel and roller brushes

## Drawing / description of application



**Sender:** Company, contact person

## Enquiries and information:

Tel.: +49 9082 707-0 info@lessmann.com  
 Fax: +49 9082 707-76 www.lessmann.com

No. pieces \_\_\_\_\_

**Application**  Dry  Wet

- Deburring
- Cleaning
- Roughening/structuring
- Transporting
- Other \_\_\_\_\_

**Material to be processed** \_\_\_\_\_ °C temperature

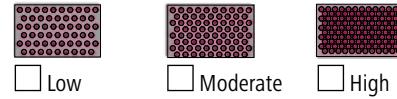
- Steel
- Aluminium
- Wood
- Stainless steel
- Plastic
- Other \_\_\_\_\_

## Filling material

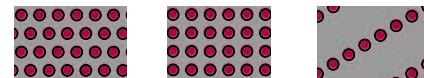
- Steel wire
- Steel, brass-coated
- Brass
- Stainless steel
- Polypropylene
- Polyethylene
- Polyamide
- Silicon carbide bristles (SIC)
- Aluminium oxide bristles (AO)
- Fibre
- Horse hair
- Other \_\_\_\_\_

**Filling diameter** \_\_\_\_\_

## Filling density



## Filling placement



Offset  Straight  Spiral

**Please specify the dimensions according to the technical drawing (mm):**

D outer diameter \_\_\_\_\_ mm

KD body diameter \_\_\_\_\_ mm

KL body length \_\_\_\_\_ mm

A filled width \_\_\_\_\_ mm

DB/GI bore/thread \_\_\_\_\_ mm

## Body material

- Polypropylene (standard)
- Other \_\_\_\_\_

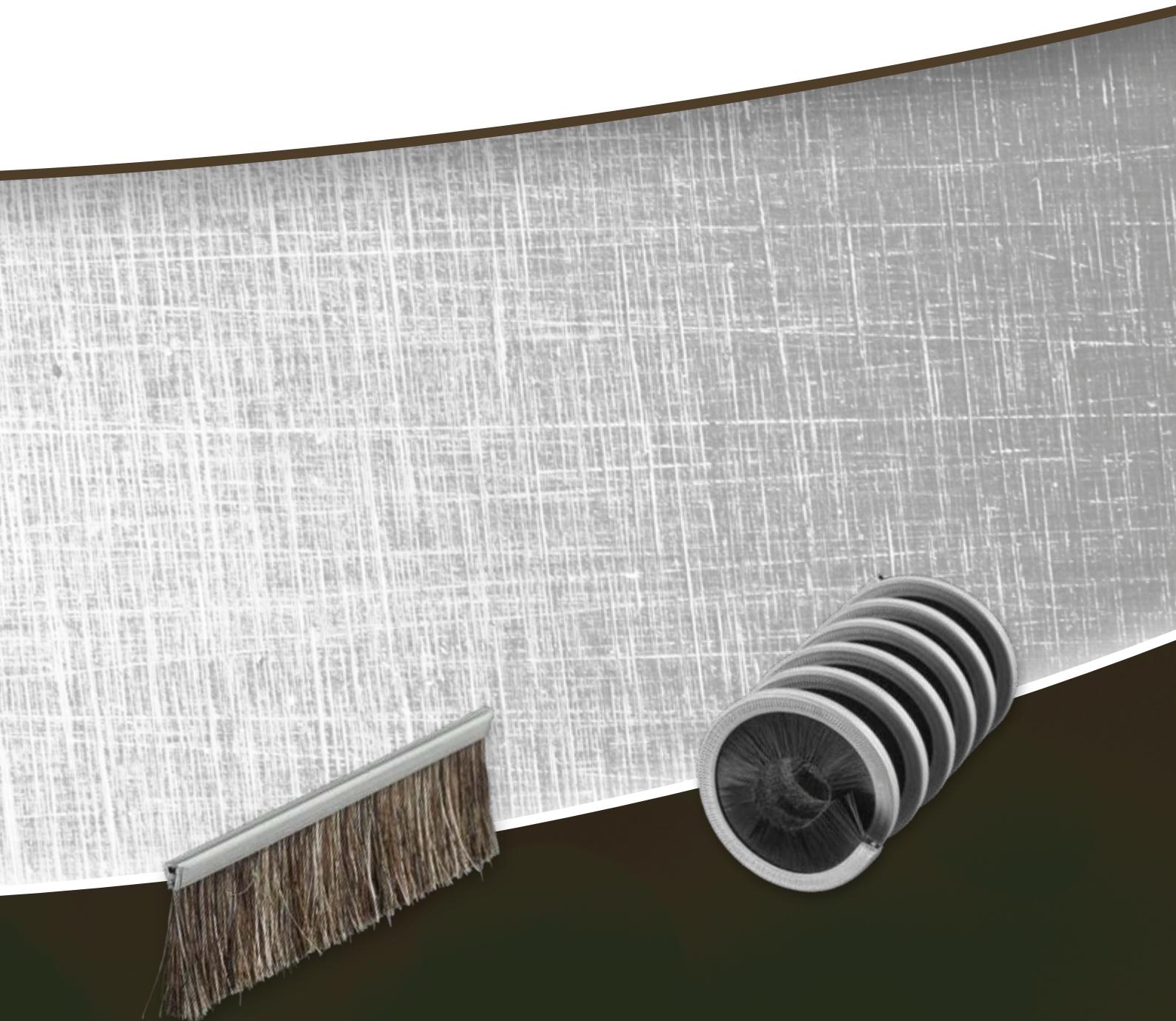


# LESSMANN®

THE GERMAN BRUSH COMPANY



# 09 STRIP BRUSHES



# Strip brushes

## Strip brushes

Strip brushes can be used for numerous applications. With their dense, close filling, they are effective and durable energy-savers. They reliably seal doors to protect against draughts, cold air, moisture, leaves and dirt. They also protect moving parts (installed in machines and

systems) against dust and other unwanted particles. Strip brushes also are suitable for transporting, guiding and slowing sensitive objects. Strip brushes from LESSMANN are available in a variety of shapes and with different mounting systems and filling materials.

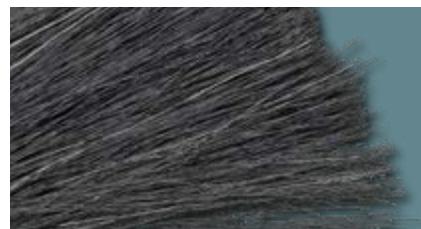


## Filling materials

All strip brushes from LESSMANN are available with the following filling materials:

### Natural hair:

Horse hair, grey and black



Very good sealing effect, most popular natural hair filling for sealing gates, doors, revolving doors and sliding doors. This type of filling can be used in both wet and dry environments, even at relatively high temperatures (up to 150 °C). Static charging is low.

We use a standard mix of 70 % horse hair and 30 % polyethylene.

The colour "grey" (top) refers to primarily light-coloured horse hair, while "black" (bottom) refers to primarily dark horse hair. However, because it is a natural material, minor colour differences are possible.

### Plastic bristles:

- Polypropylene PP,  
Ø 0.15–3 mm, white and black.



Low-cost bristles for many applications. Do not absorb water, retain their initial stiffness in wet conditions, low bend recovery.

- Polyamid PA,

Ø 0.08–3 mm, white and black.  
Available in all grades. Good heat and wear resistance, good bend recovery.  
PA 6.6: Good bend recovery, good abrasion resistance, water absorption up to 10 %.  
PA 6.12 (ideal for use in wet environments): Flexible and outstanding bend recovery, high abrasion resistance, water absorption up to 3 %.

- Polyester (PBT),

Ø 0.08–3 mm, black, white, transparent.  
Lower water absorption than PA 6.12, very good bend recovery, good chemical resistance.

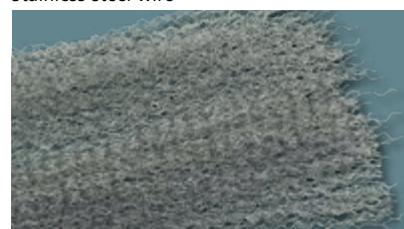
### Wires:

- Steel wire



Good mechanical properties, good wear behaviour, temperature resistant (to approx. 300 °C). Suitable for deburring, derusting, roughening and paint removal.

- Stainless steel wire

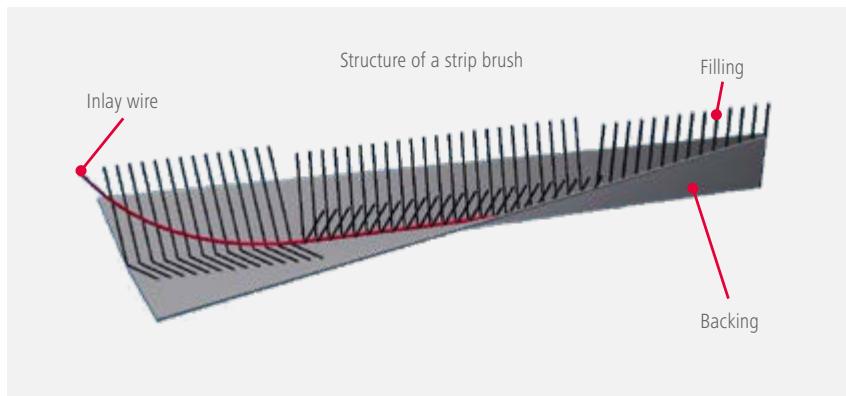


For use in high-temperature ranges (up to approx 400 °C), corrosion-resistant.

- Brass wire



Soft and therefore very well suited to processing sensitive wood and metal surfaces, temperature resistant (up to approx. 200 °C).



### Standard backing

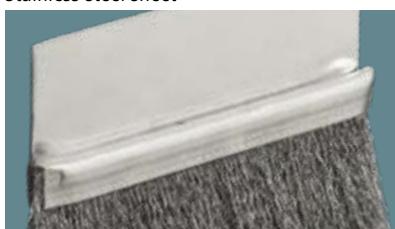
The filling materials on strip brushes are anchored in a U-shaped metal strip.

We offer the following backings:

- Galvanised steel sheet



- Stainless steel sheet



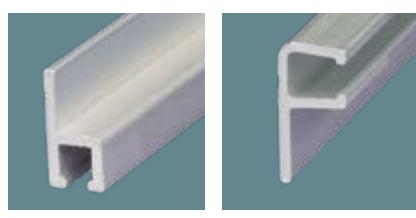
- Brass strip (only for several brush types, please enquire)



- Other backing materials available on request.

### Profiles

We generally supply our strip brushes in profiles made of high-grade, untreated aluminium, both type „h“ / A and type „F“ / AG.



Profiles with anodising and colour coatings are also available on request:

- Silver (C-0)



- Black (C-35)



- Coloured powder coatings are another option.

Other natural fibres and nature bristles, fibres, plant fibres, plastic bristles and wires of various types are available on request.

**The length of the profiles and brushes is limited to max. 3,500 mm due to shipping restrictions.**



### Ordering information

For all strip brushes, **always provide** the following information in addition to the article number:

- Desired filling height (H)
- Total length (GL)

We automatically select the optimum filament diameter for you based on the filling height.

The article numbers specified always refer to a brush with no coating on the backing. For all other product versions, please use our enquiry form on pages 179/180.



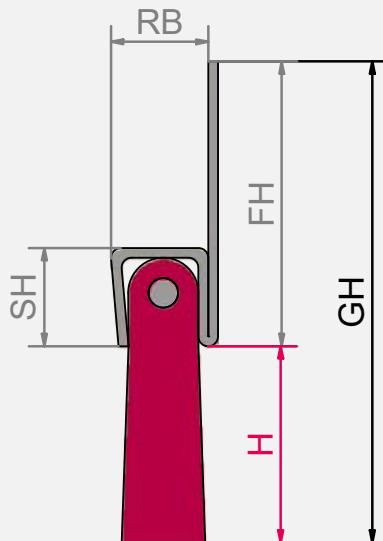
You can also find our **enquiry forms** in the respective category at: [lessmann.com/en/downloads/](http://lessmann.com/en/downloads/)

# Sealing brushes with straight fittings



Sealing brushes with straight fittings						ROS grey		ROS black		PA 6.6 black		
Type	RB	SH	FH	H	GH	Backing STV	Backing ROF	Backing STV	Backing ROF	Backing STV	Backing ROF	Filling Ø
	mm	mm	mm	mm	mm	Art. No.	Art. No.	mm				
FH 17	6	7	17	8–19	max. 36					220.323.00	230.423.00	0.15
				20–39	max. 56	220.353.10	230.453.10	220.353.00	230.453.00	220.326.00	230.426.00	0.25
				40–79	max. 96					220.329.00	230.429.00	0.40
				80–100	max. 117	–	–	–	–	220.32C.00	230.42C.00	0.50
FH 22	6	7	22	8–19	max. 41					221.323.00	231.423.00	0.15
				20–39	max. 61	221.353.10	231.453.10	221.353.00	231.453.00	221.326.00	231.426.00	0.25
				40–79	max. 101					221.329.00	231.429.00	0.40
				80–100	max. 122	–	–	–	–	221.32C.00	231.42C.00	0.50
FH 25	6	7	25	8–19	max. 44					222.323.00	232.423.00	0.15
				20–39	max. 64	222.353.10	232.453.10	222.353.00	232.453.00	222.326.00	232.426.00	0.25
				40–79	max. 104					222.329.00	232.429.00	0.40
				80–100	max. 125	–	–	–	–	222.32C.00	232.42C.00	0.50
FH 30	6	7	30	8–19	max. 49					223.323.00	233.423.00	0.15
				20–39	max. 69	223.353.10	233.453.10	223.353.00	233.453.00	223.326.00	233.426.00	0.25
				40–79	max. 109					223.329.00	233.429.00	0.40
				80–100	max. 130	–	–	–	–	223.32C.00	233.42C.00	0.50
FH 40	6	7	40	8–19	max. 59					224.323.00	234.423.00	0.15
				20–39	max. 79	224.353.10	234.453.10	224.353.00	234.453.00	224.326.00	234.426.00	0.25
				40–79	max. 119					224.329.00	234.429.00	0.40
				80–100	max. 140	–	–	–	–	224.32C.00	234.42C.00	0.50
FH 40/D	9	10	40	30–99	max. 139	225.553.10	235.653.10	225.553.00	235.653.00	225.529.00	235.629.00	0.40
				100–149	max. 189					225.52E.00	235.62E.00	0.60
				150–300	max. 340	–	–	–	–	225.52J.00	235.62J.00	0.80
				301–500	max. 540					On request*	On request*	–
FH 50/D	9	10	50	30–99	max. 149	226.553.10	236.653.10	226.553.00	236.653.00	226.529.00	236.629.00	0.40
				100–149	max. 199					226.52E.00	236.62E.00	0.60
				150–300	max. 350	–	–	–	–	226.52J.00	236.62J.00	0.80
				301–500	max. 540					On request*	On request*	–

\* Additional trimming of the bristles possible on request.



#### Ordering information

For all strip brushes, **always provide** the following information in addition to the article number:

- Desired filling height (H)
- Total length (GL)

We automatically select the optimum filament diameter for you based on the filling height.

The article numbers specified always refer to a brush with no coating on the backing.

For all other product versions, please use our enquiry form on page 179.

*Art. Nos. in italics* require a minimum order volume (see page 186).

**PA** = Polyamide

**ROS** = Horse hair  
(mixed with 30% polyethylene)

**STV** = Galvanised steel

**ROF** = Stainless steel

#### Sealing brushes with straight fittings

Lessmann offers these brushes in various sizes and with various backing widths and heights. These sealing brushes are installation-ready. Various filling materials are available to choose from depending on the intended use.

The legs can be perforated and/or notched on request.

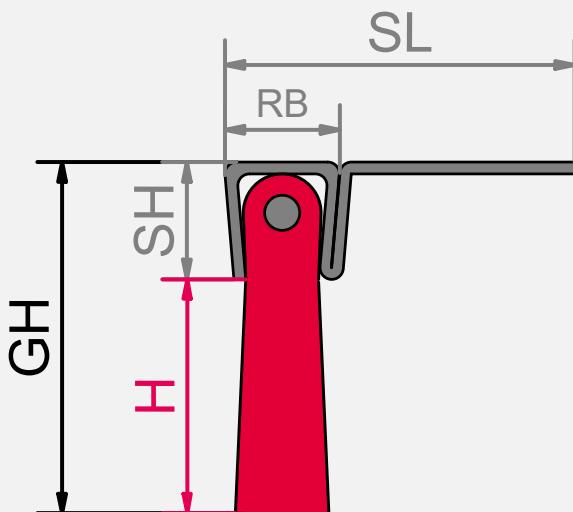
The two "FH 40/D" and "FH 50/D" type brushes are fabricated with thicker sheet metal, making them significantly more stable and resistant than the standard product types.

# Sealing brushes with angled fittings



Sealing brushes with angled fittings							ROS grey		ROS black		PA 6.6 black		
Type	RB	SH	SL	H	GH		Backing STV	Backing ROF	Backing STV	Backing ROF	Backing STV	Backing ROF	Filling Ø
	mm	mm	mm	mm	mm		Art. No.	Art. No.	mm				
SL 16	6	7	16	8–19	max. 26						240.323.00	250.423.00	0.15
				20–39	max. 46	240.353.10	250.453.10	240.353.00	250.453.00	240.326.00	250.426.00	0.25	
				40–79	max. 86					240.329.00	250.429.00	0.40	
				80–100	max. 107	–	–	–	–	240.32C.00	250.42C.00	0.50	
SL 21	6	7	21	8–19	max. 26					241.323.00	251.423.00	0.15	
				20–39	max. 46	241.353.10	251.453.10	241.353.00	251.453.00	241.326.00	251.426.00	0.25	
				40–79	max. 86					241.329.00	251.429.00	0.40	
				80–100	max. 107	–	–	–	–	241.32C.00	251.42C.00	0.50	
SL 24	6	7	24	8–19	max. 26					242.323.00	252.423.00	0.15	
				20–39	max. 46	242.353.10	252.453.10	242.353.00	252.453.00	242.326.00	252.426.00	0.25	
				40–79	max. 86					242.329.00	252.429.00	0.40	
				80–100	max. 107	–	–	–	–	242.32C.00	252.42C.00	0.50	
SL 29	6	7	29	8–19	max. 26					243.323.00	253.423.00	0.15	
				20–39	max. 46	243.353.10	253.453.10	243.353.00	253.453.00	243.326.00	253.426.00	0.25	
				40–79	max. 86					243.329.00	253.429.00	0.40	
				80–100	max. 107	–	–	–	–	243.32C.00	253.42C.00	0.50	
SL 39	6	7	39	8–19	max. 26					244.323.00	254.423.00	0.15	
				20–39	max. 46	244.353.10	254.453.10	244.353.00	254.453.00	244.326.00	254.426.00	0.25	
				40–79	max. 86					244.329.00	254.429.00	0.40	
				80–100	max. 107	–	–	–	–	244.32C.00	254.42C.00	0.50	
SL 39/D	9	10	39	8–19	max. 26					245.323.00	255.423.00	0.15	
				20–39	max. 46	245.353.10	255.653.10	245.353.00	255.653.00	245.326.00	255.626.00	0.25	
				40–79	max. 86					245.329.00	255.629.00	0.40	
				80–100	max. 107	–	–	–	–	245.32C.00	255.62C.00	0.50	
SL 49/D	9	10	49	30–99	max. 106	245.553.10	255.653.10	245.553.00	255.653.00	245.529.00	255.629.00	0.40	
				100–149	max. 156					245.52E.00	255.62E.00	0.60	
				150–300	max. 307	–	–	–	–	245.52J.00	255.62J.00	0.80	
				301–500	max. 510					On request*	On request*	–	
SL 49/D	9	10	49	30–99	max. 106	246.553.10	256.653.10	246.553.00	256.653.00	246.529.00	256.629.00	0.40	
				100–149	max. 156					246.52E.00	256.62E.00	0.60	
				150–300	max. 307	–	–	–	–	246.52J.00	256.62J.00	0.80	
				301–500	max. 510					On request*	On request*	–	

\* Additional trimming of the bristles possible on request.



#### Ordering information

For all strip brushes, **always provide** the following information in addition to the article number:

- Desired filling height (H)
- Total length (GL)

We automatically select the optimum filament diameter for you based on the filling height.

The article numbers specified always refer to a brush with no coating on the backing.

For all other product versions, please use our enquiry form on page 179.

*Art. Nos. in italics* require a minimum order volume (see page 186).

**PA** = Polyamide

**ROS** = Horse hair  
(mixed with 30% polyethylene)

**STV** = Galvanised steel

**ROF** = Stainless steel

#### Sealing brushes with angled fittings

Lessmann offers these brushes in various sizes and with various backing widths and leg lengths. These sealing brushes are installation-ready. Various filling materials are available to choose from depending on the intended use.

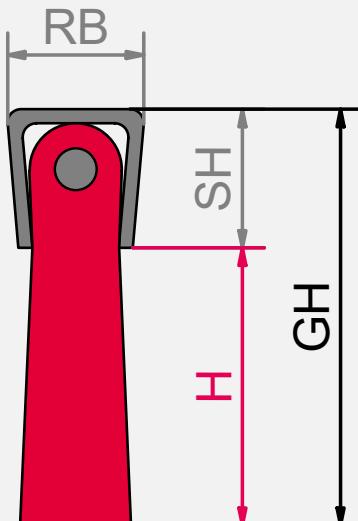
The legs can be perforated and/or notched on request.

The two "SL 39/D" and "SL 49/D" type brushes are fabricated with thicker sheet metal, making them significantly more stable and resistant than the standard product types.

# Strip brushes for slots/profiles



Strip brushes for slots/profiles					ROS grey		ROS black		PA 6.6 black		
Type	RB mm	SH mm	H mm	GH mm	Backing STV Art. No.	Backing ROF Art. No.	Backing STV Art. No.	Backing ROF Art. No.	Backing STV Art. No.	Backing ROF Art. No.	Filling Ø mm
2	1.9–2.1	2.1–2.3	6–28	max. 30	200.C53.10	210.D53.10	200.C53.00	210.D53.00	200.C21.00	210.D21.00	0.10
2.5	2.4–2.7	2.7–2.9	7–50	max. 53	201.C53.10	211.D53.10	201.C53.00	211.D53.00	201.C23.00	211.D23.00	0.15
			8–19	max. 22					202.821.00	212.721.00	0.10
3	2.8–3.2	2.8–3.0	20–39	max. 42	202.853.10	212.753.10	202.853.00	212.753.00	202.823.00	212.723.00	0.15
			40–60	max. 63					202.825.00	212.725.00	0.20
			8–19	max. 23					203.821.00	213.721.00	0.10
3.5	3.3–3.7	3.8–4.2	20–39	max. 43	203.853.10	213.753.10	203.853.00	213.753.00	203.823.00	213.723.00	0.15
			40–65	max. 69					203.825.00	213.725.00	0.20
			6–19	max. 23					204.823.00	214.723.00	0.15
4	3.7–4.2	3.8–4.2	20–39	max. 43	204.853.10	214.753.10	204.853.00	214.753.00	204.826.00	214.726.00	0.25
			40–60	max. 64					204.827.00	214.727.00	0.30
			6–24	max. 29					20J.823.00	21J.223.00	0.15
4.5	4.4–4.6	4.8–5.2	25–59	max. 64	20J.853.10	21J.253.10	20J.853.00	21J.253.00	20J.826.00	21J.226.00	0.25
			60–90	max. 95					20J.827.00	21J.227.00	0.30
			6–24	max. 29					206.123.00	216.223.00	0.15
5	4.7–5.2	5.0–5.3	25–59	max. 64	206.153.10	216.253.10	206.153.00	216.253.00	206.126.00	216.226.00	0.25
			60–90	max. 95					206.127.00	216.227.00	0.30
			30–100	max. 110					207.A29.00	217.B29.00	0.40
8	7.5–8.3	8.7–9.3	101–300	max. 310	207.A53.10	217.B53.10	207.A53.00	217.B53.00	207.A2E.00	217.B2E.00	0.60
			301–550	max. 560					207.A2J.00	217.B2J.00	0.80
			30–100	max. 110					208.A29.00	218.B29.00	0.40
10	9.7–10.5	9.9–10.5	101–300	max. 310	208.A53.10	218.B53.10	208.A53.00	218.B53.00	208.A2E.00	218.B2E.00	0.60
			301–550	max. 560					208.A2J.00	218.B2J.00	0.80



#### Ordering information

For all strip brushes, **always provide** the following information in addition to the article number:

- Desired filling height (BH)
- Total length (GL)

We automatically select the optimum filament diameter for you based on the filling height.

The article numbers specified always refer to a brush with no coating on the backing.

For all other product versions, please use our enquiry form on page 179.

*Art. Nos.* in *italics* require a minimum order volume (see page 186).

**PA** = Polyamide

**ROS** = Horse hair  
(mixed with 30% polyethylene)

**STV** = Galvanised steel

**ROF** = Stainless steel

#### Strip brushes for slots/profiles

These brushes are available in various sizes and

with various backing widths and side heights.

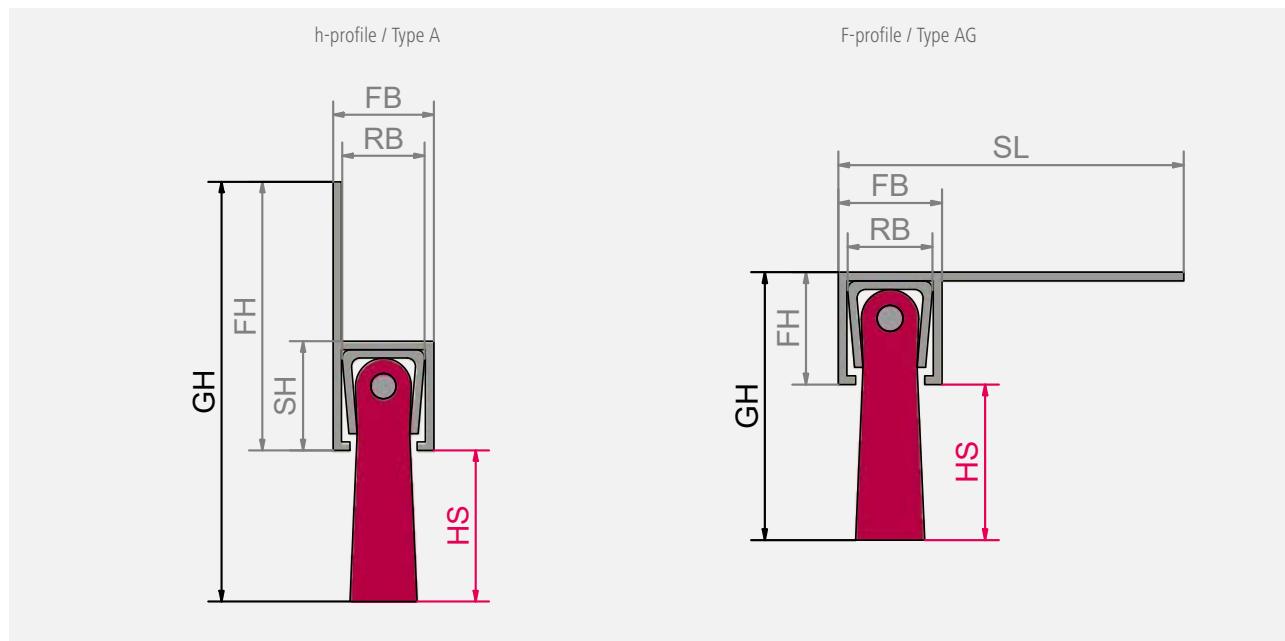
Various filling materials are available to choose from depending on the intended use.

The dimensions specified vary based on the density, thickness and type of filling material selected. On request, all brushes can be adapted to existing profiles.

# Strip brushes in aluminium profiles



Strip brushes in aluminium profiles								ROS grey		ROS black		PA 6.6 black									
Brush type	Profile type	SH mm	SL mm	FB mm	FH mm	H mm	GH mm	Backing Art. No.	STV	Backing Art. No.	ROF	Backing Art. No.	STV	Backing Art. No.	ROF	Backing Art. No.	STV	Backing Art. No.	ROF	Filling Ø mm	
4	2.5	13.5 A	4.0	—	4.4	13.5	4—47	max. 61	261.C53.10	271.D53.10	261.C53.00	271.D53.00	261.C23.00	271.D23.00	0.15						
						3—16	max. 31									264.823.00	274.723.00	0.15			
		15 A	7.0	—	7.3	15	17—36	max. 51	264.853.10	274.753.10	264.853.00	274.753.00	264.826.00	274.726.00	0.25						
						37—57	max. 72									264.827.00	274.727.00	0.30			
						3—16	max. 23									265.823.00	275.723.00	0.15			
		16 AG	—	16.0	7.3	7.0	17—36	max. 43	265.853.10	275.753.10	265.853.00	275.753.00	265.826.00	275.726.00	0.25						
						37—57	max. 64									265.827.00	275.727.00	0.30			
						3—21	max. 38									266.123.00	276.223.00	0.15			
		17 A	9.2	—	8.8	17	22—56	max. 73	266.153.10	276.253.10	266.153.00	276.253.00	266.126.00	276.226.00	0.25						
						57—87	max. 104									266.127.00	276.227.00	0.30			
5						3—21	max. 46									262.123.00	272.223.00	0.15			
		25 A	9.2	—	8.8	25	22—56	max. 81	262.153.10	272.253.10	262.153.00	272.253.00	262.126.00	272.226.00	0.25						
						57—87	max. 112									262.127.00	272.227.00	0.30			
						3—21	max. 61									269.123.00	279.223.00	0.15			
		40/5 A	9.2	—	8.8	40	22—56	max. 96	269.153.10	279.253.10	269.153.00	279.253.00	269.126.00	279.226.00	0.25						
						57—87	max. 127									269.127.00	279.227.00	0.30			
						3—21	max. 30									260.123.00	270.223.00	0.15			
		18 AG	—	18	8.5	8.5	22—56	max. 65	260.153.10	270.253.10	260.153.00	270.253.00	260.126.00	270.226.00	0.25						
						57—87	max. 96									260.127.00	270.227.00	0.30			
						3—21	max. 30									263.123.00	273.223.00	0.15			
8	25 AG	—	25	8.5	8.5	22—56	max. 65	263.153.10	273.253.10	263.153.00	273.253.00	263.126.00	273.226.00	0.25							
						57—87	max. 96									263.127.00	273.227.00	0.30			
						27—97	max. 137									267.A29.00	277.B29.00	0.40			
	40/8 A	13.5	—	12.5	40	98—297	max. 337	267.A53.10	277.B53.10	267.A53.00	277.B53.00	267.A2E.00	277.B2E.00	0.60							
						298—547	max. 587									267.A2J.00	277.B2J.00	0.80			
8						27—97	max. 111									268.A29.00	278.B29.00	0.40			
	40/8 AG	—	40	12.5	13.5	98—297	max. 311	268.A53.10	278.B53.10	268.A53.00	278.B53.00	268.A2E.00	278.B2E.00	0.60							
						298—547	max. 561									268.A2J.00	278.B2J.00	0.80			



### Profiles

Lessmann supplies h- and F-profiles (type A and AG) made of aluminium, into which strip brushes are inserted. The legs can be perforated and/or notched, and the profiles cut to customer-specific dimensions on request. Coloured anodising and powder coatings are also available on request.

### Standard profile lengths:

1000 mm, 1100 mm, 1200 mm, 1300 mm, 2000 mm, 2500 mm, 3000 mm.

Art. Nos. in *italics* require a minimum order volume (see page 186).

**PA** = Polyamide

**ROS** = Horse hair  
(mixed with 30% polyethylene)

**STV** = Galvanised steel

**ROF** = Stainless steel



### Ordering information

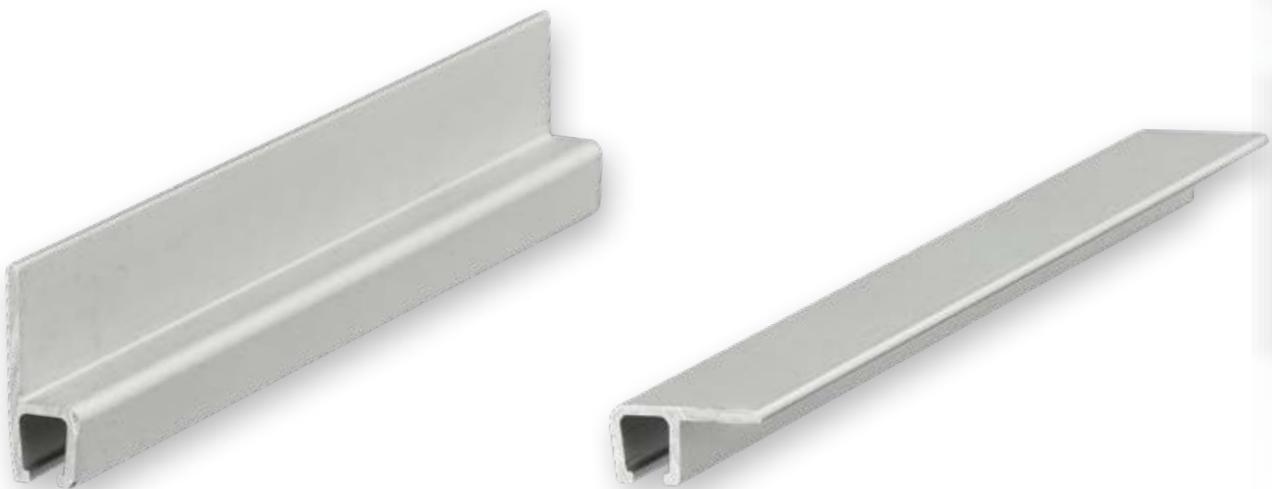
For all strip brushes, **always provide** the following information in addition to the article number:

- Desired filling height (H)
- Total length (GL)

We automatically select the optimum filament diameter for you based on the filling height.

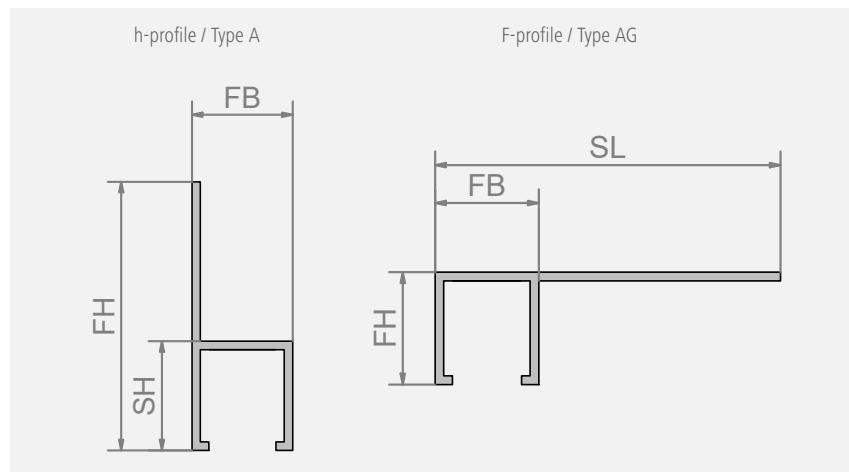
The article numbers specified always refer to a brush with no coating on the backing. For all other product versions, please use our enquiry form on page 179.

# Aluminium profiles



## Aluminium profiles (without brushes)

Profile type	Fits brush type	FB mm	SL mm	FH mm	Backing, plain Art.-Nr.
13,5 A	2,5	4,4		13,5	220.000.00
15 A	4	7,3		15	221.000.00
16 AG		7,3	16	7,0	222.000.00
18 AG		8,5	18	8,5	224.000.00
25 A		8,8		25	226.000.00
25 AG	5	8,5	25	8,5	227.000.00
30 A		10,2		30	228.000.00
40/5 A		8,8		40	229.000.00
40/8 A		12,5		40	228.000.00
40/8 AG	8	12,5	40	13,5	22A.000.00



We generally supply our profiles made of high-grade, untreated aluminium, both type „h“ / A and type „F“ / AG.



h Profile / Type A

F Profile / Type AG

Profiles with anodising and colour coatings are also available on request:

- Silver (C-0)



- Black (C-35)



- Coloured powder coatings are another option.



#### Ordering information

For all profiles, **always provide** the following information in addition to the article number:

- Total length (GL)

The article numbers specified always refer to a profile with no coating on the backing.

For all other product versions, please use the enquiry form on page 179.

#### Profiles

Lessmann supplies h- and F-profiles (type A and AG) made of aluminium, into which strip brushes are inserted. The legs can be perforated and/or notched, and the profiles cut to customer-specific dimensions on request. Coloured anodising and powder coatings are also available on request.

#### Standard profile lengths:

1 000 mm, 1 100 mm, 1 200 mm, 1 300 mm, 2 000 mm, 2 500 mm, 3 000 mm.

# Shaped strip brushes, filling facing outwards



Spiral-or ring-shaped strip brushes, filling facing outwards							ROS black or grey		PA 6.6 black		
Type	RB mm	SH mm	DI mm	DA mm	H mm	GH mm	Backing STV Art. No.	Backing ROF Art. No.	Backing STV Art. No.	Backing ROF Art. No.	Filling Ø mm
2.5	2.4–2.7	2.7–2.9	6–80	26–186	7–50	max. 53	On request	On request	On request	On request	0.15
					8–19	max. 22					0.10
3	2.8–3.2	2.8–3.0	12–80	34–206	20–39	max. 42	On request	On request	On request	On request	0.15
					40–60	max. 63					0.20
					6–19	max. 23					0.15
4	3.7–4.2	3.8–4.2	20–140	40–266	20–39	max. 43	On request	On request	On request	On request	0.25
					40–60	max. 64					0.30
					6–24	max. 29					0.15
5	4.7–5.2	5.0–5.3	25–140	47–326	25–59	max. 64	On request	On request	On request	On request	0.25
					60–90	max. 95					0.30
					30–100	max. 110					0.40
8	7.5–8.3	8.9–9.5	80–320	160–1000	101–300	max. 310	On request	On request	On request	On request	0.60
						max. 560					0.80

## Shaped strip brushes / special shapes

Strip brushes in special shapes round out our range of classical strip brushes.

**Spiral- or ring-shaped brushes** are available with the filling facing in or out.

Brushes with an **outward facing filling** are used for cleaning, polishing, applying liquids, gentle transport and deburring.

**Lessmann offers these strip brushes in various sizes and with various backing widths and side heights. Various filling materials are available to choose from depending on the intended use.**



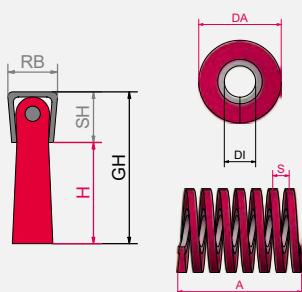
## Ordering information

For all shaped strip brushes, **always provide** the following information

- Desired filling height (H)
- Outer and inner diameter
- Working width

Please use the enquiry form on page 180.

We automatically select the optimum filament diameter for you based on the filling height.



Shaped strip brushes, filling facing outwards

Art. Nos. in *italics* require a minimum order volume (see page 186).

**PA** = Polyamide

**ROS** = Horse hair  
(mixed with 30% polyethylene)

**STV** = Galvanised steel

**ROF** = Stainless steel

# Shaped strip brushes, filling facing inwards



Spiral-or ring-shaped strip brushes, filling facing inwards							ROS black or grey		PA 6.6 black		
Typ	RB mm	SH mm	DI mm	DA mm	H mm	GH mm	Backing STV Art. No.	Backing ROF Art. No.	Backing STV Art. No.	Backing ROF Art. No.	Filament Ø mm
2.5	2.4–2.7	2.7–2.9	0–240	20–260	7–50	max. 53	On request	On request	On request	On request	0.15
3	2.8–3.2	2.8–3.0	0–260	22–290	8–19	max. 22	On request	On request	On request	On request	0.10
					20–39	max. 42					0.15
4	3.7–4.2	3.8–4.2	0–320	20–340	40–60	max. 63	On request	On request	On request	On request	0.20
					6–19	max. 23					0.15
					20–39	max. 43					0.25
5	4.7–5.2	5.0–5.3	0–320	22–345	40–60	max. 64	On request	On request	On request	On request	0.30
					6–24	max. 29					0.15
					25–59	max. 64					0.25
8	7.5–8.3	8.9–9.5	0–420	80–500	60–90	max. 95	On request	On request	On request	On request	0.30
					30–100	max. 110					0.40
					101–300	max. 310					0.60
					301–550	max. 560					0.80

Strip brushes with the **filling facing inward** are used for sealing, cleaning and guiding cylindrical parts in mechanical engineering, tool manufacturing and automotive engineering applications.

Lessmann offers these strip brushes in various sizes and with various backing widths and side heights. Various filling materials are available to choose from depending on the intended use.



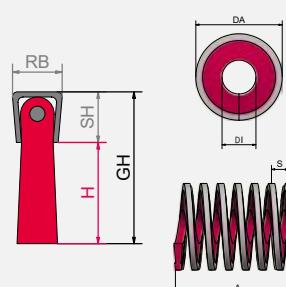
## Ordering information

For all shaped strip brushes, **always provide** the following information

- Desired filling height (H)
- Outer and inner diameter
- Working width

Please use the enquiry form on page 180.

We automatically select the optimum filament diameter for you based on the filling height.



Shaped strip brushes, filling facing inwards

*Art. Nos. in italics* require a minimum order volume (see page 186).

**PA** = Polyamide

**ROS** = Horse hair  
(mixed with 30% polyethylene)

**STV** = Galvanised steel

**ROF** = Stainless steel

# Cup-shaped strip brushes



Cup-shaped strip brushes						ROS black or grey		PA 6.6 black		
Type	RB mm	SH mm	DI/DA mm	H mm	GH mm	Backing STV Art. No.	Backing ROF Art. No.	Backing STV Art. No.	Backing ROF Art. No.	Filling Ø mm
2.5	2.4–2.7	2.7–2.9	14–120	7–50	max. 53	On request	On request	On request	On request	0.15
3	2.8–3.2	2.8–3.0	15–130	8–19	max. 22	On request	On request	On request	On request	0.10
				20–39	max. 42			On request	On request	0.15
				40–60	max. 63			On request	On request	0.20
4	3.7–4.2	3.8–4.2	25–140	6–19	max. 23	On request	On request	On request	On request	0.15
				20–39	max. 43			On request	On request	0.25
				40–60	max. 64			On request	On request	0.30
5	4.7–5.2	5.0–5.3	50–180	6–24	max. 29	On request	On request	On request	On request	0.15
				25–59	max. 64			On request	On request	0.25
				60–90	max. 95			On request	On request	0.30
8	7.5–8.3	8.9–9.5	90–500	30–100	max. 110	On request	On request	On request	On request	0.40
				101–300	max. 310			On request	On request	0.60
				301–550	max. 560			On request	On request	0.80

**Cup-shaped strip brushes** are used for sealing rotating tools or nozzles, cleaning, applying liquids and polishing surfaces.



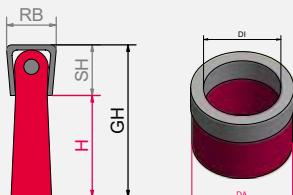
#### Ordering information

For all shaped strip brushes, **always provide** the following information

- Desired filling height (H)
- Outer and inner diameter

Please use the enquiry form on page 180.

We automatically select the optimum filament diameter for you based on the filling height.



Cup-shaped strip brushes

*Art. Nos. in italics* require a minimum order volume (see page 186).

**PA** = Polyamide

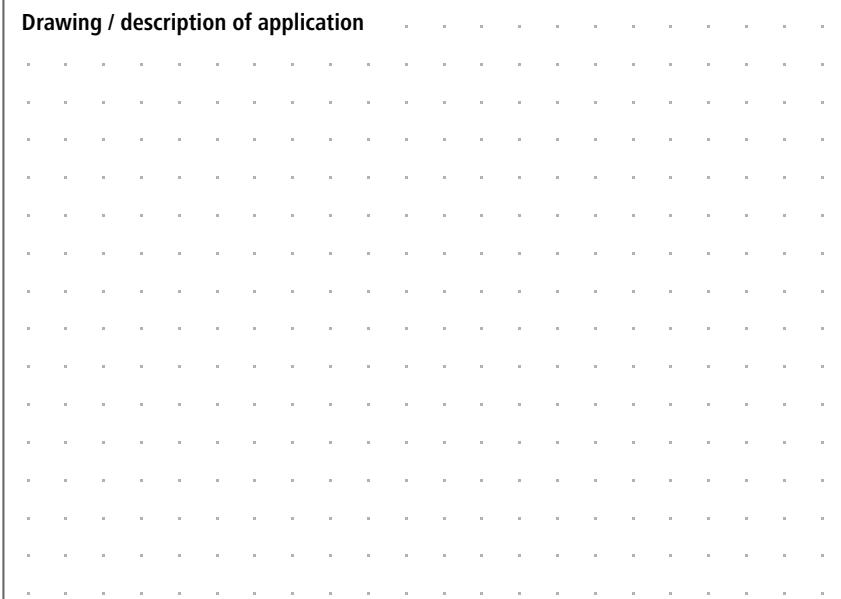
**ROS** = Horse hair  
(mixed with 30% polyethylene)

**STV** = Galvanised steel

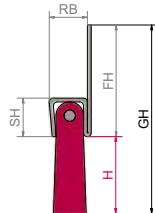
**ROF** = Stainless steel

# Enquiry: Straight strip brushes

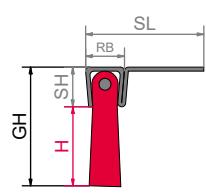
## Drawing / description of application



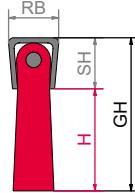
Sealing brushes, straight fittings (type h/FH)



Sealing brushes, angled fittings (type F/SL)



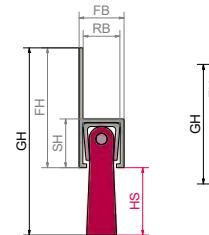
Strip brushes for slots/profiles



Strip brushes in aluminium profile  
 Aluminium profile (without brush)

Profile shape/type

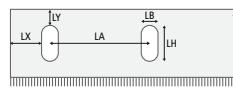
h/A       F/AG



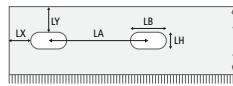
Anodised

Plain/none  
 Silver  
 Black

Perforations  
 Vertical



Horizontal



### Standard perforation

Round	Slot
mm	mm
2.6	4.5 x 14
3.3	4.5 x 15
4.0	4.5 x 18
4.5	5.8 x 20
5.5	6.0 x 20
6.0	6.0 x 30
6.5	7.0 x 12
7.0	7.0 x 15
9.0	7.0 x 20
10.0	9.0 x 15
11.0	9.0 x 20
12.0	9.0 x 30
13.0	

Sender: Company, contact person

No. pieces \_\_\_\_\_

Brush length \_\_\_\_\_ mm

Application \_\_\_\_\_  Dry  Wet

- Sealing
- Stripping
- Cleaning
- Deburring
- Roughening
- Transporting
- Other \_\_\_\_\_

Material to be processed \_\_\_\_\_ °C temperature

- Steel
- Aluminium
- Wood
- Stainless steel
- Plastic
- Other \_\_\_\_\_

### Filling material

- Horse hair  Mixed with 30% PE  Pure
- Polyamide (PA)
- Polypropylene (PP)
- Steel wire
- Steel, brass-coated
- Brass
- Stainless steel
- Abrasive filament (SIC)
- Abrasive filament (AO)
- Fibre
- Other \_\_\_\_\_
- Filling diameter \_\_\_\_\_ mm

Please specify the dimensions according to the technical drawing:

H filling height \_\_\_\_\_ mm

RB backing width \_\_\_\_\_ mm

SH side height \_\_\_\_\_ mm

GH total height \_\_\_\_\_ mm

FH backing height \_\_\_\_\_ mm

SL leg length \_\_\_\_\_ mm

LB perforation width \_\_\_\_\_ mm

LH perforation height \_\_\_\_\_ mm

LY distance \_\_\_\_\_ mm  
from top edge of backing

LX distance \_\_\_\_\_ mm  
from side edge of backing

LA hole spacing \_\_\_\_\_ mm

+ no. holes \_\_\_\_\_ pcs.



Enquiries and  
information:

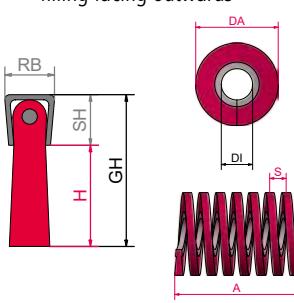
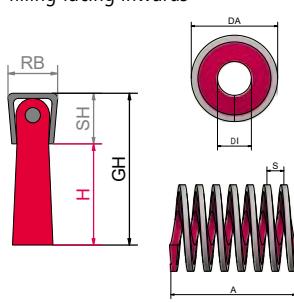
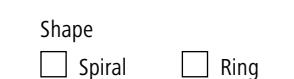
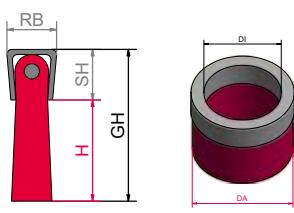
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www.lessmann.com

LESSMANN®

# Enquiry: Shaped strip brushes

<b>Drawing / description of application</b>		<b>No. pieces</b> _____
		<b>Application</b> _____ <input type="checkbox"/> <b>Dry</b> <input type="checkbox"/> <b>Wet</b>
		<input type="checkbox"/> Sealing <input type="checkbox"/> Stripping <input type="checkbox"/> Cleaning <input type="checkbox"/> Deburring <input type="checkbox"/> Roughening <input type="checkbox"/> Transporting <input type="checkbox"/> Other _____

<input type="checkbox"/> Shaped strip brushes, filling facing outwards		<input type="checkbox"/> Shaped strip brushes, filling facing inwards	
			
Shape <input type="checkbox"/> Spiral <input type="checkbox"/> Ring		Shape <input type="checkbox"/> Spiral <input type="checkbox"/> Ring	
<input type="checkbox"/> Cup-shaped strip brushes			
			

**Sender:** Company, contact person

**Material to be processed** \_\_\_\_\_ °C temperature

- Steel
- Aluminium
- Wood
- Stainless steel
- Plastic
- Other \_\_\_\_\_

#### Filling material

- Horse hair  Mixed with 30% PE  Pure
- Polyamide (PA)
- Polypropylene (PP)
- Steel wire
- Steel, brass-coated
- Brass
- Stainless steel
- Abrasive filament (SiC)
- Abrasive filament (AO)
- Fibre
- Other \_\_\_\_\_
- Filling diameter \_\_\_\_\_ mm

#### Please specify the dimensions according to the technical drawing:

H filling height \_\_\_\_\_ mm  
 RB backing width \_\_\_\_\_ mm  
 SH side height \_\_\_\_\_ mm  
 GH total height \_\_\_\_\_ mm  
 DI inner diameter \_\_\_\_\_ mm  
 DA outer diameter \_\_\_\_\_ mm  
 A working width \_\_\_\_\_ mm  
 no. coils (spiral brushes) \_\_\_\_\_ pcs.  
 S pitch (if required) \_\_\_\_\_ mm



# Enquiry: Cutback brushes

## Drawing / description of application

<p>Large area for drawing or description of application.</p>	
--	--

No. pieces \_\_\_\_\_

Application  Dry  Wet

Removing pipe coatings

Other \_\_\_\_\_

Material to be processed \_\_\_\_\_ °C temperature

Steel

Stainless steel

Other \_\_\_\_\_

## Filling material

Steel wire

Steel, brass-coated

Stainless steel

Filling diameter: \_\_\_\_\_

Please specify the dimensions according to the technical drawing (mm):

D diameter \_\_\_\_\_ mm

DB bore hole \_\_\_\_\_ mm

DKN double keyway \_\_\_\_\_ mm

H filling height \_\_\_\_\_ mm

A working width \_\_\_\_\_ mm

Z number of knots \_\_\_\_\_ pcs.

EBR clamping width \_\_\_\_\_ mm

## Knot type

B Rose bud

O Open knot (wire ends are cut)

D Fully knotted (wire ends cut completely)

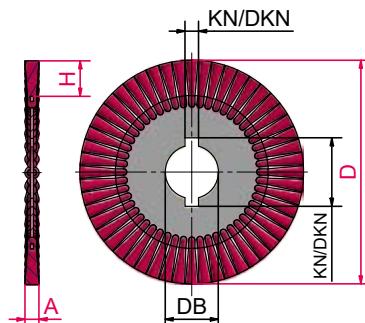
## Machine used

Stationary machine, type \_\_\_\_\_

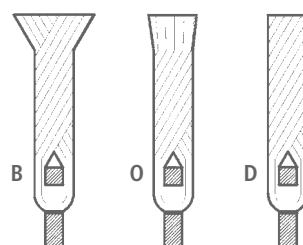
Other \_\_\_\_\_

## Machine data

Max. speed \_\_\_\_\_



Knot types ZF



Sender: Company, contact person

## Enquiries and information:

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Fax: +49 9082 707-76

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# Enquiry: Wheel and deburring brushes

## Drawing / description of application

No. pieces \_\_\_\_\_

Application  Dry  Wet

- Derusting
- Removing paint
- Deburring
- Cleaning
- Roughening/structuring
- Weld seam finishing
- Other \_\_\_\_\_

Material to be processed \_\_\_\_\_ °C temperature

- Steel
- Aluminium
- Wood
- Stainless steel
- Plastic
- Other \_\_\_\_\_

## Filling material

- Crimped  Knotted
- Steel wire
- Steel, brass-coated
- Brass
- Stainless steel
- Polyamide
- Silicon carbide bristles (SiC)
- Aluminium oxide bristles (AO)

Filling diameter \_\_\_\_\_

Please specify the dimensions according to the technical drawing (mm):

D diameter \_\_\_\_\_ mm

DB/GI bore hole/thread \_\_\_\_\_ mm

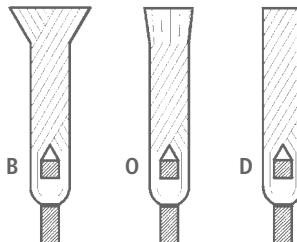
H filling height \_\_\_\_\_ mm

A working width \_\_\_\_\_ mm

R tube \_\_\_\_\_ mm

EBR clamping width \_\_\_\_\_ mm

## Knot types ZF



Sender: Company, contact person

## Knot type if required (more aggressive action)

- B Rose bud
- O Open knot (wire ends cut)
- D Fully knotted (wire ends cut completely)

## Machine used

- Hand-operated machine (e.g. angle grinders) \_\_\_\_\_
- Stationary machine (e.g. CNC) \_\_\_\_\_
- Other \_\_\_\_\_

## Machine data

Max. speed \_\_\_\_\_

## Enquiries and information:

Tel.: +49 9082 707-0 info@lessmann.com  
 Fax: +49 9082 707-76 www.lessmann.com



# Enquiry: Cup and bevel brushes

## Drawing / description of application

No. pieces \_\_\_\_\_

Application  Dry  Wet

- Derusting
- Removing paint
- Deburring
- Cleaning
- Weld seam finishing
- Other \_\_\_\_\_

Material to be processed \_\_\_\_\_ °C temperature

- Steel
- Aluminium
- Stainless steel
- Other \_\_\_\_\_

## Filling material

- Crimped  Knotted
- Steel wire
- Steel, brass-coated
- Brass
- Stainless steel
- Silicon carbide bristles (SiC)

Filling diameter \_\_\_\_\_

Please specify the dimensions according to the technical drawing (mm):

D diameter \_\_\_\_\_ mm

DB/GI bore hole/thread \_\_\_\_\_ mm

H filling height \_\_\_\_\_ mm

A working width \_\_\_\_\_ mm

H1 bridle height \_\_\_\_\_ mm

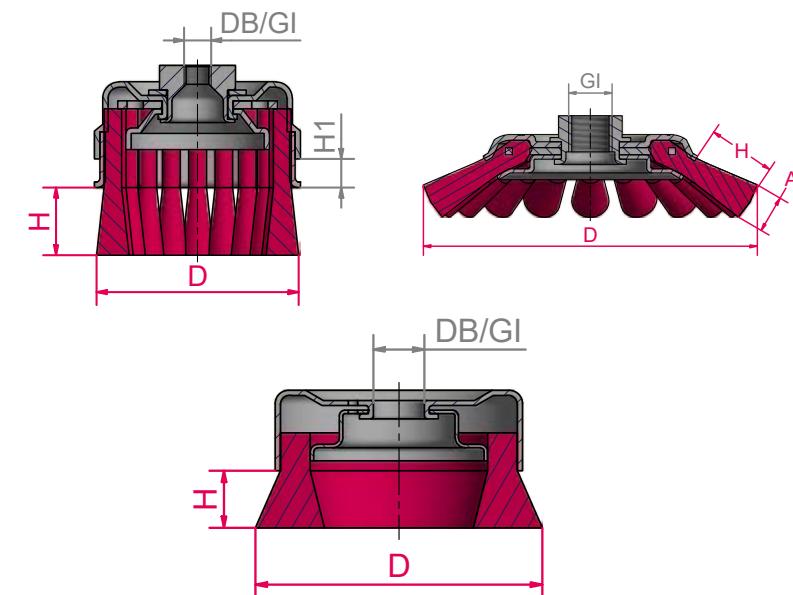
## Machine used

- Hand-operated machine (e.g. angle grinders) \_\_\_\_\_
- Stationary machine (e.g. CNC) \_\_\_\_\_
- Other \_\_\_\_\_

## Machine data

Max. speed \_\_\_\_\_

Max. brush height \_\_\_\_\_ mm



Sender: Company, contact person

## Enquiries and information:

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 Fax: +49 9082 707-76 www.lessmann.com



# Enquiry: Shank brushes

## Drawing / description of application

No. pieces \_\_\_\_\_

Application  Dry  Wet

- Derusting
- Removing paint
- Deburring
- Cleaning
- Roughening/structuring
- Weld seam finishing
- Other \_\_\_\_\_

Material to be processed \_\_\_\_\_ °C temperature

- Steel
- Aluminium
- Wood
- Stainless steel
- Plastic
- Other \_\_\_\_\_

## Filling material

- Crimped  Knotted
- Steel wire
- Steel, brass-coated
- Brass
- Stainless steel
- Polyamide
- Silicon carbide bristles (SiC)

Filling diameter \_\_\_\_\_

Please specify the dimensions according to the technical drawing (mm): (standard shank 6 mm)

D diameter \_\_\_\_\_ mm

H filling height \_\_\_\_\_ mm

A working width \_\_\_\_\_ mm

GL total length \_\_\_\_\_ mm

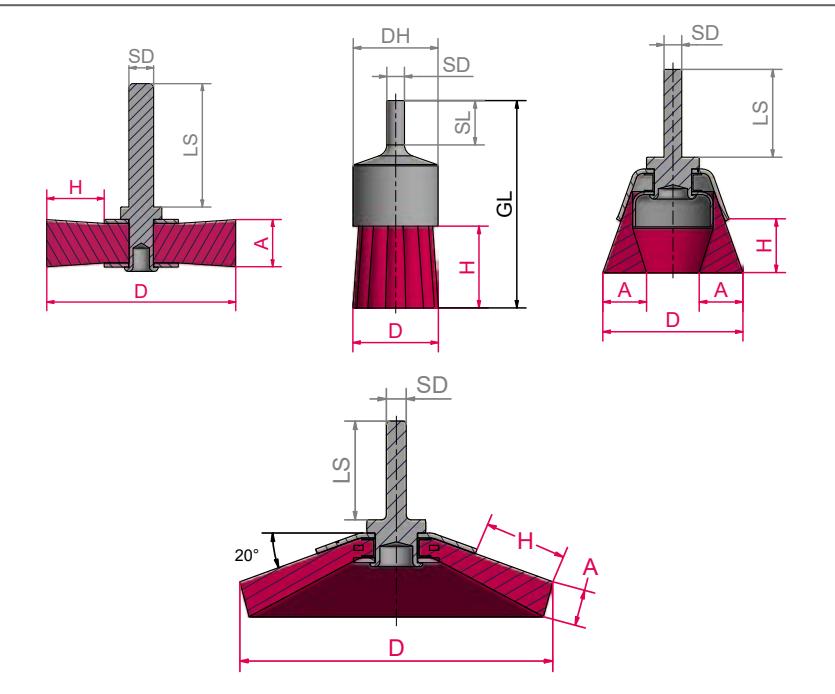
DH housing diameter \_\_\_\_\_ mm

## Machine used

- Hand-operated machine (e.g. angle grinders) \_\_\_\_\_
- Stationary machine (e.g. CNC) \_\_\_\_\_
- Other \_\_\_\_\_

## Machine data

Max. speed \_\_\_\_\_



Sender: Company, contact person

## Enquiries and information:

Tel.: +49 9082 707-0 info@lessmann.com  
 Fax: +49 9082 707-76 www.lessmann.com



# Enquiry: Interior brushes

## Drawing / description of application

No. pieces \_\_\_\_\_

Application  Dry  Wet

- Derusting
- Deburring
- Cleaning
- Other \_\_\_\_\_

Material to be processed \_\_\_\_\_ °C temperature

- Steel
- Aluminium
- Stainless steel
- Plastic
- Other \_\_\_\_\_

## Filling material

- Steel wire
- Steel, brass-coated
- Brass
- Stainless steel
- Polyamide
- Silicon carbide bristles (SiC)
- Aluminium oxide bristles (AO)
- Other \_\_\_\_\_

Filling diameter \_\_\_\_\_

Please specify the dimensions according to the technical drawing (mm):

D diameter \_\_\_\_\_ mm

SD twisted wire \_\_\_\_\_ mm

A working width \_\_\_\_\_ mm

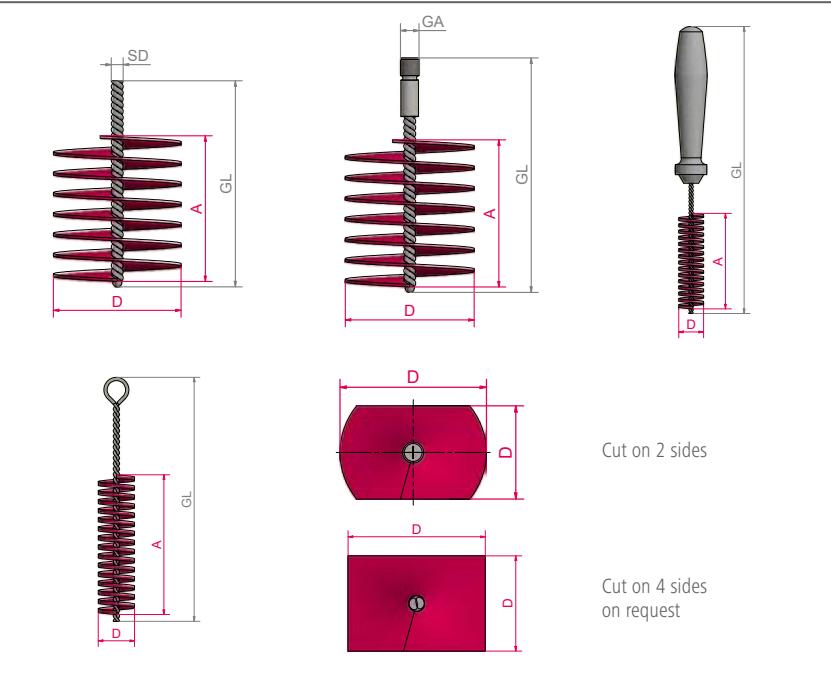
GL total length \_\_\_\_\_ mm

## Operation

- Hand-operated
- Machine-operated \_\_\_\_\_

## Brush mounting system

- Shank \_\_\_\_\_ mm
- Thread \_\_\_\_\_



Sender: Company, contact person

## Enquiries and information:

Tel.: +49 9082 707-0 info@lessmann.com  
 Fax: +49 9082 707-76 www.lessmann.com



# General Conditions of Sale and Delivery



## Minimum order value:

Items in stock (article numbers in **bold print**):  
net € 100.00

For customised products and article numbers  
in *italics*:  
net € 250.00 / article

Added charge for partial packaging units:  
net € 5.00

Delivery costs on request.

Express delivery on added charge available.

We reserve the right to make changes to product types and designs in the course of further technical development. All specified dimensions are approximate and non-binding. All dimensions are in mm.

The LESSMANN dimensional tolerances apply.  
Please request these from us if required.



Prefer this information digitally? Our terms and conditions can also be found at  
[lessmann.com/en/downloads/](http://lessmann.com/en/downloads/)



## 1. Application / Close of contract

(1) These General Conditions of Sale and Delivery (Conditions) shall apply to all present and future contracts with commercial buyers, with public legal entities as well as public trusts in regard to deliveries and other services, including contracts for work and delivery of non-fungible goods. The buyer's purchase conditions shall not be binding even if we do not expressly object to them again after their receipt.  
(2) Orders of the buyer shall only be binding for us if they have been confirmed by us in text form. The same applies to changes of orders. Oral agreements, promises, assurances and guarantees made by our sales staff in connection with the conclusion of the contract shall not be binding unless confirmed by us in text form.

## 2. Offers

(1) All price quotations are subject to change. The prices shall only apply as a fixed price for 6 months after confirmation of the order.  
(2) We reserve the property rights and copyrights to illustrations, drawings, construction and other documents; they may not be made accessible to third parties.

## 3. Prices and Terms of payment

(1) All prices are in Euro, ex works Oettingen, excluding packaging. Our prices are net; value added tax will be charged where applicable.  
(2) Unless otherwise agreed or unless otherwise stated in the order confirmation or the invoice, the purchase price shall be due immediately upon delivery without any discount and shall be paid in such a way that we can dispose of the amount on the due date. Costs of payment transactions shall be borne by the buyer.  
(3) The Buyer may retain or set off any counterclaims only in so far as such claims are undisputed or have become legally binding and as they are based on the same contractual relation with the Buyer and/or as they would entitle him to refuse the fulfilment of his contractual duties under section 320 BGB.  
(4) Should the Buyer default in payment or exceed the term of payment, we will charge default interests in the amount of 9% above the base rate, unless higher rates have been agreed upon. Additionally, we charge a default allowance of EUR 40.00. We reserve the right to claim further damages resulting from late payment.  
(5) The buyer shall be in default at the latest 10 days after the due date of our claim without the need for a reminder.  
(6) If, after conclusion of the contract, it becomes apparent that our payment claim is endangered by the buyer's lack of ability to pay or if the buyer is in default of payment with a considerable amount, or if other circumstances arise which indicate a significant deterioration in the buyer's ability to pay after conclusion of the contract, we may exercise the rights under Sect. § 321 BGB. This also applies insofar as our obligation to perform is not yet due. We shall then also be entitled to demand payment of all claims not yet due from the current business relationship with the buyer. A lack of ability to pay on the part of the buyer is also deemed to exist if the buyer is at least three weeks in arrears with a substantial amount (from 10% due), furthermore the substantial downgrading of the limit existing for him with our trade credit insurance.  
(7) Any agreed upon cash discount always relates to the invoiced value excluding freight and will only be granted if and in so far as the Buyer has completely paid all payables due at the time of the discount. Unless otherwise agreed to discount periods shall begin with the date of the invoice.

## 4. Delivery times and dates, shipping, transfer of risks, call orders

(1) Our commitment to deliver is subject to our correct, timely and contractual self-delivery, unless we are responsible for the incorrect or delayed self-delivery.  
(2) Any confirmation as to delivery times shall only be approximate and non-binding. Delivery times shall commence with the date of our order confirmation and are subject to the timely clarification of any details of the order as well as of the fulfilment of any of the Buyer's obligations, e.g. to produce official certifications, to provide letters of credit and payment guarantees and to pay agreed instalments.  
(3) Any agreed delivery time shall be considered to be met if and in so far the goods have left the works or our warehouse at such time or date. If and in so far the goods fail to be despatched at the agreed time for reasons not attributable to us, the agreed delivery time shall be considered to have been met at the day on which the goods are notified to be ready for dispatch.  
(4) In the event of a delay in delivery, the buyer may set us a reasonable grace period and, after its unsuccessful expiry, withdraw from the contract to the extent that the contract has not yet been fulfilled. In such cases, claims for damages shall be governed by section 9 of these terms and conditions.  
(5) Force majeure events, in particular wars, pandemics and flood disasters and their respective effects, entitle us to postpone the deliveries for the period of the hold-up and an appropriate start-up time. This also applies if such events occur during a present default. Force majeure is the equivalent of monetary or trade measures or other acts of sovereignty, strikes, lockouts, breakdowns not caused by us (e.g. Fire, machinery or roller breakdown, shortage of raw materials and lack of energy), obstruction of transport routes, delays in clearing the goods for import and in customs clearance, insolvency of our supplier as well as of all other circumstances, that essentially impede or render the deliveries and performances impossible, without being caused by us. Thereby, it is irrelevant if the circumstances occur with us or with one of our suppliers. If performance becomes unacceptable for one of the parties due to the above-mentioned events, in particular, the execution of the contract in its essential parts is delayed by more than 3 months, the party shall be able to withdraw from the contract by instant declaration in text form.  
(6) In the case of call orders, we are entitled to procure the material for the entire order and to manufacture the complete order quantity immediately.

## 5. Retention of Title

(1) The goods delivered to the Buyer shall remain our property until the full purchase price is paid. The Buyer shall take all measures required to preserve the retention of title – or of an equivalent security in the country of his branch or in a different country of destination –, and to provide the corresponding evidence upon our request.  
(2) To the extent permitted by the laws of the country, in which the goods are located, the following additional regulations apply:  
a. All goods delivered to the Buyer shall remain our property (Reserved Property) until all of the Buyer's accounts resulting from the business relationship with him, in particular, any account balances have been settled (current account reservation). This condition shall apply to any future as well as any conditional claims and such cases where the Buyer will affect payments on specifically designated claims. As soon as the Buyer has settled his accounts with us in full, he shall obtain title to

those goods which were delivered to him before such payment was effected. The current account reservation applies not in in prepayment or delivery vs payment cases.

b. With regard to processing or manufacturing of the Reserved Property, we shall be deemed to be manufacturer within the meaning of section 950 BGB (German Civil Code) without committing us in any way. The processed or manufactured goods shall be regarded as Reserved Property within the meaning of clause 2 a of these Conditions. If the Buyer manufactures, combines or mixes the Reserved Property with other goods we shall obtain co-ownership in the new goods in proportion to the invoiced price of the Reserved Property to the invoiced price of the other goods. If, by such combining or mixing, our ownership expires, the Buyer herewith transfers to us any rights which the Buyer will have in the new stock or goods in proportion to the invoiced price of the Reserved Property, and he will keep them in safe custody free of charge. Our co-ownership rights shall be regarded as Reserved Property within the meaning of clause 2 a of these Conditions.

c. The Buyer may resell the reserved property only within the normal course of his business in accordance with his normal business terms and provided he is not in default of payment and provided also that any rights resulting from such resale will be transferred to us in accordance with clause 2 d – e of these conditions. The Buyer shall not be entitled to dispose of the Reserved Property in any other way.

d. The Buyer hereby assigns to us any claims resulting from the resale of the Reserved Property. We hereby accept the assignment. Such claims shall serve as our security to the same extent as the Reserved Property itself. If the Reserved Property is resold by the Buyer together with other goods not purchased from us, then any receivables resulting from such resale shall be assigned to us in the ratio of the invoiced value of the other goods sold by the Buyer. In the case of resale of goods in which we have co-ownership rights pursuant to clause 2 b, the assignment shall be limited to the part which corresponds to our co-ownership rights.

e. The Buyer shall be entitled to collect any receivables resulting from the resale of the Reserved Property. This right shall expire if withdrawn by us, at the latest if the Buyer defaults in payment; fails to honour a bill of exchange; or files for bankruptcy. We shall exert our right of revocation only if and in so far as it becomes evident after the conclusion of the contract that payment resulting from this contract or from other contracts is jeopardised by the lack of Buyer's ability to pay. The Buyer shall – upon our request – immediately inform his customers of such assignment and to forward to us any information and documents necessary for collection.

f. The Buyer shall immediately inform us of any seizure or any other attachment of the Reserved Property by a third party. He shall bear any costs necessary to suspend such seizure or attachment, to separate or to remove the Reserved Property, if and in so far as such costs are not borne by a third party.

g. Should the total invoiced value of our collateral exceed the amount of the secured receivables including additional claims for interest, costs etc. by more than 50%, we shall – upon the Buyer's request – release pro tanto collateral at our discretion.

## 6. Quality, dimensions and weights

(1) Quality, types and dimensions of the goods shall be determined in accordance with the DIN and EN standards agreed upon at the time of conclusion of the contract or, in the absence of such, in accordance with practice and commercial usage. References to standards and similar regulations, to factory test

certificates and similar certificates as well as information on grades, types, dimensions, weights and usability of the goods do not constitute warranties or guarantees, nor do declarations of conformity and corresponding marks such as CE and GS.

(2) We reserve the right to make changes in form and design in the course of further technical development. All specifications of dimensions are approximate and non-binding. All dimensions are in mm.

(3) The LESSMANN free dimension tolerances apply, which we can provide on request.

## 7. Dispatch, Passing of Risk, Packaging, Partial Delivery, Custom-Made Products

(1) We shall be entitled to choose the route and mode of dispatch as well as the forwarding agent and the carrier. The Buyer shall immediately request delivery of those goods which have been notified to him as ready for dispatch. Otherwise we are entitled, upon reminder, to ship such goods at the Buyer's cost and risk or to store them at our discretion and to invoice them to the Buyer.

(2) Can, by reasons not attributable to us, the goods not be shipped or will it become significantly difficult to ship the goods via the designated route or to the designated place within the designated time, we reserve the right to ship them via a different route or to a different place. Any additional costs will be borne by the Buyer. In such cases we will ask the Buyer for his prior comments.

(3) The risk, including the risk of confiscation of the goods, shall pass to the buyer upon transfer of the goods to a forwarding agent or carrier, at the latest, however, upon leaving the warehouse or the supplying plant, in all transactions, including pre-paid and free deliveries. We shall only provide insurance at the buyer's instruction and expense. We shall only provide insurance at the buyer's instruction and expense. Unloading and its costs shall be borne by the buyer.

(4) Unless otherwise agreed, the goods are delivered unpacked and not protected against rust. If customary in the trade, we shall deliver packaged. We shall provide packaging, protective and/or transport aids according to our experience at the buyer's expense. Packaging shall be taken back at our warehouse within a reasonable period of time in order to comply with the requirements of the Packaging Act. We do not assume the purchaser's costs for the return transport or for the purchaser's own disposal of the packaging.

(5) We shall be entitled to make partial deliveries at reasonable quantities. We may also exceed or reduce the agreed quantities as appropriate.

(6) Custom-made products will not be taken back. We may exceed or fall below the agreed quantity up to 15%.

## 8. Callable and Continuous Deliveries

(1) Where the contract provides for continuous deliveries, the Buyer shall divide the quantities and grades of the goods into approximately equal monthly shipments. Otherwise we shall be entitled to specify them at our own fair and just discretion.

(2) Where the single calls for delivery exceed the total contractual quantity, we shall be entitled, yet not committed, to deliver the surplus quantity and invoice it at the prices applicable at the time of the call or the delivery.

(3) Unless otherwise agreed, call-off orders are to be processed within 365 days of conclusion of the contract. After expiry of this period, we shall be entitled to store the goods not called off at the expense and risk of the buyer and to charge him for them.

## 9. Warranty Provisions

(1) The inner and outer properties of the goods, especially their quality, grade and measures are to be determined with priority by the agreed quality, namely by the DIN and EN norms, data or materials sheets or any other agreed technical provisions. References to standards and other sets of regulations, to test certificates according to EN 10204 and other attestations as well as particulars of qualities, grades, measures and use of the goods are no warranties or guarantees, just as little declarations of conformity and corresponding markings such as CE and GS.

(2) Insofar as the quality has not been agreed, the goods shall be free from defects if they are suitable for the use presumed under the contract. A use is contractually presumed only if we were informed of this use by the Buyer in text form at the latest upon conclusion of the purchase contract and have expressly agreed to this use in text form.

(3) Insofar as the goods have the agreed quality in accordance with clause 9.1 or are suitable for the use stipulated in the contract in accordance with clause 9.2, the Buyer may not invoke the fact that the goods are not suitable for normal use or do not have a quality which is usual for goods of this type and which the Buyer has expected. In this respect, our liability is excluded in accordance with Section 10 of these Terms and Conditions.

(4) For the inspection of the goods and the indication of defects

the statutory provisions apply, it being understood that the duty to inspect the delivered goods includes the inspection of eventual test certificates according to or correlating to EN 10204 and any defects of the goods and test certificates are notified to us in writing no later than 7 days after delivery. Any transport damage can only be taken into account if it is noted on the delivery note. Defects that cannot be discovered immediately after delivery, even with the most careful inspection, must be reported to us in text form immediately after discovery with immediate cessation of any working and processing.

(5) In case the Buyer intends to install the goods into another object or attach the goods to another object, prior to installation resp. attachment, the Buyer has the obligation to inspect at least randomly the goods with regard to properties relevant for the application in question and to notify us of defects without delay. The obligation to inspect exists even if a test certificate or other material certificate has been supplied. In case the Buyer, in the event of an installation of the goods into another object or attachment of the goods to another object, fails to inspect the properties of the goods relevant for the designated end use at least at random prior to installation resp. attachment, this represents a particularly grave disregard of the care required in the ordinary course of business (gross negligence) in relation to us. In such a case, the Buyer may assert rights in relation to these properties only if the defect had been deliberately concealed or in case of a guarantee for the respective quality of the goods.

(6) If and in so far the Buyer's claim for defects is justified and has been made in time, we may, upon our discretion, remedy the defect or deliver non-defective goods (subsequent delivery). Should we fail or decline the supplementary performance, the Buyer may resort to his statutory rights. In cases where the defect is only minor or where the goods have already been resold, processed or transformed, he may only reduce the purchase price.

(7) In case the Buyer has installed the goods, in accordance with the goods' type and designated use, into another object or attached the goods to another object, he may claim reimbursement of his necessary costs for the dismantling of the defective goods and the installation or attachment of goods free from defects ("dismantling and installation costs") only in accordance with the following provisions:

Necessary dismantling and installation costs are only those, which directly result from the dismantling resp. removal of the defective goods and the installation resp. attachment of identical goods, have accrued on the basis of competitive market prices and have been proven by the Buyer by appropriate documents in text form.

Any additional costs incurred by the buyer for consequential damages due to defects, such as lost profits, operating loss costs or additional costs for replacement purchases, are not direct dismantling and installation costs and therefore cannot be reimbursed as reimbursement of expenses pursuant to Section 439 (3) of the German Civil Code (BGB). The same applies to sorting costs and additional expenses arising from the fact that the sold and delivered goods are located at a place other than the agreed place of performance.

The Buyer is not entitled to request advance payments for dismantling and installations cost or other expenses required for the remedy of the defective delivery.

(8) We will reimburse the Buyer for his expenditures in connection with the supplementary performance only in so far as such expenditures are reasonable and not disproportionate in relation to the value of the goods. Disproportionate expenditures are especially given in case the expenditures requested by the Buyer, in particular dismantling and installation costs, exceed 150% of the purchase price of the goods invoiced by us or 200% of the value of the defective merchandise. If the last contract in the supply chain is a consumer sale, the reimbursement of expenses shall be limited to the appropriate amount. Expenditures accrued by delivery of goods to another place than that of the agreed performance, will not be accepted.

(9) If the buyer does not immediately give us the opportunity to convince ourselves of the defect, in particular if he does not immediately make the rejected goods or samples available for testing purposes upon request, all rights due to the material defect shall lapse.

(10) Further claims of the buyer are excluded according to section 10 of these terms and conditions. This applies in particular to claims for compensation for: damage that has not occurred to the goods themselves (consequential damage), costs for the self-remedy of a defect, without the legal requirements for this being met, and removal and installation costs, insofar as the goods supplied by us were no longer in their original condition at the time of installation or fitting or a new product was manufactured from the goods supplied prior to installation.

## 10. General Limitation of Liability and Limitation Periods

(1) Our liability for breach of contractual or extra-contractual obligations, in particular for non-performed or deferred deliveries, for breach of duties prior to the contract ("Verschulden bei Vertragsanbahnung") as well as for tortious acts – including our responsibility for our managerial staff and any other person employed in performing our obligations – shall be restricted to damages caused by our wrongful intent or by our gross negligence and shall in case of gross negligence not exceed the foreseeable losses and damages characteristic for the type of contract in question. In all other respects, our liability, also for damages caused by defects and consequential damages, is excluded.

(2) The aforesaid restriction shall not apply to such cases where we breach our fundamental contractual obligations and therefore the accomplishment of the purpose of the contract is at risk or where the non-fulfilment of the obligations the contracting party relies on renders the proper completion of the contract impossible. It shall neither pertain to damages to life, to the body or to health caused by our fault nor to any cases where we have guaranteed certain characteristics of the goods. Nor shall such clause affect our statutory liability laid down in the Product Liability Act (Produkthaftungsgesetz) of 15/12/89. Any statutory rules regarding the burden of proof shall remain unaffected by the aforesaid.

(3) If we are in default with a delivery or other service, the buyer may demand compensation for the damage caused by the default in addition to the service, but in the case of slight negligence limited to a maximum of 10% of the agreed price for the service in default. The buyer's right to claim damages instead of performance in accordance with this section 10.1 and 10.2 remains unaffected.

(4) Unless otherwise agreed, any contractual claims which the Buyer is entitled to in connection with the delivery of the goods shall fall under the statute of limitations within a period of one year after the goods have been delivered to the Buyer, unless the defective goods are used for a building in accordance with their customary use and have caused the defectiveness of the building. This restriction shall not apply to our liability and claims resulting from breaches of contract caused by our wrongful intent or by our gross negligence, neither to damages to life, to the body and to health caused by our fault, or the limitation of recourse claims pursuant to §§ 478, 479 BGB. In these cases, the statutory limitation periods shall apply.

## 11. Place of Performance, Jurisdiction and Applicable Law

(1) Unless otherwise agreed, the place of performance for our delivery is our registered office.

(2) The place of jurisdiction is our seat. However, we are also entitled to sue the buyer at any general or special place of jurisdiction.

(3) All legal relationships between us and the Buyer shall be governed in addition to these conditions by the laws of the Federal Republic of Germany, excluding the provisions of the United Nations Convention on Contracts for the International Sale of Goods of 11 April 1980 (CISG).

## 12. Applicable Version

The latest published version of the General Terms and Conditions of Sale and Delivery shall always apply.

In cases of doubt, the German version shall apply.

## More information



... is available in our special brochures on the following topics:

- Deburring with Brushes, Art. No. 99EGBENG
- Interior Brushes / Miniature Brushes, Art. No. 99INBENG
- Disc Brushes, Art. No. 99TBDEUENG
- Brush Know-How, Technical Advice, Art. No. 99BKHENG
- Brushes for Pipeline processing

... can be found on our homepage!

[www.lessmann.com](http://www.lessmann.com)

All items from our catalogue are displayed on a separate detail page. You can also conveniently filter the articles by categories and attributes, allowing you to find the most suitable results for your application more quickly. And all this in German, English, French and Spanish.

Among other things, we offer the following for download:

- Our complete digital catalogue
- Order forms for our various special brushes
- Information on filling materials, e.g. tables with chemical resistance data and physical properties
- Our Brush Know-How resources
- ISO 9001 & 14001 certificate
- General Conditions of Sale and Delivery



## Purchase Order Form

## Recipient

Lessmann GmbH  
Lucas-Schultes-Str. 2  
D-86732 Oettingen

**Sender** ..... Date .....  
..... Customer Number .....  
..... Contact Person .....  
..... Phone .....  
..... E-mail .....

**Order Number:** .....

**Delivery address (if different from above):**

**Invoice address (if different from above):**

.....  
.....  
.....

.....  
.....  
.....

Yes, please send order confirmation electronically to:

## E-mail

Yes, please send invoice electronically to:

## E-mail

For tips on selecting the right brushes, visit: [www.lessmann.com/know-how/?lang=en](http://www.lessmann.com/know-how/?lang=en)

We accept Lessmann GmbH's current General Conditions of Sale and Delivery. These appear in print on page 186 of the Lessmann catalogue and were available to us.

Buyer's Signature / Stamp

# Article number index

Art. No.	Page	104.321.....95	125.521.....98	185.451.....96	220.32C.00.....166	241.329.00.....168	264.823.00.....172
000.041.....45	104.331.....95	126.311.....99	185.621.....96	220.323.00.....166	241.353.00.....168	264.826.00.....172	
000.042.....45	104.341.....95	126.401.....99	185.631.....96	220.326.00.....166	241.353.10.....168	264.827.00.....172	
000.043.....45	104.421.....95	126.411.....99	185.641.....96	220.329.00.....166	242.32C.00.....168	264.853.00.....172	
000.044.....45	104.441.....95	126.411.CC.....140	185.651.....96	220.353.00.....166	242.323.00.....168	264.853.10.....172	
000.045.....45	104.451.....95	126.431.....99	185.811.....97	220.353.10.....166	242.326.00.....168	265.823.00.....172	
000.051.....156	104.611.....95	126.441.....99	186.431.....96	221.32C.00.....166	242.329.00.....168	265.826.00.....172	
000.071.....133	104.621.....95	126.451.....99	200.C21.00.....170	221.323.00.....166	242.353.00.....168	265.827.00.....172	
000.311.....105	104.631.....95	126.451.CC.....140	200.C53.00.....170	221.326.00.....166	242.353.10.....168	265.853.00.....172	
000.321.....105	104.631.CC.....140	126.472.....99	200.C53.10.....170	221.329.00.....166	243.32C.00.....168	265.853.10.....172	
000.323.....105	104.641.....95	126.481.....99	201.C23.00.....170	221.353.00.....166	243.323.00.....168	266.123.00.....172	
000.331.....105	104.641.CC.....140	126.491.....99	201.C53.00.....170	221.353.10.....166	243.326.00.....168	266.126.00.....172	
000.501.....144	104.651.....95	126.511.....99	201.C53.10.....170	222.32C.00.....166	243.329.00.....168	266.127.00.....172	
000.503.....144	104.661.....95	126.611.....99	202.821.00.....170	222.323.00.....166	243.353.00.....168	266.153.00.....172	
000.507.....144	105.421.....95	126.811.....99	202.823.00.....170	222.326.00.....166	243.353.10.....168	266.153.10.....172	
000.631.....45	105.431.....95	132.208.....98	202.825.00.....170	222.329.00.....166	244.32C.00.....168	267.A2E.00.....172	
000.641.....45	105.441.....95	132.701.....99	202.853.00.....170	222.353.00.....166	244.323.00.....168	267.A2J.00.....172	
000.651.....45	105.451.....95	132.801.....72, 98	202.853.10.....170	222.353.10.....166	244.326.00.....168	267.A29.00.....172	
000.661.....45	105.461.....95	135.455.....101	203.821.00.....170	223.32C.00.....166	244.329.00.....168	267.A53.00.....172	
000.671.....45	105.731.....95	136.101.....97	203.823.00.....170	223.323.00.....166	244.353.00.....168	267.A53.10.....172	
000.886.63.....45	105.741.....95	136.102.....97	203.825.00.....170	223.326.00.....166	244.353.10.....168	268.A2E.00.....172	
000.886.64.....45	106.631.....95	136.103.....97	203.853.00.....170	223.329.00.....166	245.52E.00.....168	268.A2J.00.....172	
000.886.65.....45	106.641.....95	137.701.....99	203.853.10.....170	223.353.00.....166	245.52J.00.....168	268.A29.00.....172	
000.886.68.....45	107.321.....95	138.469.....101	204.823.00.....170	223.353.10.....166	245.529.00.....168	268.A53.00.....172	
000.888.32.....45	107.331.....95	138.704.....99	204.826.00.....170	224.32C.00.....166	245.553.00.....168	268.A53.10.....172	
001.211.....133	107.341.....95	138.705.....99	204.827.00.....170	224.323.00.....166	245.553.10.....168	269.123.00.....172	
001.212.....133	107.351.....95	140.201.....103	204.853.00.....170	224.326.00.....166	246.52E.00.....168	269.126.00.....172	
001.215.....133	107.411.....95	140.641.....103	204.853.10.....170	224.329.00.....166	246.52J.00.....168	269.127.00.....172	
001.222.....133	107.421.....95	140.811.....103	206.123.00.....170	224.353.00.....166	246.529.00.....168	269.153.00.....172	
001.225.....133	107.431.....95	140.901.....103	206.126.00.....170	224.353.10.....166	246.553.00.....168	269.153.10.....172	
037.101.....105	107.441.....95	141.231.....103	206.127.00.....170	225.52E.00.....166	246.553.10.....168	270.223.00.....172	
037.200.....105	107.451.....95	141.421.....103	206.153.00.....170	225.52J.00.....166	250.42C.00.....168	270.226.00.....172	
037.201.....105	107.461.....95	142.101.....105	206.153.10.....170	225.529.00.....166	250.423.00.....168	270.227.00.....172	
037.201.CC.....140	107.611.....95	142.211.....105	207.A2E.00.....170	225.553.00.....166	250.426.00.....168	270.253.00.....172	
037.221.....105	107.621.....95	144.001.....104	207.A2J.00.....170	225.553.10.....166	250.429.00.....168	270.253.10.....172	
037.710.....105	107.631.....95	144.001.CC.....140	207.A29.00.....170	226.52E.00.....166	250.453.00.....168	271.D23.00.....172	
045.910.....135	107.631.CC.....140	144.011.....73, 104	207.A53.00.....170	226.52J.00.....166	250.453.10.....168	271.D53.00.....172	
045.915.....135	107.641.....95	144.021.....104	207.A53.10.....170	226.529.00.....166	251.42C.00.....168	271.D53.10.....172	
047.700.....149	107.641.CC.....140	144.111.....73, 104	208.A2E.00.....170	226.553.00.....166	251.423.00.....168	272.223.00.....172	
047.705.....149	107.651.....95	144.211.....104	208.A2J.00.....170	226.553.10.....166	251.426.00.....168	272.226.00.....172	
047.707.....149	107.661.....95	144.311.....73	208.A29.00.....170	230.42C.00.....166	251.429.00.....168	272.227.00.....172	
047.708.....149	108.041.....72, 95	144.411.....73, 104	208.A53.00.....170	230.423.00.....166	251.453.00.....168	272.253.00.....172	
047.750.....149	108.331.....72, 95	144.701.....104	208.A53.10.....170	230.426.00.....166	251.453.10.....168	272.253.10.....172	
047.754.....149	108.341.....72, 95	144.701.CC.....140	208.A23.00.....170	230.429.00.....166	252.42C.00.....168	273.223.00.....172	
047.755.....149	108.351.....72, 95	146.201.....107	208.A26.00.....170	230.453.00.....166	252.423.00.....168	273.226.00.....172	
047.757.....149	109.431.....95	146.270.....72, 107	208.827.00.....170	230.453.10.....166	252.426.00.....168	273.227.00.....172	
047.763.....149	109.441.....95	147.201.....107	208.853.00.....170	231.42C.00.....166	252.429.00.....168	273.253.00.....172	
047.764.....149	109.451.....95	147.261.....107	208.853.10.....170	231.423.00.....166	252.453.00.....168	273.253.10.....172	
047.801.....149	109.741.....95	148.101.....107	210.D21.00.....170	231.426.00.....166	252.453.10.....168	274.723.00.....172	
048.241.....55	120.401.....97	148.141.....107	210.D53.00.....170	231.429.00.....166	253.42C.00.....168	274.726.00.....172	
048.271.....55	120.401.CC.....140	148.161.....107	210.D53.10.....170	231.453.00.....166	253.423.00.....168	274.727.00.....172	
048.291.....55	120.412.....97	148.170.....72, 107	211.D23.00.....170	231.453.10.....166	253.426.00.....168	274.753.00.....172	
048.441.....55	120.413.....101	151.109.....109	211.D53.00.....170	232.42C.00.....166	253.429.00.....168	274.753.10.....172	
048.471.....55	120.423.....101	151.511.....109	211.D53.10.....170	232.423.00.....166	253.453.00.....168	275.723.00.....172	
048.491.....55	120.433.....101	151.992.07.....109	212.721.00.....170	232.426.00.....166	253.453.10.....168	275.726.00.....172	
048.701.....55	120.443.....101	151.995.07.....109	212.723.00.....170	232.429.00.....166	254.42C.00.....168	275.727.00.....172	
048.821.....55	120.451.....109	152.208.....103	212.725.00.....170	232.453.00.....166	254.423.00.....168	275.753.00.....172	
048.841.....55	120.601.....97	152.510.....109	212.753.00.....170	232.453.10.....166	254.426.00.....168	275.753.10.....172	
048.851.....55	120.801.....97	152.811.....73, 103	212.753.10.....170	233.42C.00.....166	254.429.00.....168	276.223.00.....172	
048.901.....55	120.801.CC.....140	152.995.07.....109	213.721.00.....170	233.423.00.....166	254.453.00.....168	276.226.00.....172	
048.941.....55	120.811.....97	153.108.....103	213.723.00.....170	233.426.00.....166	254.453.10.....168	276.227.00.....172	
056.001.....97	120.811.CC.....140	182.152.....99	213.725.00.....170	233.429.00.....166	255.62E.00.....168	276.253.00.....172	
056.301.....97	120.831.....97	182.162.....99	213.753.00.....170	233.453.00.....166	255.62J.00.....168	276.253.10.....172	
056.501.....97	121.111.....104	182.172.....99	213.753.10.....170	233.453.10.....166	255.629.00.....168	277.B2E.00.....172	
056.701.....97	121.211.....104	182.331.....98	214.723.00.....170	234.42C.00.....166	255.653.00.....168	277.B2J.00.....172	
061.101.....105	122.401.....97	182.401.....96	214.726.00.....170	234.423.00.....166	255.653.10.....168	277.B29.00.....172	
100.011.....95	122.771.....72, 97	182.401.CC.....140	214.727.00.....170	234.426.00.....166	256.62E.00.....168	277.B53.00.....172	
100.021.....95	122.801.....97	182.411.....96	214.753.00.....170	234.429.00.....166	256.62J.00.....168	277.B53.10.....172	
100.021.CC.....140	122.821.....72, 97	182.421.....96	214.753.10.....170	234.453.00.....166	256.629.00.....168	278.B2E.00.....172	
100.031.....95	122.871.....72, 97	182.421.CC.....140	216.223.00.....170	234.453.10.....166	256.653.00.....168	278.B2J.00.....172	
100.031.CC.....140	124.101.....107	182.431.....96	216.226.00.....170	235.62E.00.....166	256.653.10.....168	278.B29.00.....172	
100.041.....95	124.121.....107	182.441.....96	216.227.00.....170	235.62J.00.....166	260.123.00.....172	278.B53.00.....172	
100.041.CC.....140	124.181.....72, 107	182.451.....96	216.253.00.....170	235.629.00.....166	260.126.00.....172	278.B53.10.....172	
100.051.....95	124.301.....107	182.451.CC.....140	216.253.10.....170	235.653.00.....166	260.127.00.....172	279.223.00.....172	
100.051.CC.....140	124.402.....107	182.472.....99	217.B2E.00.....170	235.653.10.....166	260.153.00.....172	279.226.00.....172	
100.061.....95	124.801.....107	182.807.....99	217.B2J.00.....170	236.62E.00.....166	260.153.10.....172	279.227.00.....172	
100.061.CC.....140	124.801.CC.....140	182.811.....99	217.B29.00.....170	236.62J.00.....166	261.C23.00.....172	279.253.00.....172	
102.441.....95	124.841.....107	183.704.....99	217.B53.00.....170	236.629.00.....166	261.C53.00.....172	279.253.10.....172	
102.611.....95	125.111.....98	183.706.....99	217.B53.10.....170	236.653.00.....166	261.C53.10.....172	220.000.00.....174	
102.621.....95	125.201.....98	184.101.....135	218.B2E.00.....170	236.653.10.....166	262.123.00.....172	221.000.00.....174	
102.631.....95	125.211.....98	184.104.....135	218.B2J.00.....170	240.32C.00.....168	262.126.00.....172	222.000.00.....174	
102.641.....95	125.211.CC.....140	184.412.....135	218.B29.00.....170	240.323.00.....168	262.127.00.....172	224.000.00.....174	
102.651.....95	125.221.....98	185.121.....96	218.B53.00.....170	240.326.00.....168	262.153.00.....172	226.000.00.....174	
103.711.....95	125.231.....98	185.131.....96	218.B53.10.....170	240.329.00.....168	262.153.10.....172	227.000.00.....174	
103.721.....95	125.234.....98	185.141.....96	219.223.00.....170	240.353.00.....168	263.123.00.....172	228.000.00.....174	
103.731.....95	125.241.....98						

Art. No.	Page	323.133	33	345.462.V4	34	365.172	33	377.048	49	377.824.00	51	402.780	37
300.742	41	323.142	33	345.542	35	365.173	33	377.048.00	49	377.824.T1	51	402.880	37
300.771.KG	25	323.143	33	345.543	35	365.342	34	377.049	50	377.824.TA	51	402.880.CC	141
301.213.10	39	323.162	33	345.562	35	365.343	34	377.051	49	377.830.30	53	402.881	37
301.213.20	39	323.163	33	345.563	35	365.362	34	377.051.00	49	377.830.46	53	402.882	37
301.213.25	39	323.305.19	37	345.662.MS	35, 73	365.363	34	377.051.26	49	377.830.60	53	402.883	37
301.213.30	39	323.342	34	345.762	33	365.462.V4	34	377.051.27	49	377.835	51	402.890	37
301.214.10	39	323.343	34	345.822	34	365.542	35	377.051.T1	49	377.835.00	51	402.891	37
301.214.15	39	323.348.19	37	345.823	34	365.543	35	377.051.TA	49	377.835.T1	51	402.892	37
301.214.20	39	323.362	34	345.852	34	365.562	35	377.052	49	377.835.TA	51	402.893	37
301.214.25	39	323.363	34	345.853	34	365.563	35	377.053	49	377.837	51	405.006	156
301.214.30	39	323.542	35	350.141	30	365.762	33	377.053.00	49	377.839	51	405.835	156
301.225.10	39	323.543	35	350.161	30	365.763	33	377.053.26	49	377.854	51	405.843	37, 156
301.225.15	39	323.562	35	350.341	31	365.823	34	377.053.27	49	377.854.00	51	405.844	37, 156
301.225.20	39	323.563	35	350.361	31	365.853	34	377.053.T1	49	377.854.T1	51	405.845	37, 156
301.225.25	39	323.704.19	37	350.821	29	366.142	33	377.053.TA	49	377.854.TA	51	405.845.CC	141
301.225.30	39	323.705.19	37	350.831	29	366.143	33	377.054	49	377.875	51	405.854	156
301.236.20	39	323.770.13	37	350.841	29	366.162	33	377.054.00	49	377.875.00	51	405.864	156
301.236.25	39	323.805.19	37	350.851	29	366.163	33	377.054.26	49	377.875.T1	51	405.905	156
301.236.30	39	323.820.13	37	350.871	29	366.342	34	377.054.27	49	377.875.TA	51	405.908	156
301.713.15	39	323.828.19	37	351.141	30	366.343	34	377.054.T1	49	377.C35	51	408.811.DB	43
301.713.20	39	323.830.13	37	351.161	30	366.362	34	377.054.TA	49	377.C55	51	408.812.DB	43
301.713.25	39	323.900.10	37	351.341	31	366.363	34	377.059	49	37E.137	43	408.813.DB	43
301.714.15	39	330.001	41	351.361	31	366.542	35	377.063	49	37E.146	43	408.817.DB	43
301.714.20	39	330.141	30	351.707	30	366.543	35	377.063.00	49	37E.147	43	408.819.DB	43
301.714.25	39	330.161	30	351.771.KG	25	366.562	35	377.063.T1	49	37E.336	43	408.820.DB	43
301.724.30	39	330.341	31	351.841	29	366.563	35	377.063.TA	49	380.141	30	408.821.DB	43
301.725.20	39	330.361	31	351.851	29	366.762	33	377.066	49	380.161	30	408.822.DB	43
301.725.25	39	330.821	29	351.871	29	36E.146	43	377.077	49	380.341	31	408.825.DB	43
301.725.30	39	330.841	29	355.133	33	36E.176	43	377.089	50	380.361	31	408.827.DB	43
301.736.20	39	330.851	29	355.142	33	36E.846	43	377.089.00	50	380.841	29	408.829.DB	43
301.736.30	39	330.871	29	355.143	33	36E.847	43	377.089.26	50	380.851	29	408.837.DB	43
302.532	35	331.161	30	355.162	33	36E.856	43	377.089.27	50	380.871	29	408.839.DB	43
303.532	35	331.341	31	355.163	33	36E.876	43	377.089.T1	50	381.161	30	410.001.WB	91
304.161.14	65	331.361	31	355.342	34	36E.877	43	377.089.TA	50	381.361	31	410.001.ZH	91
304.361.14	65	334.132	33	355.362	34	370.141	30	377.090	50	381.831	29	410.002.WB	91
304.761.14	65	334.142	33	355.363	34	370.161	30	377.091	51	381.841	29	410.002.ZH	91
310.141	30	334.143	33	355.542	35	370.241.KG	50	377.091.00	51	381.851	29	410.003.SB	91
310.161	30	334.162	33	355.543	35	370.242.KG	50	377.093	50	381.871	29	410.003.WB	91
310.341	31	334.163	33	355.562	35	370.271.KG	50	377.094	50	387.051	49	410.003.ZH	91
310.361	31	334.342	34	355.563	35	370.272	30	377.094.00	50	387.053	49	410.031	91
310.702.06	41	334.343	34	355.762	33	370.272.KG	50	377.094.26	50	387.054	49	410.032	91
310.831	29	334.362	34	355.823	34	370.341	31	377.094.27	50	387.055	49	410.033	91
310.841	29	334.363	34	355.853	34	370.361	31	377.094.T1	50	387.142	33	410.122	139
310.851	29	334.542	35	35E.136	43	370.441.KG	50	377.094.TA	50	387.143	33	410.123	139
310.871	29	334.543	35	35E.146	43	370.442.KG	50	377.095	49	387.162	33	410.123.EP	142
311.742.01	41	334.562	35	35E.336	43	370.471.KG	50	377.096	49	387.163	33	410.132	139
311.762	41	335.161.14	65	35E.846	43	370.472.KG	50	377.097	50	387.240.46	53	410.132.CC	141
312.141	41	335.361.14	65	35E.847	43	370.831	29	377.099	50	387.270.46	53	410.133	139
312.142	33	335.761.14	65	35E.856	43	370.841	29	377.142	33	387.290.46	53	410.133.EP	142
312.143	33	340.141	30	35E.857	43	370.851	29	377.143	33	387.342	34	410.134	139
312.162	33	340.161	30	35E.876	43	370.852	29	377.144	33	387.343	34	410.135	139
312.163	33	340.341	31	35E.877	43	370.871	29	377.162	33	387.362	34	410.135.EP	142
312.342	34	340.361	31	360.141	30	370.C31	29	377.163	33	387.363	34	410.136	139
312.362	34	340.707	30	360.161	30	370.C51	29	377.164	33	387.440.46	53	410.136.EP	142
312.363	34	340.821	29	360.341	31	370.C71	29	377.240.30	53	387.470.46	53	410.138	139
312.542	35	340.831	29	360.361	31	371.141	30	377.240.46	53	387.490.46	53	410.138.EP	142
312.543	35	340.841	29	360.707	30	371.161	30	377.240.60	53	387.562	35	410.152	139
312.562	35	340.851	29	360.831	29	371.341	31	377.270.30	53	387.563	35	410.153	139
312.563	35	340.871	29	360.841	29	371.361	31	377.270.46	53	387.780.46	53	410.153.CC	141
320.00K.17	41	340.C31	29	360.851	29	371.841	29	377.270.60	53	387.824	51	410.153.EP	142
320.001	41	340.C51	29	360.871	29	371.851	29	377.290.30	53	387.830.46	53	410.154	139
320.01K.17	41	340.C71	29	360.C31	29	371.871	29	377.290.46	53	388.172	33	410.155	139
320.003	41	344.132	33	360.C51	29	372.831	29	377.290.60	53	388.173	33	410.156	139
320.004	41	344.133	33	360.C71	29	372.841	29	377.342	34	388.240.46	53	410.158	139
320.009	41	344.142	33	361.141	30	372.851	29	377.343	34	388.240.60	53	410.158.EP	142
320.16K.17	41	344.143	33	361.161	30	372.871	29	377.362	34	388.270.45	53	410.159	139
320.206	43	344.172	33	361.341	31	376.142	33	377.363	34	388.270.46	53	410.173	139
320.141	30	344.173	33	361.361	31	376.162	33	377.440.30	53	388.270.60	53	410.183	139
320.161	30, 41	344.342	34	361.821	29	376.163	33	377.440.46	53	388.290.46	53	410.185	139
320.161.13	41	344.343	34	361.831	29	376.342	34	377.440.60	53	388.290.60	53	410.221	91
320.341	31	344.362	34	361.841	29	376.343	34	377.470.30	53	388.440.46	53	410.222	91
320.341.19	37	344.363	34	361.851	29	376.362	34	377.470.46	53	388.440.60	53	410.223	91
320.361	31	344.542	35	361.871	29	376.363	34	377.470.60	53	388.470.46	53	410.321	91
320.703.19	37	344.543	35	362.141	30	376.542	35	377.490.30	53	388.470.60	53	410.322	91
320.707	30	344.562	35	362									

Art. No.	Page	416.163.EP.....142	412.363.....79	430.126.....139	451.261.BD.....86	456.258.....89	472.201.32.....23
410.883.....91		416.193.....78	412.363.EP.....143	430.126.EP.....143	451.278.....89	456.261.BD.....86	472.201.39.....23
410.892.....91		416.302.....79	412.364.....79	430.128.....83, 139	451.305.....87	456.278.....89	472.201.EZ.....23
411.132.....78		416.303.....79	421.147.....62	430.128.EP.....143	451.341.....87	456.278.EP.....143	472.207.32.....23
411.142.....78		416.312.....79	421.164.....62	430.129.....83, 139	451.361.....87	456.298.....89	472.208.32.....23
411.342.....79		416.342.....79	421.167.....62	430.132.....139	451.361.EP.....143	456.298.EP.....143	472.211.....19
411.542.....81		416.343.....79	421.167.CC.....141	430.132.EP.....143	451.362.....87	456.338.....89	472.211.CC.....141
412.731.....80		416.362.....79	421.197.....62	430.133.....139	451.458.....89	456.341.....87	472.211.SM.....19
413.132.....78		416.362.EP.....142	421.364.....62	430.133.CC.....141	451.461.....87	456.358.....89	472.211.WZ.....19
413.133.....78		416.363.....79	421.367.....62	430.133.EP.....143	451.478.....89	456.361.....87	472.217.....19
413.142.....78		416.462.....79	421.367.CC.....141	430.134.....139	451.541.....87	456.378.....89	472.257.....65
413.142.EP.....142		416.542.....81	421.467.....62	430.135.....139	451.542.....87	456.398.....89	472.257.SM.....65
413.143.....78		416.543.....81	421.564.....62	430.136.....139	451.561.....87	456.541.....87	472.257.V4.....65
413.162.....78		416.562.....81	421.567.....62	430.138.....83, 139	451.562.....87	456.561.....87	472.257.WZ.....65
413.163.....78		416.752.....80	421.767.....62	430.138.EP.....143	451.831.....85	456.703.....86	472.711.....19
413.342.....79		416.842.....81	421.827.....62	430.139.....83, 139	451.851.....85	456.705.....86	472.717.....19
413.342.EP.....142		416.852.....81	421.857.....62	430.222.....91	451.871.....85	456.751.....86	472.757.....65
413.343.....79		416.872.....81	422.177.....65	430.223.....91	452.131.....86	456.758.....89	472.801.32.....24
413.362.....79		417.84K.....81	422.367.....65	430.322.....91	452.141.....86	456.778.....89	472.801.39.....24
413.363.....79		417.132.....78	422.767.....65	430.323.....91	452.160.....85	456.831.....85	472.801.EZ.....24
413.542.....81		417.133.....78	423.16X.....71	430.522.....91	452.161.....86	456.851.....85	472.807.32.....24
413.542.EP.....142		417.142.....78	423.17X.....71	430.523.....91	452.161.EP.....143	456.871.....85	472.808.32.....24
413.543.....81		417.143.....78	423.36X.....71	430.872.A0.....91	452.191.....86	456.131.....86	472.811.....19
413.841.....81		417.160.....77	423.37X.....71	430.873.....91	452.261.BD.....86	458.141.....86	472.811.WZ.....19
413.871.....81		417.162.....78	423.167.....62	430.873.A0.....91	452.278.GH.....89	458.161.....86	472.817.....19
414.132.....78		417.163.....78	423.168.....62	430.882.....91	452.304.....87	458.161.EP.....143	472.857.....65
414.133.....78		417.163.EP.....142	423.367.....62	430.883.....91	452.341.....87	458.191.....86	472.857.WZ.....65
414.142.....78		417.168.....77	423.368.....62	430.893.....91	452.361.....87	458.341.....87	473.12K.....20
414.142.EP.....142		417.193.....78	424.147.....62	434.142.....83	452.541.....87	458.361.....87	473.13K.....20
414.143.....78		417.198.....77	424.171.....62	434.162.....83	452.561.....87	458.541.....87	473.14K.....20
414.162.....78		417.198.11.....77	424.177.....62	434.342.....83	452.703.....86	458.561.....87	473.20X.40.....71
414.162.EP.....142		417.198.EP.....142	424.178.....62	434.345.....83	452.705.....86	460.121.....85	473.21X.....71
414.163.....78		417.199.....77	424.197.....62	434.355.....83	452.751.....86	460.122.....85	473.22K.....20
414.192.....78		417.199.EP.....142	424.198.....62	434.362.....83	452.831.....85	466.171.....85	473.23K.....20
414.193.....78		417.306.....79	424.361.....62	434.365.....83	452.851.....85	466.172.....85	473.24K.....20
414.342.....79		417.309.....79	424.367.....62	434.542.....83	453.131.....86	469.131.....85	473.72K.....20
414.343.....79		417.312.....79	424.368.....62	435.142.....83	453.141.....86	469.133.....85	473.73K.....20
414.362.....79		417.342.....79	424.567.....62	435.162.....83	453.160.....85	469.151.....85	473.74K.....20
414.462.....79		417.343.....79	425.000.01.....68	435.162.EP.....143	453.160.EP.....143	469.153.....85	473.80X.40.....71
414.542.....81		417.362.....79	425.001.01.....68	435.342.....83	453.161.....86	469.362.....85	473.81X.....71
414.542.EP.....142		417.363.....79	425.010.01.....68	435.345.....83	453.161.EP.....143	470.111.....19	473.82K.....20
414.543.....81		417.363.EP.....142	425.011.01.....68	435.355.....83	453.163.....86	470.211.....19	473.83K.....20
414.752.....80		417.398.....77	425.290.....68	435.362.....83	453.191.....86	471.12K.....20	473.84K.....20
414.842.....81		417.399.....77	425.291.....68	435.362.EP.....143	453.238.....89	471.13K.....20	473.111.....19
414.872.....81		417.462.....79	426.000.01.....68	435.365.....83	453.258.....89	471.14K.....20	473.117.....19
415.132.....78		417.542.....81	426.001.01.....68	435.542.....83	453.261.BD.....86	471.22K.....20	473.201.40.....23
415.133.....78		417.543.....81	426.010.01.....68	435.542.EP.....143	453.278.....89	471.23K.....20	473.201.EZ.....23
415.142.....78		417.562.....81	426.011.01.....68	435.562.....83	453.278.EP.....143	471.24K.....20	473.207.40.....23
415.143.....78		417.752.....80	426.147.....62	436.162.....83	453.298.....89	471.72K.....20	473.208.40.....23
415.160.....77		417.753.....80	426.171.....62	436.362.....83	453.301.....87	471.73K.....20	473.211.....19
415.162.....78		417.842.....81	426.177.....62	437.142.....83	453.338.....89	471.74K.....20	473.211.24.....19
415.162.EP.....142		417.842.EP.....142	426.178.....62	437.162.....83	453.341.....87	471.82K.....20	473.211.SM.....19
415.163.....78		417.852.....81	426.197.....62	437.162.EP.....143	453.358.....89	471.83K.....20	473.211.WZ.....19
415.163.EP.....142		417.872.....81	426.198.....62	437.342.....83	453.361.....87	471.84K.....20	473.217.....19
415.192.....78		417.872.EP.....142	426.290.....68	437.362.....83	453.381.....85	471.117.....19	473.217.WZ.....19
415.193.....78		417.C42.....81	426.291.....68	437.542.....83	453.363.....87	471.157.....65	473.257.....65
415.301.....79		417.C52.....81	426.361.....62	446.277.....63	453.378.....89	471.157.SM.....65	473.711.....19
415.302.....79		417.C72.....81	426.367.....62	446.701.....63	453.378.EP.....143	471.207.28.....23	473.801.40.....24
415.312.....79		418.142.....78	426.368.....62	446.771.....63	453.398.....89	471.208.28.....23	473.801.EZ.....24
415.342.....79		418.143.....78	426.567.....62	446.777.....63	453.541.....87	471.217.....19	473.807.40.....24
415.343.....79		418.162.....78	426.568.....62	446.827.....63	453.561.....87	471.254.....65	473.808.40.....24
415.362.....79		418.163.....78	426.701.....62	446.851.....63	453.703.....86	471.257.....65	473.811.....19
415.362.EP.....142		418.163.EP.....142	426.767.....62	446.857.....63	453.705.....86	471.257.CC.....141	473.811.WZ.....19
415.363.....79		418.192.....78	427.147.....62	447.277.....63	453.751.....86	471.757.....65	473.817.....19
415.442.....79		418.312.....79	427.171.....62	447.707.....63	453.758.....89	471.807.28.....24	473.857.....65
415.462.....79		418.342.....79	427.177.....62	447.827.....63	454.298.....89	471.808.28.....24	474.12K.....20
415.542.....81		418.343.....79	427.178.....62	447.857.....63	454.238.....89	471.817.....19	474.13K.....20
415.542.EP.....142		418.362.....79	427.297.....62	450.001.SB.....91	454.258.....89	471.857.....65	474.14K.....20
415.543.....81		418.363.....79	427.298.....62	450.001.WB.....91	454.278.....89	472.12K.....20	474.22K.....20
415.543.EP.....142		418.363.EP.....142	427.367.....62	450.001.ZH.....91	454.278.EP.....143	472.13K.....20	474.23K.....20
415.741.....80		418.462.....79	427.567.....62	450.031.....91	454.298.....89	472.14K.....20	474.24K.....20
415.752.....80		418.542.....81	429.171.....62	450.221.....91	454.338.....89	472.20X.32.....71	474.472K.....20
415.753.....80		418.543.....81	429.177.....62	450.311.....91	454.358.....89	472.21X.....71	474.73K.....20
415.842.....81		418.543.EP.....142	429.178.....62	450.521.....91	454.358.EP.....143	472.22K.....20	474.74K.....20
415.842.EP.....142		418.704.....37, 80	429.197.....62	450.801.....91	454.378.....89	472.23K.....20	474.82K.....20
415.852.....81		418.704.EP.....143	429.198.....62	450.821.DB.....91	454.398.....89	472.24K.....20	474.83K.....20
415.872.....81		418.752.....80	429.367.....62	450.871.....91	454.758.....89	472.25X.....71	474.84K.....20
415.872.EP.....142		418.826.....37, 80	42A.000.01.....69	450.871.A0.....91	454.778.....89	472.72K.....20	474.111.....19
415.C42.....81		418.826.EP.....143	430.001.SB.....91	450.881.....91	454.831.....85	472.73K.....20	474.117.....19
415.C52.....81		418.842.....81	430.001.WB.....91	450.891.....91	454.851.....85	472.74K.....20	474.201.48.....23
415.C72.....81		418.852.....81	430.001.ZH.....91	451.131.....86	454.871.....85	472.80X.32.....71	474.207.48.....23
416.132.....78		418.872.....81	430.031.....91	451.141.....86	456.131.....86	472.81X.....71	474.208.48.....23
416.133.....78		412.143.....78	430.032.....91	451.160.....85	456.141.....86	472.82K.....20	474.211.....19
416.142.....78		412.144.....78	430.122.....139	451.161.....86	456.160.....85	472.83K.....20	474.217.....19
416.143.....78		412.163.....78	430.123.....139	451.161.EP.....143	456.161.....86	472.84K.....20	474.311.....19
416.160.....77		412.163.EP.....143	430.123.CC.....141	451.162.....86	456.161.EP.....143	472.85X.....71	474.317.....19
416.160.EP.....142		412.164.....78	430.123.EP.....143	451.191.....86	456.163.....86	472.111.....19	474.801.48.....24
416.162.....78		412.343.....79	430.124.....139	451.192.....86	456.191.....86	472.117.....19	474.807.48.....24
416.163.....78		412.344.....79	430.125.....139	451.258.....89	456.238.....89	472.157.....65	474.808.48.....24

Art. No.	Page	478.14K.....19	478.22K.....20	486.217.....60	502.425.24.....126	506.711.....126	533.008.24.....129, 131	542.513.....121
474.811.....19		478.22K.....20	486.218.....60	502.428.24.....126	506.720.....126	533.009.24.....131	542.515.....121	
475.2B1.76.....25		478.23K.....20	486.237.....59	502.720.24.....126	506.730.....126	533.010.24.....129, 131	542.519.....121	
475.2M0.01.....69		478.24K.....20	486.248.....59	502.722.24.....126	506.732.....126	533.405.....127	542.520.....121	
475.2M1.01.....69		478.72K.....20	486.311.....60	502.725.24.....126	506.735.....126	540.067.....113	542.538.....121	
475.2W1.76.....25		478.73K.....20	486.317.....60	502.728.24.....126	506.738.....126	540.068.....113	542.541.....121	
475.5M0.01.....69		478.74K.....20	486.318.....60	502.820.24.....126	506.740.....126	540.069.....113	542.542.....121	
475.7M1.01.....69		478.82K.....20	486.348.....59	502.822.24.....126	506.744.....126	540.070.....113	542.547.....121	
475.12K.....20		478.83K.....20	486.717.....61	502.825.24.....126	506.750.....126	540.071.....113	542.701.....121	
475.13K.....20		478.84K.....20	486.718.....61	502.828.24.....126	506.757.....126	540.072.....113	542.702.....121	
475.14K.....20		478.200.06.....21	486.817.....61	503.311.....122	506.763.....126	540.073.....113	542.703.....121	
475.22K.....20		478.200.08.....21	486.818.....61	503.313.....122	506.769.....126	540.074.....113	542.704.....121	
475.23K.....20		478.200.10.....21	487.011.MS.....60, 73	503.314.....122	506.775.....126	540.075.....113	542.705.....121	
475.24K.....20		478.210.75.....19	487.117.....60	503.316.....122	506.782.....126	540.076.....113	542.706.....121	
475.72K.....20		478.225.06.....21	487.118.....60	503.318.....122	506.788.....126	540.077.....113	542.707.....121	
475.73K.....20		478.225.08.....21	487.217.....60	504.301.....123	506.794.....126	540.078.....113	542.708.....121	
475.74K.....20		478.225.10.....21	487.218.....60	504.302.....123	506.801.....126	540.225.....127	542.709.....121	
475.82K.....20		478.260.01.....68	487.237.....59	504.333.....123	506.805.60.....127	540.321.....127	542.711.....121	
475.83K.....20		478.261.01.....68	487.248.....59	504.334.....123	506.806.....126	540.323.....127	542.713.....121	
475.84K.....20		478.300.06.....21	487.311.....60	504.335.....123	506.811.....126	540.324.....127	542.715.....121	
475.111.....19		478.300.08.....21	487.317.....60	504.346.....123	506.820.....126	540.325.....127	542.717.....121	
475.201.48.....23		478.300.10.....21	487.318.....60	504.347.....123	506.830.....126	540.327.....127	542.719.....121	
475.201.56.....23		478.310.75.....19	487.817.....61	504.501.06.....123	506.832.....126	541.2C1.00.....115	542.720.....121	
475.201.76.....23		478.325.06.....21	488.237.....59	504.502.06.....123	506.835.....126	541.2C1.30.....115	542.739.....121	
475.201.EZ.....23		478.325.08.....21	488.238.....59	504.532.06.....123	506.838.....126, 131	541.2C1.60.....115	542.740.....121	
475.207.48.....23		478.325.10.....21	488.248.....59	504.533.06.....123	506.840.....126	541.2C2.00.....115	542.741.....121	
475.207.56.....23		478.500.06.....21	499.900.....194	504.534.06.....123	506.844.....126	541.2C2.50.....115	542.801.....121	
475.207.76.....23		478.500.08.....21	499.901.....194	504.535.06.....123	506.850.....126	541.030.....113	542.802.....121	
475.208.48.....23		478.500.10.....21	4K7.161.....83	504.536.06.....123	506.855.....131	541.037.....113	542.803.....121	
475.208.76.....23		478.520.06.....21	4K7.361.....83	504.546.06.....123	506.857.....126	541.039.....113	542.804.....121	
475.211.....19		478.520.08.....21	4K9.161.....83	504.547.06.....123	506.860.....131	541.045.....113	542.807.....121	
475.217.....19		479.3M2.01.....69	4K9.361.....83	504.548.06.....123	506.863.....126	541.076.....113	542.808.....121	
475.260.01.....68		47A.261.01.....69	500.010.....125	504.549.06.....123	506.869.....126	541.077.....113	542.811.....121	
475.261.01.....68		47S.201.76.....23	500.016.....125	504.550.06.....123	506.875.....126	541.079.....113	542.812.....121	
475.311.....19		47S.211.....19	500.308.....125	504.551.06.....123	506.882.....126	541.083.....113	542.813.....121	
475.317.....19		480.117.....59	500.310.....125	504.552.06.....123	506.888.....126	541.084.....113	542.815.....121	
475.801.48.....24		480.217.....59	500.312.....125	506.101.....126	506.894.....126	541.085.....113	542.818.....121	
475.801.56.....24		480.717.....61	500.313.....125	506.101.03.....144	507.001.....129	541.087.....113	542.819.....121	
475.801.76.....24		482.017.....61	500.314.....125	506.101.60.....127	507.002.....129	541.089.....113	542.820.....121	
475.807.48.....24		482.027.....61	500.315.....125	506.106.....126	507.003.....129	541.093.....113	542.822.....121	
475.807.56.....24		482.057.....61	500.316.....125	506.130.....126	507.004.....129	541.095.....113	542.823.....121	
475.807.76.....24		482.114.....59	500.318.....125	506.130.03.....144	507.007.....129	541.200.42.....114	542.881.....121	
475.808.48.....24		482.117.....59	500.319.....125	506.130.60.....127	507.105.....127	541.200.55.....114	543.2C1.00.....115	
475.808.56.....24		482.117.SM.....59	500.320.....125	506.132.....126	507.190.....127	541.200.60.....114	543.2C1.30.....115	
475.808.76.....24		482.204.....59	500.508.....125	506.135.....126	507.301.....132	541.200.80.....114	543.2C1.60.....115	
475.811.....19		482.207.....59	500.510.....125	506.135.03.....144	507.302.....132	541.201.00.....114	543.2C2.00.....115	
475.817.....19		482.208.....59	500.512.....125	506.138.....126	507.303.....132	541.201.30.....114	543.2C2.50.....115	
476.2M0.01.....69		482.214.....59	500.513.....125	506.140.....126	507.304.....132	541.201.60.....114	543.006.....73, 120	
476.2M1.01.....69		482.217.....59	500.514.....125	506.140.03.....144	507.305.....132	541.201.90.....114	543.200.22.....114	
476.5M0.01.....69		482.217.CC.....141	500.515.....125	506.140.60.....127	507.307.....132	541.202.00.....114	543.200.26.....114	
476.5M1.01.....69		482.217.SM.....59	500.516.....125	506.144.....126	507.308.....132	541.202.20.....114	543.200.32.....114	
476.12K.....20		482.217.WZ.....59	500.518.....125	506.150.....126	507.959.....132	541.202.50.....114	543.200.42.....114	
476.13K.....20		482.317.....59	500.519.....125	506.150.03.....144	522.120.24.....126	541.202.80.....114	543.200.55.....114	
476.14K.....20		482.517.....61	500.520.....125	506.150.60.....127	522.122.24.....126	541.203.00.....114	543.200.60.....114	
476.22K.....20		482.714.....61	500.708.....125	506.157.....126	522.125.24.....126	541.203.20.....114	543.200.80.....114	
476.23K.....20		482.717.....61	500.710.....125	506.160.60.....127	522.128.24.....126	541.203.80.....114	543.201.00.....114	
476.24K.....20		482.807.....61	500.712.....125	506.163.....126	526.101.....126	541.301.....139	543.201.30.....114	
476.72K.....20		482.808.....61	500.713.....125	506.163.03.....144	526.106.....126	541.301.CC.....141	543.201.60.....114	
476.73K.....20		482.814.....61	500.714.....125	506.169.....126	526.111.....126	541.301.EP.....143	543.201.90.....114	
476.74K.....20		482.817.....61	500.715.....125	506.175.....126	526.130.....126	541.372.....127	543.202.00.....114	
476.82K.....20		482.817.WZ.....61	500.716.....125	506.175.03.....144	526.132.....126	541.373.....127	543.202.20.....114	
476.83K.....20		483.21X.....71	500.718.....125	506.180.60.....127	526.135.....126	542.034.....73, 120	543.202.50.....114	
476.84K.....20		483.81X.....71	500.719.....125	506.182.....126	526.138.....126	542.301.....121	543.202.80.....114	
476.111.....19		483.117.....59	500.720.....125	506.188.....126	526.140.....126	542.302.....121	543.203.00.....114	
476.210.51.....19		483.217.....59	500.808.....125	506.194.....126	526.144.....126	542.303.....121	543.203.20.....114	
476.211.....19		483.230.....83	500.810.....125	506.211.....126	526.150.....126	542.304.....121	543.926.....73, 120	
476.260.01.....68		483.317.....59	500.812.....125	506.220.....126	526.157.....126	542.305.....121	544.301.....130	
476.261.01.....68		483.817.....61	500.813.....125	506.330.....131	526.163.....126	542.306.....121	544.302.....130	
476.311.....19		484.117.....60	500.814.....125	506.340.....131	526.169.....126	542.307.....121	544.307.....131	
477.2M0.01.....69		484.118.....60	500.815.....125	506.363.....131	526.175.....126	542.308.....121	544.361.....131	
477.2M1.01.....69		484.217.....60	500.816.....125	506.401.....126	526.182.....126	542.309.....121	544.804.....130	
477.12K.....20		484.218.....60	500.818.....125	506.406.....126	526.188.....126	542.311.....121	545.200.12.....114	
477.13K.....20		484.311.....60	500.819.....125	506.411.....126	526.194.....126	542.313.....121	545.200.19.....114	
477.14K.....20		484.317.....60	500.820.....125	506.430.....126	529.301.24.....129	542.315.....121	545.200.22.....114	
477.22K.....20		484.318.....60	501.301.....125	506.432.....126	529.302.....129	542.317.....121	545.200.26.....114	
477.23K.....20		484.717.....61	501.501.....125	506.435.....126	529.311.....129, 131	542.319.....121	545.200.32.....114	
477.24K.....20		484.718.....61	501.701.....125	506.438.....126	529.811.....129, 131	542.320.....121	545.200.42.....114	
477.72K.....20		484.817.....61	501.801.....125	506.440.....126	532.202.....129	542.347.....121	545.200.55.....114	
477.73K.....20		484.818.....61	502.050.24.....125	506.444.....126	532.202.03.....144	542.351.....121	545.200.60.....114	
477.74K.....20		485.137.....59	502.052.24.....125	506.450.....126	532.203.....129	542.381.....121	545.200.80.....114	
477.82K.....20		485.237.....59	502.055.24.....125	506.457.....126	532.203.03.....144	542.501.....121	545.201.00.....114	
477.83K.....20		485.237.CC.....141	502.058.24.....125	506.463.....126	532.205.....129	542.502.....121	545.201.30.....114	
477.84K.....20		485.237.SM.....59	502.120.03.....144	506.469.....126	532.211.....129	542.503.....121	545.201.60.....114	
477.210.75.....19		485.337.....59	502.120.24.....126	506.475.....126	532.218.....129	542.504.....121	545.201.90.....114	
477.260.01.....68		486.111.....60	502.122.24.....126	506.482.....126	532.218.60.....127	542.505.....121	545.202.20.....114	
477.261.01.....68		486.117.....60	502.125.24.....126	506.488.....126	532.303.60.....127	542.506.....121	545.202.50.....114	
477.310.75.....19		486.118.....60	502.128.24.....126	506.494.....126	532.703.....131	542.507.....121	545.202.80.....114	
478.12K.....20		486.148.....59	502.420.24.....126	506.701.....126	532.716.....131	542.508.....121	545.203.00.....114	
478.13K.....20		486.211.....60	502.422.24.....126	506.706.....126	532.718.....131	542.511.....121	545.203.20.....114	

Art. No.	Page	545.303.....131	549.105.....127	560.725.....122	565.342.50.....116	568.806.....133	591.216.40.....119	601.204.20.....152
545.307.....130		549.106.....127	560.730.....122	565.342.90.....116	569.321.00.....117	591.310.55.....119	601.204.30.....152	
545.311.....130		549.107.....127	561.304.....122	565.343.20.....116	569.321.30.....117	591.310.65.....119	601.304.20.....152	
545.312.....130		549.108.....127	562.508.....134	565.521.00.....116	569.321.60.....117	591.310.70.....119	601.304.30.....152	
545.320.....130		551.801.....130	562.510.....134	565.521.30.....116	569.341.90.....117	591.310.80.....119	601.404.20.....152	
545.321.....130		551.811.....131	562.512.....134	565.521.60.....116	569.342.50.....117	591.310.90.....119	602.214.20.....152	
545.322.....130		551.812.....131	562.515.....134	565.521.90.....116	569.343.20.....117	591.311.00.....119	602.214.30.....152	
545.331.....131		552.403.....130	562.518.....134	565.522.50.....116	570.907.....135	591.311.10.....119	602.314.20.....152	
545.338.....130		552.404.....130	562.522.....134	565.541.60.....116	570.910.....135	591.311.20.....119	602.314.30.....152	
546.302.....132		552.811.....131	562.528.....134	565.541.90.....116	591.210.65.....119	591.311.30.....119	602.414.20.....152	
546.306.....132		552.816.....131	562.535.....134	565.542.00.....116	591.210.70.....119	591.311.55.....119	603.214.20.....152	
546.314.....132		553.711.....130	563.301.....135	565.542.50.....116	591.210.80.....119	591.311.80.....119	603.214.30.....152	
546.318.....132		554.903.....130	564.101.....130	565.542.90.....116	591.210.90.....119	591.312.00.....119	603.314.20.....152	
546.906.....132		559.713.....131	564.220.60.....116	565.543.20.....116	591.211.00.....119	591.312.20.....119	603.314.30.....152	
547.303.....121		559.802.....120	564.220.80.....116	565.730.80.....116	591.211.10.....119	591.312.50.....119	603.414.20.....152	
547.307.....121		559.803.....120	565.061.00.....116	565.731.00.....116	591.211.20.....119	591.312.70.....119	604.225.20.....152	
547.311.....121		559.804.....120	565.061.30.....116	565.731.30.....116	591.211.30.....119	591.312.80.....119	604.225.30.....152	
547.313.....121		559.805.....120	565.061.60.....116	565.731.60.....116	591.211.55.....119	591.313.00.....119	604.325.20.....152	
547.315.....121		559.806.....120	565.062.00.....116	565.742.00.....116	591.211.80.....119	591.313.20.....119	604.325.30.....152	
547.703.....121		559.807.....120	565.062.50.....116	565.742.50.....116	591.212.00.....119	591.313.50.....119	604.425.20.....152	
547.707.....121		559.810.....120	565.321.00.....116	566.601.....133	591.212.20.....119	591.313.80.....119	605.265.20.....152	
547.711.....121		559.831.....131	565.321.30.....116	566.602.....133	591.212.50.....119	591.314.10.....119	605.265.30.....152	
547.713.....121		560.310.....122	565.321.60.....116	566.603.....133	591.212.70.....119	591.314.50.....119	605.365.20.....152	
547.715.....121		560.315.....122	565.321.90.....116	566.701.....133	591.212.80.....119	591.314.80.....119	605.365.30.....152	
547.803.....121		560.320.....122	565.322.10.....116	566.702.....133	591.213.00.....119	591.315.10.....119	605.465.20.....152	
547.807.....121		560.325.....122	565.322.40.....116	566.703.....133	591.213.20.....119	591.315.40.....119	99BKHDEU.....145, 188	
547.811.....121		560.330.....122	565.322.50.....116	566.707.01.....133	591.213.50.....119	591.315.70.....119	99BKHENG.....145, 188	
547.813.....121		560.510.....122	565.322.90.....116	567.201.....133	591.213.80.....119	591.316.00.....119	99EGBDEU.....188	
547.815.....121		560.515.....122	565.323.20.....116	567.601.....133	591.214.10.....119	591.316.40.....119	99INBDEU.....188	
548.304.KG.....115		560.520.....122	565.341.00.....116	567.671.....131, 133	591.214.50.....119	599.001.....133	99TBDEUENG.....188	
548.305.KG.....115		560.525.....122	565.341.30.....116	567.701.....133	591.214.80.....119	599.002.....133		
549.101.....127		560.530.....122	565.341.60.....116	567.731.....133	591.215.10.....119	599.921.....131		
549.102.....127		560.710.....122	565.341.90.....116	567.771.....131, 133	591.215.40.....119	599.931.....131		
549.103.....127		560.715.....122	565.342.00.....116	568.802.....133	591.215.70.....119	599.962.....131		
549.104.....127		560.720.....122	565.342.10.....116	568.805.....133	591.216.00.....119	599.991.....131		



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# Keyword Index

Term	Page
Accessories for wheel brushes	44–45
Adapter sets	44–45
Aluminium profiles	174
Band saw brushes	40–41
Barbecue grill brushes	100–101
Battery terminal brushes	135
Bevel brushes	64–65
Body brushes	80
Boiler brushes	128–131
Boiler brush sets	131
Bore hole cleaning brushes	123
Bricklayer's brushes	105
Brooms	106–107
Brushes for grass trimmers	66–67
Brushes for removing wet storage stain	102–103
Brushes for wood working	36–37
Brushes low sparking	72–73
Carbon fibre brushes	148–149
Chimney brushes	129
<b>Cup and bevel brushes</b> ..... <b>57–73</b>	
Cup brushes, abrasive filaments	62
Cup brushes, brass-coated steel wire	62
Cup brushes, crimped wire	62
Cup Brushes, knotted	58–61
Cup Brushes, straight filling	63
Cup brushes with shank	82–83
Cutback brushes	26–27
Cut cases	140–141
Cylinder brushes	120–121
<b>Deburring brushes</b> ..... <b>47–55</b>	
Deburring end brushes	54–55
Deburring roller brushes	52–53
Deburring wheel brushes	48–51
Disc brushes	155–157
<b>DIY brushes and sales promotion</b> ..... <b>137–145</b>	
Drive arbors	44–45
Dusters	106–107
End brushes with shank	84–87
File cards	105
File cleaners	105
Fine scratch brushes	99
Fitting brushes	134
Flexible honing brushes	118
Gas hob brush	98
<b>Hand brushes and brooms</b> ..... <b>93–109</b>	
Hand brushes, export models	97
Hand brushes, heavy duty	97
Hand brushes, rectangular and violin	103
Hand brushes, special models	102–105
Hand brushes, standard	95
Hand brushes with plastic handles	96
Hand brushes with scraper	97
Hand brushes with strap	103
Hand brushes with top handle	103
Hand brushes with two-components handles	96
Handles and extensions	133
Hanger for interior brushes	144
High performance filament brushes	
HFB	150–153
Hole cleaning brushes	122
<b>Industrial brushes</b> ..... <b>147–161</b>	
Joint cleaning brushes	21
Knotted end brushes with shank	88–89
Knot wheel brushes	18–20
Lath brushes	158–159
Metal discs as spare parts	44–45
Microabrasive interior brushes	112–115
Miniature brushes	90–91
Non-sparking brushes	72–73
Pipeline brushes	22–25
Plasterer's brushes	105
Punch filled brushes	154
Radiator brushes	104
Rivet brushes	97
ROKI® brake caliper brushes	96
Roller brushes	160
Roughing brushes	105
Rust scratchers	135
Satinising brushes	36–37
Scratchers	135
Scrub brushes	106–107
Sealing brushes with angled fittings	168–169
Sealing brushes with straight fittings	166–167
<b>Shank brushes</b> ..... <b>75–91</b>	
Shaped strip brushes	176–177
Single segment brushes	28–31
Single-unit cardboard packaging	142
Sleeve brushes	124–127
Small diameter crimped wheels	
SDW	42–43
Soldering fluid brushes	135
Soldering tip brush	98
Soluble oil brushes	135
Spark plug brushes	98
Staining brushes	104
Stovepipe brushes	132
Stringer bead brushes	22–25
<b>Strip brushes</b> ..... <b>164–179</b>	
Strip brushes, cup-shaped	178
Strip brushes for slots/profiles	170–171
Strip brushes in aluminium profile	172–173
Stripping brushes	38–39
Structuring brushes with shank	37, 80
Thread adapters	133
Tube brushes	124–127
Universal wire brushes	97
Wax polishing brush	104
Weed brooms	108–109
Weed brushes	108–109
<b>Wheel brushes</b> ..... <b>17–45</b>	
Wheel brushes for processing carbide	42–43
Wheel brushes with shank	76–79
Wheel brushes with thread	64–65
X-LOCK brush assortment	70–71



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