

LESSMANN®

THE GERMAN BRUSH COMPANY

2024

en

CATALOGUE

QUALITY MADE IN GERMANY

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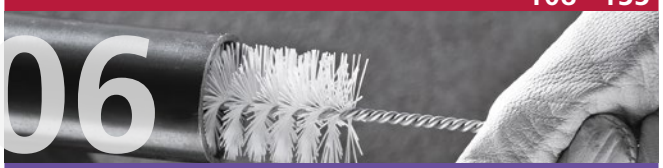
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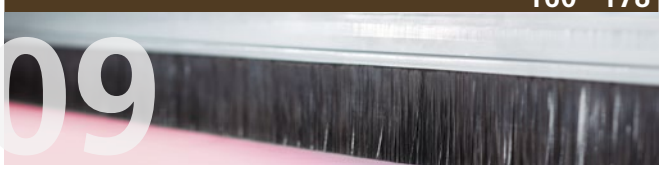
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LESSMANN®
THE GERMAN BRUSH COMPANY

Dear customers,

Following an eventful 2023, in which we celebrated our 75th anniversary, we are looking forward to what 2024 will bring.

A groundbreaking decision for our company came into effect on January 1 of this year: **Ms. Cornelia Kitzsteiner was appointed as Managing Director** and is now responsible for Sales and Marketing. Ms. Kitzsteiner has been with the company for over 30 years and was most recently made an authorised signatory and head of our sales department. This decision will provide our customers, business partners and staff with stability and continuity in the future.

There are some important trade fairs coming up up in 2024, where we look forward to meeting many of our customers and interested parties in person. Visit us at our exhibition stands at the **International Hardware Fair in Cologne** (March 3 – 6, 2024), at the **Tube trade fair in Düsseldorf** (April 15 – 19, 2024) or **AMB in Stuttgart** (September 10 – 14, 2024)!

We are constantly working to expand our range and further develop our products. This year, we have introduced further new products that we would like to present to you. In this catalogue, you will find our range of flexible honing brushes (page 116), internal brushes with round wires as a mounting shaft (page115) or a solid hand brush with plastic bristles and scraper, which is ideal for cleaning lawn mowers (page 107).

Please contact us, we will be happy to provide you with further information on any of these and other products!

You are also welcome to watch our **new image film** at www.youtube.com/watch?v=K-XFdGuhv78



Jürgen Lessmann

Dieter Lessmann

Cornelia Kitzsteiner

Five Good reasons to choose Lessmann



Quality

We focus on products of the highest quality and place great emphasis on our service and consulting to make it easier for you to work.

Fairness

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



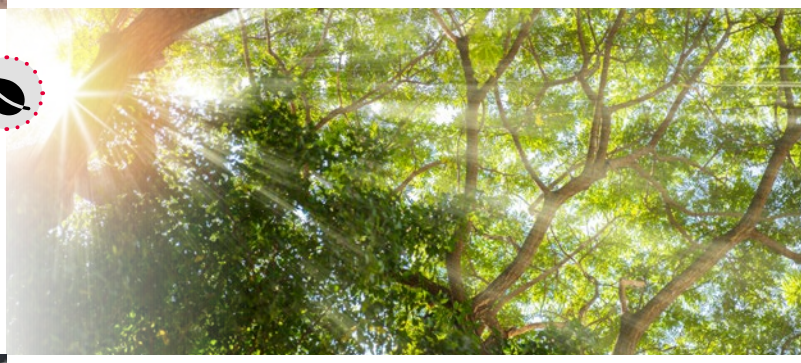


Reliability

You can rely on us for consistent quality and adherence to delivery dates. For us, reliability also means producing both mass-produced items and custom-made products at competitive prices.

Sustainability

Sustainable entrepreneurial action with responsibility for society, the environment and future generations is an important principle for us.





Independence

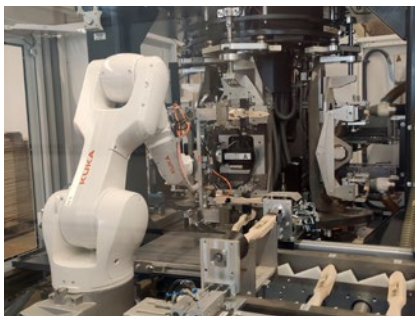
We strive for independence on the procurement and sales side. Together with the distribution of know-how across all levels, this gives you the security of having a strong partner with us long term.

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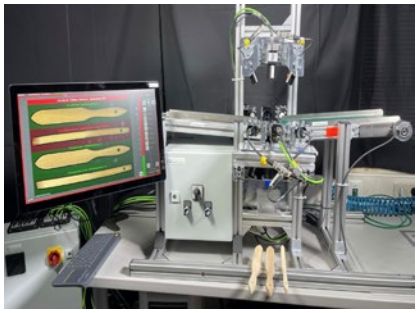
Future-oriented investment

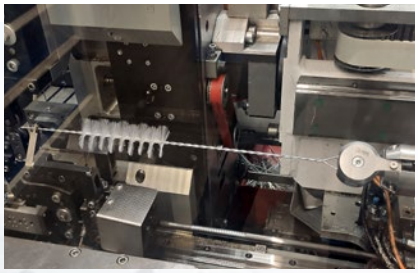
After the enlargement of our production hall by 4,200 sqm in 2014 and of our high rack storage area by 1,300 sqm in 2016, we have completed construction of the new administration building in 2021, providing our employees with modern offices equipped to a high technical standard – with more space, more light and a better indoor climate. In addition, we constantly modernized and enhanced our production lines with new machines.

These steps are a visible sign of our stable growth. Besides the new building shows our intention to assure our position as leading technological and qualitative company and to strengthen it by opening new markets! Furthermore we have more space and capacities for producing more industrial special solutions – of course in our usual best quality and accuracy!











Made in Germany

Quality made in Germany. For LESSMANN that does not only mean, that all our products are manufactured in Bavaria, but also the huge part of all raw materials as filament, wood, metal or plastics are purchased from renowned suppliers in Germany.

We manufacture almost all products in a broad standard program on our own. That's why already the quality of the raw materials has a significant role. Intensive test of the materials and inspections during production, build up two important values of the reliable LESSMANN-quality.

The headquarters in Germany requesting us to be the pioneer when using modern technology and automation. Thus our customers can receive the best quality at competitive prices.



Fit for the Globe

First-class quality products, expertise and a high flexibility – our innovative technical brushes are "Fit for the Globe".

Depending on the country we work with our own employees, regional importers or authorised retailers. Our export department has the accurate know-how, to consult and satisfy the demand of our customers globally.

In 2016 we launched a foreign branch in the USA. The „Lessmann Inc." guarantees optimal service and logistics and our approved first-class products on the US-American market.

As an Authorised Economic Operator (AEO) with the combined authorization „customs simplification (AEOC) & security and safety (AEOS)" we can offer you much faster and easier customs clearance for export.

Perfect Presentation

The brand LESSMANN signifies quality and gives clearly structured information.

Please have a look at our home page in the internet!
On www.lessmann.com you will find our latest catalogue as well as leaflets to download.

Further technical advice as well as operating instructions are available.

Self-service Tool Bar Displays
Take advantage of our experience and use this idea that will lead to successful and increased sales.



Systematic Sustainability

Ecological responsibility means operational environmental protection as well as a contribution to climate protection for Lessmann. Therefore, our goal was to have the company certified according to ISO 14001:2015 (environmental management) to clearly define and track reduction targets for emissions and raw material consumption. Lessmann has been certified according to this standard since May 2022 and thus records consumption to make future reduction targets measurable. We have also recently become part of the „Bavarian Environment + Climate Pact". By participating, we are obligated to take environmental protection measures that go far beyond the legal requirements.
Since 2003, we have been using several photovoltaic systems to generate electricity on all our company's roof surfaces. Through constant extensions, we have now reached a total output of 588 kWp. With an annual consumption of approx. 1,200 kWh, we now generate almost 50 % of our electricity ourselves. We are even better with the heating: This is fueled to 100 % from leftovers of the production of our wooden handles.



PEFC™
PEFC/04-31-0389

Promoting sustainable forest management

www.pefc.de

PEFC Certification System

PEFC is a transparent and independent certification system to ensure sustainable forest management. An inspection is carried out by independent experts and ensures compliance with the standards.

Lessmann uses PEFC certified wood that comes from a regional forest and is managed sustainable or complies with PEFC standards, e. g. in hand brushes.

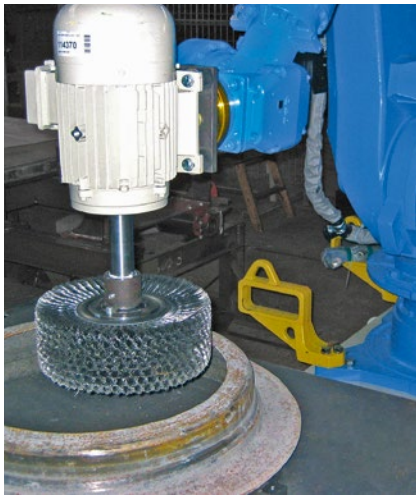
Print product with financial
climate contribution
ClimatePartner.com/13318-2309-1001

To compensate for the CO_2 generated in the printing of this catalog, we made an offset payment for clean drinking water in Eritrea through the ClimatePartner program.

LESSMANN®
THE GERMAN BRUSH COMPANY

Individual Solutions for special applications

Whether in the automotive industry, pipe and pipeline construction or tire and rubber manufacturing – individual brushes with special filling materials or unusual dimensions are required everywhere for special production steps. Our application consulting and product development support all projects from consulting to production. This results in special models, created to meet specific needs: exactly designed for the customer's application, precisely constructed and manufactured in the best, reliable Lessmann quality. Because we welcome new challenges and demonstrate our willingness and ability to make innovative improvements with individual solutions.





Development of individual solutions on-site by application consultants

Special models can be produced in small or large batches

In-house toolmaking for special tasks



"Simply the Best" by testing

Quality is our feature!

Accredited with
DIN EN ISO 9001:2015



Our own production of nearly all components of our standard programme and our own development of special articles enables us to have an excellent knowledge in both manufacturing quality and safety testing.

**Creating Innovation,
Exceeding Safety Standards,
Keeping Top Quality**

With this motivation we make complex development and product tests as an essential part of our work.

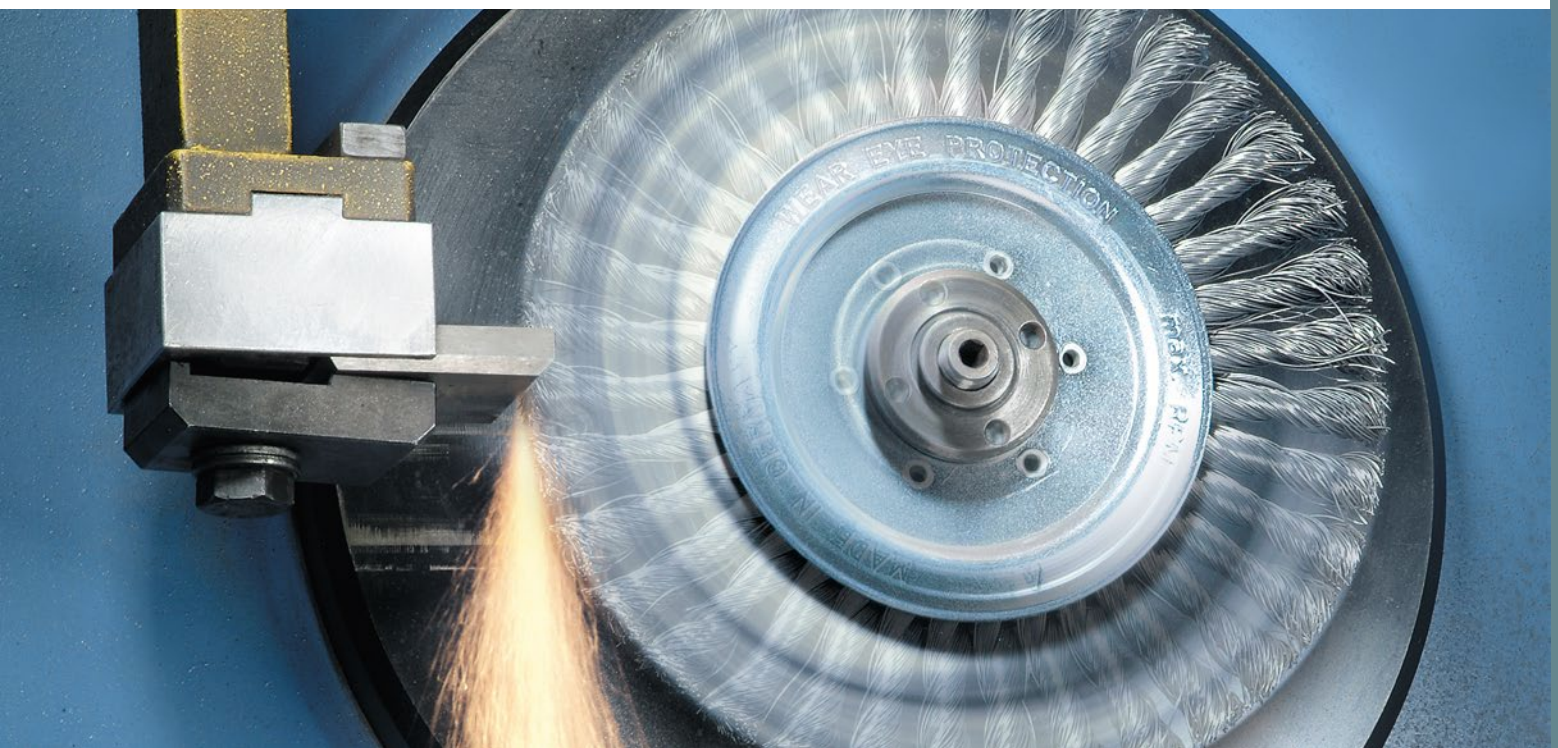
Material Tests
These are the first steps of our quality management: All deliveries of raw material are tested according to and above specification details. All wires are tested for their tensile strength and for their reverse bending strength by a fatigue measuring process.
Beside the quality of the material it is important that its attributes are as suitable as possible for their intended use.

Imbalance Test
An imbalance of machine driven brushes is not pleasant and is dangerous for the health of persons working at the machine.
Although it is not necessary under the DIN or the EN Norms, we produce our brushes according to our own standards for minimum imbalance. By doing so our customers take advantage of smooth running fatigue reducing brushes. Our employees in production ensure that these high quality aspects are maintained.

Safety Tests
According to European safety norms all brushes have to with-stand 1.5 times of the mentioned maximum RPM. Naturally when developing a brush, we test every brush type for this safety aspect. Only if all tests are satisfactory, can the article be produced. During production many samples are taken of the brushes in order to check the required safety speed. Should a model or a raw material be changed we begin the tests again. For this very reason every customer can rely on a high quality and safe tool.

Lifetime and Power
For the measurement of the lifetime and power of technical brushes there are neither norms nor standard procedures. After long developing processes and many tests we have found testing methods that simulate testing in real working conditions. On self built machines we are able to test the abrasion and thus the lifetime and power of machine driven brushes.
Beside the quality aspect these tests are helpful in optimising materials used, as well as component parts and the construction of brushes. Even if in comparison tests with competitor brushes such testing has shown and proved the high quality of our products:

We keep on testing to guarantee customer satisfaction.



Recommendations for safe brush use

LESSMANN Quality is Safe
We guarantee the best quality and long lifetime for our products.
Our brushes are manufactured according to the existing standard EN 1083-2 and ANSI 165.1. All the relevant machine driven brushes are checked for occupational safety using a centrifugal force test.

Safety Information
All machine driven brushes require as with other rotary tools, that the required safety precautions are kept:

Safety for Your Body
All operators and other personnel in areas where rotary brushes are being used must wear safety goggles or face shields and protective clothing.

For your own safety:
Wear personal protective equipment

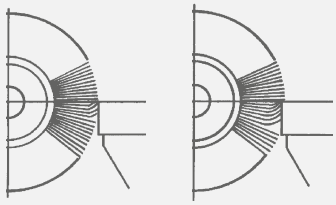


Brush Check
The brushes should be checked for damage before using.

A correct mounting is imperative.
Peripheral Speed
The max. RPM indicated in the catalogue are safety figures by which the brushes can be used without danger. Please do not exceed these figures under any circumstances! In most cases a lower RPM is sufficient to gain an optimal result.

Correct Pressure
The schedule on page 11 shows the necessary motor drive power for different brush diameters. The brushes need only a light pressure while brushing because only the wire points are effective (please look at the schedule). A higher pressure does not improve the brushing effect. In fact the brush lifetime is reduced and greater power is needed.

Correct pressure

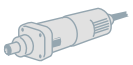


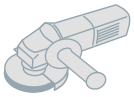
right pressure high pressure

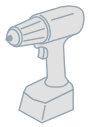
Working with Shank Brushes
When working with shank brushes please note that the shank has to be inserted fully into the tool.
This is especially necessary when working with high RPM, for example on straight grinders and pneumatic tools.

Mechanical Application of interior brushes
Only use the brush with the indicated maximal peripheral speed (RPM max.). The max. RPM only is allowed when the brush is clamped min. for 10 mm into the tool. When the brush is inserted into the suitable work piece, higher RPMs are possible. **Only use the brush right rotating.**

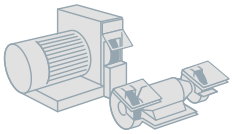
Machine usage:
These symbols in the chapters show on which machines the brushes usually are used.

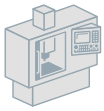

Straight grinder


Angle grinder


Drilling machine

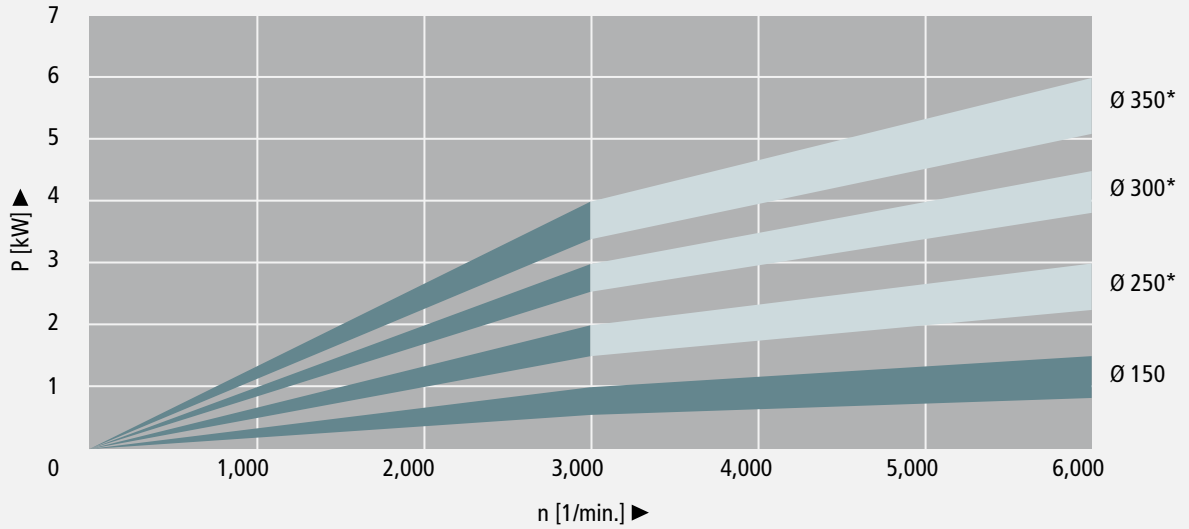

Grass trimmer


Stationary equipment


CNC & Robots, machining centres



Power requirements for Wheel Brushes



The performance figures mentioned above are only guidelines. *Power requirements for a brush width of 30 mm

Recommended use of brushes on angle grinders – the right combination

Brush diameter	60	65	75	80	90	100	115	125	150	178	200
Cup Brush, Crimped Wire	WS 1		WS 2	WS 3		WS 3		WS 5	WS 5		
Knot Cup Brush without Bridle		WS 1	WS 2	WS 2	WS 2	WS 3/4		WS 5			
Knot Cup Brush with Bridle				WS 3/4		WS 3/4		WS 5			
Bevel Brush, crimped wire						WS 1					
Knot Bevel Brush						WS 1	WS 1				
Knot Wheel Brush						WS 1	WS 1	WS 2	WS 3	WS 4	WS 5

Common idle speed of angle grinders (WS)

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

Warning: Before each operation please compare the idle speed of the angle grinder with the max. peripheral speed of the brush!



Minimum bore size for wheel brushes according to EN 1083

Diameter of the brush in mm	Minimum diameter of bore in mm
50	4.6
75	6.5
100	10
150	13
200	16
250	20
300	20
350	32

Producing Quality – brushing the correct way

Optimise Brush Results
The brush diameter and filling length are most important for the perfect brushing result. It is therefore very easy to eliminate almost all bad brushing results:

Brushing effect too weak:
- Increase the peripheral speed by increasing the brush diameter or the operating speed, but never exceed the maximum RPM rating.
- Use a brush with shorter trim length.
- Use a brush with larger wire diameter.

Brushing effect too powerful:
- Reduce the peripheral speed by reducing the brush diameter or the operating speed.
- Use a brush with longer trim length.
- Use a brush with smaller wire diameter.

Brush transfers burr:
- Use a brush with shorter trim length.
- Examine brush and work piece position.
- Use a brush with wider face.
- Use a brush with thicker wire diameter.

Note: you are welcome to contact our technical contact persons.

Information for brushing on stainless steel materials at **www.lessmann.com/downloads**

Our processed stainless steel wires are not completely magnet-free.
They may contain oil residues due to the manufacturing process. If this is not permitted in the application, please order the brushes in an oil-free/degreased version.

Recommended Peripheral Speed for Brushing Application

	Peripheral Speed in m/s							
Application	15	20	25	30	35	40	45	50
With Filaments								
Removing Burrs				25–35				
Cleaning Welds					35–45			
Removing Scale					35–45			
Polishing				30–40				
Working on Plastic	15–20							
With Abrasive Filaments								
Dry conditions	16–18							
Wet conditions			25–30					

Conversion mm in Inches and I.S.W.G.

Brush diameter	
Millimeter	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		
Millimeter	Inches	I.S.W.G
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

Peripheral Speed v in m/sec. (please follow the max. rotary speed of the brush!)

n [1/min.]	Brush diameter d in mm/inches							
(RPM)	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							

$$\text{Peripheral Speed } v = \frac{\text{Brush diameter (d)} \times \pi \times \text{Peripheral Speed (n)}}{1{,}000 \times 60}$$

For **working in wet condition** we recommend **PA 6.12** as base. Please state on your order! Since the upcoming heat on wet applications is conducted, the peripheral speed can be set much higher than on dry applications.

Brush filling materials and their characteristics



STA Steel Wire straight / crimped
is developed in co-operation with wire producers, so that it meets our special requirements. This wire is alloyed with manganese in order to increase its toughness. Result is higher tensile strength and longer lifetime of LESSMANN-Brushes.



STH Steel Wire High Tensile straight / crimped
is most often used in Knotted Brushes, Deburring Brushes and Pipeline Brushes. Furthermore we offer this high tensile wire in our complete assortment. Above all it features through its tensile strength and high fatigue rates, what results in lifetime even for extreme brushing applications.

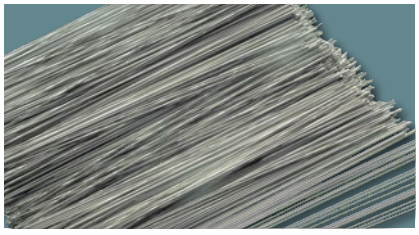




STM Brass Coated Steel Wire
For long lifetime plus high tensile strength and cutting performance. Best results in brushing and deburring applications.

STL Cord Wire
Brass coated steel wire corded. Longest lifetime for heavy duty brush applications, e.g. deburring.





ROF / RO4 / ROL / RO8 Stainless Steel Wire

ROF must be used when working on stainless steel. Material number (WNr.) **1.4301 (AISI 304)**. This wire is resistant against corrosion and certain acids and bleaches.

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

RO8 High heat resistant stainless steel wire. WNr. **1.4860.**

ROL Stainless Steel Wire with cord construction WNr. **1.4301/1.4310**

ROH Stainless Steel Wire High Tensile
This wire is characterized by a high tensile strength (2100–2500 N/mm) and a long lifetime even in extreme applications. WNr. **1.4310 (AISI 301)**

Information for brushing on stainless steel materials at **www.lessmann.com/downloads**

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They may contain oil residues due to the manufacturing process. If this is not permitted in the application, please order the brushes in an oil-free/degreased version.





MES Brass Wire (CuZn)
is softer than steel wire. Among other applications brass wire is suitable for working with mild bleaches. It's mainly used for processing of nonferrous metals.

Straight / Crimped / Knotted:
Metal wires for brushes can be processed in brushes straight, crimped or knotted. Wire knots are always made with straight wires. Compared to a straight wire with the same diameter the wire knots are much stronger than the single wire. Crimped wires brace each other and therefore achieve a better stability in the brushes.

Brush filling materials and the characteristics



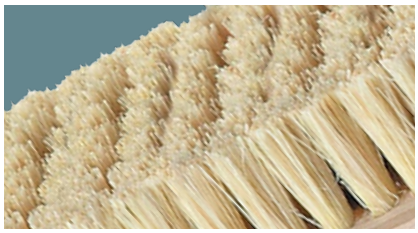
BRO Bronze Wire (CuSn)
is used for surface processing of wood and metal. It's also used when low-sparking brushes are needed.



NSI Nickel Silver (CuNiZn)
is used for polishing work pieces e.g. parts of nickel silver or brass, as it is softer than steel wire.



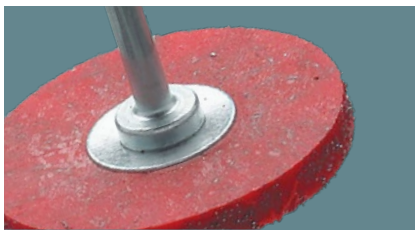
PP, PA, PE, PBT Synthetic Filaments
are resistant to abrasion and flexible. Despite minor resistance against heat these filaments are perfect for cleaning, grinding or surface processing of metal, plastic or wood.
Available are:
- Polypropylen (PP, white by default)
- Polyamid (PA, transparent by default) – PA 6, PA 6.6, PA 6.12
- Polyethylen (PE)
- Polyester (PBT); only for cleaning
- Polyvinylchloride (PVC)



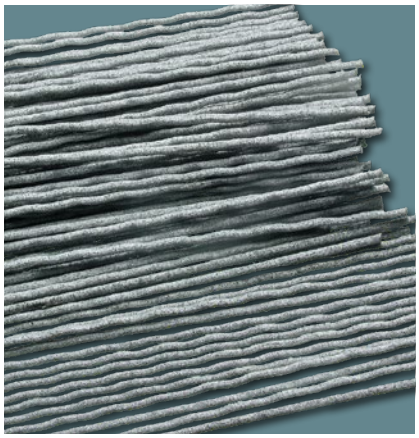
FIB Fibre
consists of heat resistant plant fibre, is slightly abrasive and therefore can be used for smooth grinding, above all for working on wooden surfaces. Moreover fibre is used for general cleaning and polishing work.

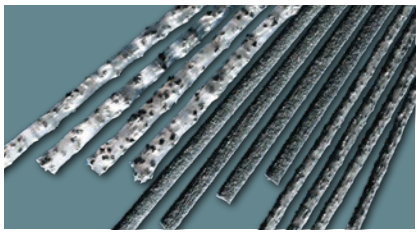


ROS Horse Hair
is an animal hair, which above all is deployed in terms of light cleaning and dusting work. Horse hair is resistant against diluted acids and bleaches. It's not chargeable for static electricity.



Encapsulated Brushes
Encapsulated brushes are ideal for an aggressive work on working pieces and for a very exact working in edges and angles.
By embedding steel wire, stainless steel wire, brass coated wire or brass wire in tough plastic, the filling width always remains the same and early break of the wires can be prevented. It's the perfect tool for long lasting and safe working. The advantages when working with encapsulated brushes are longer lifetime and harder brush effect.
Furthermore the risk of injury declines when using encapsulated brushes.
However, it might be possible that the brush will leave marks on the work piece.





3 grits in silicon carbid

Abrasive Filaments
consist of polyamide bristles containing abrasive grits. This modern material is ideal for deburring work, fine surface finishing of plastic and metal parts as well as grinding, cleaning, polishing, and structuring of surfaces. With their flexible surface, brushes with abrasive filament align to the different shape of working pieces. Abrasive bristles also have grinding effects on the side, which makes them even more flexible to application possibilities. You can choose between grit (from K60 to K1000) composed of aluminium oxide (AO) and silicon carbide (SIC). Also diamond filament is available.

Normally 2 polyamide-types are used:
Polyamide PA 6:
- good bend recovery
- good abrasion resistance
- absorption of water to max. 10%

Polyamide PA 6.12 (ideal when working in wet surrounding):
- flexible and excellent bend recovery
- high abrasion resistance
- absorption of water to max. 3%

For **working in wet condition** we recommend **PA 6.12** as base. Please state on your order!
Since the upcoming heat on wet applications is conducted, the peripheral speed can be set much higher than on dry applications.

You can differ the bristles between round or flat bristles. Usually round bristles are used, because they are more flexible than flat bristles and very good for processing work pieces with strong shapes. Round bristles with a smaller diameter, less than 150 mm, are very efficient if you are not able to use flat material.
However, flat bristles possess a high abrasive grit, represent a long durability and a high removal rate by a larger contact surface.

Grits to choose from:

Abrasive filaments SIC (filament K60 to K1000):
- intensive results when deburring
- for surficial improvement/-processing
- mainly for process stainless steel and aluminium limited
- microhardness: 25.000 N/mm²

Common measurements: 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 AO (filament K60 to K1000):
- less sharp-edged compared to SIC
- to the finish of soft metal
- to polishing and smoothing
- to process aluminium when smoothing or polishing
- microhardness: 21.000 N/mm²

Common measurements: 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.

Diamonds filaments(filament K60 to K1000):
- for aggressive applications
- used for materials with high material strength
- self-renewing through independent sharpening
- microhardness: 42.000 N/mm²

Ceramic grit:
- very good grinding and polishing properties
- maximum lifetime and aggressiveness
- working with hard metal tools
- microhardness: 42.000 N/mm²

All information on **chemical properties** can be found at www.lessmann.com/downloads in the area of Brush Know-How.

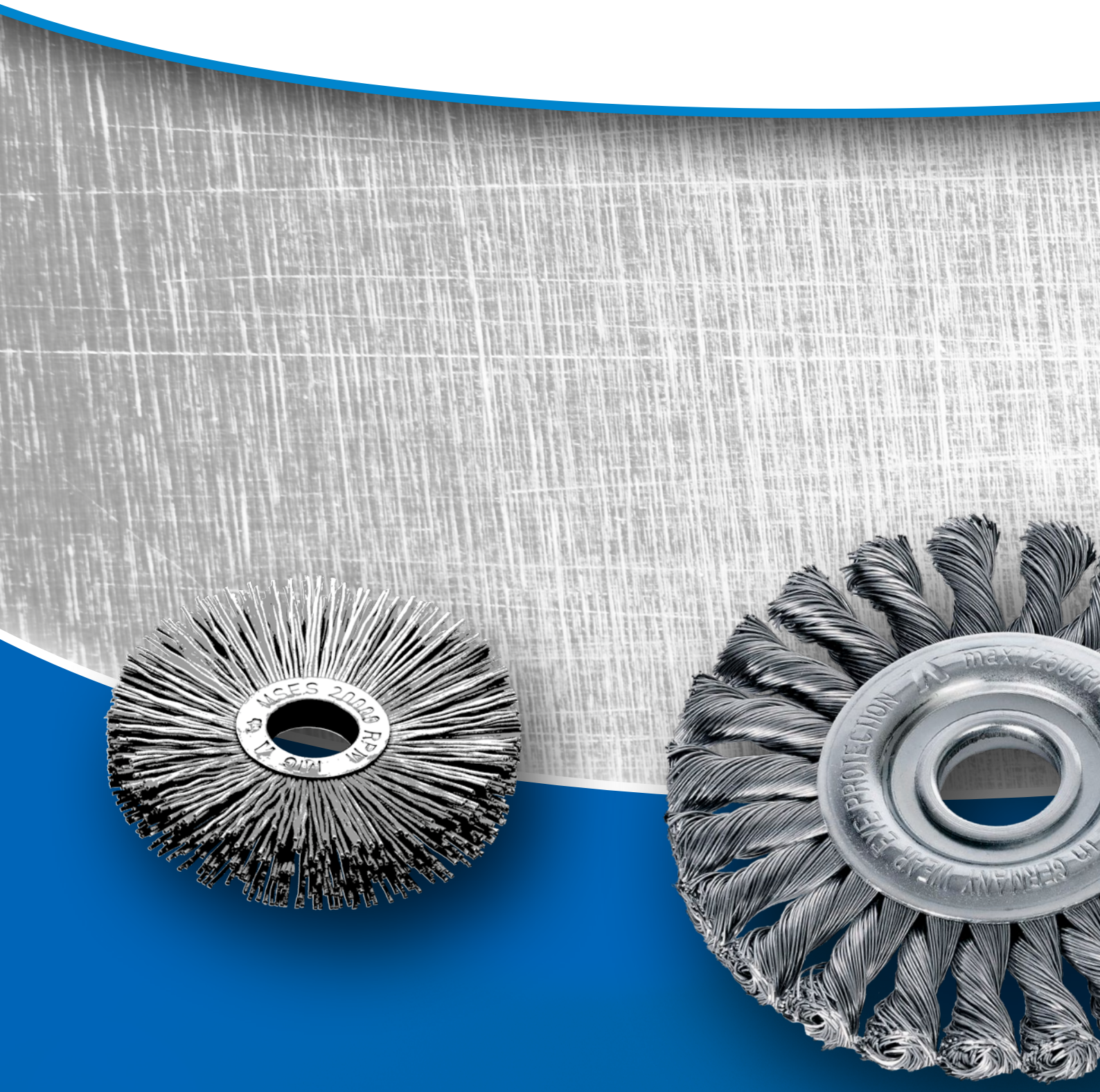
Physical Characteristics

	STA	STH	ROF	ROH	RO4	RO8	STM / STL	MES
WNr.			1.4301	1.4310	1.4401	1.4860		CuZn36 / CuZn37
AISI			304	301	316			
Tensile Strength in N/mm²*	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 Gravity in g/cm³	7.85	7.85	7.85	7.85	7.85	7.90	7.85	8.50
Temperature Consistancy in °C	+ 300 °C	+ 300 °C	+ 450 °C	+ 450 °C	+ 500 °C	+ 600 °C	+ 300 °C	+ 180 °C

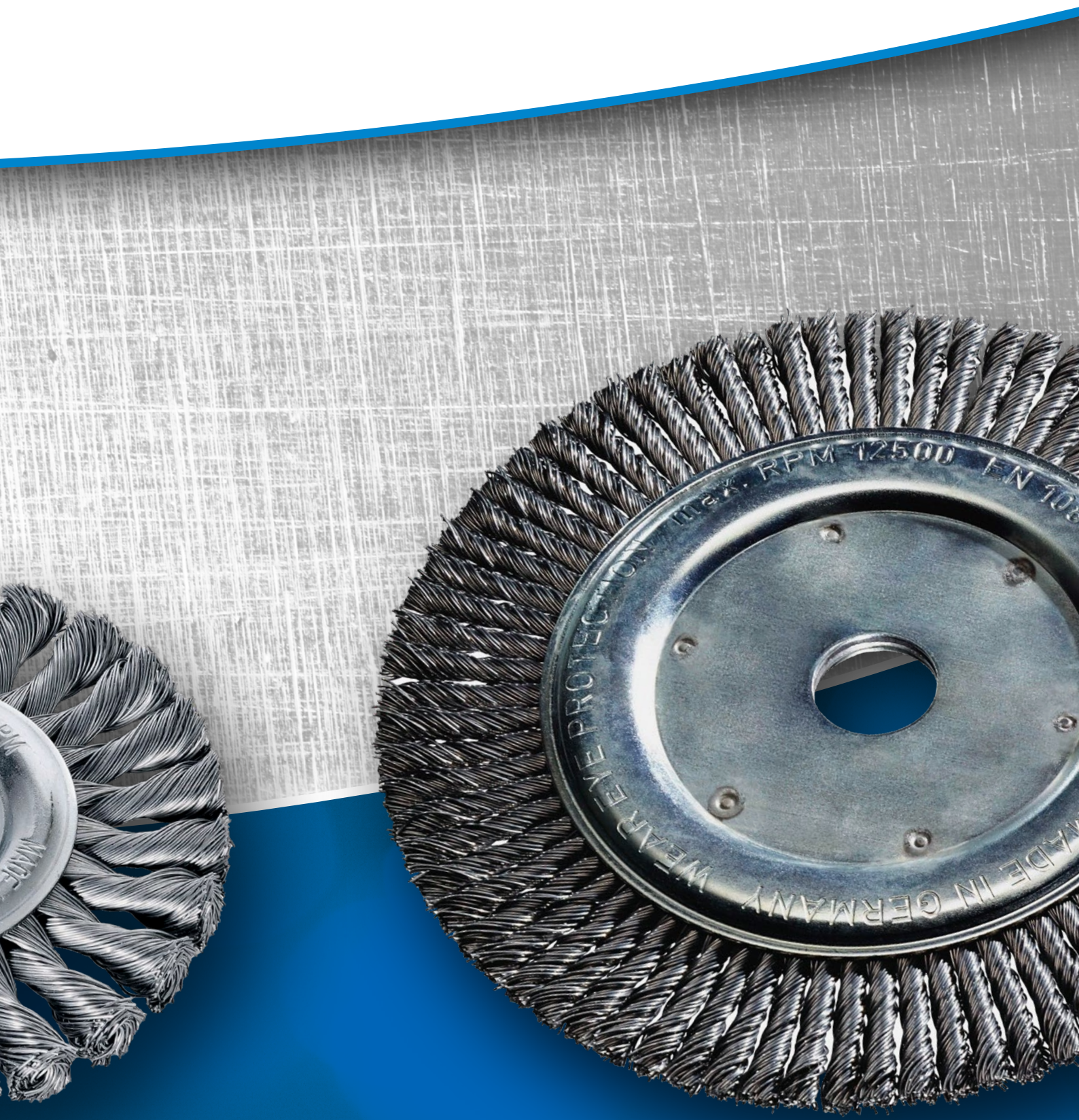
*The specified Tensile Strength is applicable for a wire strength 0.3–0.4 mm

LESSMANN®

THE GERMAN BRUSH COMPANY



WHEEL BRUSHES 01



Knot Wheel Brushes



Knot Wheel Brushes
Knot wheel brushes for grinders, angle grinders and stationary machines used in the preparation and reworking of bolt fillet and butt welds. They remove scale, rust, paint, slag, rubber residue and can be used for deburring.

Knot Wheel Brushes with multiple Rows
Ready mounted brushes with multiple rows have a dense filling compared to single segment brushes, which are assembled together. In your order please state the width of the brush, bore size and type and thickness of wire.

The listed knot wheel brushes are for the use in stationary machines.

Stainless Steel Brushes
LESSMANN-brushes with stainless steel have green side plates. We use wire with material number 1.4310. Material number 1.4401 can be used on request.
Information on working on stainless steel you find at www.lessmann.com

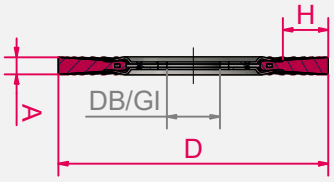
All knots on our standard twisted wire wheel brushes are left hand twisted in order to minimize the undoing of the knots should the brush be used incorrectly.
On request we can supply right hand twist brushes.

In addition to brushes with left or right knotted, we also offer left-right knotted brushes.

Left-right knotted wheel brushes usually are more aggressive, hence they are often used for heavy brushing operations.
Besides the knots open less, therefore there are ideal for the treatment of edges.

User Tip:
We recommend to turn the brush during use in order to maintain sharpened wire ends.

On request other bores and wire diameter are available.



ZF = Knot type
Z = number of knots, **R** = number of rows

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STM	= brass coated steel, straight
STH	= steel wire, high tensile, straight
ROH	= stainless steel wire, high tensile, straight

X-LOCK Mount
Our wheel brushes with X-LOCK-mount can be found on page 68.

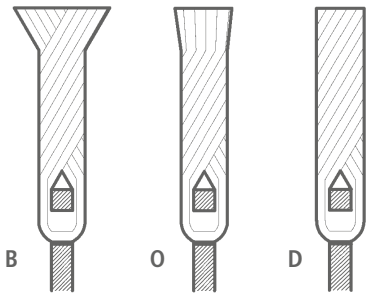
You can find our **tutorials** here:
www.lessmann.com/index.php/en/content/view/full/711

You can find our **Enquiry Forms** in the respective category under:
www.lessmann.com/index.php/en/content/view/full/61 or in the catalog from page 179

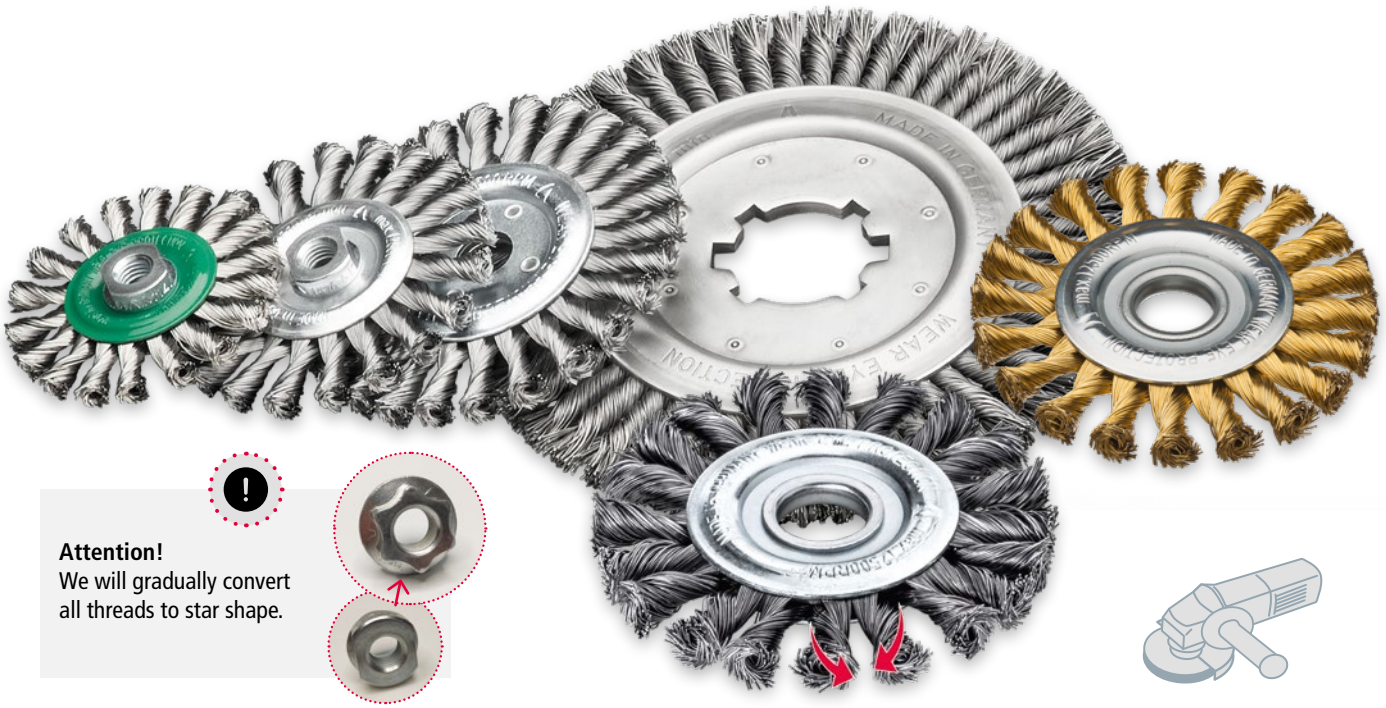
Chunky packaging
Many articles you receive as standard in handy covering boxes with 10 pcs.



Knot types ZF



B: Rose Bud
O: Open Knot (wire ends are cut)
D: Fully knotted (wire ends are cut completely)



Attention!
We will gradually convert all threads to star shape.

EAN

Knot Wheel Brushes, Steel Wire, Brass Wire

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

EAN

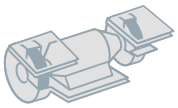
Knot Wheel Brushes, Stainless Steel Wire

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

Thread 5/8" – 11 UNC on request | * packed 10 pieces per carton | ** with turtle bore

Knot Wheel Brushes, multiple rows

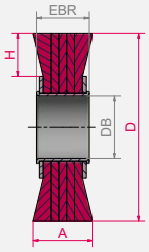




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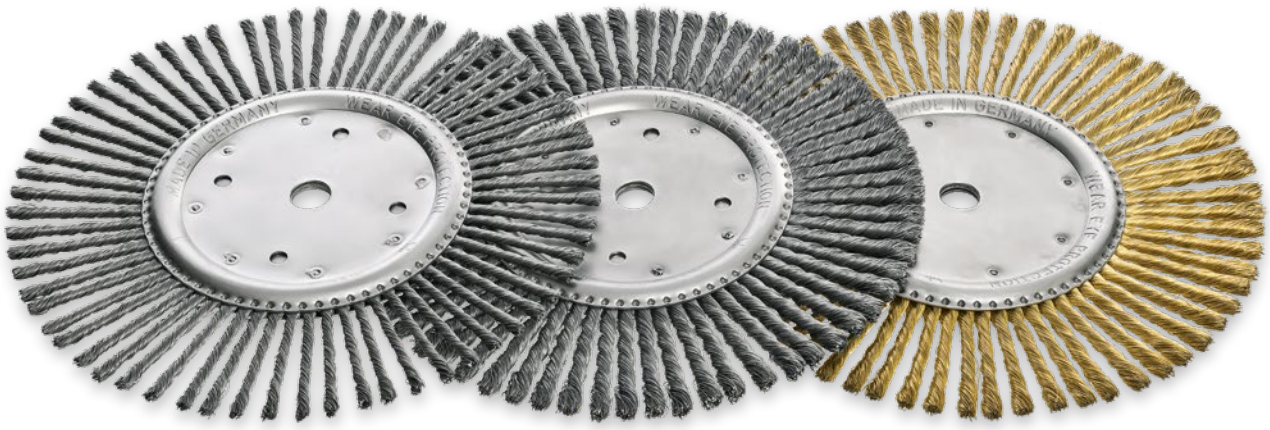
Knot Wheel Brushes, multiple rows

D mm | *inch*	A	EBR	$DB_{Stand.}$ mm | *inch*	DB_{min}	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*



ZF = Knot type
Z = number of knots,
R = number of rows

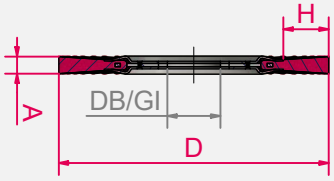
Joint Cleaning Brushes



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	**478.200.06**	*478.300.06*	*478.500.06*
300 | *12*	8 | *5/16*	20 | *3/4*	67	64	D	1	5,000	5	**478.200.08**	**478.300.08**	*478.500.08*
300 | *12*	10 | *3/8*	20 | *3/4*	67	64	D	1	5,000	5	**478.200.10**	**478.300.10**	*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*	





ZF = Knot type
Z = number of knots, **R** = number of rows

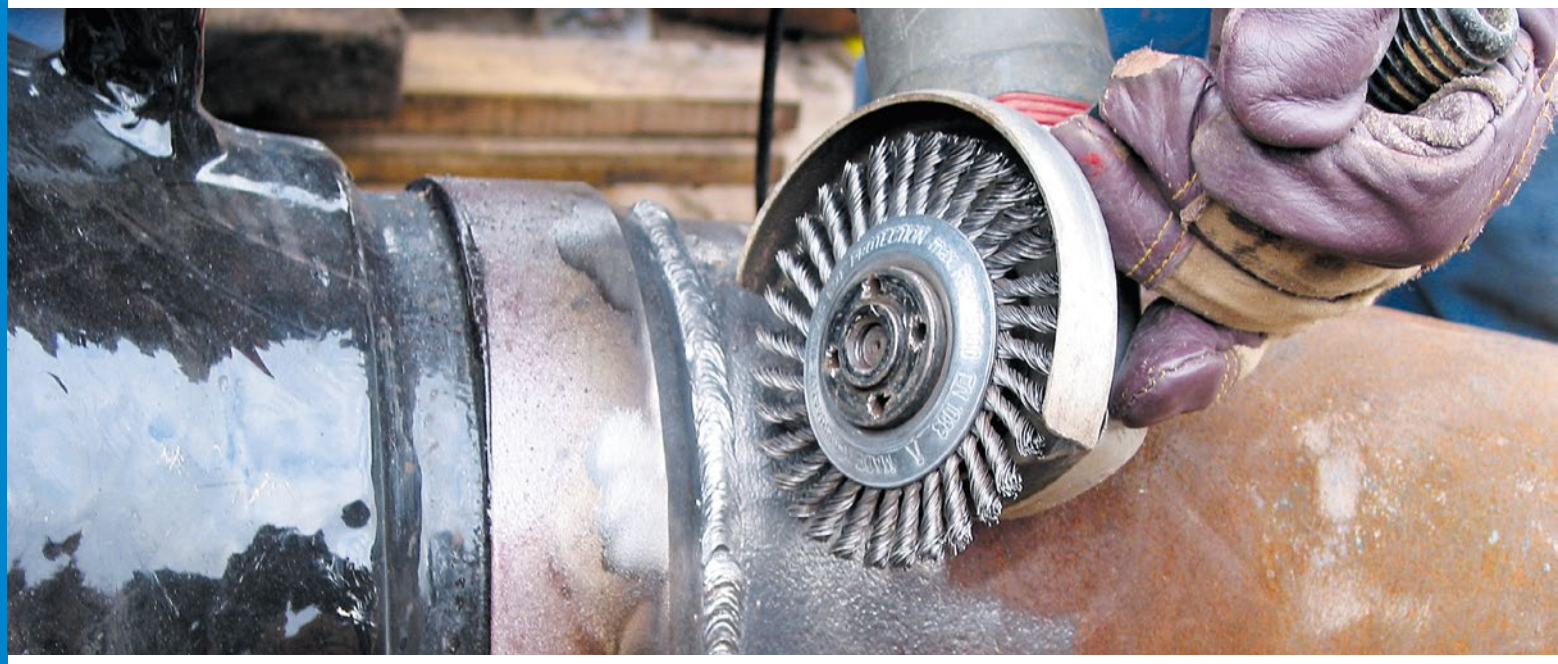
Joint Cleaning Brushes
Joint cleaning brushes are used for the production of expansion joints in the construction of new linings as well as in restoration and reparation. The application of this knot wheel brush is usually alike with all pavements.

Brushes with brass coated steel wire STM are very stable, hence they are often used for cleaning concrete joints.

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA = steel wire, straight
STH = steel wire, high tensile, straight
STM = brass coated steel, straight
ROH = stainless steel wire, high tensile, straight

Pipeline Brushes / Stringer Bead Brushes

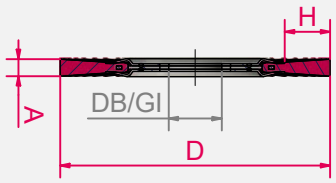


Pipeline-Brushes / Stringer Bead Brushes
LESSMANN-Pipelinebrushes are specially developed for professional use on U- and V-welds in the pipeline industry.

The remarkable features of the high quality LESSMANN Pipeline Brushes are the long lifetime and the quietness of running. They are especially narrow and therefore they are the perfect tool for cleaning all welds at tube connections.

Pipeline Brushes / Stringer Bead Brushes, left-right knotted
Left-right knotted pipeline brushes usually are more aggressive, hence they are often used for heavy brushing operations.
Besides the knots open less, therefore there are ideal for the treatment of edges.

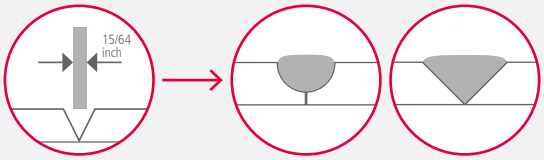




ZF = Knot type
Z = number of knots

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STH = steel wire, high tensile, straight



The narrow design is ideal for U and V welds

X-LOCK Mount
Our wheel brushes with X-LOCK-mount can be found on page 68.

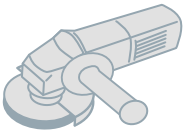
Attention!
We will gradually convert all threads to star shape.



Six wrench flats instead of only two give you more flexibility when working.





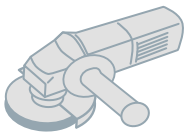


Pipeline-Brushes / Stringer Bead Brushes, Steel Wire							Bo. 22.2 | *7/8"*	M 14 x 2.0	5/8" - 11 UNC
D	A	H	Z	ZF	RPM	Pack.*	**STH 0.50** | *0.020"*	**STH 0.50** | *0.020"*	**STH 0.50** | *0.020"*
mm | *inch*	mm | *inch*				max.		Art.-No.	Art.-No.	Art.-No.
100 | *4*	6 | *1/4*	19	28	D	20,000	10	available on demand	**471.207.28**	*471.208.28*
115 | *4 1/2*	6 | *1/4*	22	32	D	15,000	1	**472.201.EZ**		
115 | *4 1/2*	6 | *1/4*	22	32	D	15,000	5/10	**472.201.32**	*472.207.32*	*472.208.32*
115 | *4 1/2*	6 | *1/4*	22	39	D	15,000	10	**472.201.39**	available on demand	available on demand
125 | *5*	6 | *1/4*	26	40	D	15,000	1	**473.201.EZ**		
125 | *5*	6 | *1/4*	26	40	D	15,000	5/10	**473.201.40**	**473.207.40**	*473.208.40*
150 | *6*	6 | *1/4*	30	48	D	12,500	5/10	**474.201.48**	*474.207.48*	*474.208.48*
178 | *7*	6 | *1/4*	36	48	D	12,500	1	**475.201.EZ**		
178 | *7*	6 | *1/4*	36	48	D	12,500	5/10	**475.201.48**	*475.207.48*	*475.208.48*
178 | *7*	6 | *1/4*	30	56	D	12,500	5/10	**475.201.56**	*475.207.56*	available on demand
178 | *7*	6 | *1/4*	30	76	D	12,500	5/10	**475.201.76**	*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



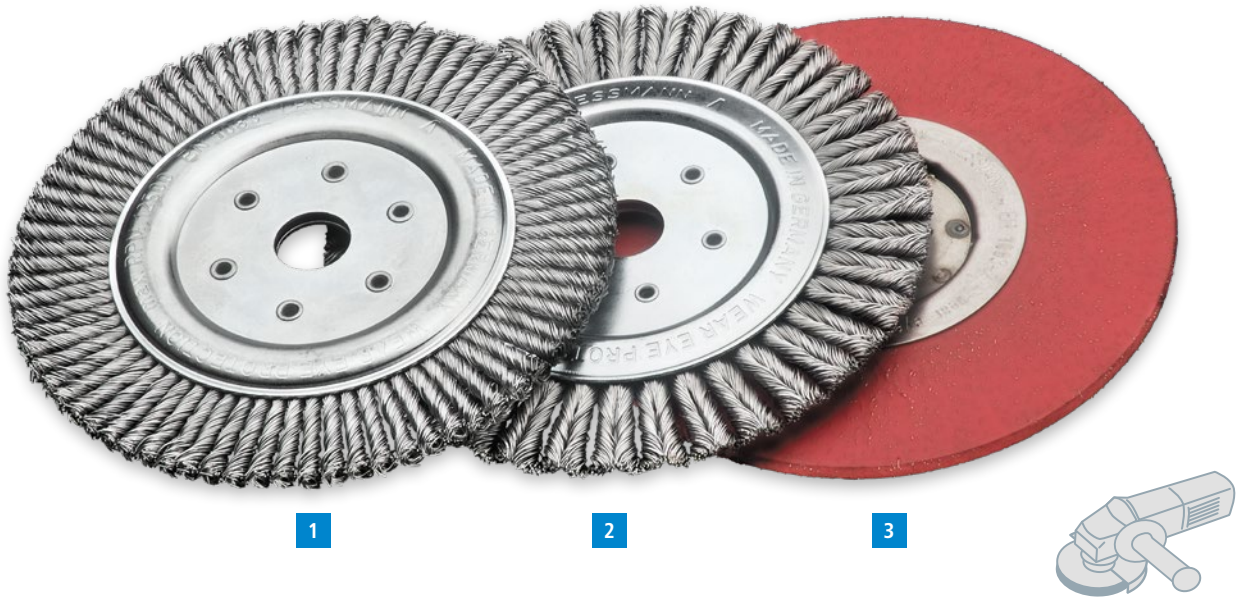


Pipeline-Brushes / Stringer Bead Brushes, Stainless Steel							Bo. 22.2 | *7/8"*	M 14 x 2.0	5/8" - 11 UNC
D	A	H	Z	ZF	RPM	Pack.*	**ROH 0.50** | *0.020"*	**ROH 0.50** | *0.020"*	**ROH 0.50** | *0.020"*
mm | *inch*	mm | *inch*				max.		Art.-No.	Art.-No.	Art.-No.
100 | *4*	6 | *1/4*	19	28	D	20,000	10	available on demand	*471.807.28*	*471.808.28*
115 | *4 1/2*	6 | *1/4*	22	32	D	15,000	1	**472.801.EZ**		
115 | *4 1/2*	6 | *1/4*	22	32	D	15,000	5/10*	**472.801.32**	*472.807.32*	*472.808.32*
115 | *4 1/2*	6 | *1/4*	22	39	D	15,000	10	**472.801.39**	available on demand	available on demand
125 | *5*	6 | *1/4*	26	40	D	15,000	1	**473.801.EZ**		
125 | *5*	6 | *1/4*	26	40	D	15,000	5/10*	**473.801.40**	**473.807.40**	*473.808.40*
150 | *6*	6 | *1/4*	30	48	D	12,500	5/10*	**474.801.48**	*474.807.48*	*474.808.48*
178 | *7*	6 | *1/4*	36	48	D	12,500	5/10*	**475.801.48**	*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
LESSMANN Pipeline Brushes with stainless steel wire have green side plates. We use wire with material number 1.4310. Material number 1.4401 can be used on request.
Information on working on stainless steel you find at www.lessmann.com

X-LOCK Mount
Our wheel brushes with X-LOCK-mount can be found on page 68.



1 2 3

1 Pipeline-Brushes / Stringer Bead Brushes, rose bud

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

2 Pipeline-Brushes / Stringer Bead Brushes, left-right knotted

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

3 Pipeline-Brushes / Stringer Bead Brushes, encapsulated

D mm | *inch*	A mm | *inch*	DB mm | *inch*	H	RPM max.	Pack.	**STM 0.35** | *0.014"* Art.-No.
150 | *6*	6 | *1/4*	22.2 | *7/8*	29	9,000	1	**300.771.KG**
178 | *7*	6 | *1/4*	22.2 | *7/8*	43	9,000	1	**351.771.KG**

Pipeline Brushes / Stringer Bead Brushes with rose bud
Knotted brushes with rose bud have a longer life time. They are used for a professional treatment of weld seams in the tube and pipeline construction.

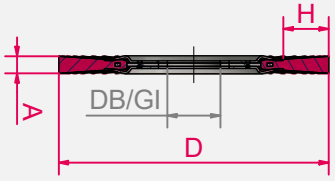
Pipeline Brushes / Stringer Bead Brushes, left-right knotted
Left-right knotted pipeline brushes usually are more aggressive, hence they are often used for heavy brushing operations.
Besides the knots open less, therefore they are ideal for the treatment of edges.

Pipeline Brushes / Stringer Bead Brushes, encapsulated
With encapsulated pipeline brushes a very exact and precise working is possible. By embedding in tough plastic the filling width always remains the same and early break of the wires can be prevented. A working width of 6 mm still allows to reach U- and V- weld seams.

Hardness Grading
From now on, the encapsulated brushes from Lessmann can be delivered in three different Shore hardness scale measurements:
- Black – Hard
- Red – Standard
- White – Soft



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

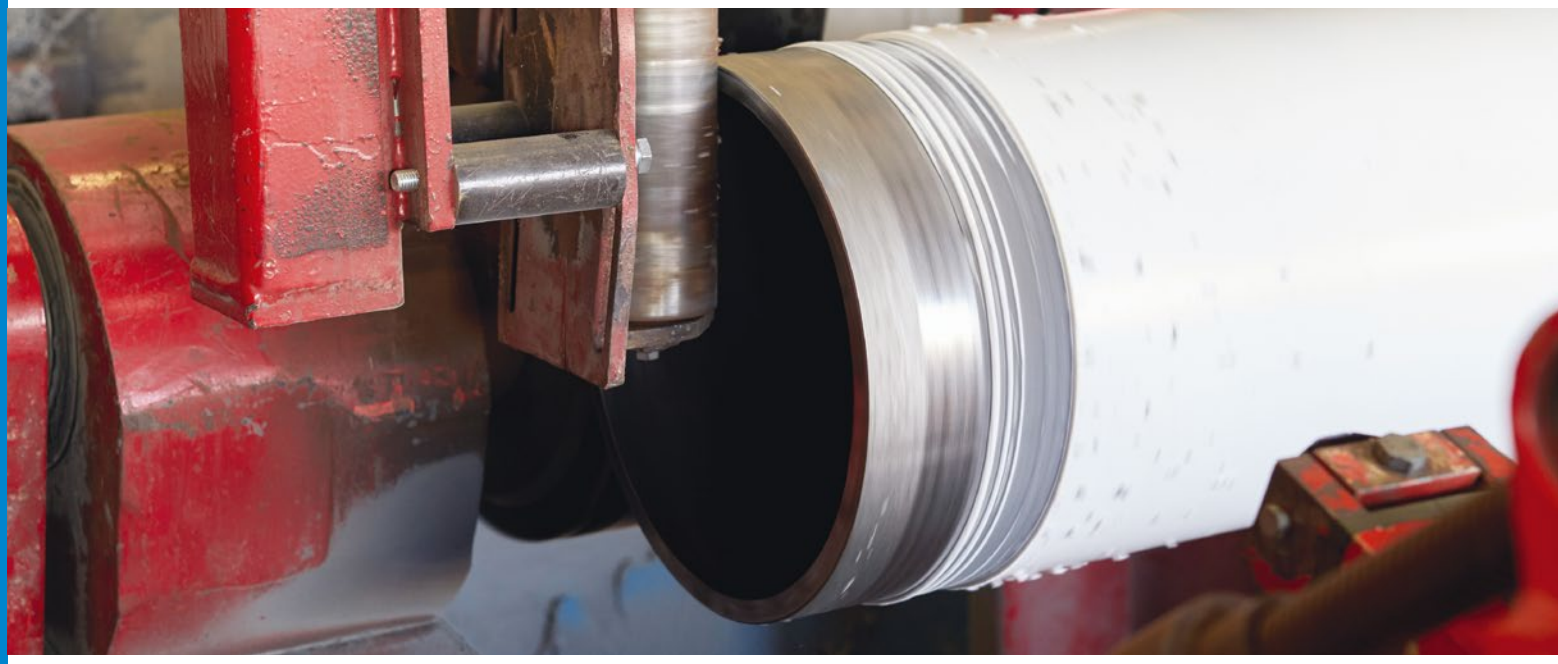


ZF = Knot type
Z = number of knots

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STH = steel wire, high tensile, straight
STM = brass coated steel, crimped
ROH = stainless steel wire, high tensile, straight

Cutback Brushes





Cutback Brushes
for the removal of pipe coatings.

The removal of pipe-ends with brushes is a common process in the pipe industry.

To prevent corrosion, steel pipes are usually covered in epoxy resin and several layers of polyethylene (PE) or polypropylene (PP). To ensure a strong and safe welded joint during the installation of the pipes, the coating has to be removed completely on the ends of the pipes. For this process, usually several rings of knotted wire brushes are mounted together to get one large block of wheel brushes.

The LESSMANN Cutback Brushes are proven to have a long lifetime and are used by many international companies producing pipe for the oil and gas industry.

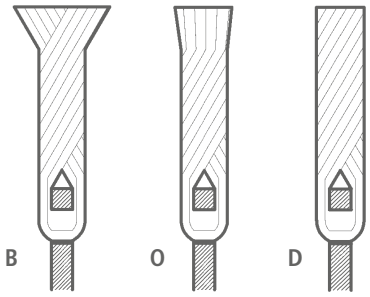


LESSMANN Cutback rings **are supplied already mounted to one another**. This ensures a perfect balancing, an even surface and a tighter fitting.

All Cutback Brushes can be purchased with left-right knotting (WZ), too.

Cutback Brushes, left-right knotted
Left-right knotted cutback brushes usually are more aggressive, hence they are often used for heavy brushing operations.
The knots of this type of brush open less, therefore there are ideal for the treatment of edges.

Knot types ZF



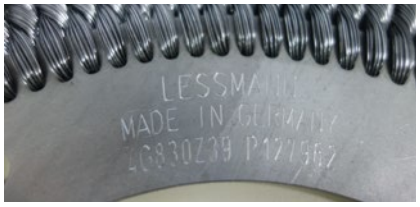
B: Rose Bud
O: Open Knot (wire ends are cut)
D: Fully knotted (wire ends are cut completely)



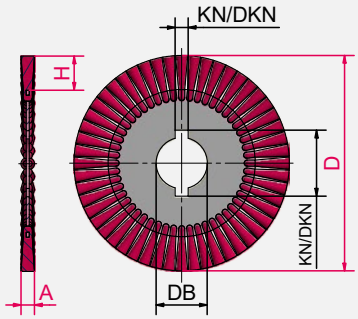
Cutback Brushes

D	A	H	DB	KN/DKN	Z	ZF		STH	ROH
mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*						
250 | *10*	13 | *33/64*	45 | *1 49/64*	102 | *4 1/64*	115.8 x 13	56	O		0.63	0.50 / 0.80
300 | *12*	13 | *33/64*	60 | *12 23/64*	102 | *4 1/64*	115.8 x 13	64	O		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	O	right-left 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	O		0.58 / 0.80	0.80

The table above gives you an insight into the range of brushes LESSMANN can produce. Due to modern technologies in production we can respond to individual requests and wishes of our customers (diameter, working width, bore).



If requested, scribe markings are possible.



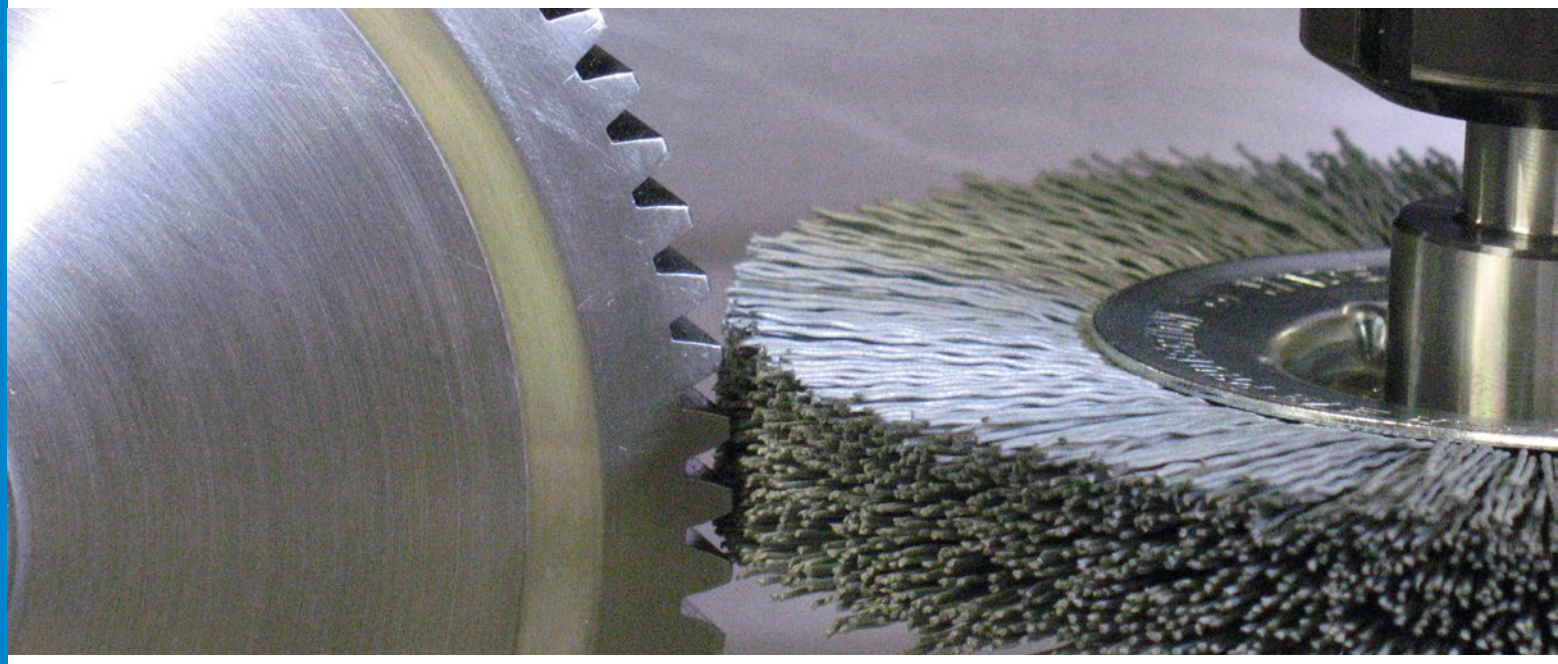
Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STH = steel wire, high tensile, straight

ROH = stainless steel wire, high tensile, straight

You can find our **Enquiry Forms** in the respective category under:
www.lessmann.com/index.php/en/content/view/full/61
or in the catalog from page 179

Single Segment Brushes

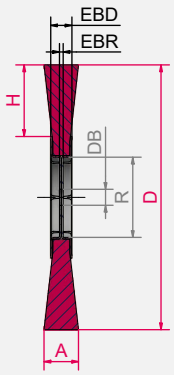


Single Segment Brushes
These brushes are mainly used for deburring purposes in stationary machines or processing centres.
The construction of these brushes allows it to assemble them to roller brushes of any desired width. Many different filling materials like steel, stainless steel or abrasive nylon with various grit are at your disposal.

Outstanding Processing
The flexible bristles align to the different shapes of working pieces.
An important advantage of the single segment brushes compared to other grinding tools, such as pads or grinding discs, is their gentle treatment.
Furthermore the brushes do not become encrusted. They are suitable for deburring work and fine polishing of stainless steel, light metal or plastic material. Besides the executions listed on this page other diameters and grit sizes are available.



Laser imprint of brushes



A can be up to 4 mm larger than **EBD**

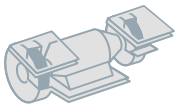
EBR = 3.0 mm if R > 60
EBR = 2.4 mm if R ≤ 60

For further information on abrasive filaments please see pages 13 et seq.
Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

SIC	= silicon carbide bristles
KK	= ceramic grit



1 2 3



1 Single Segment Wheel Brushes, Silicon Carbide Bristles

D mm | *inch*	R	EBD	H	$DB_{Stand.}$ mm | *inch*	$DB_{min./max.}$	RPM max.	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**	**310.851**	**310.871**
100 | *2*	30	12	21	12 | *1/2*	12–20	8,000	5	**320.821**	*320.831*	**320.841**	**320.851**	**320.871**
125 | *5*	30	12	33	12 | *1/2*	12–20	8,000	5	*330.821*		**330.841**	**330.851**	*330.871*
150 | *6*	50	14	32	12 | *1/2*	12–30	6,000	5	**340.821**	**340.831**	**340.841**	**340.851**	**340.871**
178 | *7*	50	14	46	12 | *1/2*	12–30	6,000	5	*350.821*	**350.831**	**350.841**	*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		**360.831**	**360.841**	**360.851**	**360.871**
250 | *10*	100	16	57	16 | *5/8*	16–80	6,000	5		**370.831**	*370.841*	**370.851**	**370.871**
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, Silicon Carbide Bristles, 2 rows

D mm | *inch*	R	EBD	H	$DB_{Stand.}$ mm | *inch*	$DB_{min./max.}$	RPM max.	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	available on demand	*362.852*	available on demand
250 | *10*	100	27	58	16 | *5/8*	16–80	6,000	5	available on demand	*370.852*	available on demand

3 Single Segment Wheel Brushes, Ceramic Grit

D mm | *inch*	R	EBD	H	$DB_{Stand.}$ mm | *inch*	$DB_{min./max.}$	RPM max.	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	**320.C31**	*320.C51*	*320.C71*
150 | *6*	50	14	32	12 | *1/2*	12–30	6,000	5	**340.C31**	*340.C51*	**340.C71**
200 | *8*	100	16	32	16 | *5/8*	16–80	6,000	5	**360.C31**	*360.C51*	*360.C71*
250 | *10*	100	16	57	16 | *5/8*	16–80	6,000	5	**370.C31**	*370.C51*	*370.C71*

Bore must be indicated in the order. Standard bore delivery ex stock, short termed. Other bores are available with extra charge: 1 – 10 pcs. EUR 6 / 11 – 25 pcs. EUR 4

Single Segment Brushes



Single Segment Wheel Brushes, Steel Wire, Cord Wire

								1		2
D	R	EBD	H	$DB_{Stand.}$	$DB_{min./max.}$	RPM	Pack.	**STA 0.20** | *0.008"*	**STA 0.30** | *0.012"*	**STL 0.35** | *0.014"*
mm | *inch*				mm | *inch*		max.		Art.–No.	Art.–No.	Art.–No.
80 | *3 1/4*	26	12	17	12 | *1/2*	12–16	12,000	5	*310.141*	**310.161**	available on demand
100 | *4*	30	12	21	12 | *1/2*	12–20	8,000	5	**320.141**	**320.161**	*320.707*
125 | *5*	30	12	33	12 | *1/2*	12–20	8,000	5	*330.141*	**330.161**	available on demand
125 | *5*	40	12	29	12 | *1/2*	12–25	8,000	5	available on demand	*331.161*	available on demand
150 | *6*	50	14	32	12 | *1/2*	12–30	6,000	5	**340.141**	**340.161**	*340.707*
178 | *7*	50	14	46	12 | *1/2*	12–30	6,000	5	*350.141*	**350.161**	available on demand
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*	available on demand
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	**360.141**	**360.161**	*360.707*
250 | *10*	100	16	57	16 | *5/8*	16–80	6,000	5	*370.141*	**370.161**	available on demand
250 | *10*	120	16	45	20 | *3/4*	20–100	3,600	5	*371.141*	*371.161*	available on demand
300 | *12*	120	16	70	20 | *3/4*	20–100	3,600	5	*380.141*	*380.161*	available on demand
300 | *12*	150	19	55	25.4 | *1*	25.4–130	3,600	5		*381.161*	

Single Segment Wheel Brushes, Steel Wire, 2 rows

D	R	EBD	H	$DB_{Stand.}$	$DB_{min./max.}$	RPM	Pack.	**STH 0.35** | *0.014"*
mm | *inch*				mm | *inch*		max.		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*

Bore must be indicated in the order. Standard bore delivery ex stock, short termed. Other bores are available with extra charge: 1–10 pcs. EUR 6 / 11–25 pcs. EUR 4



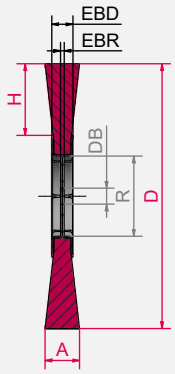
Single Segment Wheel Brushes, Stainless Steel Wire

D mm | *inch*	R	EBD	H	$DB_{Stand.}$ mm | *inch*	$DB_{min./max.}$	RPM max.	Pack.	**ROF 0.20** | *0.008"* Art.-No.	**ROF 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	**320.341**	**320.361**
125 | *5*	30	12	33	12 | *1/2*	12–20	8,000	5	**330.341**	**330.361**
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	**340.341**	**340.361**
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*	**360.361**
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*

Bore must be indicated in the order. Standard bore delivery ex stock, short termed. Other bores are available with extra charge: 1 – 10 pcs. EUR 6 / 11 – 25 pcs. EUR 4

Stainless Steel Brushes

LESSMANN-brushes with stainless steel wire have a laser imprint.
Information on working on stainless steel you find at www.lessmann.com



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 further information on abrasive filaments please see page 13 et seq.
Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire, crimped
STH	= steel wire, high tensile, crimped
STL	= cord wire, crimped
ROF	= stainless steel wire, crimped

Wheel Brushes



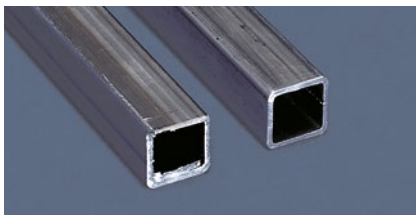
Wheel Brushes
Wheel brushes filled with crimped wire are used for the purpose of obtaining different surface finishing:
- the removal of rust, paint and dirt
- for roughening, deburring, stripping or polishing.

Big or Small?
A decisive factor for choosing the most suitable brush is the wire and tube diameter. Brushes with a larger tube diameter (measure R) are filled with more wire, are more aggressive and have a longer life.
In our catalogue are the usual tube diameters – other diameters can also be supplied.
More technical instruction such as peripheral speed etc. see pages 9 et seq.

The bore must be indicated in the order. Without any instruction delivery will be with standard bore "d Stand".

Other filling materials, filling diameters and special executions
Take advantage of the LESSMANN range of products, of the experience in developing and producing brushes! We are able to produce special executions on demand.





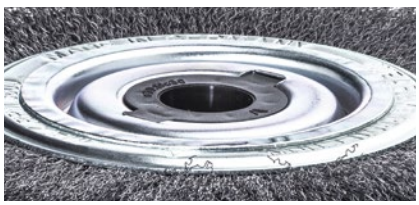
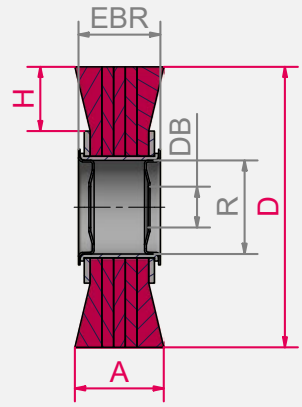


Plate with tube 80 and 100 (Set 4 / 5)



Adapter Set
All brushes are supplied with adapter sets for easy mounting on all popular grinding machines. The adapters have the following dimensions:

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:
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.

By usage without adapter set the actual size might be up to 0.2 mm below nominal size.

You can find our **tutorials** here:
www.lessmann.com/index.php/en/content/view/full/711

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA = steel wire, crimped
STM = brass coated steel, crimped



1 2

EAN

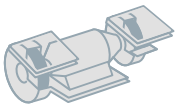
Wheel Brushes, Steel Wire, Brass Coated Steel Wire

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

Bore must be indicated in the order. Standard bore delivery ex stock, short termed. Other bores are available with extra charge: 1 – 10 pcs. EUR 6 / 11 – 25 pcs. EUR 4

Wheel Brushes





EAN

Wheel Brushes, Stainless Steel, Silicon Carbide Bristles

D mm | *inch*	A	EBR	R	H	$DB_{Stand.}$ mm | *inch*	$DB_{min./max.}$	RPM max.	Pack.	**ROF 0.20** | *0.008"* Art.-No.	**ROF 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	available on demand	*312.363*			
100 | *4*	20-22	19	30	23	Set 1	10-30	8,000	1	*323.342*	**323.362**			
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*	**334.362**			
125 | *5*	29-31	26	40	27	Set 2	13-40	6,000	1	*334.343*	**334.363**			
150 | *6*	22-24	20	40	33	Set 2	13-40	6,000	1	*344.342*	**344.362**			
150 | *6*	30-34	26	40	33	Set 2	13-40	6,000	1	*344.343*	**344.363**			
150 | *6*	18-20	20	50	33	Set 3	13-50	6,000	1				**345.822**	**345.852**
150 | *6*	23-25	22	50	33	Set 3	13-50	6,000	1	*345.342*	**345.362**	**345.462.V4**		
150 | *6*	30-34	30	50	33	Set 3	13-50	6,000	1	*345.343*	**345.363**		**345.823**	**345.853**
178 | *7*	23-26	22	50	37	Set 3	16-50	6,000	1	**355.342**	**355.362**			
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	available on demand	**355.363**			
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	**365.342**	**365.362**			
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*	**365.363**			
200 | *8*	28-32	29	80	38	Set 4+1	16-80	4,500	1	*366.342*	**366.362**			
200 | *8*	40-45	39	80	38	Set 4+1	16-80	4,500	1	*366.343*	**366.363**			
250 | *10*	30-35	29	80	50	Set 4+1	20-80	3,600	1	*376.342*	**376.362**			
250 | *10*	42-45	39	80	50	Set 4+1	20-80	3,600	1	*376.343*	**376.363**			
250 | *10*	32-37	30	100	50	Set 4+1	20-100	3,600	1	*377.342*	**377.362**			
250 | *10*	43-48	39	100	50	Set 4+1	20-100	3,600	1	*377.343*	**377.363**			
300 | *12*	35-40	30	100	60	Set 4	30-100	3,000	1	*387.342*	**387.362**			
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	available on demand	*397.362*			

Bore must be indicated in the order. Standard bore delivery ex stock, short termed. Other bores are available with extra charge: 1 – 10 pcs. EUR 6 / 11 – 25 pcs. EUR 4

Stainless Steel Brushes
Information on working on stainless steel you find at www.lessmann.com

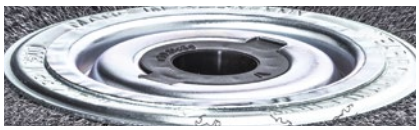


Plate with tube 80 and 100
(Set 4 / 5)



EAN

Wheel Brushes, Brass Wire, Bronze Wire

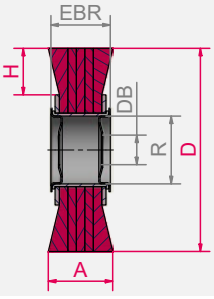
D mm | *inch*	A	EBR	R	H	$DB_{Stand.}$ mm | *inch*	$DB_{min./max.}$	RPM max.	Pack.	**MES 0.20** | *0.008"* Art.-No.	**MES 0.30** | *0.012"* Art.-No.	**BRO 0.30** Art.-No.
80 | *3 1/4*	18-20	18	20	20	10 | *3/8*	10-20	10,000	1	**312.542**	*312.562*	
80 | *3 1/4*	25-27	24	20	20	10 | *3/8*	10-20	10,000	1	*312.543*	*312.563*	
100 | *4*	20-22	19	30	23	Set 1	10-30	8,000	1	**323.542**	*323.562*	
100 | *4*	28-30	25	30	23	Set 1	10-30	8,000	1	*323.543*	*323.563*	
125 | *5*	21-23	20	40	27	Set 2	13-40	6,000	1	**334.542**	*334.562*	
125 | *5*	29-31	26	40	27	Set 2	13-40	6,000	1	*334.543*	available on demand	
150 | *6*	22-24	20	40	33	Set 2	13-40	6,000	1	**344.542**	**344.562**	**344.662**
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	**345.542**	**345.562**	*345.662.MS**
150 | *6*	30-34	30	50	33	Set 3	13-50	6,000	1	*345.543*	**345.563**	
178 | *7*	23-26	22	50	37	Set 3	16-50	6,000	1	*355.542*	**355.562**	
178 | *7*	32-35	30	50	37	Set 3	16-50	6,000	1	*355.543*	**355.563**	
200 | *8*	24-27	22	50	48	Set 3	16-50	6,000	1	**365.542**	**365.562**	
200 | *8*	35-38	30	50	48	Set 3	16-50	6,000	1	*365.543*	**365.563**	
200 | *8*	28-32	29	80	38	Set 4+1	16-80	4,500	1	*366.542*	**366.562**	
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*	available on demand	
250 | *10*	32-37	30	100	50	Set 4+1	20-100	3,600	1	available on demand	**377.562**	
250 | *10*	43-48	39	100	50	Set 4+1	20-100	3,600	1	available on demand	available on demand	
300 | *12*	35-40	30	100	60	Set 4	30-100	3,000	1	available on demand	**387.562**	
300 | *12*	47-52	39	100	60	Set 4	30-100	3,000	1	available on demand	available on demand	
350 | *14*	35-40	30	100	85	Set 5	32-100	2,400	1	available on demand	*397.562*	

* Bronze Wire, fittings brass (low-sparkling)

Bore must be indicated in the order.
Standard bore delivery ex stock, short termed.
Other bores are available with extra charge:
1 – 10 pcs. EUR 6 / 11 – 25 pcs. EUR 4

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

ROF = stainless steel wire, crimped
RO4 = premium-quality stainless steel
MES = brass wire, crimped
BRO = bronze wire, crimped
SIC = silicon carbide bristles



Brushes for the wood machining industry



Satinising Brushes
Satinising brushes are the perfect tool for satining, polishing, abrading/smoothing, matting and structuring.

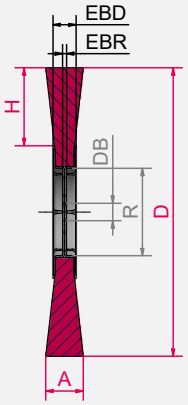
Staple Set Wheel and Disc Brushes
Wheel and Disc Brushes with abrasive nylon filament are used for the wood machining industry. Used on angle grinders, the disc brushes are ideal for maintaining, cleaning, strucutring or polishing wood.

Besides the brushes are used for giving wood a rustic effect or for roughening it before treating with colour or lacquer.
The brushes are very effective when working on large surfaces.

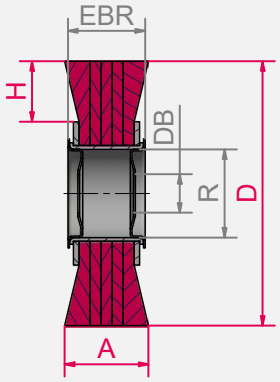
Structuring Brushes with Shank
These brushes are special brushes which can be used for wood grain surfaces.

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

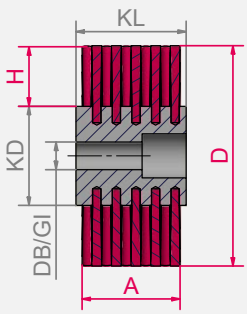
STM	= brass coated steel, crimped
STL	= cord wire, crimped
ROF	= stainless steel wire, crimped
SIC	= silicon carbide bristles
FIB	= fibre
PA	= polyamide, crimped



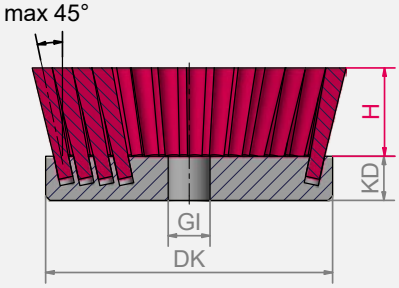
1 Satinising Brushes



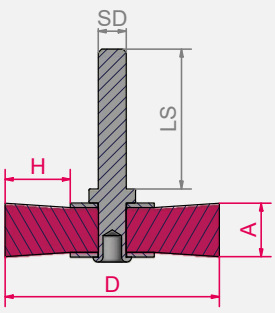
2 Satinising Brushes



3 Wheel Brushes



4 Disc Brushes



5 Structuring Brushes



EAN

Satinising Brushes

	D	A	EBR	R	H	DB	RPM	Pack.	**ROF 0.20** | *0.008"*	**SIC 80/1.2**	**STL 0.25** | *0.010"*	**FIB/PA 0.4** | *0.016"*
	mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*		mm | *inch*	max.		Art.-No.	Art.-No.	Art.-No.	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	**323.348.19**	**323.828.19**	**323.704.19**	
	100 | *4*	100 | *4*	102 | *4*	30 | *1 1/4*	23	19.2 | *3/4*	8,000	1	*323.305.19*	*323.805.19*	**323.705.19**	**323.900.10**

	D	A	EBR	R	H	DB	RPM	Pack.	**STM 0.35** | *0.014"*	**SIC 80/1.2**	**SIC 120/1.1**
	mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*		mm | *inch*	max.		Art.-No.	Art.-No.	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*

Bore must be indicated in the order. Standard bore with double keyway 5,2 x 23 mm delivery ex stock, short termed.
Other bores are available with extra charge: 1 – 10 pcs. EUR 6 / 11 – 25 pcs. EUR 4

3 Staple Set Wheel Brushes

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

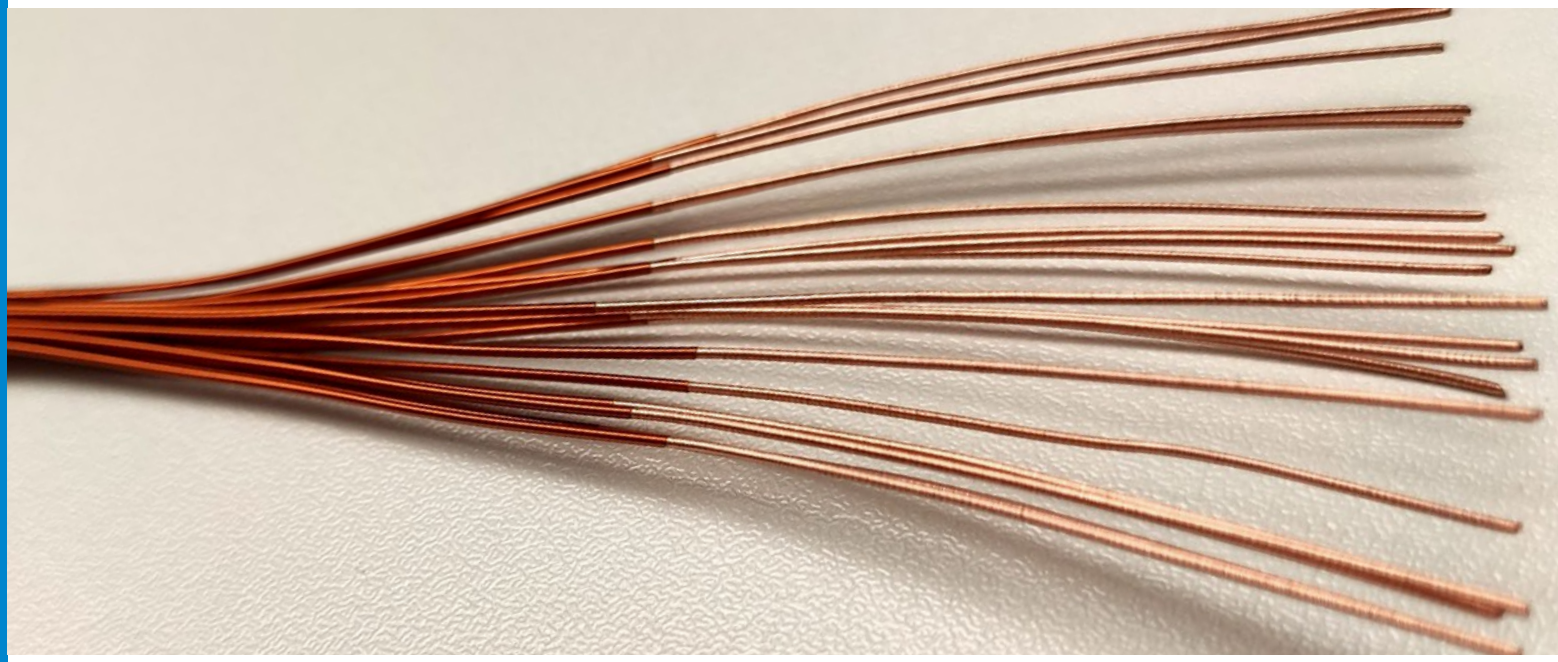
4 Staple Set Disc Brushes

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

Structuring Brushes with Shank Ø 8 mm

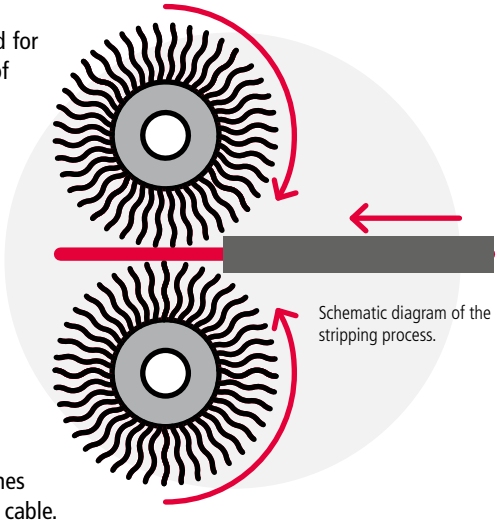
D	A	H	RPM	Pack.	5 **STM 0.25** | *0.010"*	**SIC 80/1.2**
mm | *inch*			max.		Art.-No.	Art.-No.
80 | *3 1/4*	35 | *1 3/8*	25 | *31/32*	4,000	1	**418.704**	
80 | *3 1/4*	35 | *1 3/8*	24 | *15/16*	15,000	1		**418.826**

Stripping brushes

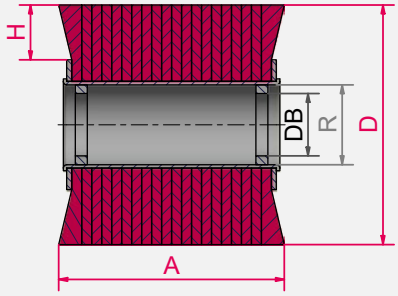


For fast wiring
These brushes are specifically designed for a single application: To remove layers of paint and other insulating materials from cables and electrical conductors. They are installed in hand-held or stationary machines.
The ground surface of the wires as well as the precise concentricity allow a gentle removal of lacquer from cables without overloading them.

Functionality of the devices
In all devices the cable is stripped between two rotating brushes. The running direction of the brushes determines whether a tensile force is acting on the cable. If the brushes rotate in opposite directions, the cable is pulled into the device, whereas if the brushes rotate in the same direction, no pulling force is generated.
With different types of brushes the stripping quality can be adapted and optimized to the cable diameter and insulation material. In addition, they can be continuously adjusted to cables of different thickness by means of a locking screw.



Schematic diagram of the stripping process.



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA = steel wire, crimped
STM = brass coated steel, crimped



1



2



3

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*	**301.213.15**	**301.213.20**	*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*	**301.214.20**	*301.214.25*	**301.214.30**
40 | *1 5/8*	25 | *1*	12 | *1/2*	10	18.000	10	*301.225.10*	**301.225.15**	**301.225.20**	*301.225.25*	**301.225.30**
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*

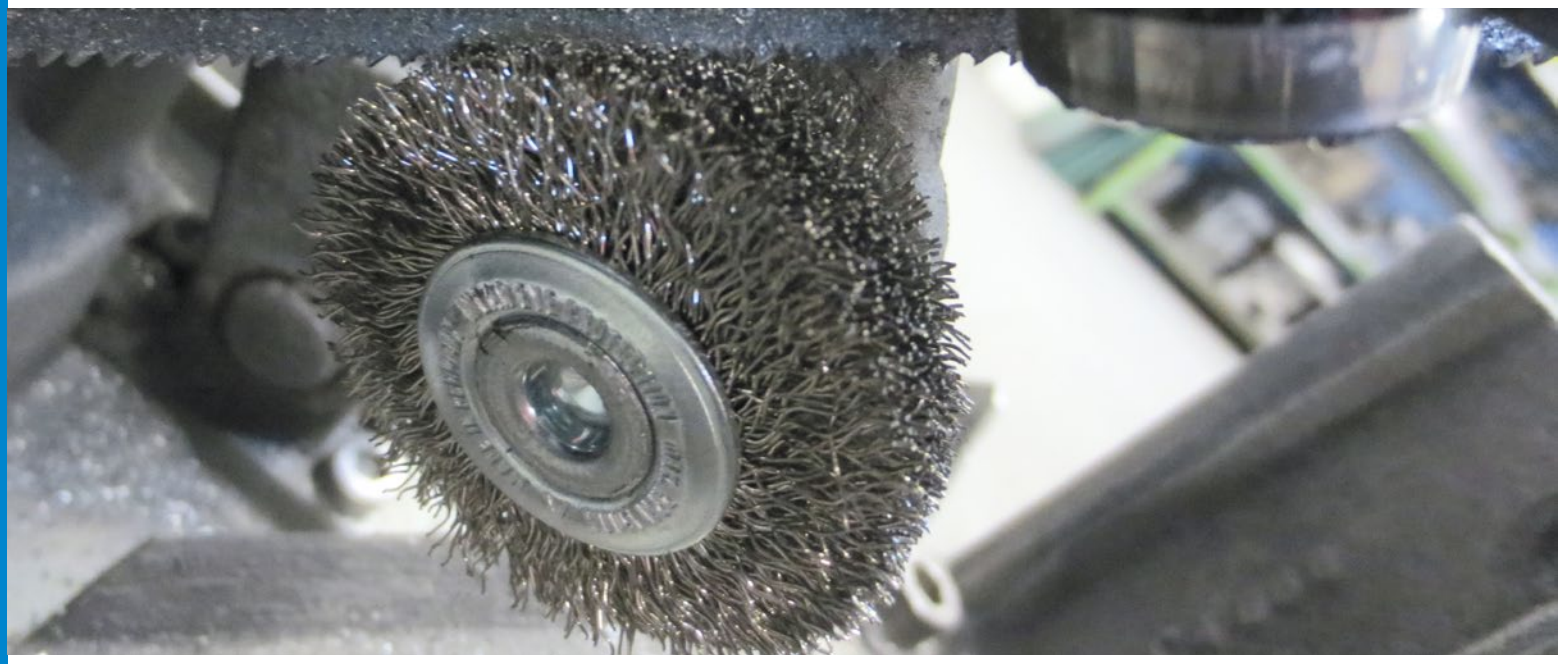
2 Stripping brushes, brass coated steel wire

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		**301.714.15**	*301.714.20*	*301.714.25*	*301.724.30*
40 | *1 5/8*	25 | *1*	12 | *1/2*	10	18.000	10			**301.725.20**	*301.725.25*	*301.725.30*
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

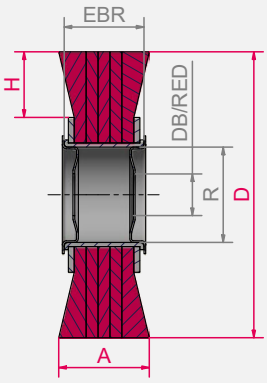
D mm | *inch*	A mm | *inch*	R mm | *inch*	DB mm	RPM max.	Pack.			**STA 0.20** | *0.008"* Art.-Nr.		
35 | *1 3/8*	20 | *3/4*	8 | *3/8*	6	18.000	10			*3KG.214.20*		
40 | *1 5/8*	25 | *1*	12 | *1/2*	10	18.000	10			*3KG.215.20*		

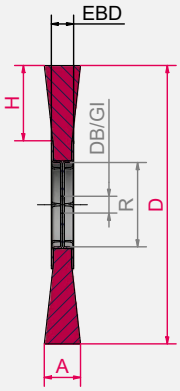
Band Saw Brushes



Band Saw Brushes
Wheel Brushes in circular saws or band saws are used for cleaning the chipping space. A wheel brush with diameter 80–100 mm is pressed against the saw blade (circular or band saw). By moving the saw blade or band the brush is rolling and it taking the chipping out of the shipping space. Hence a built-up edge is prevented and the durability of the saw blade extended. The used wheel brushes usually are with steel wire, corded wire or nylon filament.

Notice:
The brushes are suitable for 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

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire, crimped
STM	= brass coated steel, crimped
STL	= cord wire, crimped
PA	= polyamide, crimped

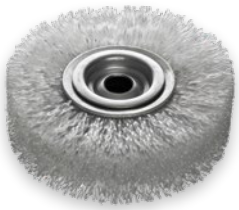
1



2



3



4



5



6



7



8



Band Saw Brushes, polyamide

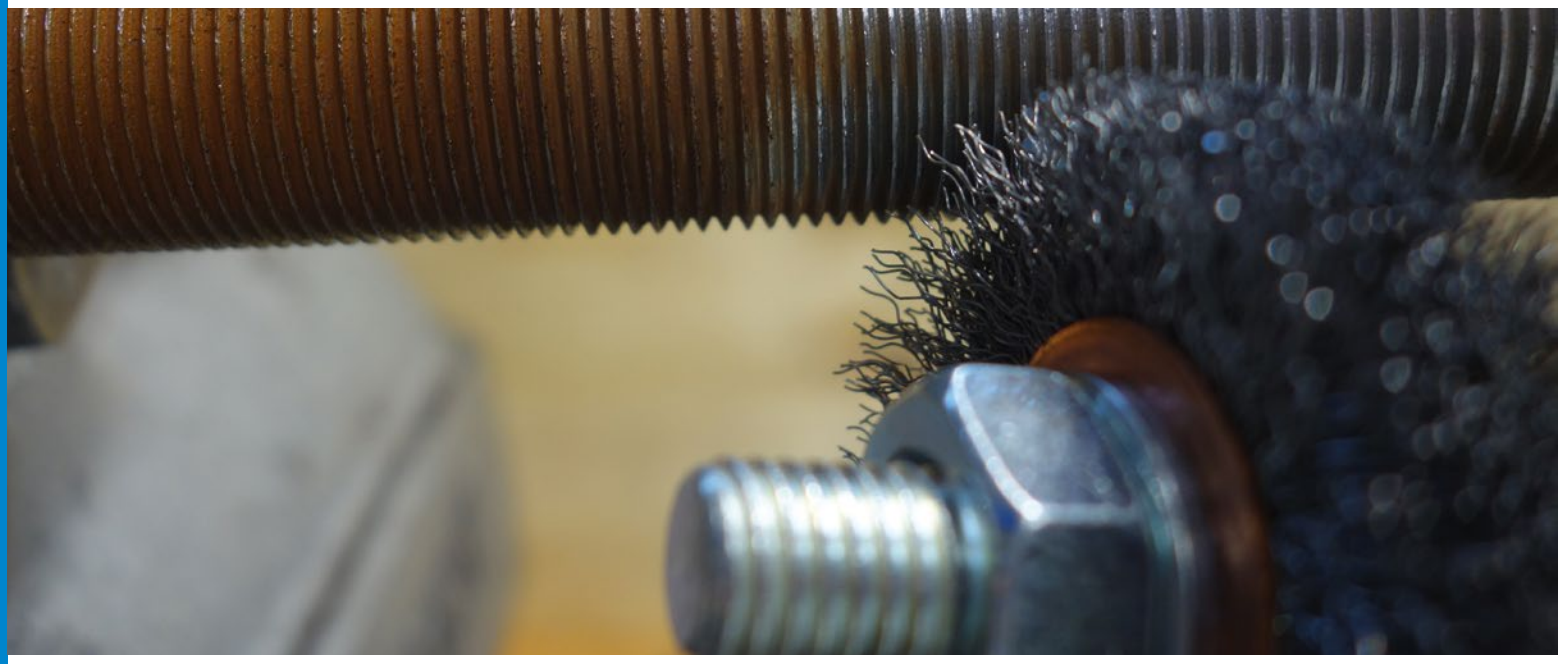
	D mm | *inch*	A mm | *inch*	R mm | *inch*	H mm | *inch*	DB mm	RPM max.	Pack.	**PA 0.50** | *0.020"* Art.-Nr.	**PA 0.80** | *0.031"* Art.-No.	**PA 1.00** | *0.039"* Art.-No.
1	85 | *3 11/32*	10 | *25/64*	30 | *1 3/16*	14 | *35/64*	12	8,000	10	*300.091*		
	100 | *3 15/16*	13 | *33/64*	30 | *1 3/16*	21 | *53/64*	12	8,000	10	**320.001**	**320.003**	**320.009**
	100 | *3 15/16*	13 | *33/64*	30 | *1 3/16*	21 | *53/64*	13	8,000	10	**320.004**		
	125 | *4 59/64*	13 | *33/64*	30 | *1 3/16*	33 | *1 19/64*	13	8,000	5			**330.001**
2	100 | *3 15/16*	13 | *33/64*	30 | *1 3/16*	21 | *53/64*	SW 17	8,000	10	**320.00K.17**	*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	5		*323.003**	

* bore with plastic sleeve

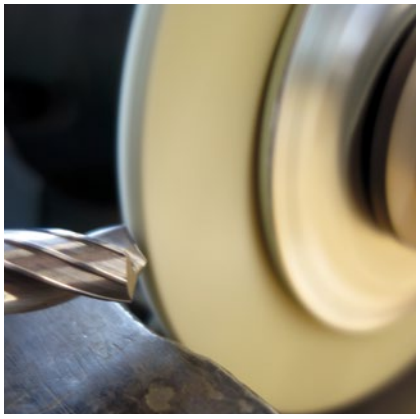
Band Saw Brushes, steel wire, brass coated steel wire, cord wire

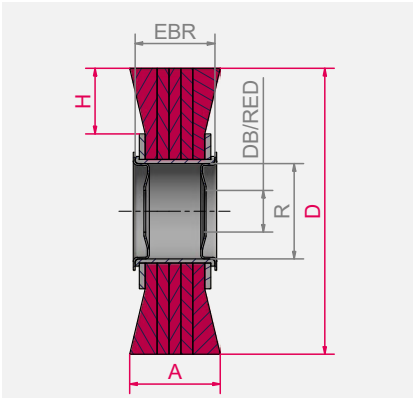
	D mm | *inch*	A mm | *inch*	R mm | *inch*	H mm | *inch*	DB mm	RPM max.	Pack.	**STA 0.20** Art.-No.	**STA 0.30** Art.-No.	**STM 0.20** Art.-No.	**STM 0.30** Art.-No.	**STL 4 x 0.25** Art.-No.
5	100 | *3 15/16*	13 | *33/64*	30 | *1 3/16*	21 | *53/64*	12	8,000	10		**320.161**			
	100 | *3 15/16*	13 | *33/64*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

Special Models









Small diameter crimped wheels SDW
LESSMANN small diameter crimped wheels have a manifold use, e. g. for deburring, cleaning, derusting or paint stripping on various work pieces and surfaces. A typical application e. g. is the cleaning of interior and exterior threads or the treatment of areas which are hard to reach.
The brushes are inserted directly into the machine or are mounted into a drilling machine or fast-moving item with a suitable drive arbor. Depending on the application and requirements several brushes can be mounted in a row. Suitable adapters are available on request.
The typical filling material LESSMANN offers is steel wire, stainless steel wire or abrasive nylon. On request other wire diameters and filling materials are available. All brushes are manufactured with a copper shell.

Wheel Brushes for the treatment of hard metal
Wheel brushes with diamond filling are often used for the rounding of edges of carbide or diamond tools.
Cutting edges on carbide tools extend the lifetime and allow a higher cutting speed. The treatment on major cutting edges of drills are mainly operated manually. LESSMANN wheel brushes with diamond support to decrease abrasion and to improve the surface quality of the work piece. Due to the consistent and narrow filling a clean and steady dipping of the edges is possible.
Surfaces of chip flutes of carbide drills are finished with brushes with aluminum oxide filling material. Finished chip flutes have a better process stability when drilling.

Stainless Steel Brushes
Information on working on stainless steel you find at www.lessmann.com

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire, crimped
ROF	= stainless steel wire, crimped
SIC	= silicon carbide bristles
AO	= aluminium oxide bristles

1





2



3



4

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 the treatment of hard metal

3

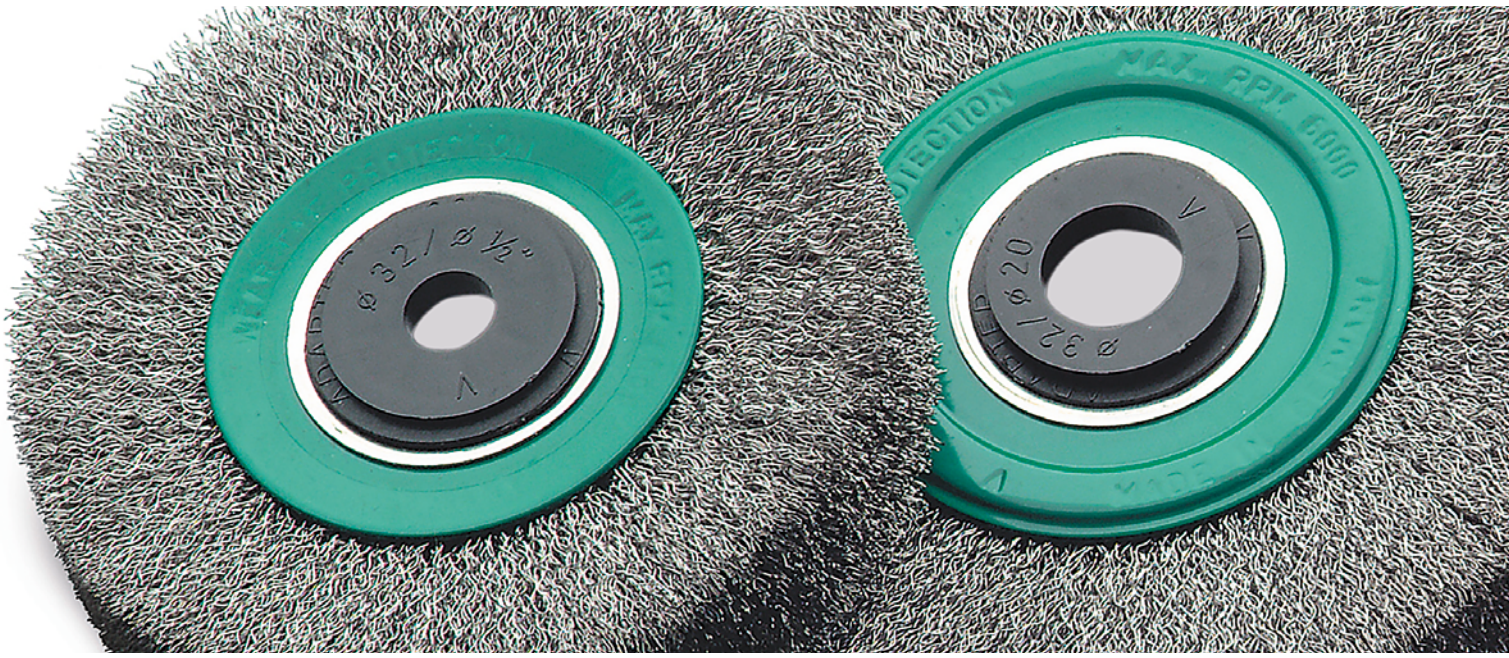
D	A	EBR	DB	H	RPM	Pack.	**Diam. K240**	**Diam. K320**	**Diam. K400**	**Diam. K600**	**Diam. K800**	**Diam. K1000**
mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*	max.		Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.
150 | *6*	5 | *13/64*	11 | *7/16*	20 | *3/4*	23 | *59/64*	3,000	1		*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**
mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*			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 angular cut

Accessories



Adapters
With these adapters the bore can be reduced to the required size.
The wheel brushes are supplied with adapter sets which makes it possible to mount the brushes on all popular grinding machines.
The adapters have the following dimensions:

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:
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.

A technical advice and safety information leaflet is included.

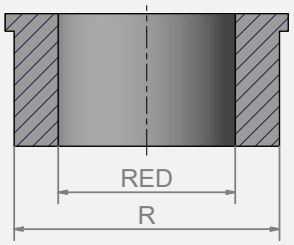
The practical adapter sets can also be ordered separately.

Single plastic reducing rings in many different dimensions can be supplied ex stock.

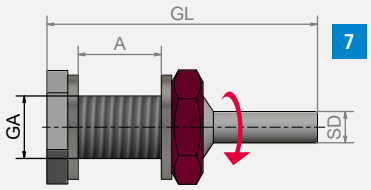
Drive Arbors
For use on drilling machines.

Metal Discs
Brushes with tube diameter 80 and 100 mm are supplied with our standard metal plates made of steel. Occasionally these metal plates are also required for brushes with smaller tubes. The metal plates on this page are therefore also suitable for the brushes on pages 32–35. Please indicate the required bore size on your order and note that normally two metal plates are required for one brush.

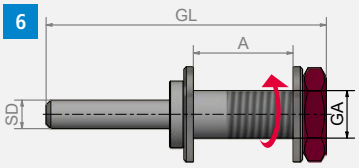
Adapter



Drive Arbor Thread left



Drive Arbor Thread right



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).



Adapter Sets

			R	RED	Pack.	Art.-No.
1	Set 1	Tube 30	30	1" - 22.2 - 20 - 16 - 1/2" - 12	2	**000.886.63**
2	Set 2	Tube 40	40	32 - 1" - 22.2 - 20 - 16 - 1/2"	2	**000.886.64**
3	Set 3	Tube 50	50	32 - 1" - 22.2 - 20 - 16 - 1/2"	2	**000.886.65**
4	Set 4	Tube 80/100	50.8	30 (further adapters with Set 1)	2	**000.886.68**
	Set 5	Tube 80/100	50.8	32	2	**000.888.32**
5	Single plastic reducing rings in many different dimensions can be supplied ex stock.					

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	*000.041*
10 | *3/8*	60 | *2 3/8*	M 10 x 1,5	max. 18 mm	4,500	1	*000.042*
10 | *3/8*	75 | *3*	M 14 x 2,0	max. 29 mm	4,500	1	**000.043**

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	**000.044**
6 | *1/4*	50 | *2*	M 12 left	max. 20 mm	4,500	1	**000.045**

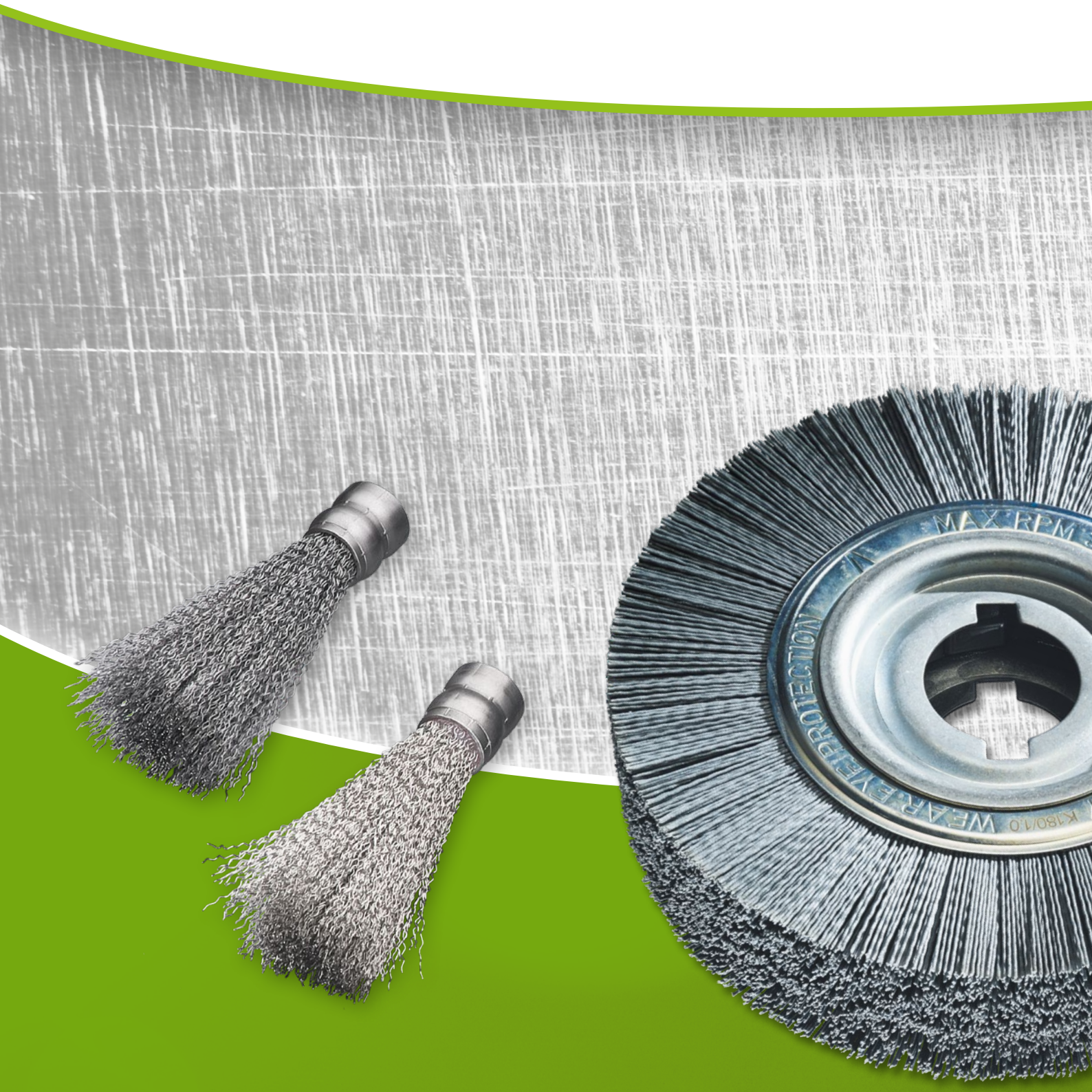
8 Metal Discs as Spare Part

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

Bore must be indicated!
* On request with double keyset 12 x 7 (50.8 / 52.9 / 54.5)

LESSMANN®

THE GERMAN BRUSH COMPANY



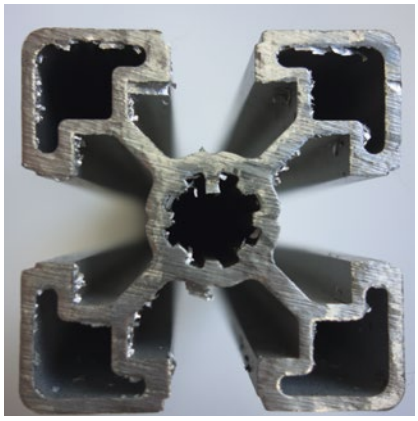
DEBURRING BRUSHES

02



Deburring Brushes





Part before brushing



Part after brushing



Deburring Brushes
Specially developed wheel brushes for deburring. These are suitable for all common deburring machines. Although they are heavier than other brushes because of their dense filling, we exclude any inbalance by evenly arranged filling material and the testing of every brush. Filled with high-quality wire, these brushes have a longer service life.

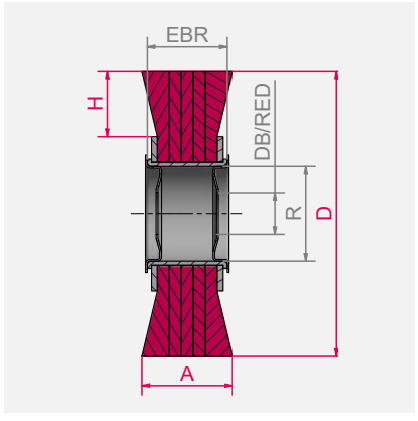
All brushes are with double keyway. Please indicate the required bore.

On the following pages you will find the standard measurements. Special measurements are available on request.

Deburring Brushes with Cord Wire STL / ROL
Deburring Brushes with cord wire are usually used for working on very hard materials. This wire construction gives the wires additional hold, hence the output of the brush is increased.

Encapsulated Deburring Brushes
Are ideal for an aggressive and very exact working. An early beak of the wires can be prevented. Therefore the brush has a longer life time and a better durability.

For more information about deburring please ask for our leaflet "Deburring with brushes".



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STH	= steel wire, high tensile, crimped
STM	= brass coated steel, crimped
STL	= cord wire, crimped

You can find our **Enquiry Forms** in the respective category under:
www.lessmann.com/index.php/en/content/view/full/61
or in the catalog from page 179



1 2

1 Deburring Brushes, Steel Wire

D	A	EBR	R	H	DB	RPM	Pack.	**STH 0.20** | *0.008"*	**STH 0.35** | *0.014"*	**STH 0.50** | *0.020"*
mm | *inch*	mm | *inch*		mm | *inch*	mm | *inch*	Stand.	max.		Art.-No.	Art.-No.	Art.-No.
250 | *10*	60 | *2 3/8*	58	100 | *4*	50 | *2*	50.8	3,600	1	**377.051**	**377.053**	**377.054**
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*	**377.053.TA**	*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	*387.051*	**387.053**	*387.054*
300 | *12*	100 | *4*	93	100 | *4*	60 | *2 3/8*	50.8	3,000	1	available on demand	*387.055*	available on demand

2 Deburring Brushes, Cord Wire, Brass Coated Steel Wire

D	A	EBR	R	H	DB	RPM	Pack.	**STL 0.38** | *0.015"*	**STM 0.38** | *0.015"*
mm | *inch*	mm | *inch*		mm | *inch*	mm | *inch*	Stand.	max.		Art.-No.	Art.-No.
250 | *10*	60 | *2 3/8*	58	100 | *4*	50 | *2*	50.8	3,600	1	**377.043**	*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*	available on demand
250 | *10*	100 | *4*	99	100 | *4*	50 | *2*	50.8	3,600	1	*377.048*	available on demand
250 | *10*	100 | *4*	96	100 | *4*	50 | *2*	100	3,600	1	*377.048.00*	

All brushes with metal disc and bore 50.8 mm and double keyway 13 x 7 mm!
Further standard bores: 52.9 / 54.5 mm; DB min/max: 30 mm ≤ DB ≤ R; Deburring Brushes also available with tube 120.

Deburring Brushes



1 2 3 4

Deburring Brushes, Stainless Steel Wire, Cord Wire

								1			2
D	A	EBR	R	H	DB	RPM	Pack.	**ROH 0.20** | *0.008"*	**ROH 0.35** | *0.014"*	**ROH 0.50** | *0.020"*	**ROL 0.35** | *0.014"*
mm | *inch*	mm | *inch*				Stand.	max.		Art.-No.	Art.-No.	Art.-No.	Art.-No.
250 | *10*	60 | *2 3/8*	58	100	50	50.8	3,600	1	**377.044**	**377.089**	*377.094*	**377.707**
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*	available on demand
250 | *10*	100 | *4*	99	100	50	50.8	3,600	1	*377.049*	*377.093*	*377.099*	available on demand
300 | *12*	100 | *4*	95	100	60	50.8	3,000	1	available on demand	available on demand	available on demand	available on demand

All brushes with metal disc and bore 50.8 mm and double keyway 13 x 7 mm!
Further standard bores: 52.9 / 54.5 mm; DB min/max: 30 mm ≤ DB ≤ R; Deburring Brushes also available with tube 120.

Deburring Brushes, encapsulated

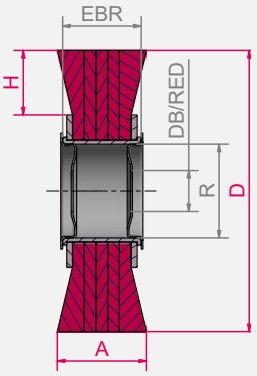
							3		4	
D	A	R	H	DB	Pack.	**STH 0.20** | *0.008"*	**STH 0.35** | *0.014"*	**ROH 0.20** | *0.008"*	**ROH 0.35** | *0.014"*
mm | *inch*	mm | *inch*			Stand.		Art.-No.	Art.-No.	Art.-No.	Art.-No.
250 | *10*	13 | *1/2*	100	58	33	1	*370.241.KG*	**370.271.KG**	**370.441.KG**	**370.471.KG**
250 | *10*	20 | *3/4*	100	57	33	1	*370.242.KG*	*370.272.KG*	**370.442.KG**	**370.472.KG**

Stainless Steel Brushes

LESSMANN brushes with stainless steel wire have green site plates.
More information for brush applications on stainless materials you will find at www.lessmann.com

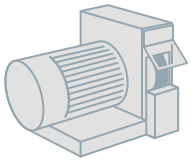
Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STH = steel wire, high tensile, crimped
ROL = stainless steel, cord wire
ROH = stainless steel wire, high tensile, crimped
ROF = stainless steel wire, crimped
SIC = silicon carbide bristles





2 1



EAN

1 Deburring Brushes, Silicon Carbide Bristles

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*	**377.835**	**377.854**	*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*	50 | *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*	50 | *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	available on demand	*377.837*	available on demand	available on demand
250 | *10*	100 | *4*	99	100 | *4*	50 | *2*	50.8	3,600	1	available on demand	*377.839*	available on demand	available on demand
300 | *12*	60 | *2 3/8*	55	100 | *4*	60 | *2 3/8*	50.8	3,000	1	*387.824*	available on demand	available on demand	available on demand
300 | *12*	100 | *4*	95	100 | *4*	60 | *2 3/8*	50.8	3,000	1	available on demand	available on demand	available on demand	available on demand

EAN

Deburring Brushes, 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	**377.C35**	*377.C55*

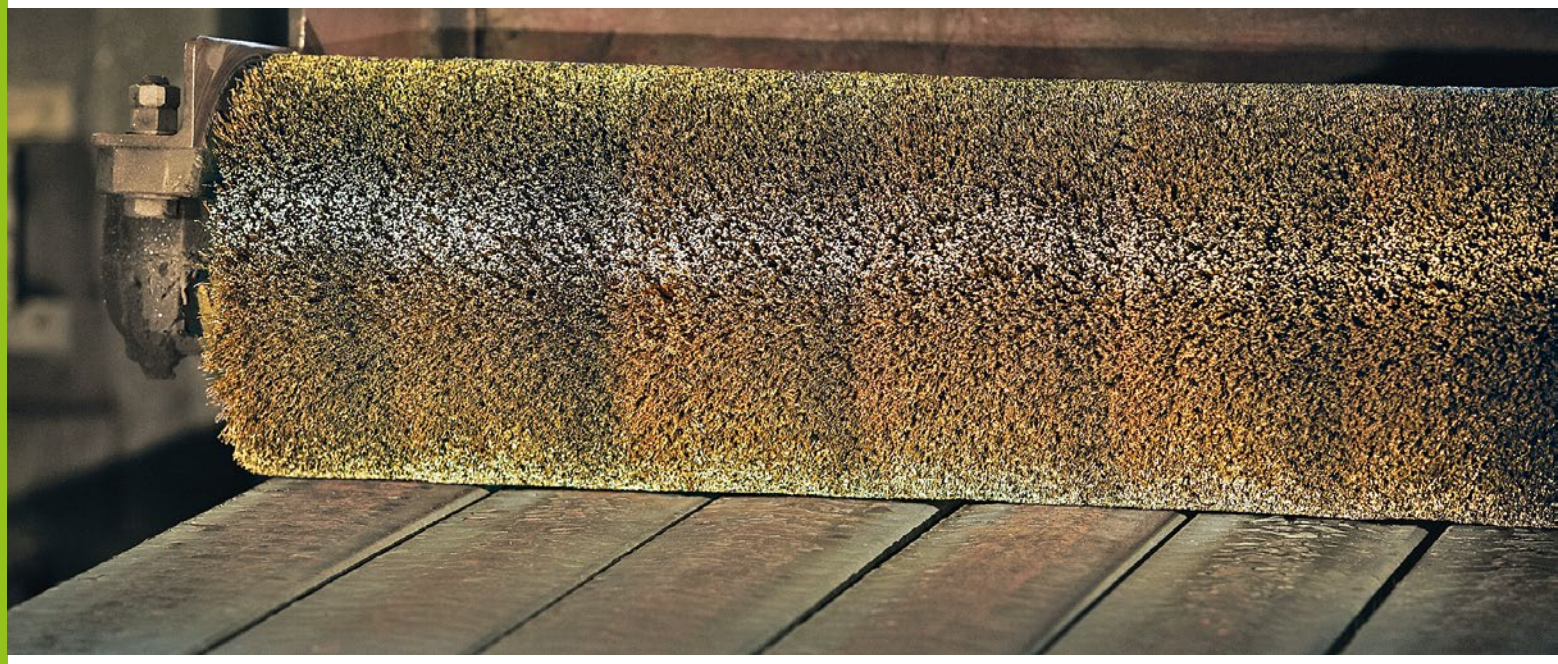
EAN

2 Deburring Brushes, mixed filament

D mm | *inch*	A mm | *inch*	EBR	R mm | *inch*	H mm | *inch*	DB Stand.	RPM max.	Pack.	**ROF 0.20 - SIC 120** Mixed filament with mixing proportion 1:1 Art.-No.
250 | *10*	60 | *2 3/8*	58	100 | *4*	50 | *2*	50.8	3,600	1	*377.091*
250 | *10*	60 | *2 3/8*	55	100 | *4*	50 | *2*	100	3,600	1	*377.091.00*

All brushes with metal disc and bore 50.8 mm and double keyway 13 x 7 mm!
Further standard bores: 52.9 / 54.5 mm; DB min/max: 30 mm ≤ DB ≤ R; Deburring Brushes also available with tube 120.

Roller Brushes



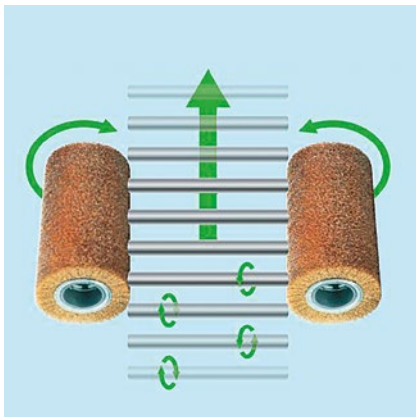
Roller Brushes
Roller Brushes for the use in deburring machines. For Deburring e.g. cutting edges of tubes.
As filling material you can choose from steel and stainless steel wire, brass coated steel wire or cord wire. These brushes feature with their dense filling.

Roller Brushes
Deburring brushes are available with
D = 250–400 mm and
A = 55–700 mm

In your inquiry please indicate measure D, A and the bore e.g. 50.8 mm, 52.9 mm or 54.5 mm with double keyway 13 x 7 mm. Other bores up to 120 mm are available on demand.

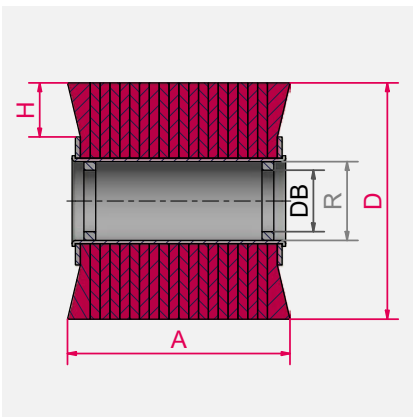
Moreover we offer with our welded metal plate special collets for the roller brushes. Bores and keyways will be produced customized.

Note: Due to our advanced manufacturing technology it is possible to produce balanced roller brushes without balancing weights. Hence the brush has a steady run throughout its whole lifetime.



Function chart of a deburring machine with roller brushes





Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STH	= steel wire, high tensile, straight
STL	= cord wire, crimped
ROH	= stainless steel wire, high tensile, crimped
SIC	= silicon carbide bristles

Strip brushes for deburring machines you find on pages 162 et seq.



Roller Brushes, Steel Wire, Cord Wire

D	A	R	H	DB	RPM	Pack.	**STH 0.20** | *0.008″*	**STH 0.35** | *0.014″*	**STH 0.50** | *0.020″*	**STL 0.38** | *0.015″*
mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*	Stand.	max.		Art.-No.	Art.-No.	Art.-No.	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*

Roller Brushes, Stainless Steel, Abrasive Bristles

D	A	R	H	DB	RPM	Pack.	**ROH 0.20** | *0.008″*	**ROH 0.35** | *0.014″*	**ROH 0.50** | *0.020″*	**SIC 120 / 1.1**
mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*	Stand.	max.		Art.-No.	Art.-No.	Art.-No.	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 measurements and filling materials as well as collets in special measurements are available on request.

Deburring End Brushes



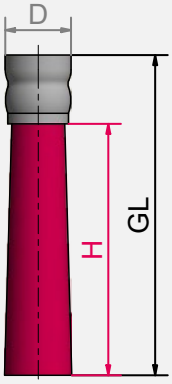
Deburring End Brushes
These brushes are perfect for deburring tubes, profiles or even plane surfaces. Deburring end brushes are used in a set of 8, 16 or 24 single end brushes integrated in one deburring device.

The metal bush fits all standard collets.

Stainless Steel
Information on working on stainless steel material you find at. www.lessmann.com



Schematic diagram of a deburring device for deburring end brushes



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STH	= steel wire, high tensile, straight
STL	= cord wire, crimped
ROH	= stainless steel wire, high tensile, crimped
SIC	= silicon carbide bristles



1 Deburring End Brushes, Steel Wire

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

2 Deburring End Brushes, CordWire

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

3 Deburring End Brushes, Stainless Steel Wire

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

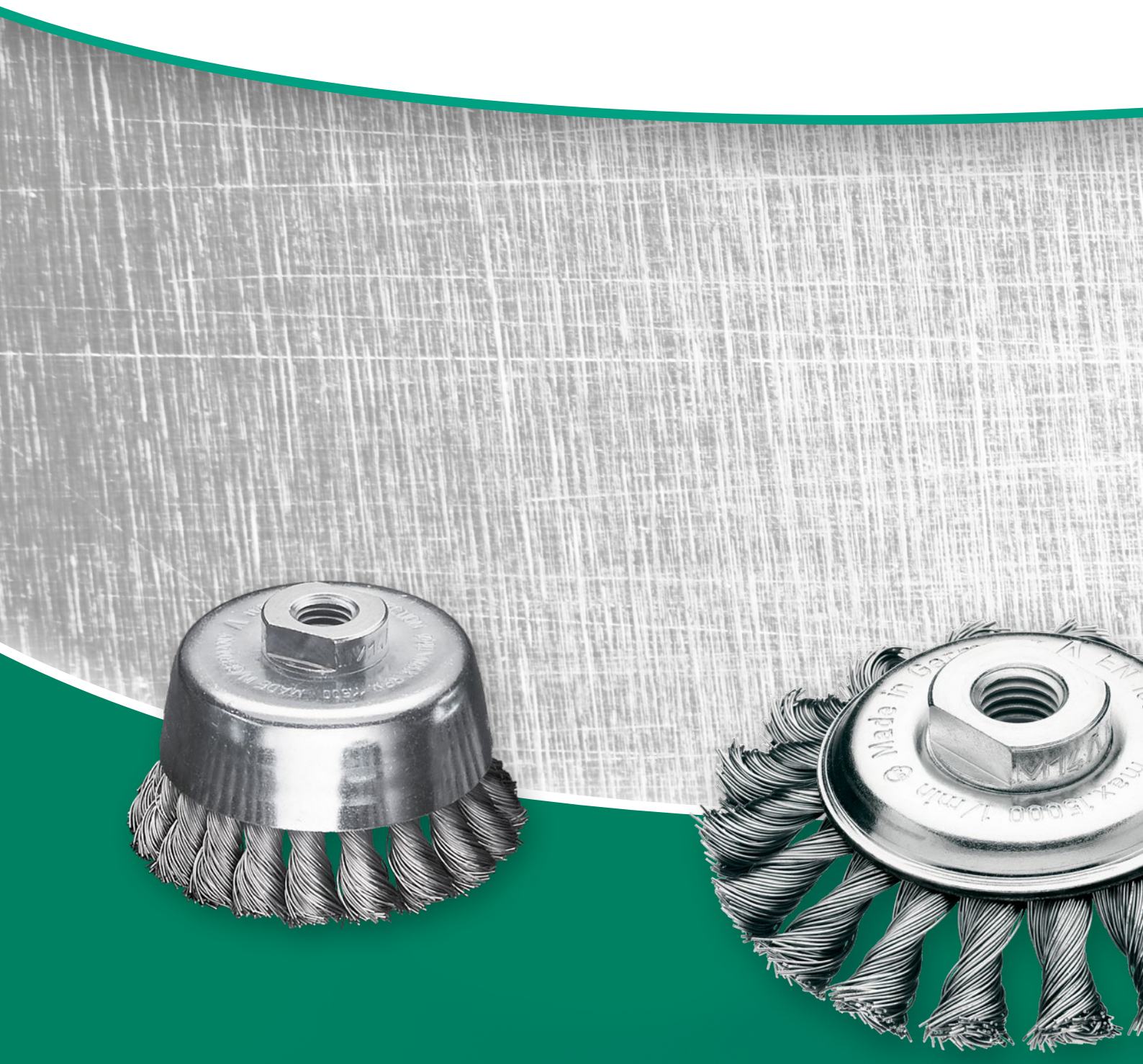
Deburring End Brushes, Silicon Carbide Bristles, mixed wire

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

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

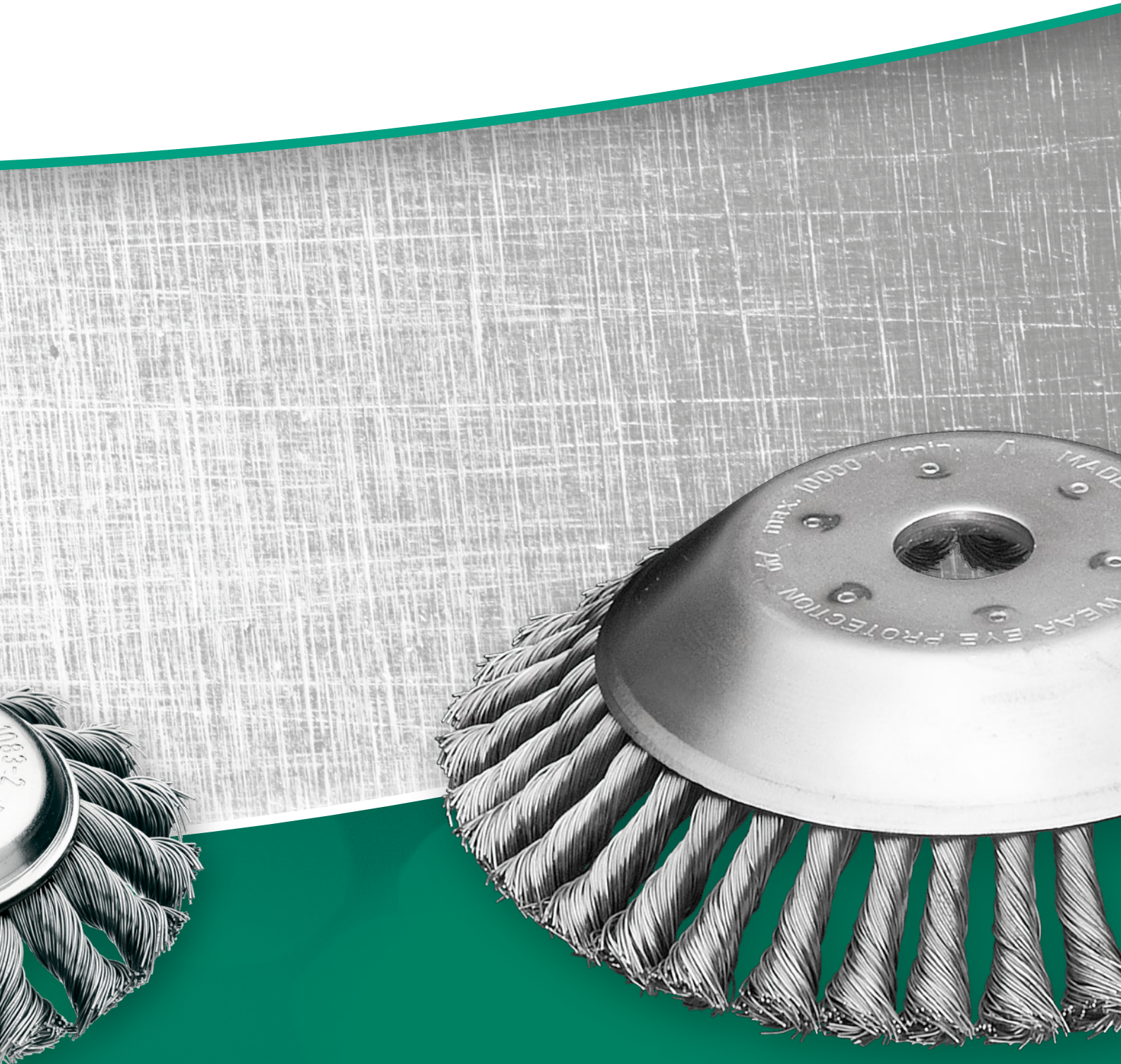
LESSMANN®

THE GERMAN BRUSH COMPANY



CUP AND BEVEL BRUSHES

03



Cup Brushes





Cup Brushes
Knot cup brushes are for heavy duty use: for the preparing of metal surfaces before painting, the removal of slag, rust, scale or concrete waste.
The brushes diameter 80/100/125 mm (Art. No. 484/486/487) have a **bridle** fitted for stability. The bridle can be removed after wear of the wire exposing a further 20 mm of useable wire!

User tip: We recommend the use of our brush with diameter 90 mm for small angle grinders. Compared to the common brush with diameter 65 mm this model has 50 % more wire and it is really something special in the brush market!

Cup brushes with narrow knots
Our new range of cup brushes with narrower six millimetre knots is optimized for usage on flat surfaces, weld seams and firmly attached dirt:
- Improved removal rate, therefore more efficient working
- Less imbalance, therefore quieter working
- Long lifetime
- Attractive price-performance ratio

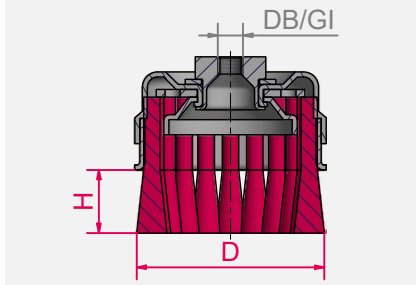
Knot Cup Brushes with extra long filling
For the use on large areas and for a flexible cleaning and derusting of e.g. shipyards. For a use in angle grinders. Easy working also in areas which are hard to reach.

Cup Brushes, left-right knotted
Left-right knotted cup brushes usually are more aggressive, hence they are often used for heavy brushing operations.
Besides the knots open less, therefore they are ideal for the treatment of edges.

Cup Brushes
Cup brushes with crimped wire are ideal for working on large surfaces with angle grinders. They can also be used for the removal of rust, paint, dirt or scale and for polishing.

Special Designs
The cup brushes can be delivered with different filling materials according to your requirements e.g. brushes with brass cups and brass wire for non-sparkling applications.

For promoting sales all standard wheel brushes are packed individually for self display. They are also available in bulk.



Z = number of knots

You can find our **tutorials** here:
www.lessmann.com/index.php/en/content/view/full/711

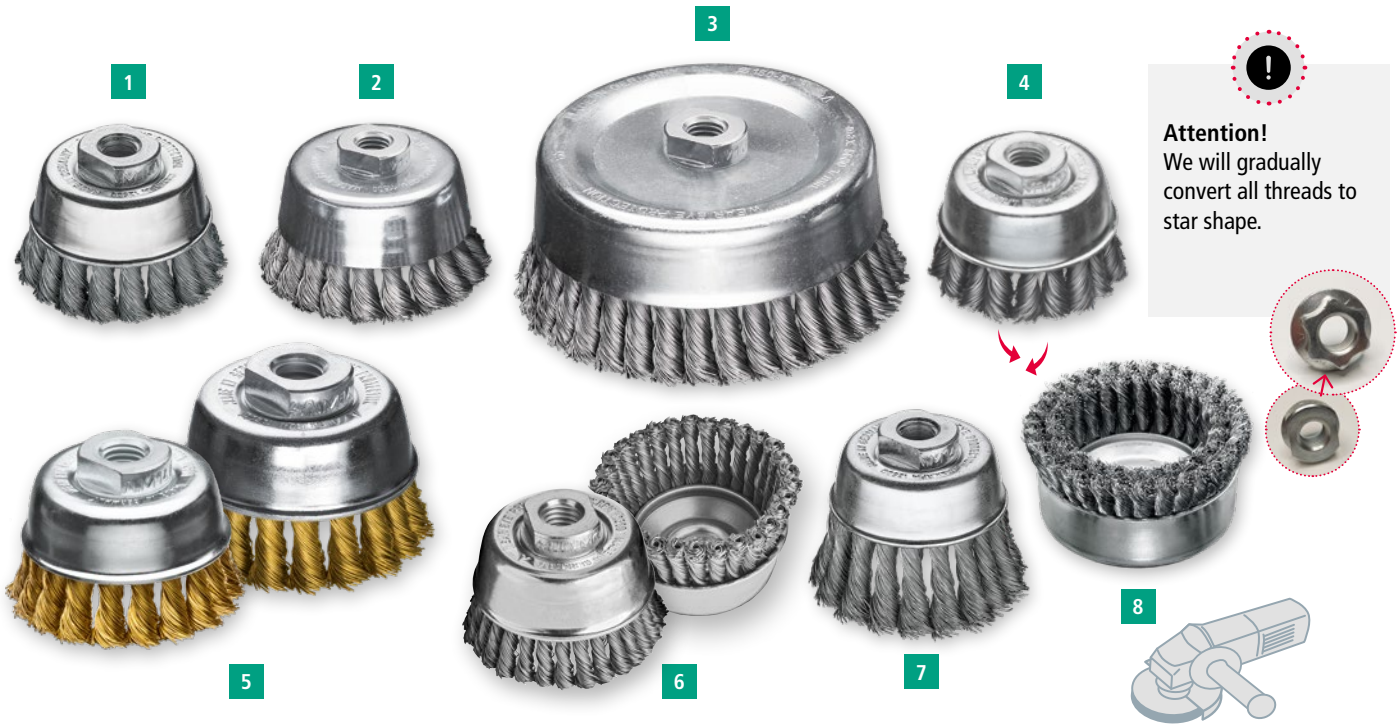
You can find our **Enquiry Forms** in the respective category under:
www.lessmann.com/index.php/en/content/view/full/61 or in the catalog from page 179

Chunky packaging
Many articles you receive as standard in handy covering boxes with 10 pcs.



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STH	= steel wire, high tensile, straight
STM	= brass coated steel, straight
MES	= brass wire
BRO	= bronze wire
ROH	= stainless steel wire, high tensile, straight



Attention!
We will gradually convert all threads to star shape.

EAN

Knot Cup Brushes without Bridle, 1 Row, Steel Wire, Brass coated Steel Wire

										5	
	D	GI	H	Z	RPM	Pack.	**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"*
	mm | *inch*		mm | *inch*		max.		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***	**482.214***	available on demand		
1	65 | *2 1/2*	M 14 x 2.0	20 | *3/4*	18	12,500	1	**482.117***	**482.217***	**482.317***	**482.117.SM***	**482.217.SM***
1	75 | *3*	M 14 x 2.0	20 | *3/4*	20	12,500	1	**483.117***	**483.217***	*483.317*		
2	90 | *3 1/2*	M 14 x 2.0	22 | *7/8*	20	11,500	1	*485.137**	**485.237***	*485.337*		**485.237.SM***
3	100 | *4*	M 14 x 2.0	25 | *1*	26	9,000	1	available on demand	**486.237***	available on demand		
3	125 | *5*	M 14 x 2.0	25 | *1*	32	7,000	1	available on demand	**487.237**	available on demand		
3	150 | *6*	M 14 x 2.0	30 | *1 1/4*	36	6,600	1	available on demand	**488.237**	available on demand		
3	150 | *6*	5/8"-11 UNC	30 | *1 1/4*	36	6,600	1	available on demand	*488.238*	available on demand		
4	65 | *2 1/2*	M 14 x 2.0	20 | *3/4*	18	12,500	1	available on demand	**482.217.WZ***			

EAN

6 Cup brushes with narrow knots

D	GI	H	Z	RPM	Pack.	**STH 0,50** | *0.020"*
mm | *inch*		mm | *inch*		max.		Art.-No.
65 | *2 1/2*	M14 x 2,0	20 | *3/4*	30	12,500	1	**482.207**
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

7 Knot Cup Brushes, without Bridle, 1 Row, Steel Wire, with extra long filling

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

EAN

8 Knot Cup Brushes without Bridle, 2 Rows, Steel Wire

D	GI	H	Z	RPM	Pack.	**STH 0.35** | *0.014"*	**STH 0.50** | *0.020"*	**STH 0.80** | *0.031"*
mm | *inch*		mm | *inch*		max.		Art.-No.	Art.-No.	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	available on demand	*487.248*	available on demand
150 | *6*	5/8" - 11 UNC	25 | *1*	36+32	6,600	1	available on demand	*488.248*	available on demand

* Packed 10 pieces per carton

Cup Brushes



Knot Cup Brushes with Bridle, 1 Row, Steel Wire

							1		
D	DB/GI	H	H_1	Z	RPM	Pack.	**STH 0.35** | *0.014"*	**STH 0.50** | *0.020"*	**STH 0.80** | *0.031"*
mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*		max.		Art.-No.	Art.-No.	Art.-No.
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*

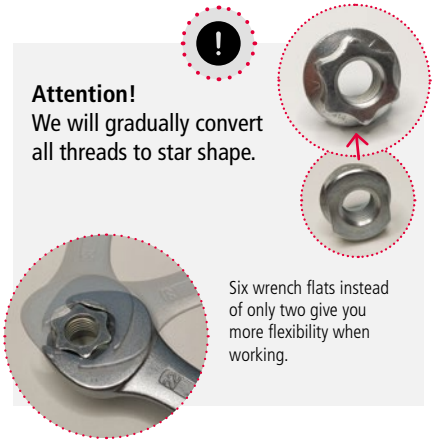
Knot Cup Brushes with Bridle, 1 Row, bronze wire, fittings brass

							2
D	DB/GI	H	H_1	Z	RPM	Pack.	**BRO 0.50** | *0.020"*
mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*		max.		Art.-No.
125 | *5*	16 | *5/8*	23 | *7/8*	15 | *5/8*	32	4,000	1	*487.011.MS****

After removing the bridle there is the following further trimming length (see measure H_1).

* Packed 10 pieces per carton. | ** This brush doesn't work with angle grinders. | *** With adjustable angle grinder, note RPM.

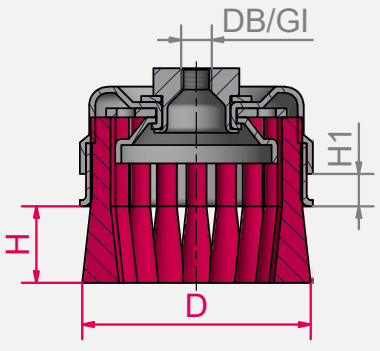
Attention!
We will gradually convert all threads to star shape.



Six wrench flats instead of only two give you more flexibility when working.

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STH = steel wire, high tensile, straight
ROH = stainless steel wire, high tensile, straight
ROH = premium quality stainless steel wire
BRO = bronze wire



Z = number of knots



Knot Cup Brushes without Bridle, 1 Row, Stainless Steel Wire

	D mm | *inch*	Gl	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**	
1	65 | *2 1/2*	M 14 x 2.0	20 | *3/4*	18	12,500	1	**482.717***	**482.817***	**482.517***
1	75 | *3*	M 14 x 2.0	20 | *3/4*	20	12,500	1	available on demand	**483.817***	
1	80 | *3 1/4*	M 14 x 2.0	33 | *1 1/4*	18	15,500	25	**480.717**	available on demand	
2	65 | *2 1/2*	M 14 x 2.0	20 | *3/4*	18	12,500	1	available on demand	**482.817.WZ***	

3 Knot Cup Brushes with Bridle, 1 Row, Stainless Steel Wire

D mm | *inch*	Gl mm | *inch*	H mm | *inch*	H_1 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	**484.717**	**484.817***
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	**486.717***	**486.817***
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	available on demand	**487.817**

* Packed 10 pieces per carton

4 Cup brushes with narrow knots, Stainless Steel Wire

D mm | *inch*	Gl	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	**482.807**
65 | *2 1/2*	5/8" – 11 UNC	20 | *3/4*	30	12,500	1	482.808

Knot Cup Brushes without Bridle, 1 Row, brass wire, bronze wire

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

Stainless Steel Brushes

LESSMANN brushes with stainless steel wire have green cups. More information for brush applications on stainless materials you will find at www.lessmann.com

Cup Brushes



EAN

Cup Brushes with Crimped Wire

					1			2		3
D	DB/GI	H	RPM	Pack.	**STA 0.20** | *0.008"*	**STA 0.35** | *0.014"*	**STA 0.50** | *0.020"*	**ROF 0.35**|*0.012"*	**RO4 0.30**|*0.012"*	**MES 0.30** | *0.012"*
mm | *inch*	mm | *inch*		max.		Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	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 demand	**423.367***		on demand
75 | *3*	5/8" - 11 UNC	22	12,500	1		*423.168**	on demand	**423.368**		on demand
80 | *3 1/4*	22.2 | *7/8*	25	8,500	1		**424.171***	on demand	*424.361*		on demand
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 demand
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 demand	on demand		on demand
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 doesn't work with angle grinders.

EAN

Cup Brushes, Cord Wire, Brass Coated Steel Wire, Silicon Carbide Bristles

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



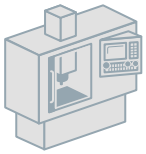
1



2



3



EAN

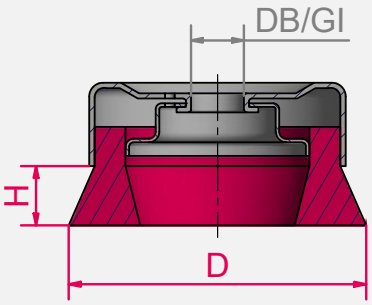
Cup Brushes, Straight Filament

	D mm | *inch*	DB/GI mm | *inch*	H	RPM max.	Pack.	**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 | *3 1/2*	M 14	25	9,000	1				**446.827***	***446.857****
	90 | *3 1/2*	22.2 | *7/8*	25	9,000	1				available on demand	*446.851***
3	100 | *4*	M 14	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 | *4 1/2*	M 14	30	7,000	1				**447.827***	**447.857***
3	125 | *5*	M 14	30	5,000	1	**447.277***	available on demand	*447.707*		

1 with bridle | * Packed 10 pieces per carton
** This brush doesn't work with angle grinders.

Cup Brushes with Straight Wire

They are used for deburring surfaces, mostly in machining centers. The brushes are available with steel wire, stainless steel wire, abrasive nylon or any other filament. Due to the straight cup the filament of the brush is less flaring out and more cone points of the bristles work on the surface. Please contact us for more information!



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire, crimped
STH	= steel wire, high tensile, straight
STM	= brass coated steel, crimped
STL	= cord wire, crimped
ROH	= stainless steel wire, high tensile, crimped
RO4	= premium quality stainless steel wire
MES	= brass wire, crimped
SIC	= silicon carbide bristles

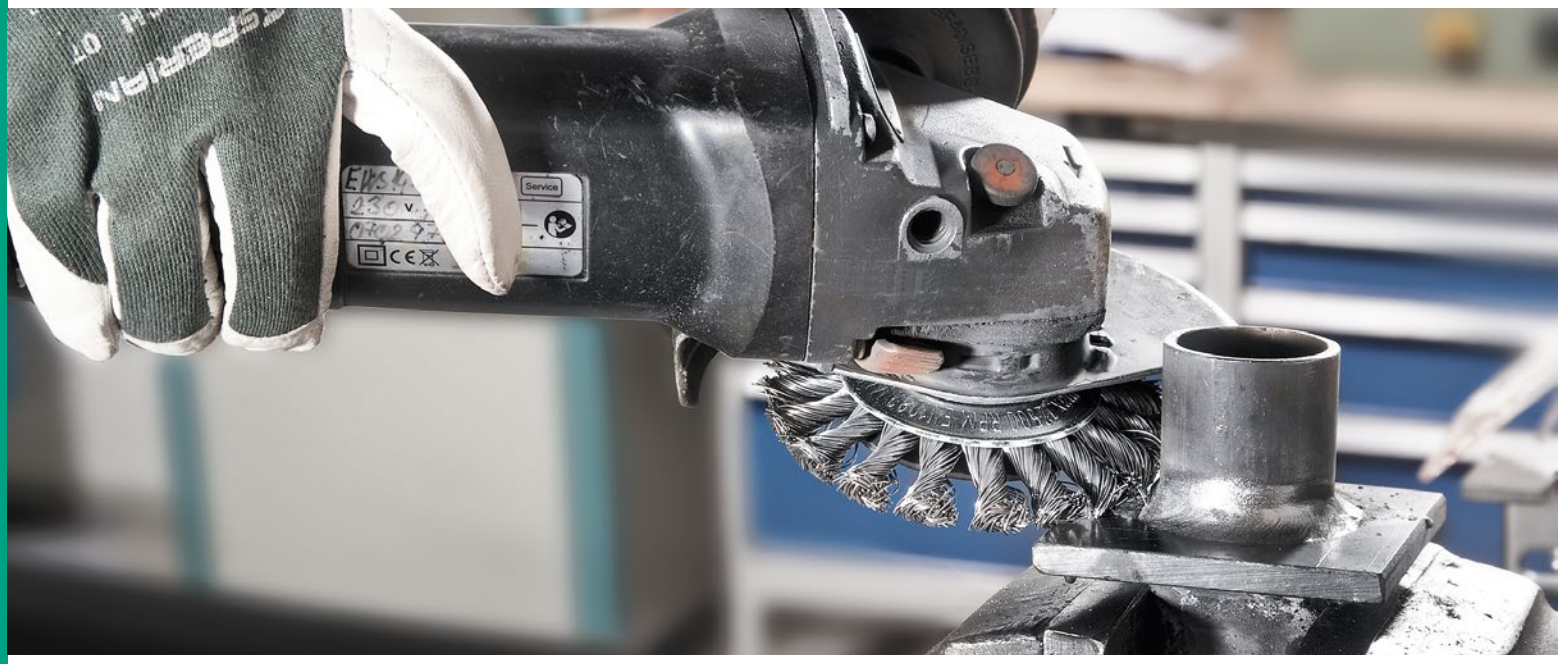
Attention!
We will gradually convert all threads to star shape.



Six wrench flats instead of only two give you more flexibility when working.



Bevel Brushes



Bevel Brushes
The special shape of these brushes enables the user to work in hard to reach places. The knots are left hand twisted to increase stability. For promoting sales all standard knot bevel brushes are packed individually for self display. These brushes are also available bulk packed.

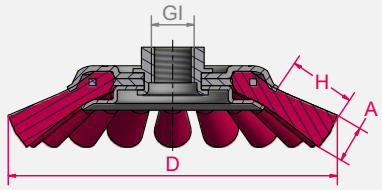
Wheel Brushes with thread
Like bevel brushes, wheel brushes with a thread are ideal for working in areas which are hard to reach. Usually the brushes are used on angle grinders.

Other measurements and filling materials are available on request.

Stainless Steel Brushes
LESSMANN brushes with stainless steel wire have green cups. We use wire with material number 1.4310. Material number 1.4401 can be used on request.
More information for brush applications on stainless materials you will find at www.lessmann.com

Bevel Brushes, left-right knotted
Left-right knotted bevel brushes usually are more aggressive, hence they are often used for heavy brushing operations.
Besides the knots open less, therefore there are ideal for the treatment of edges.





Z = number of knots

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire, crimped
STM	= brass coated steel wire
STH	= steel wire, high tensile, straight
ROF	= stainless steel wire, crimped
ROH	= stainless steel wire, high tensile, straight

Attention!
We will gradually convert all threads to star shape.



Six wrench flats instead of only two give you more flexibility when working.



1



2



3



4





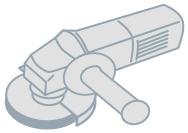
5



6



7



EAN

Knot Bevel Brushes, Steel Wire, Stainless Steel Wire

	D	A	GI	H	Z	RPM	Pack.	1		2	
	mm | *inch*	mm | *inch*	mm | *inch*			max.		**STH 0.35** | *0.014"* Art.-No.	**STH 0.50** | *0.020"* Art.-No.	**ROH 0.35** | *0.014"* Art.-No.	**ROH 0.50** | *0.020"* 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

4 Knot Bevel Brushes, Steel Wire, Brass coated steel wire

D	A	GI	H	Z	RPM	Pack.	**STM 0.35** | *0.014"*	**STM 0.50** | *0.020"*
mm | *inch*	mm | *inch*	mm | *inch*			max.		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, Crimped Wire

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

EAN

7 Wheel Brushes, crimped wire, with thread

D	A	GI	H	RPM	Pack.	**STA 0.30** | *0.012"*	**ROF 0.30** | *0.012"*	**STM 0.30** | *0.012"*
mm | *inch*	mm | *inch*			max.		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
Knotted brushes or Bevel Brushes with PBT on grass trimmers are ideal for removing weeds on grass pavers, curbstones, cobbled areas or other spots which are hard to reach. Those brushes clean larger areas like courtyards, terraces or longer alleys effortless and sustainable.

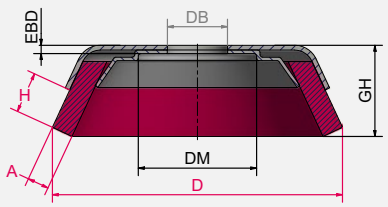
Besides, brushes are ecologically friendly and they remove weeds fast and effectively.

In sensitive areas such as agriculture synthetic filaments are a decisive criterion. Synthetic bristles are soft and therefore ideally suited for sensitive surfaces, as they do not scratch. The brush with synthetic bristles is ideal for grass trimmers with battery due to its lighter weight and scores with a longer service life and even wear.

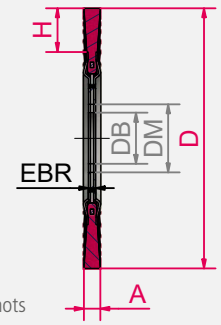
Attention:
When working with brushes on grass trimmers, please be aware of stringent safety rules. Please take note of the data sheet we attach the brushes or have a look at www.lessmann.com.

You can find our **tutorials** here:
www.lessmann.com/index.php/en/content/view/full/711

Bevel Brushes



Wheel Brushes



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

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STM	= brass coated steel, straight
STH	= steel wire, high tensile, straight
PBT	= Polyester PBT
PP	= Polypropylen



1 2



3



4 yellow = PBT, red = PP

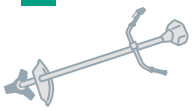


5



7

6



EAN

Knotted Bevel Brushes, for grass trimmers

	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.
1	155 | *6 1/8*	12 | *1/2*	3.5	50	35 | *1 3/8*	54	30	20 | *3/4*	B	10,000	1	**475.2M0.01**	**475.5M0.01**	
	155 | *6 1/8*	12 | *1/2*	3.5	50	35 | *1 3/8*	54	30	25.4 | *1*	B	10,000	1	**475.2M1.01**	**475.5M1.01**	
2	180 | *7*	14 | *9/16*	3.5	64	35 | *1 3/8*	58	36	20 | *3/4*	B	8,000	1	**476.2M0.01**	**476.5M0.01**	
	180 | *7*	14 | *9/16*	3.5	64	35 | *1 3/8*	58	36	25.4 | *1*	B	8,000	1	**476.2M1.01**	**476.5M1.01**	
3	350 | *14*	14 | *9/16*	5	115	78 | *3 1/16*	86	64	30 | *1 3/16*	B	900	1			**479.3M2.01***

* For special machines

EAN

Bevel Brushes, for grass trimmers, PBT

	D mm | *inch*	A mm | *inch*	EBD	DM	H mm | *inch*	GH mm | *inch*	DB mm | *inch*	RPM max.	Pack.	**PBT 2.50** Art.-Nr.	**PP 1.60** Art.-Nr.
4	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, for grass trimmers, crimped

	D mm | *inch*	A mm | *inch*	EBD	DM	H mm | *inch*	GH mm | *inch*	DB mm | *inch*	RPM max.	Pack.	**STA 0.50** Art.-Nr.
5	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, for grass trimmers

	D mm | *inch*	A mm | *inch*	EBR	DM	H mm | *inch*	Z	ZF	RPM max.	Pack.	**d = 20 mm** **STH 0.50** | *0.020"* Art.-No.	**d = 25.4 mm** **STH 0.50** | *0.020"* Art.-No.
6	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**
7	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*

X-LOCK brush assortment

LESSMANN®
THE GERMAN BRUSH COMPANY
+
X-LOCK
Technology by BOSCH Invented for life

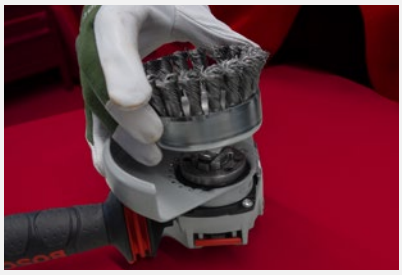


Quick. Simple. Safe.
The new X-LOCK quick-change system for angle grinders from Bosch noticeably simplifies tool changing. The user saves time and productivity is increased – ideal for professional applications.

Lessmann is also a major partner of Bosch and offers a comprehensive range of brushes suitable for the X-LOCK. All brushes meet the LESSMANN usual high quality standards – developed and produced „Made in Germany".

Advantages of X-LOCK
- Tool change in just one step: The brush is mounted quickly and easily on the angle grinder
- No accessories or additional tools required for assembly or tool change
- Safe: The brush audibly locks and is thereby securely fixed
- Highest quality and safety standards are met

TOOL CHANGE MADE EASY



Mounting the tool

Place the brush on the X-LOCK holder of the angle grinder and press lightly. An audible click confirms that the tool has locked. Done.



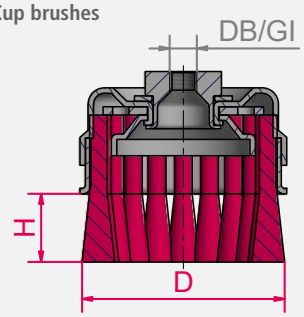
Disassembly of the tool

Operate the lever on the angle grinder. The brush can be easily removed from the X-LOCK holder.

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

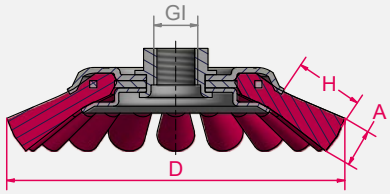
STM	= brass coated steel, straight
STH	= steel wire, high tensile, straight
PBT	= Polyester PBT
PP	= Polypropylen

Cup brushes

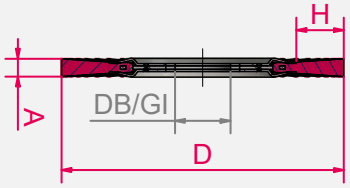


ZF = Knot type
Z = Number of knots
R = Number of rows

Bevel brushes



Wheel brushes




1


3


5


2


4


6

EAN

X-LOCK cup brushes

	D mm | *inch*	DB/GI mm | *inch*	H mm | *inch*	Z	ZF	RPM max.	Pack.	knotted STH 0,50 Art.-No.	knotted ROF 0,50 Art.-No.	crimped STA 0,35 Art.-No.	crimped 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**

EAN

X-LOCK bevel brushes

	D mm | *inch*	DB/GI mm | *inch*	H mm | *inch*	Z	ZF	RPM max.	Pack.	knotted STH 0,50 Art.-No.	knotted ROF 0,50 Art.-No.	crimped STA 0,35 Art.-No.	crimped 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**

EAN

X-LOCK wheel brushes knotted

	D mm | *inch*	DB/GI mm | *inch*	H mm | *inch*	Z	ZF	RPM max.	Pack.	STH 0,50 Art.-No.	ROH 0,50 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**

EAN

X-LOCK pipeline brushes knotted

	D mm | *inch*	DB/GI mm | *inch*	H mm | *inch*	Z	ZF	RPM max.	Pack.	STH 0,50 Art.-No.	ROH 0,50 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**

Low sparking brushes



Low sparking brushes
are recommended for the working in areas where flammable steams, liquids or dusts are a part of the working conditions. Also, they are used in all other situations where sparks could lead to a potential fire or explosion hazard.

In explosion-proof areas, low sparking brushes are recommended. In comparison to the wooden handles of the hand brushes, the bodies of machine driven brushes are made of brass. The filling material is bronze CuSn6. These materials generate a low amount of sparks, which ensures a working environment with the minimum of sparks.

Another benefit of bronze is, its corrosion resistant properties

Typical application areas
Low sparking brushes are used in all industries and companies which have explosion risks or fire hazard due to flying sparks. e.g.:
- Oil and gas industry
- Pipeline industry
- Chemical industry
- Nuclear power plants
- Plastics industry
- Food industry, e.g.: bakeries
- And many others

For example cleaning tanks or working in an explosive environment.

Work instructions
- Low sparking brushes (with bronze filling) are a lot softer than other regularly used fill materials e.g. Steel and Stainless Steel
- Therefore these brushes have a higher abrasion rate, this means these brushes have to be used with more carefully so as not to damage the workpiece.

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

BRO = bronze wire

The use of these tools does not prevent the formation of ignitable sparks with 100 % certainty.

- Overuse is to be avoided.
- The use of low-sparking tools has to be not your only protection measure against fire or explosions.
- To ensure a comprehensive protection of staff and building please respect the given provisions of the different institutions, e.g.: provisions of trade associations, employers or legislators.

1 Handbrushes standard; KL 290

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

2 Handbrushes export model; KL 350

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

3 Dusters; KL320

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

4 Spark Plug Brushes; KL 200

Rows	H mm | *inch*	Pack.	BRO 0.15 Art.-No.
3	15 | *19/32*	12	**132.801**

5 Brooms and scrubs

Rows	KL mm | *inch*	KB mm | *inch*	H mm | *inch*	Pack.	BRO 0.40 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*



Special models

	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 | *5 533/64*	20 | *51/64*	12	**144.011**	
	6	180 | *7 3/32*	60 | *2 3/8*	170 | *6 11/16*	20 | *51/64*	12	**144.111**	
	6	150 | *6*	50 | *2*	130 | *15 1/8*	15 | *19/32*	12	**144.311**	
7	6	180 | *7 3/32*	60 | *2 3/8*	160 | *6 19/64*	20 | *51/64*	12	**144.411**	
8	11	120 | *4 23/32*	70 | *2 3/4*	110 | *4 21/64*	14 | *9/16*	4		**152.811**

Cup Brushes

	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	*487.011.MS**

* With adjustable angle grinder, note RPM.

Wheel Brushes

	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 19/64*	Set 3	13-50	6,000	1	*345.662.MS*

Cylinder Brushes; GL330

	D mm | *inch*	A mm | *inch*	GL mm	drilling wire	Pack.	BRO 0.20 Art.-No.
11	10 | *25/64*	100 | *4*	330	**MES 2.5**	10	**542.034**
	20 | *51/64*	100 | *4*	330	**MES 2.5**	10	**543.006**
	35 | *1 3/8*	100 | *4*	330	**MES 3.0**	10	**543.926**

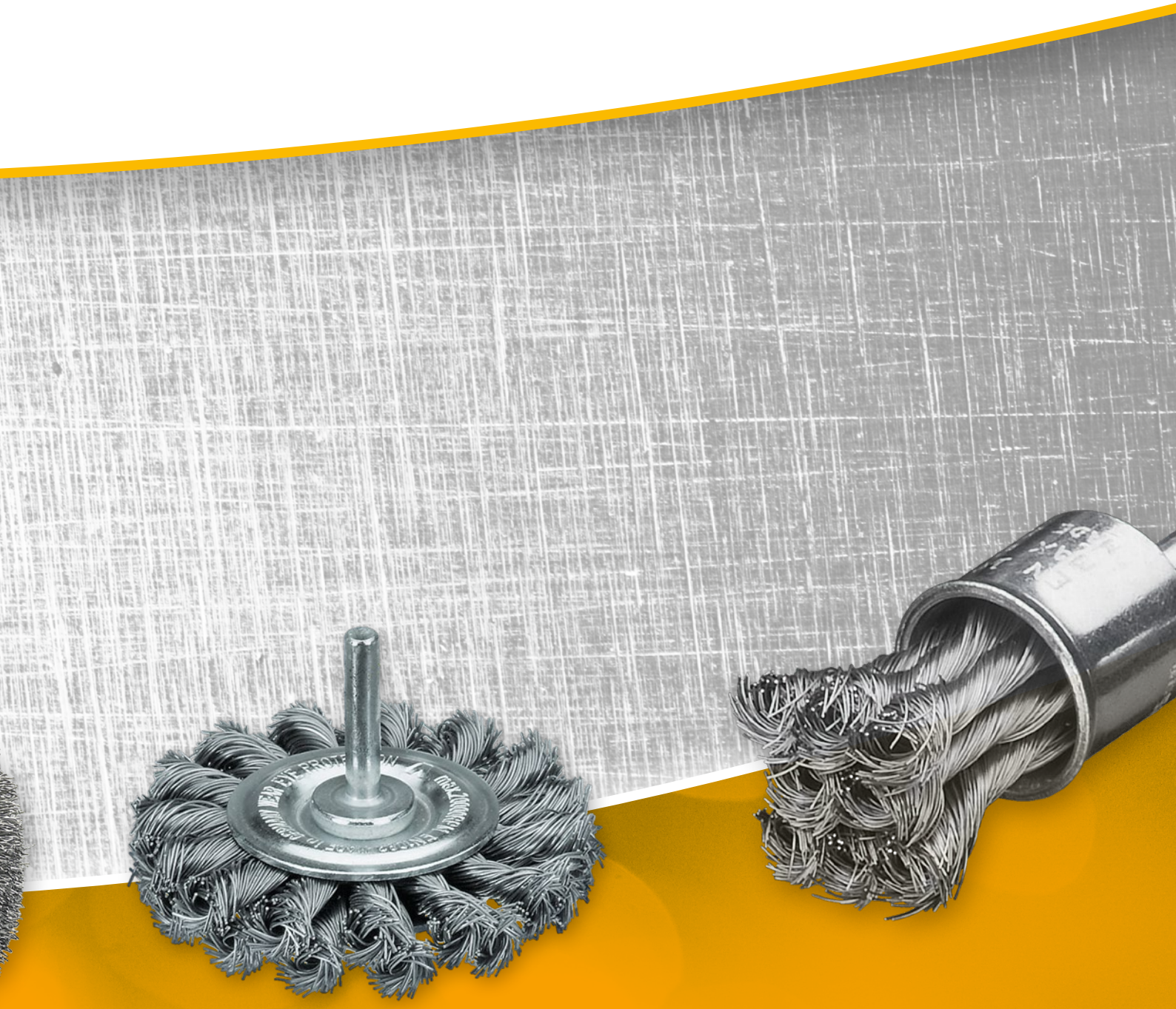
GL = total length
KL = body length

LESSMANN®

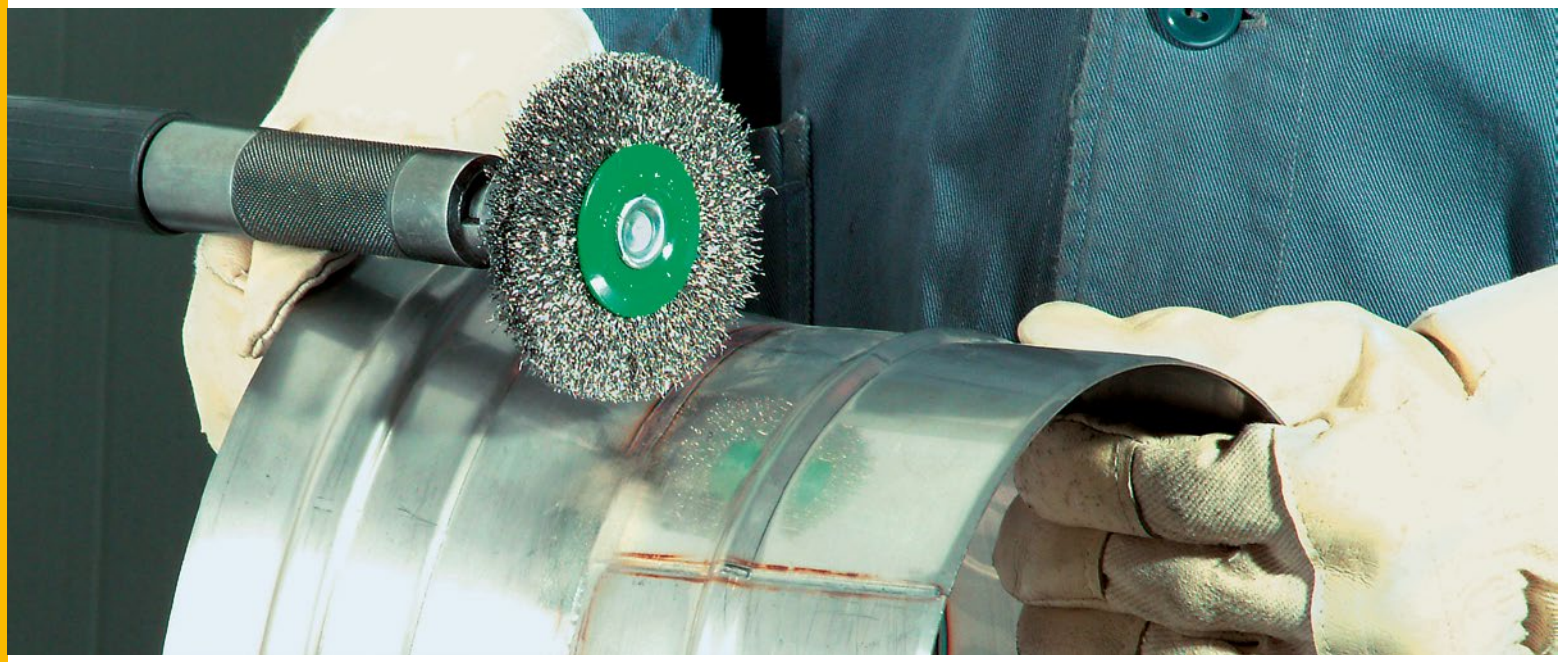
THE GERMAN BRUSH COMPANY



BRUSHES WITH SHANK 04

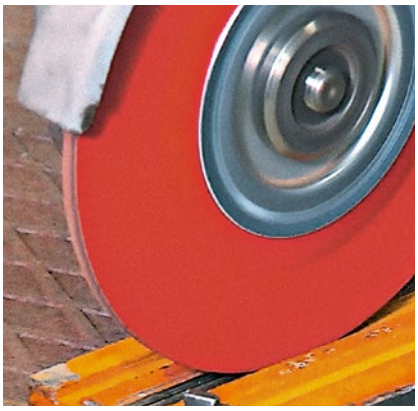


Wheel Brushes with Shank





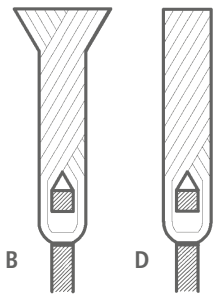




Wheel Brushes with Shank
The wheel brushes shown on these pages are manufactured with a mounted shank for professional use. Tight filling wire and balanced running make these brushes excellent tools.

Stainless Steel Brushes
LESSMANN brushes with stainless steel wire have green site plates. We use wire with material number 1.4310. Material number 1.4401. can be used on request.
More information for brush applications on stainless materials you will find at www.lessmann.com

Knotted Wheel Brushes with Shank
It does not matter if the brush has one or two rows, the brush is the prefect tool for removing underseal, rust deburring, roughening etc. For working in narrow places we recommend our brush 417.198.11, which is an especially narrow Brush.



Knot types ZF
B: Rose Bud
D: Fully knotted (wire ends are cut completely)

You can find our **tutorials** here:
www.lessmann.com/index.php/en/content/view/full/711

You can find our **Enquiry Forms** in the respecitve category under:
www.lessmann.com/index.php/en/content/view/full/61
or in the catalog from page 179

The brushes have a 6 mm shank. On demand the brushes can also be supplied with 1/4" shanks (USA execution).

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



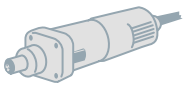
1



2



3



Knot Wheel Brushes with Shank Ø 6 mm

	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	*417.178.11*	**417.198.11**	
	75 | *3*	12 | *1/2*	15 | *5/8*	18	B	1	25,000	10	**417.168**	**417.198**	**417.398**
2	75 | *3*	16 | *5/8*	15 | *5/8*	18	B	2	25,000	10		**417.199**	*417.399*

Wheel Brushes 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.
3	50 | *2*	8 | *5/16*	13 | *1/2*	15,000	10	**415.160**
	60 | *2 3/8*	8 | *5/16*	18 | *3/4*	15,000	10	**416.160**
	76 | *3*	8 | *5/16*	23 | *7/8*	15,000	10	**417.160**

Encapsulated Brushes

By embedding in tough plastic the filling width always remains the same and early break of the wires can be prevented. It's the perfect tool for long lasting and safe working. The colour on the picture can differ from the colour on the brush.

Well marked

In future you will be able to recognize our encapsulated brushes even better by the new embossing or laser marking. This guarantees that you are holding a quality product "Made in Germany" in your hands.
All important safety information can also be easily read on the product.

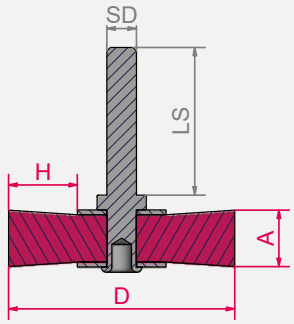
Hardness Grading

From now on, the encapsulated brushes from Lessmann can be delivered in three different Shore hardness scale measurements:

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

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





Z = number of knots, **R** = number of rows

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA = steel wire, crimped
STH = steel wire, high tensile, straight
ROH = stainless steel wire, high tensile

Wheel Brushes with Shank

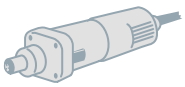


1





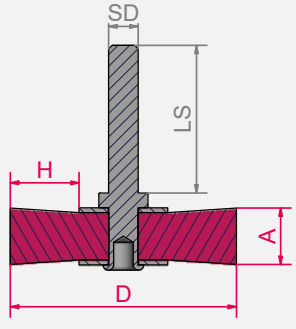
2



Wheel Brushes with Shank Ø 6 mm, Steel Wire

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

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



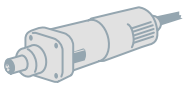
LS = $1^{3/16}$ inch

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA = steel wire, crimped
ROF = stainless steel wire, crimped
RO4 = stainless steel wire, straight, 1.4401



1 2



Wheel Brushes with Shank Ø 6 mm, Stainless Steel

D	A	H	RPM	Pack.	1				
					ROF 0.10 | *0.004"*	**ROF 0.20** | *0.008"*	**ROF 0.30** | *0.012"*	**RO4 0.20** | *0.008"*	**RO4 0.30** | *0.012"*
mm | *inch*	mm | *inch*	mm | *inch*	max.		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**	available on demand		
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 with Shank Ø 6 mm, Completely Stainless

D	A	H	RPM	Pack.	**ROF 0.20** | *0.008"*	**ROF 0.30** | *0.012"*
mm | *inch*	mm | *inch*	mm | *inch*	max.		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 (shanks, side plates, rings, etc.) are made of stainless steel, making these brushes the perfect tool for working in damp and difficult places.

Attention:
Completely stainless brushes do not have green side plates.

Wheel Brushes with Shank



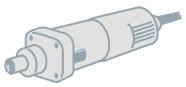
1



2



3



1 Wheel Brushes 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	**415.752**
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	**417.752**
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 Body Brushes 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	**412.731**	
50 | 2	3 | *1/8*	10 | *25/64*	15.000	10		**415.741**

Structuring Brushes with Shank Ø 8 mm

					3	
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	**418.704**	
80 | *3 1/4*	35 | *1 3/8*	24 | *15/16*	15,000	1		**418.826**

Structuring Brushes with Shank

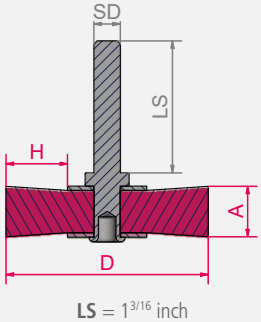
These brushes are special brushes which can be used for wood grain surfaces.

Body brushes with shank

The brushes allow access to hard-to-reach areas in the car body, such as folds and grooves for solder joints or interior angles. The brushes can be used to easily remove rust, sealant, paint or scale.
The brushes are also used for cleaning or activation on the surface before tinning.

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STM = brass coated steel, crimped
MES = brass wire, crimped
SIC = silicon carbide bristles



LS = $1^{3/16}$ inch



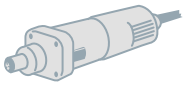
1



2



3



1 Wheel Brushes with Shank Ø 6 mm, Brass Wire

D mm | *inch*	A mm | *inch*	H mm | *inch*	RPM max.	Pack.	**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	**411.542**	
30 | *1 3/16*	5 | *13/64*	6 | *1/4*	20,000	10	**413.542**	
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	**414.542**	
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	**415.542**	
50 | *2*	14 | *9/16*	12 | *15/32*	15,000	10	**415.543**	
60 | *2 3/8*	12 | *15/32*	17 | *43/64*	15,000	10	**416.542**	*415.562*
60 | *2 3/8*	16 | *5/8*	17 | *43/64*	15,000	10	**416.543**	
70 | *2 3/4*	8 | *5/16*	19 | *3/4*	15,000	10	**417.542**	*417.562*
70 | *2 3/4*	12 | *15/32*	19 | *3/4*	15,000	10	**417.543**	
80 | *3 1/4*	8 | *5/16*	20 | *51/64*	15,000	10	**418.542**	
80 | *3 1/4*	12 | *15/32*	20 | *51/64*	15,000	10	**418.543**	

2 Wheel Brushes with Shank Ø 6 mm, Silicon Carbide Bristles

D mm | *inch*	A mm | *inch*	H mm | *inch*	RPM max.	Pack.	**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	**413.841**			**413.871**
40 | *1 3/8*	15 | *19/32*	12 | *15/32*	18,000	10		**414.842**		**414.872**
50 | *2*	10 | *25/64*	12 | *15/32*	15,000	10		**415.842**	**415.852**	**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*	20 | *51/64*	15,000	10		**417.842**	**417.852**	**417.872**
80 | *3 1/4*	12 | *15/32*	20 | *51/64*	15,000	10		**418.842**	*418.852*	**418.872**

3 Wheel Brushes with Shank Ø 6 mm, Cermaic Grit

D mm | *inch*	A mm | *inch*	H mm | *inch*	RPM max.	Pack.	**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	**415.C42**	*415.C52*	**415.C72**
70 | *2 3/4*	10 | *25/64*	12 | *15/32*	15,000	10	**417.C42**	*417.C52*	**417.C72**

Shank Brushes with Silicon Carbide Bristles
The high quality bristles with silicon carbide can be used for deburring, polishing and structuring of stainless steel, aluminium and plastic surfaces. Besides the articles mentioned on this page we can also supply other grits, diameters and widths.

Cup Shank Brushes



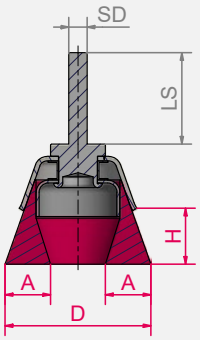
Cup Brushes with Shank
Ideal for working on medium and large areas.

Cup Shank Brushes with Plastic Cup
Cup Shank Brushes with Plastic Cup and stainless steel wire especially are used for applications on stainless steel materials.
The plastic cup prevents contact with the working piece, therefore it protects from corrosion or other foreign particles.

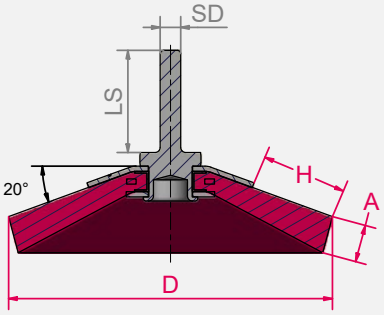
Bevel Brushes with Shank
Due to the conical form these universal tools are ideal for notches, corners, grooves, inside edges and irregular surfaces. These professional brushes are suitable for drills and cordless screwdrivers as well for high-speed straight grinders and compressed-air drives.

High speed – low wear
Brushes with steel and stainless steel wire can be used at higher RPM and can therefore be used on electrical and air driven grinding machines. These models are known for their high density of filling material and therefore they have a very long lifetime.

The brushes with silicon carbide bristles can be used for deburring, polishing or structuring of stainless steel, aluminium and plastic surfaces.



Z = number of knots
LS = $1^{3/16}$ inch



LS = $1^{3/16}$ inch

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire, crimped
STH	= steel wire, high tensile, straight
ROF	= stainless steel wire, crimped
MES	= brass wire, crimped
SIC	= silicon carbide bristles



Cup Brushes with Shank Ø 6 mm

D	A	H	RPM	Pack.	1				2	
mm | *inch*	mm | *inch*	mm | *inch*	max.		**STA 0.20** | *0.008"*	**STA 0.30** | *0.012"*	**ROF 0.20** | *0.008"*	**ROF 0.30** | *0.012"*	**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	**434.142**	**434.162**	*434.342*	**434.362**	**434.542**	
50 | *2*	16 | *5/8*	20 | *3/4*	10,500	10	**435.142**	**435.162**	*435.342*	**435.362**	**435.542**	**435.562**
60 | *2 3/8*	18 | *3/4*	25 | *1*	8,000	10	available on demand	**436.162**	available on demand	**436.362**	available on demand	
70 | *2 3/4*	20 | *3/4*	25 | *1*	6,000	10	**437.142**	**437.162**	*437.342*	**437.362**	**437.542**	

3 Cup Brushes with Shank Ø 6 mm and plastic cup

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

4 Cup Brushes with Shank Ø 6 mm, Silicon Carbide Bristles

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

5 Knot Cup Brushes with Shank Ø 6 mm, Steel Wire

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

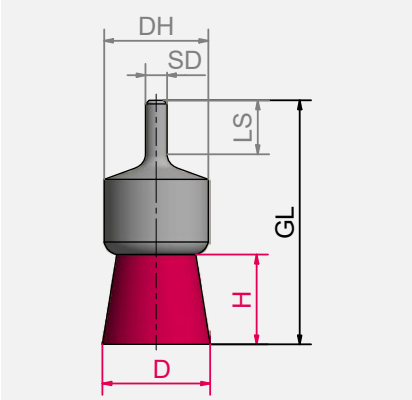
6 Bevel Brushes with Shank Ø 6 mm

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

End Brushes







Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire, crimped
STH	= steel wire, high tensile, straight
ROF	= stainless steel wire, crimped
SIC	= silicon carbide bristles



End Brushes with Shank
For cleaning and deburring in hard to reach areas, removal of paint, rubber excess, cleaning of moulds and castings. Also for working on edges and curves, and in the inside of the bores, etc. End brushes are also available in other shapes, spreaded or pointed.

These brushes are perfect for fast moving tools. On demand also with 1/4" shank available.

Special End Brushes, crimping
The special end brushes with narrow crimped wire are characterized by its dense filling. These brushes show a harder brushing effect than brushes with normal crimped wire. These brushes are also available with extra long shanks or different diameters.

Square End Brushes
This special tool enables e. g. cleaning of blind holes and processing of bottom and side surfaces in one step.
It's perfect for cleaning and easy deburring applications, e. g. square bores. Other diameters available on demand.

Encapsulated Brushes
By embedding in tough plastic the filling width always remains the same and early break of the wires can be prevented. It's the perfect tool for long lasting and safe working. The colour on the picture can differ from the colour on the brush.

Well marked
In future you will be able to recognize our encapsulated brushes even better by the new embossing or laser marking. This guarantees that you are holding a quality product "Made in Germany" in your hands.
All important safety information can also be easily read on the product.

Hardness Grading
From now on, the encapsulated brushes from Lessmann can be delivered in three different Shore hardness scale measurements:
- Black – Hard
- Red – Standard
- White – Soft

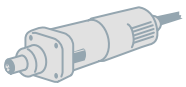
Please note:
The more aggressive the application, the harder the plastic material should be. Another advantage of the harder plastic material is the dimensional stability.

Stainlessless Steel Brushes
Further information for brushing on stainless steel you will find on www.lessmann.com

Special Design
For your order please state your requirements regarding the measures and wires.



1 2 3 4 5



Special End Brushes with Shank Ø 6 mm, narrow 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	**466.171**	available on demand
2	11 | *7/16*	12 | *1/2*	25 | *1*	71 | *2 3/4*	12,000	10	**466.172***	available on demand*
1	19 | *3/4*	22 | *7/8*	29 | *1 1/8*	72 | *2 3/4*	12,000	10	*460.121*	available on demand
2	19 | *3/4*	22 | *7/8*	29 | *1 1/8*	72 | *2 3/4*	12,000	10	*460.122**	available on demand*

3 Square End Brushes with Shank Ø 6 mm

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*	available on demand

4 End Brushes 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	**451.160**
16 | *5/8*	16 | *5/8*	25 | *1*	72 | *2 7/8*	15,000	10	**452.160**
22 | *7/8*	22 | *7/8*	25 | *1*	72 | *2 7/8*	15,000	10	**453.160**
28 | *1 1/8*	28 | *1 7/64*	30 | *1 1/4*	75 | *3*	10,000	10	**456.160**

5 End Brushes with Shank Ø 6 mm, Silicon Carbide Bristles

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	**451.831**	*451.851*	*451.871*
17 | *5/8*	16 | *5/8*	22 | *7/8*	68 | *2 3/4*	10,000	10	**452.831**	*452.851*	available on demand
23 | *7/8*	22 | *7/8*	25 | *1*	70 | *2 3/4*	10,000	10	*454.831*	**454.851**	**454.871**
30 | *1 1/4*	28 | *1*	30 | *1 1/4*	75 | *3*	10,000	10	*456.831*	**456.851**	**456.871**

* pointed

End Brushes



End Brushes with Shank Ø 6 mm, Steel Wire

	D	DH	H	GL	RPM	Pack.	Shape	**STA 0.15** | *0.006"*	**STA 0.20** | *0.008"*	**STA 0.30** | *0.012"*	**STA 0.50** | *0.020"*
	mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*	max.			Art.-No.	Art.-No.	Art.-No.	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 with Shank Ø 6 mm, Brassed Steel Wire, Cord Wire

							7	8	
D	DH	H	GL	RPM	Pack.	Shape	**STM 0.25** | *0.010"*	**STL 0.175** | *0.007"*	**STL 0.22** | *0.009"*
mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*	max.			Art.-No.	Art.-No.	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 with Shank Ø 6 mm, Steel Wire high tensile, dense version, longer lifetime

D	DH	H	GL	RPM	Pack.	Shape	**STH 0.30** | *0.012"*
mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*	max.			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 with Shank Ø 6 mm, Stainless Steel and Brass Wire

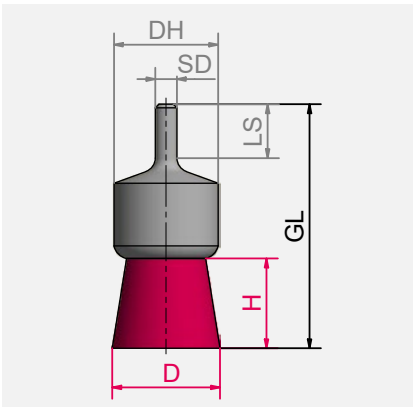
	D	DH	H	GL	RPM	Pack.	Shape	ROF 0.20 | *0.008"*	ROF 0.30 | *0.012"*	RO4 0.30 | *0.012"*	7 MES 0.20 | *0.008"*	7 MES 0.30 | *0.012"*
	mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*	max.			Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.
1	12 | *1/2*	10 | *3/8*	20 | *3/4*	60 | *2 3/8*	20,000	10		**451.341**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

End Brushes with Shank Ø 6 mm, complete Stainless Steel

D	DH	H	GL	RPM	Pack.	Shape	ROF 0.30 | *0.012"*
mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*	max.			Art.-No.
12 | *1/2*	10 | *3/8*	20 | *3/4*	60 | *2 3/8*	20,000	10		**451.305**
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		**453.301**



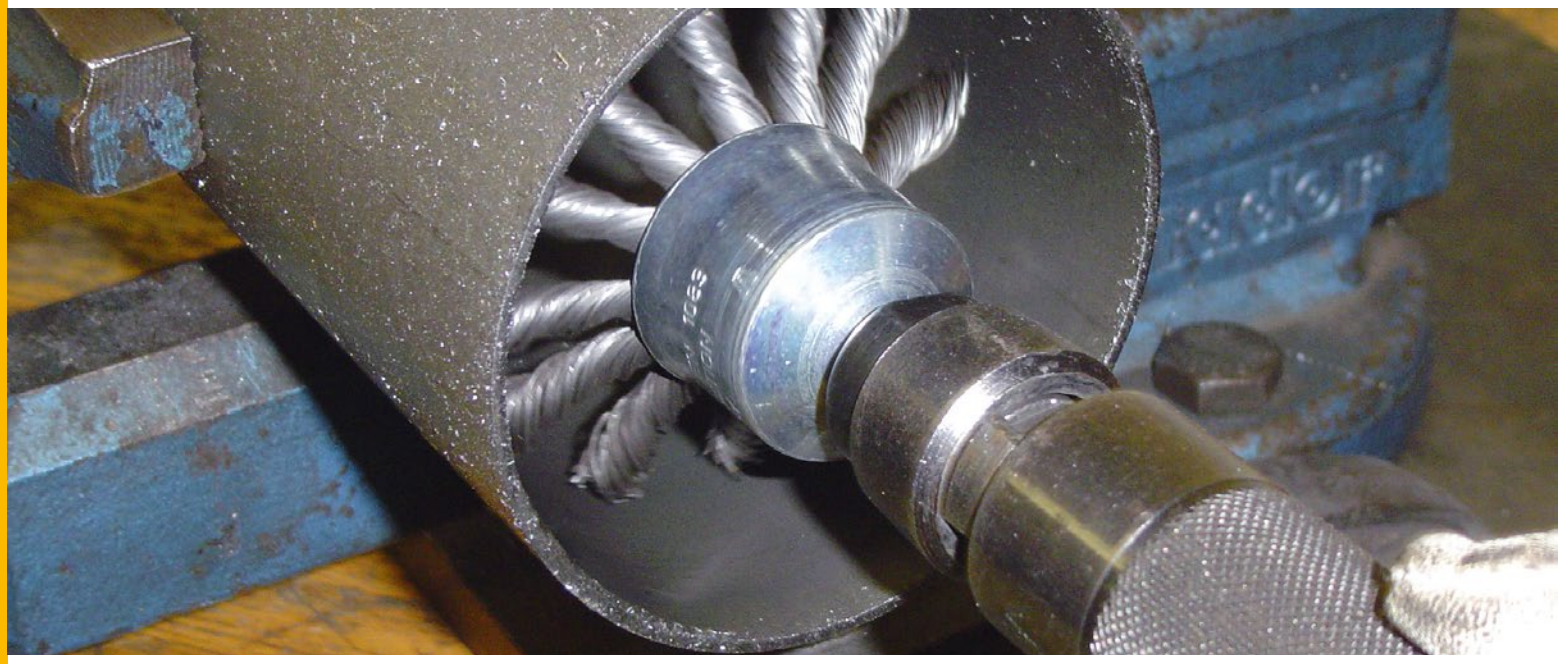
Brushes also available with shrink tubing.



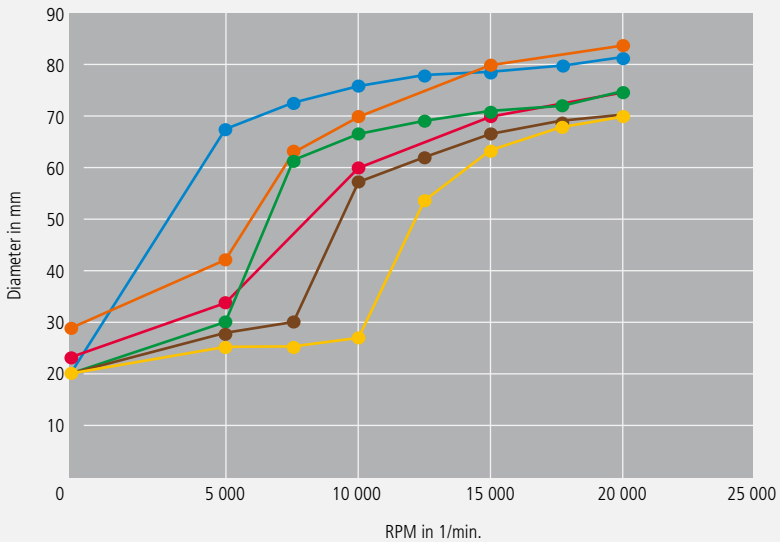
Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

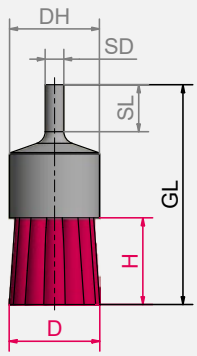
STA = steel wire, crimped
STH = steel wire, high tensile, crimped
STM = brass coated steel, crimped
STL = cord wire, crimped
ROF = stainless steel wire, crimped
MES = brass wire, crimped

Knot End Brushes



Opening of the end brushes depending on the RPM



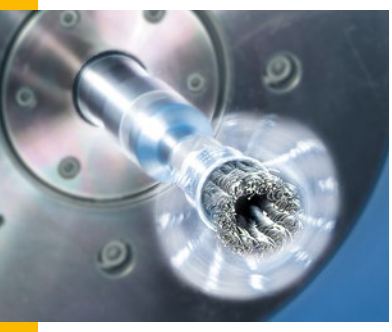


Z = number of knots

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STH	= steel wire, high tensile, straight
STM	= brass coated steel, crimped
RO4	= stainless steel wire, straight, 1.4401

You can find our **tutorials** here:
www.lessmann.com/index.php/en/content/view/full/711



Knotted End Brushes with Shank

According to the RPM the brush will vary in dimension and enable the user to work in hard to reach areas such as drilled holes and recesses of all kinds.
The cups of the knot end brushes with stainless steel wire are **coated with plastic** to protect the stainless surface. Knotted end brushes with stainless steel wire are green characterized.

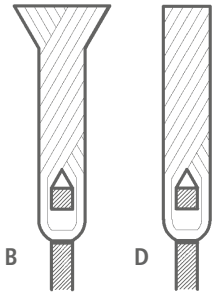
Further information on working on stainless steel you find at www.lessmann.com

Special End Brushes with Shank Ø 6mm, one Knot

One-knotted End Brushes to render precise working possible.

End Brushes, filled with epoxy resin

End Brushes filled with epoxy resin are able to treat small, defined areas. The brushes are more aggressive and allow a precise handling, hence they are used e.g. for electrical cabinets or for treating mounting surfaces.



Knot types ZF
B: Rose Bud
D: Fully knotted (wire ends are cut completely)



Knot End Brushes with Shank Ø 6 mm, 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	available on demand	**451.258**	**451.278**	available on demand

Knot End Brushes with Shank Ø 6 mm, 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.
1	6/10 | *1/4/3/8*	65 | *2 1/2*	25 | *1*	1	D	4,500	10	available on demand	**451.458**	**451.478**	available on demand

Knot End Brushes with Shank Ø 6 mm, 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.
2	19 | *3/4*	72 | *2 7/8*	28 | *1*	6	B	20,000	10	*453.238*	**453.258**	**453.278**	**453.298**
3	22 | *7/8*	72 | *2 7/8*	28 | *1*	8	B	20,000	10	*454.238*	**454.258**	**454.278**	**454.298**
4	29 | *1 1/8*	72 | *2 7/8*	28 | *1*	12	B	20,000	10	*456.238*	**456.258**	**456.278**	**456.298**
5	19 | *3/4*	72 | *2 7/8*	28 | *1*	4	B	20,000	50	available on demand	available on demand	**452.278.GH***	available on demand

* filled with epoxy resin

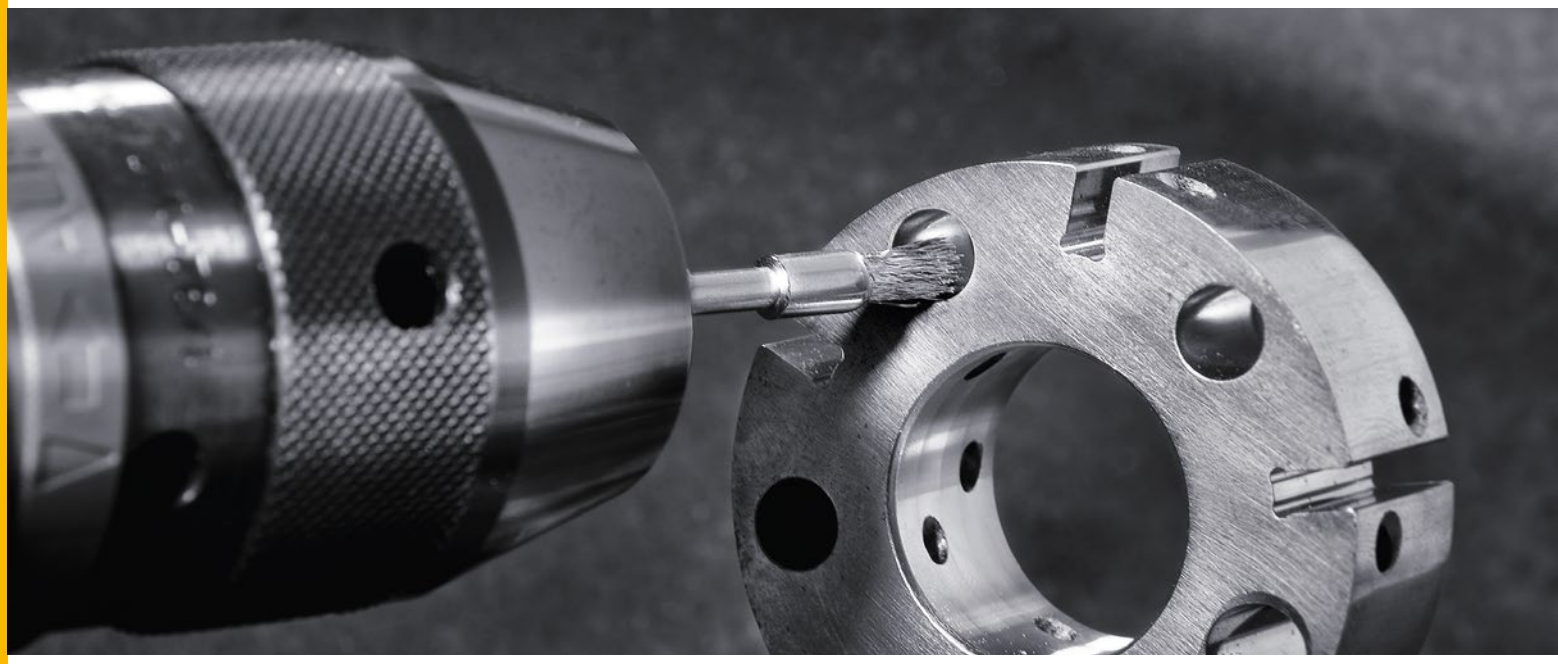
6 Knot End Brushes with Shank Ø 6 mm, Brass coated steel wire

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*

7 Knot End Brushes with Shank Ø 6 mm, 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 used for polishing, cleaning, or deburring of small-area surfaces or small working pieces. Miniature brushes remove waste and scale from weld seams or soldering points. The brushes are used on metal surfaces, steel, aluminum, cast iron, plastics, stone or wood.

Typical fields of applications:
- Precision tools
- Fine mechanics
- Pneumatic and hydraulics
- Electronics parts, e.g. plates

Miniature Brushes are available in different types as wheel, cup and end brushes.
The typical filling materials are steel wire, stainless steel wire, brass wire or abrasive bristles.

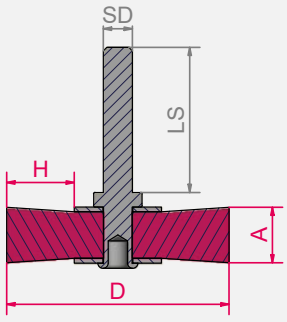
Stainless Steel Brushes
Information on working on stainless steel you find at www.lessmann.com

Please Note: Brushes with bristles or goat hair achieve an ideal brushing result by using polish.

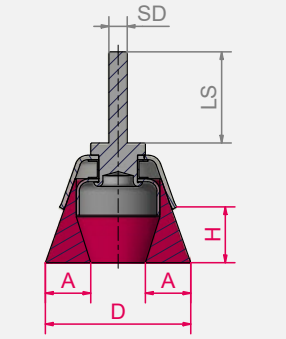


Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

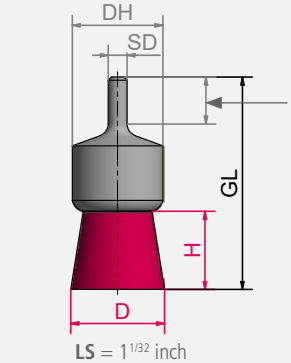
STH	= steel wire, high tensile, straight
ROF	= stainless steel wire, crimped
MES	= brass wire, crimped
PA	= polyamide
SIC	= silicon carbide bristles
AO	= aluminium oxide bristles



LS = $1^{11/16}$ inch



LS = $1^{11/16}$ inch



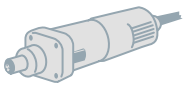
LS = $1^{1/32}$ inch

All Brushes also available
with shank Ø 2.34 and 3.17 mm.









1 Miniature Wheel Brushes with shank Ø 3 mm

D mm | *inch*	A	H	RPM max.	Pack.	STH 0.10 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	**410.221**	**410.321**	*410.521*	*410.871*	*410.881*	*410.891*	*410.871.A0*
19 | *3/4*	2	5	12,000	10	**410.222**	**410.322**	**410.522**	*410.872*	*410.882*	*410.892*	*410.872.A0*
22 | *7/8*	2	6	10,000	10	**410.223**	**410.323**	**410.523**	*410.873*	**410.883**	*410.893*	*410.873.A0*

D mm | *inch*	A	H	RPM max.	Pack.	AO 500/0.46 Art.-No.	AO 600/0.30 Art.-No.	Diamond K400 Art.-No.	PA 0.15 Art.-No.	Bristle white Art.-No.	Bristle schwarz Art.-No.	Goat hair Art.-No.
16 | *5/8*	2	3	15,000	10	*410.801*	*410.891.A0*	*410.811.DB*	*410.031*	*410.001.WB*	*410.001.SB*	*410.001.ZH*
19 | *3/4*	2	5	12,000	10	*410.802*	*410.892.A0*	*410.812.DB*	*410.032*	*410.002.WB*	*410.002.SB*	*410.002.ZH*
22 | *7/8*	2	6	10,000	10	*410.803*	*410.893.A0*	*410.813.DB*	**410.033**	**410.003.WB**	**410.003.SB**	**410.003.ZH**

2 Miniature Cup Brushes with shank Ø 3 mm

D mm | *inch*	A	H	RPM max.	Pack.	STH 0.10 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	**430.222**	**430.322**	**430.522**	*430.872*	*430.882*	*430.892*	*430.872.A0*
18 | *3/4*	2	6	15,000	10	**430.223**	**430.323**	**430.523**	*430.873*	**430.883**	*430.893*	*430.873.A0*

D mm | *inch*	A	H	RPM max.	Pack.	AO 500/0.46 Art.-No.	AO 600/0.30 Art.-No.	Diamond K400 Art.-No.	PA 0.15 Art.-No.	Bristle white Art.-No.	Bristle schwarz Art.-No.	Goat hair Art.-No.
15 | *5/8*	2	5	15,000	10	*430.802*	*430.892.A0*	*430.812.DB*	**430.031**	**430.001.WB**	**430.001.SB**	**430.001.ZH**
18 | *3/4*	2	6	15,000	10	*430.803*	*430.893.A0*	*430.813.DB*	*430.032*	*430.002.WB*	*430.002.SB*	*430.002.ZH*

3 Miniature End Brushes with shank Ø 3 mm

D mm | *inch*	H	RPM max.	Pack.	STH 0.10 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	**450.221**	**450.311**	**450.521**	*450.871*	**450.881**	*450.891*	*450.871.A0*

D mm | *inch*	H	RPM max.	Pack.	AO 500/0.46 Art.-No.	AO 600/0.30 Art.-No.	Diamond K400 Art.-No.	PA 0.15 Art.-No.	Bristle white Art.-No.	Bristle schwarz Art.-No.	Goat hair Art.-No.
5 | *13/64*	8	15,000	10	*450.801*	*450.891.A0*	*450.821.DB*	**450.031**	**450.001.WB**	**450.001.SB**	**450.001.ZH**

All Brushes also available with shank Ø 2.34 and 3.17 mm.

LESSMANN®

THE GERMAN BRUSH COMPANY



05 HAND BRUSHES AND BROOMS



Hand Brushes



Hand Brushes
Hand Brushes are used everywhere, in the metal industry, construction work, in the workshop. They are found in every tool box. The complete range contains all types of filling materials, from coarse steel to the finest brass wire.

Perfect balance
LESSMANN Handbrushes are of superb quality and yet are affordable due to a fully automated and efficient production facility. Using modern marking systems individual printing of brands and EAN Bar Codes can be made. This is done by burning stamps or tampon printing at low cost.

Brake Caliper Brushes ROKI®
This brush has been manufactured in co-operation with the automobile industry. This brush is used for cleaning off clogged lining deposits when changing brake pad linings. Thus the brush is very slim with a heavy straight wire filling. Made in this way it prevents damage to sensitive brake areas during use. The brush 182.431 has to the top a sloping filling and is therefore extra hard. New is the two-components-handle with the latest ergonomical aspects. Because of the design and the ergonomic handle this brush is remarkably versatile to use.

Hand Brushes with Two-Components Handles
apply to other requirements of modern high quality tools with best ergonomics.



Rivet Brushes
The V shaped filling material enables the removal of slag and scale from normally hard to reach welds and fillet welds

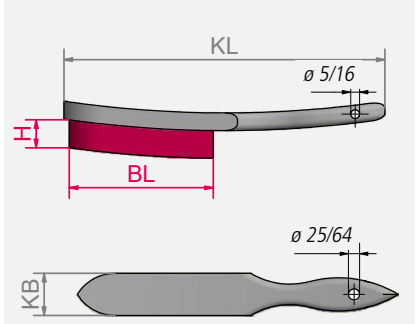
Hand Brushes with Scraper
For painters and bricklayers in the construction industry. These brushes are ideal for scraping off dirt or cement splashes.

Hand Brushes, Heavy Duty
These models have a larger wooden handle and a longer and dense wire filling than our standard models.

Universal Wire Brushes
For many uses, especially in the Do It Yourself section.

Stainless Steel Brushes
Information on brushing on stainless materials you will find at www.lessmann.com





Measurements in Inches:
KL = $11^{3/8}$, **H** = 1, **BL** = $5^{1/2}$



All standard hand brushes have a bar code stamp and LESSMANN-imprint.



The handles of all standard brushes are made of beech wood with two hanging holes.

Hand Brushes Standard



EAN

Hand Brushes

	Filling	Pack.	Rows > 1 Art.-No.	2 Art.-No.	3 Art.-No.	4 Art.-No.	5 Art.-No.	6 Art.-No.
1	**STA** straight 0.35 | *0.014″*	12	**100.011**	**100.021**	**100.031**	**100.041**	**100.051**	**100.061**
	STA straight 0.35 | *0.014″*	100		**100.020**	**100.030**	**100.040**	**100.050**	
	STM crimped 0.30 | *0.012″*	12		**105.421**	**105.431**	**105.441**	**105.451**	*105.461*
	STA crimped 0.20 | *0.008″*	12				**102.441**		
	STA crimped 0.30 | *0.012″*	12	**102.611**	**102.621**	**102.631**	**102.641**	*102.651*	
2	**ROF** crimped 0.15 | *0.006″*	12		**104.321**	**104.331**	**104.341**		
	ROF crimped 0.20 | *0.008″*	12		**104.421**		**104.441**	**104.451**	
	ROF crimped 0.35 | *0.014″*	12	**104.611**	**104.621**	**104.631**	**104.641**	**104.651**	**104.661**
	ROF straight 0.35 | *0.014″*	12	**103.711**	**103.721**	**103.731**	**103.741**	**103.751**	**103.761**
	RO8 straight 0.30 | *0.012″*	12			**105.731**	**105.741**		
3	**MES** crimped 0.15 | *0.006″*	12		**107.321**	**107.331**	**107.341**	**107.351**	
	MES crimped 0.25 | *0.010″*	12	*107.411*	**107.421**	**107.431**	**107.441**	**107.451**	*107.461*
	MES crimped 0.35 | *0.014″*	12	*107.611*	**107.621**	**107.631**	**107.641**	**107.651**	**107.661**
	MES straight 0.35 | *0.014″*	12			**106.631**	**106.641**		
	BRO crimped 0.20 | *0.008″*	12			*108.331*	**108.341**	*108.351*	
	BRO crimped 0.40 | *0.016″*	12				*108.041*		
	PA straight 0.40 | *0.016″*	12			**109.431**	**109.441**	**109.451**	
4	**FIB**	12				**109.741**		

Other filling materials and trim length on request.

PEFC
PEFC/04-31-0389
Promoting sustainable forest management www.pefc.de

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire	**MES**	= brass wire
STM	= brass coated steel	**BRO**	= bronze wire
ROF	= stainless steel wire	**PA**	= polyamide
RO8	= stainless steel wire, extremely heat resistant	**FIB**	= fibre

Special Hand Brushes



1 2 3 4 5 6

Special Hand Brushes

	Filling	Rows	KL	KB	BL	H	Pack.	Art.-No.
	ROKI® Brake Caliper Brushes with Two-Components		mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*		
1	**STA** straight 0.35 | *0.014"*	2 x 12/13	225 | *9*	12 | *1/2*	90 | *3 1/2*	22 | *7/8*	10	**182.401**
	STA crimped 0.30 | *0.012"*	2 x 12/13	225 | *9*	12 | *1/2*	90 | *3 1/2*	22 | *7/8*	10	**182.411**
2	**STA** straight 0.35 | *0.014"*	2 x 12/13	225 | *9*	12 | *1/2*	90 | *3 1/2*	14/22 | *1/2/7/8*	10	**182.431***
3	**ROF** straight 0.35 | *0.014"*	2 x 12/13	225 | *9*	12 | *1/2*	90 | *3 1/2*	22 | *7/8*	10	**182.421**
	RO4 straight 0.35 | *0.014"*	2 x 12/13	225 | *9*	12/18 | *1/2/3/4*	85 | *3 3/8*	22 | *7/8*	10	**182.441**
4	**MES** crimped 0.25 | *0.010"*	2 x 12/13	225 | *9*	12 | *1/2*	90 | *3 1/2*	22 | *7/8*	10	**182.451**
	Hand Brushes with Plastic Handles							
5	**STA** straight 0.35 | *0.014"*	2	285 | *11 1/4*	20 | *3/4*	130 | *5 1/8*	25 | *1*	10	**185.121**
	STA straight 0.35 | *0.014"*	3	285 | *11 1/4*	26 | *1*	130 | *5 1/8*	25 | *1*	10	**185.131**
	STA straight 0.35 | *0.014"*	4	285 | *11 1/4*	31 | *1 1/4*	130 | *5 1/8*	25 | *1*	10	**185.141**
	STA straight 0.35 | *0.014"*	5	285 | *11 1/4*	31 | *1 1/4*	130 | *5 1/8*	25 | *1*	10	**185.151**
	ROF crimped 0.35 | *0.014"*	2	285 | *11 1/4*	20 | *3/4*	130 | *5 1/8*	25 | *1*	10	**185.421**
	ROF crimped 0.35 | *0.014"*	3	285 | *11 1/4*	26 | *1*	130 | *5 1/8*	25 | *1*	10	**185.431**
	ROF crimped 0.35 | *0.014"*	4	285 | *11 1/4*	31 | *1 1/4*	130 | *5 1/8*	25 | *1*	10	**185.441**
	ROF crimped 0.35 | *0.014"*	5	285 | *11 1/4*	31 | *1 1/4*	130 | *5 1/8*	25 | *1*	10	**185.451**
	MES straight 0.35 | *0.014"*	2	285 | *11 1/4*	20 | *3/4*	130 | *5 1/8*	25 | *1*	10	**185.621**
	MES straight 0.35 | *0.014"*	3	285 | *11 1/4*	26 | *1*	130 | *5 1/8*	25 | *1*	10	**185.631**
	MES straight 0.35 | *0.014"*	4	285 | *11 1/4*	31 | *1 1/4*	130 | *5 1/8*	25 | *1*	10	**185.641**
	MES straight 0.35 | *0.014"*	5	285 | *11 1/4*	31 | *1 1/4*	130 | *5 1/8*	25 | *1*	10	**185.651**
	Hand Brushes with Two-Components Handles							
6	**ROF** straight 0.35 | *0.014"*	3	285 | *11 1/4*	26 | *1*	130 | *5 1/8*	25 | *1*	10	**186.431**

* The brush has to the top a sloping filling and is therefore extra hard
For the food industry

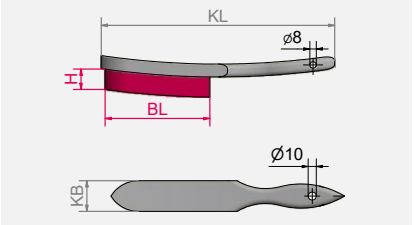


Special Hand Brushes



Special Hand Brushes

	Filling	Rows	KL	KB	Bl	H	Pack.	Art.-No.
EAN	**1** **Rivet Brushes**		mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*		
	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	**120.801**
	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	**120.811**
	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	**120.831**
	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	**185.811**
	2 **Hand Brushes with Scraper**							
	STA straight 0.35 | *0.014"*	4 x 15	290 | *11 3/8*	33 | *1 1/4*	130 | *5 1/8*	25 | *1*	12	**120.401**
EAN	**STA** straight 0.35 | *0.014"*	6 x 15	290 | *11 3/8*	38 | *1 1/2*	130 | *5 1/8*	25 | *1*	12	*120.601*
	ROF straight 0.35 | *0.014" w. stainless scraper*	4 x 15	290 | *11 3/8*	33 | *1 1/4*	130 | *5 1/8*	25 | *1*	12	*120.412*
	3 **Hand Brushes Heavy Duty**							
	STA straight 0.35 | *0.014"*	2 x 16	290 | *11 3/8*	30 | *1 1/4*	150 | *6*	32 | *1 1/4*	12	**136.101**
	STA straight 0.35 | *0.014"*	3 x 16	290 | *11 3/8*	35 | *1 1/2*	150 | *6*	32 | *1 1/4*	12	**136.102**
	STA straight 0.35 | *0.014"*	4 x 16	290 | *11 3/8*	40 | *1 3/8*	150 | *6*	32 | *1 1/4*	12	**136.103**
	Hand Brushes Export Model							
	4 **STA** straight 0.35 | *0.014"*	4 x 17	300 | *12*	30 | *1 1/4*	130 | *5 1/8*	25 | *1*	12	**122.401**
	5 **STA** straight 0.35 | *0.014"*	4 x 19	350 | *14*	30 | *1 1/4*	160 | *6 3/8*	30 | *1 1/4*	6	*122.801*
	BRO straight 0.30 | *0.012"*	3 x 19	350 | *14*	25 | *1*	153 | *6 1/32*	30 | *1 1/4*	6	**122.771**
	6 **BRO** straight 0.30 | *0.012"*	4 x 19	350 | *14*	30 | *1 1/4*	150 | *6*	30 | *1 1/4*	6	**122.821**
	BRO straight 0.30 | *0.012"*	5 x 19	350 | *14*	30 | *1 1/4*	153 | *6 1/32*	30 | *1 1/4*	6	*122.871*
	7 **Universal Wire Brushes**							
	STM crimped 0.30 | *0.012"*	1	260 | *10 1/4*	10 | *3/8*	135 | *5 3/8*	28 | *1*	24	**056.001**
	STA crimped 0.35 | *0.014"*	1	260 | *10 1/4*	10 | *3/8*	135 | *5 3/8*	28 | *1*	24	**056.301**
	ROF crimped 0.30 | *0.012"*	1	260 | *10 1/4*	10 | *3/8*	135 | *5 3/8*	28 | *1*	24	**056.501**
	MES crimped 0.30 | *0.012"*	1	260 | *10 1/4*	10 | *3/8*	135 | *5 3/8*	28 | *1*	24	**056.701**



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire
STM	= brass coated steel
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**
EAN	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**
EAN		**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**
EAN		**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**
EAN		**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*
EAN		**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***
EAN		**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**
EAN		**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**
	3	**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**
		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**
	4	**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**
	5	**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, extra dense filament, wooden handle orange							
EAN	6	**ROF** crimped 0.10 | *0.004"*	3 x 7/8	150 | *6*	15 | *5/8*	39 | *1 3/8*	9	12	**125.234**

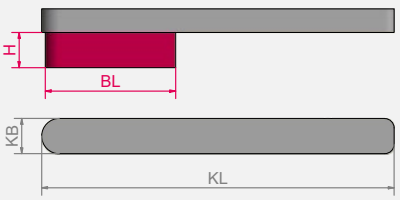
* Wooden body varnished | ** Plastic body

Spark Plug Brushes

These small brushes are for all fine brushwork requiring thin wire.
They are available in different sizes and filling materials.

Soldering tip brushes

Soldering tip brushes have an extra dense and fine trimming. They are ideal for processing soldering tips and cleaning circuit boards after the soldering process as well as for many other fine jobs.



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire
ROF	= stainless steel wire
MES	= brass wire
BRO	= bronze wire
PA	= polyamide
PP	= polyprophylene
ROS	= horse hair

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Fine Scratch Brushes



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**
	ROF crimped 0.15 | *0.006"*	4	225 | *9*	20 | *3/4*	110 | *4 3/8*	20 | *3/4*	12	**126.481**
2	**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****
	PP straight 0.30 | *0.012"*	4	225 | *9*	20 | *3/4*	100 | *4 3/8*	20 | *3/4*	12	**182.172****
	ROS	4	225 | *9*	20 | *3/4*	100 | *4*	20 | *3/4*	12	**182.472****
	Special Brushes							
6	**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***
7	**MES** crimped 0.35 | *0.014"*	4 x 11/12	350 | *14*	22 | *7/8*	80 | *3*	10 | *3/8*	12	**137.701**
8	**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**
9	**MES** crimped 0.25 | *0.010"*	2 x 10	200 | *8*	15 | *5/8*	80 | *3*	19 | *3/4*	12	**132.701**

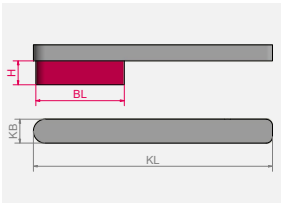
** Plastic body | For the food industry

Fine Scratch Brushes

Also called watchmaker and goldsmith brushes. The brushes have a very high density of filling wires and are available in different widths. These brushes are used among other things to apply solvents and other cleansing agents.

Special Brushes

The brushes were manufactured according to our customers' specification and show variations, which are possible through our flexible manufacturing procedures.



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Barbecue grill brushes



Barbecue grill brushes
For regular cleaning of grill grates, Barbecue grill brushes are ideal to remove even stubborn and burned dirt. With the right brush, your grate shines like new again.

Barbecue grill brushes Standard, with scraper
The all-rounder for every barbecue, the standard Barbecue grill brushes with a stainless steel scraper.

Barbecue grill brushes curved Duty, dense filament
The curved handle makes handling these Barbecue grill brushes even easier. Dense filling with soft bristles and a scraper made of stainless steel, burned dirt has no chance.



All Barbecue grill brushes have a bar code stamp and LESSMANN-imprint.

Barbecue grill brushes straight Duty, with scraper
Due to the hard and dense filling, heavy design particularly well suited for cleaning stubborn dirt. With the scraper made of stainless steel an effortless removal of burned dirt is possible.

Barbecue grill brushes „curved Duty"
The allrounder modified with bent trimming and high-quality Two-Components handles plastic body. Universal and agile, suitable for different grill gates, this brush is a highlight for every grill owner.



All Barbecue grill brushes with practical hanging hole and in a CutCase packaging.



Scraper flat



Scraper round



1 2 3 4 5 6

EAN

Barbecue grill brushes, crimped wire

Standard, with scraper

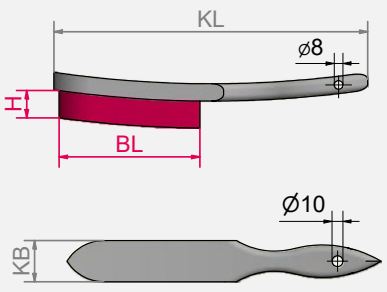
	KL mm | *inch*	KB mm | *inch*	H mm | *inch*	Rows	BL mm | *inch*	Scraper	Pack.	ROF 0.35 Art.-Nr.
1	290 | *11 3/8*	33 | *1 1/4*	25 | *1*	4	130 | *5 1/8*	flat	6	**120.413**
2	290 | *11 3/8*	33 | *1 1/4*	25 | *1*	4	130 | *5 1/8*	round	8	**120.423**

curved Duty, dense filament, with scraper

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

straight Duty, with scraper

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



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

ROF = stainless steel wire

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Special Models



Hand Brushes Rectangular and Violin
There are many filling wires in these stable universal brushes.

Hand Brushes with Bracket
The wooden body is pointed to the front end, the plastic bracket is nailed on. The model 140.901 has an adjustable stock board which enables an adjustment to brush firmness.

These special models are mainly ordered by our export customers.

Brushes for removing wet storage stain
Zinc coated surfaces are needed for corrosion protection. Often after the zinc coating of work parts, under wet conditions chemical reactions occur which cause wet storage stain. The special bronze wire allows the effective removal of white rust without smashing the zinc coating which has to be treated.

Radiator Brushes
This narrow, long shaped brush is ideal for hard to reach areas on heaters and radiators. The model 121.211 has a straight body, the other models have a curved body.

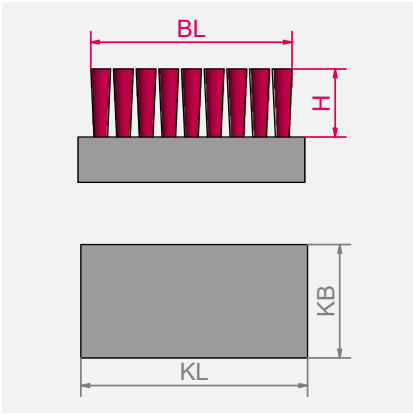
Staining Brushes
The treated wood is prepared with these staining brushes. By using fibre and bronze wire the brushes are insensitive against all normal chemical based solutions. The model 144.211 has an adjustable stock board which enables an adjustment to brush firmness.
With the staining brush 144.701 the surface after the staining process is polished by the leather insert strips. Any standing wood fibre is also smoothed.

File Cleaners
The brushes for cleaning wood and metal files are available in different sizes and with different file card. The file card is glued on to the wooden body.

File Card in Rolls
Various roughing-up tools can be manufactured with this material, which is also available in different sizes and filling materials. Available in meters or if required in single pieces.

Bricklayer's Brushes
For pre and retreatment of brickwork for painters and bricklayers. All models have a jute or plastic strap.

Plasterer's Brushes
These are for roughening and structuring of plaster. Body is made of beech wood, the steel pins are hardened.



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA = steel wire
STM = brass coated steel
BRO = bronze wire



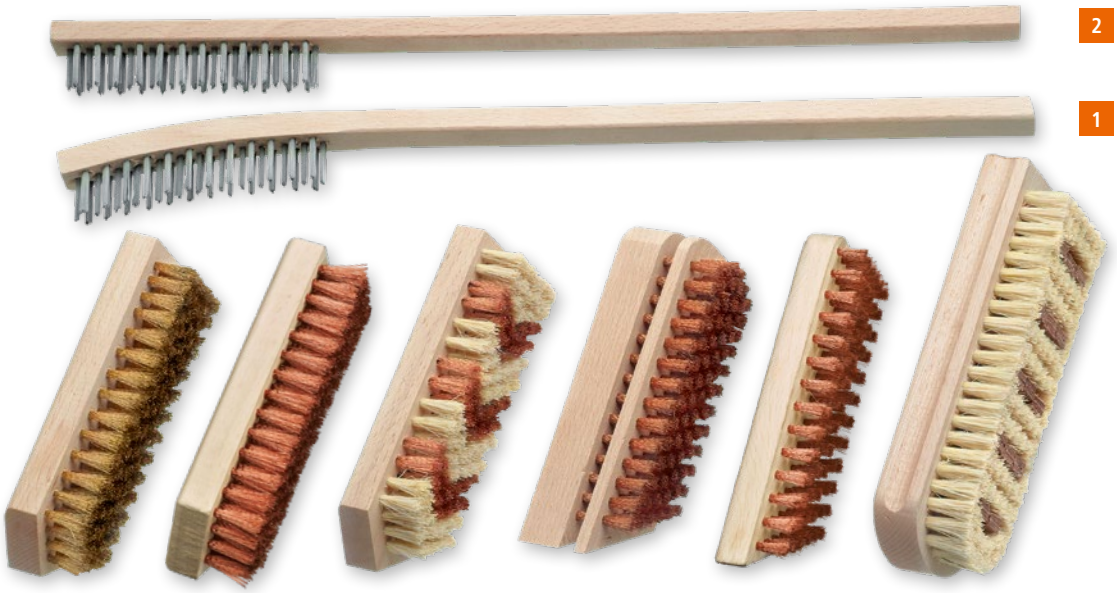
Special Hand Brushes

	Filling	Rows	KL	KB	BL	H	Pack.	Art.-No.
	Hand Brushes Rectangular and Violin		mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*		
1	**STA** straight 0.35 | *0.014"*	6 x 19	185 | *7 1/4*	57 | *2 1/4*	175 | *7*	30 | *1 1/4*	12	**140.201**
2	**STA** straight 0.35 | *0.014"*	5	200 | *8*	60 | *2 3/8*	190 | *7 1/2*	35 | *1 1/2*	16	**141.231**
3	**STM** straight 0.35 | *0.014"*	5	200 | *8*	55 | *2 1/4*	170 | *6 5/8*	40 | *1 3/8*	36	*140.641*
	Hand Brushes with Bracket							
4	**STA** straight ca. 0.35 | *0.014"*	5	225 | *9*	55 | *2 1/4*	200 | *8*	38 | *1 1/2*	16	**140.901***
5	**STM** crimped 0.35 | *0.014"*	5	225 | *9*	55 | *2 1/4*	200 | *8*	38 | *1 1/2*	16	**140.811**
	Hand Brushes with Strap							
6	**STA** straight 0.50 | *0.020"*	7	200 | *8*	70 | *2 3/4*	185 | *7 1/4*	35 | *1 1/2*	12	*141.421*
	Hand Brushes for removing wet storage stain							
7	**BRO** crimped 0.08 | *0.003"*	11 x 18	120 | *4 3/4*	70 | *2 3/4*	110 | *4 3/8*	14 | *4/7*	4	**152.811**

* with adjustable board

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Special Models



Radiator Brushes

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

* Wooden body curved | ** Wooden body straight

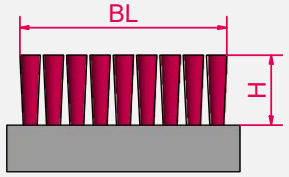
Staining Brushes

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

*** with adjustable board

Wax Polishing Brush

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





PEFC
PEFC/04-31-0389

Promoting sustainable forest management www.pefc.de

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA = steel wire
ROF = stainless steel wire
MES = brass wire
BRO = bronze wire
FIB = fibre
PVC = polyvinylchloride

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4 5 6

File Cleaners / Roughering Brushes

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

3 File Cards

Filling, without interval	STA 0.30 width 25 Art.-No.	STA 0.30 width 38 Art.-No.	STA 0.30 width 51 Art.-No.	ROF 0.30 width 38 Art.-No.
	000.311*	**000.321***	**000.331***	**000.323***

Bricklayer's Brushes with Strap

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

* Please indicate length. | ** Wooden body varnished

Plasterer's Brushes

	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	**061.101**

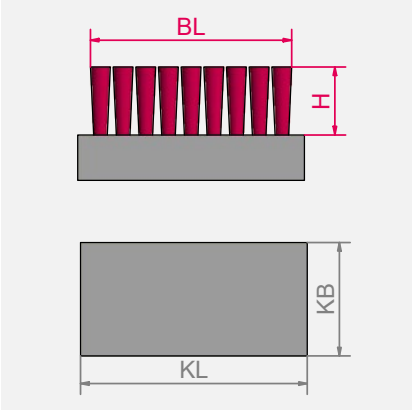
Brooms, Scrubs and Dusters





Brooms and Scrubs
Brooms and Scrubs for the use in all industrial companies and craftsman's establishments.

The shown brooms and scrubs are the best selling models.



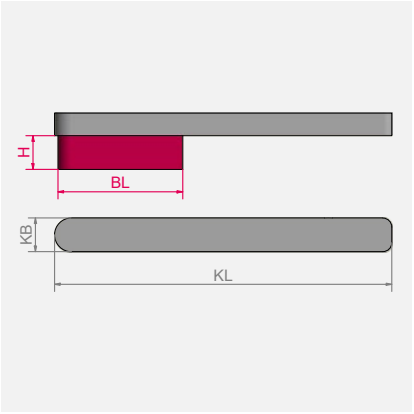
Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire
ROF	= stainless steel wire
MES	= brass wire
PP	= polypropylene
ROS	= horse hair
BRO	= bronze wire

Dusters
Depending on the surrounding and application area, dusters are available in various models and with various filling materials. For coarse and light adherent dirt, dusters with wire filament are ideal.

The duster with polypropylene filament (straight plastic fibre) can be cleaned easily and therefore other surfaces do not get dirty. Since the water absorption of polypropylene is very low, the duster can be used also under wet conditions.

Further models in special execution with different filling materials and trim length available.



Dusters custom-made
Beside the mentioned models we provide special models with filling material and trim length according to your requirements.


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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.
	STA straight 0.50 | *0.020"*	6 x 20/21	300 | *12*	70 | *2 3/4*	330 | *13*	70 | *2 3/4*	12	**147.201**
	ROF straight 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.
2	**STA** straight 0.50 | *0.020"*	6 x 20/21	300 | *12*	70 | *2 3/4*	330 | *13*	70 | *2 3/4*	12	**146.201**
3	**BRO** straight 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*

Scrubs, with Handle Hole Ø 23 mm

	Filling	Rows	KL mm | *inch*	KB mm | *inch*	BL mm | *inch*	H mm | *inch*	Pack.	Art.-No.
	STA straight 0.35 | *0.014"*	6 x 16/17	220 | *8 5/8*	60 | *2 3/8*	225 | *9*	35 | *1 1/2*	12	**148.101**
4	**ROF** straight 0.35 | *0.014"*	6 x 16/17	220 | *8 5/8*	60 | *2 3/8*	225 | *9*	35 | *1 1/2*	12	**148.161**
	MES crimped 0.25 | *0.010"*	6 x 16/17	220 | *8 5/8*	60 | *2 3/8*	225 | *9*	25 | *1*	12	**148.141**
5	**BRO** 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.
6	**Artificial COCO** Long Duty	4	430 | *17*	40 | *1 3/8*	165 | *6 1/2*	70 | *2 3/4*	20	**124.402**
7	**MES** crimped 0.25 | *0.010"*	4	320 | *12 1/2*	35 | *1 1/2*	180 | *7*	40 | *1 3/8*	12	**124.121**
8	**BRO** 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*
9	**STA** straight 0.25 | *0.010"*	4	320 | *12 1/2*	35 | *1 1/2*	180 | *7*	60 | *2 3/8*	12	**124.101**
EAN 10	**ROS**	6	300 | *12*	43 | *1 3/4*	165 | *6 1/2*	50 | *2*	20	**124.301***
11	**PP**	4	320 | *12 1/2*	35 | *1 1/2*	175 | *6 7/8*	70 | *2 3/4*	12	**124.801**
12	**PP** Long Duty	4	450 | *17 3/4*	33 | *1 1/4*	165 | *6 1/2*	70 | *2 3/4*	12	**124.841**

* Wooden body varnished

Weed Brushes and Weed Brooms



Lawn Mower Brush
Use this brush to effortlessly clean the underbody and blades of your lawn mower after use. The practical plastic scraper on the top removes stuck grass clippings without blunting the blades. You can then sweep the remaining grass out of the housing effortlessly with the PVC filling.

Weed Brush
This brush with V shaped filling material is ideal for the removal of moss and weeds in joints and edges on pavements, courtyards or cobbled areas.

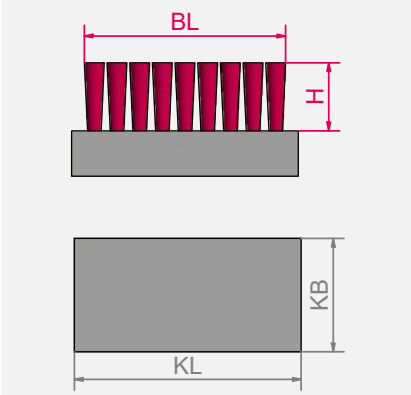
Due to the long handle an ergonomic and effective working is possible. Without stooping, your back is preserved, though it is possible to remove weeds aggressively and precisely.

The brush with set filling material allows a cleaning of edges and joints which are hard to reach.

All standard hand brushes have a bar code stamp and LESSMANN-imprint.



Weed Broom
As well as the weed brush, the weed broom is a brush for outdoors.
Ideally moss and weeds can be removed from terrace boards or cobblestones. An easy and clean working without stooping makes the brush to an effective broom with depth effects. High quality, with brass coated steel wires guarantee a long lifetime of the brush in the well known LESSMANN quality „Made in Germany".



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA = steel wire
STM = brass coated steel
PVC = polyvinylchloride





1 Lawn mower 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*	150 | *13*	50 | *6*	8	**120.451**

EAN Weed Brushes, with Handle Hole Ø 23 mm

	Filling	KL mm | *inch*	KB mm | *inch*	H mm | *inch*	Rows	Pack.	Art.-No.
	without handle						
2	**STM** 0.35 | *0.014"* Filling set in working direction	100 | *4*	35 | *1 1/2*	36 | *1 1/2*	3	25	**151.511**
3	**STA** 0.35 | *0.014"* with scraper	100 | *4*	35 | *1 1/2*	42 | *1 5/8*	3	25	**151.109**
	with handle, 1400 mm long, Ø 28 mm						
4	**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"* Filling set in working direction	100 | *4*	35 | *1 1/2*	36 | *1 1/2*	3	30	*151.995.07**

EAN Weed Broom, with Handle Hole Ø 23 mm

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

* Delivery only in full packaging units.

LESSMANN®

THE GERMAN BRUSH COMPANY

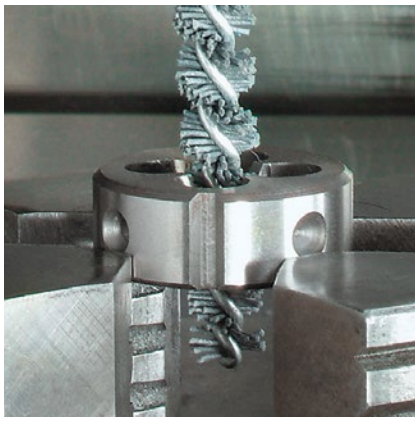


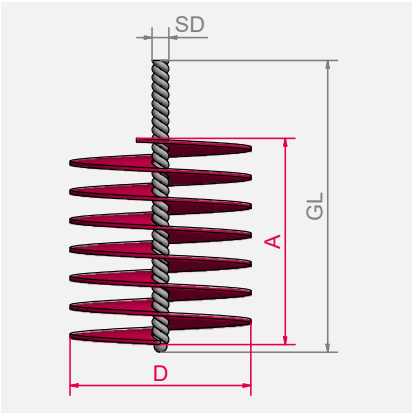
06 INTERIOR BRUSHES



Microabrasive Interior Brushes







Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

AO	= aluminium oxide bristles
KK	= ceramic grit

Interior brushes with zinc coated twisted wire and single spiral
Due to the filling of aluminium oxide or silicon carbide their usage is more flexible than with conventional interior brushes.

Interior brushes with abrasive filaments are usually used for deburring bores, cross bores, o-ring recesses and for polishing and cleaning small bores.

Due to the flexible surface of the bristles the interior brushes suit to the contour of the bore and areas which are hard to reach can be treated. Abrasive bristles also have grinding effects on the side. That allows a rounding of the edges also on cross bores.

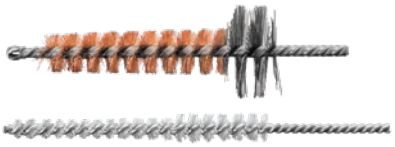
Also brushes with **diamond** filling are available, that causes an even more aggressive surface of the brush.

Interior Brushes, Steel Wire
Interior brushes with steel wire are used for descaling, deburring or cleaning:
- Cross holes
- Slots
- Blind holes
- Through holes

The brushes can be used either manually or mechanically.

Please do not hesitate to contact us, we will also find for special applications a compatible solution. Due to a fully automated production, LESSMANN offers high quality to reasonable prices.

Mechanical Application
Only use the brush with the indicated maximal peripheral speed (RPM max.). The max. RPM only is allowed when the brush is clamped min. for 10 mm into the tool. When the brush is inserted into the suitable work piece, higher RPMs are possible. **Only use the brush right rotating.**



Interior Brushes are also available with special contours, e.g. **layered cut.**

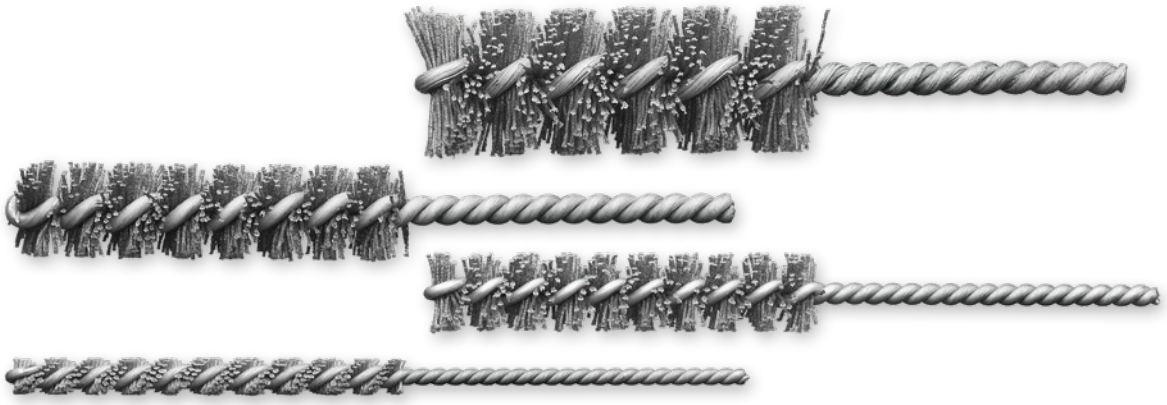


Microabrasive Interior Brushes IBE, Aluminum Oxide Bristles

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

You can find our **Enquiry Forms** in the respective category under: www.lessmann.com/index.php/en/content/view/full/61 or in the catalog from page 179

Microabrasive Interior Brushes

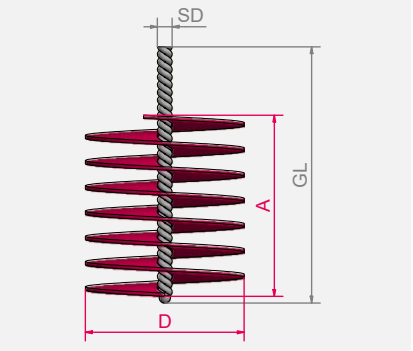


Microabrasive Interior Brushes IBE, Silicon Carbide Bristles

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

* Type IB: with straight / clipped off point

Mechanical Application
Only use the brush with the indicated maximal peripheral speed (RPM max.). The max. RPM only is allowed when the brush is clamped min. for 10 mm into the tool. When the brush is inserted into the suitable work piece, higher RPMs are possible. **Only use the brush right rotating.**



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STH	= steel wire, high tensile, straight
ROH	= stainless steel wire, high tensile
MES	= brass wire
PA	= polyamide
SIC	= silicon carbide bristles

1





2





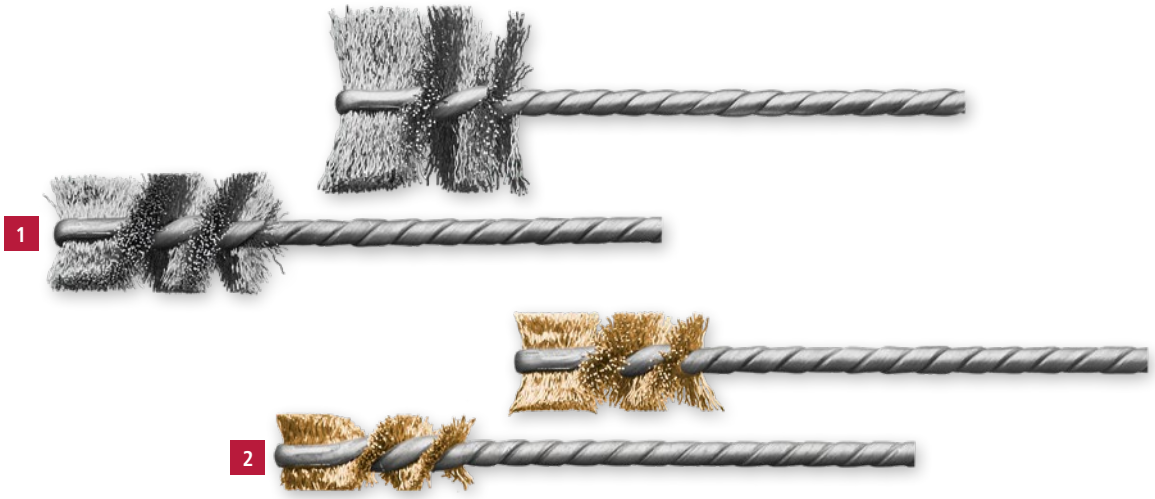
1 Microabrasive Interior Brushes IBE, Ceramic Grit

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	**541.2C1.00**	**543.2C1.00**
13 | *1/2*	125 | *5*	65 | *2 9/16*	3.7 | *5/32*	2,000	10	**541.2C1.30**	**543.2C1.30**
16 | *5/8*	125 | *5*	65 | *2 9/16*	5.2 | *13/64*	2,000	10	**541.2C1.60**	**543.2C1.60**
20 | *25/32*	125 | *5*	65 | *2 9/16*	5.7 | *7/32*	2,000	10	**541.2C2.00**	**543.2C2.00**
25 | *1*	125 | *5*	65 | *2 9/16*	5.7 | *7/32*	2,000	10	**541.2C2.50**	**543.2C2.50**

2 Interior Brushes IBE, Encapsulated

D mm | *inch*	GL mm | *inch*	A mm | *inch*	SD mm	RPM max. min^{-1}	Pack.	**STA 0,15** | *0.006"* Art.-Nr.
7 | *1/4*	125 | *5*	65 | *2 1/2*	2,8	1.000	10	**548.304.KG**
9 | *3/8*	125 | *5*	65 | *2 1/2*	2,8	900	10	**548.305.KG**
13 | *33/64*	125 | *5*	65 | *2 1/2*	2,8	900	10	available on demand
15 | *19/32*	125 | *5*	65 | *2 1/2*	2,8	900	10	available on demand

Interior Brushes



1 Interior Brushes IBH, Steel Wire, Stainless Steel Wire

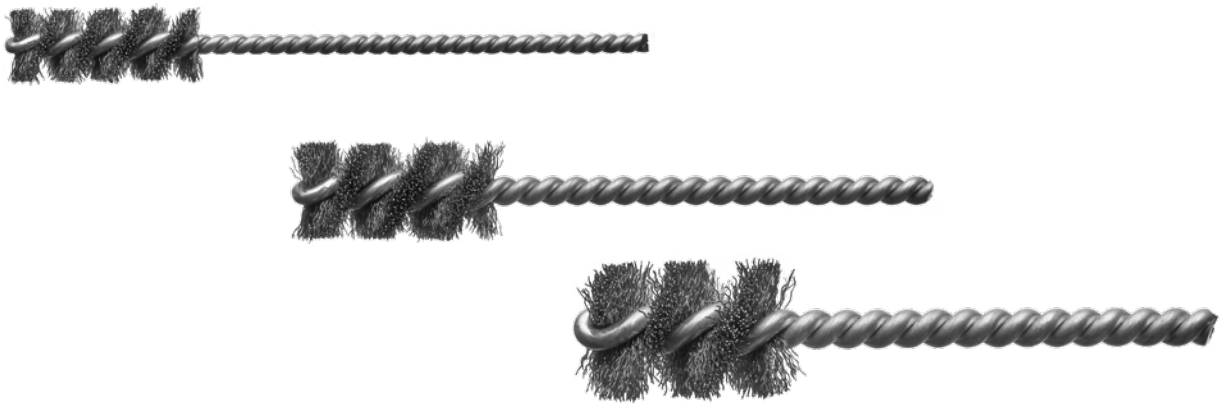
D	GL	A	SD	RPM	Pack.	**STH 0.12** | *0.005″*	**STH 0.20** | *0.008″*	**ROH 0.12** | *0.005″*	**ROH 0.20** | *0.008″*
mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*	max.		Art.-No.	Art.-No.	Art.-No.	Art.-No.
6 | *15/64*	90 | *3 1/2*	25 | *1*	3.0 | *1/8*	3,500	10	**564.220.60**			
8 | *5/16*	90 | *3 1/2*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

2 Interior Brushes IBH, Brass Wire and Polyamide

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

Stainless Steel Brushes
Information on working on stainless steel you find at www.lessmann.com

1

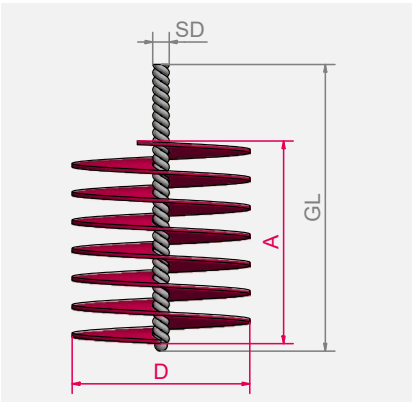


1 Interior Brushes IBE, Steel Wire

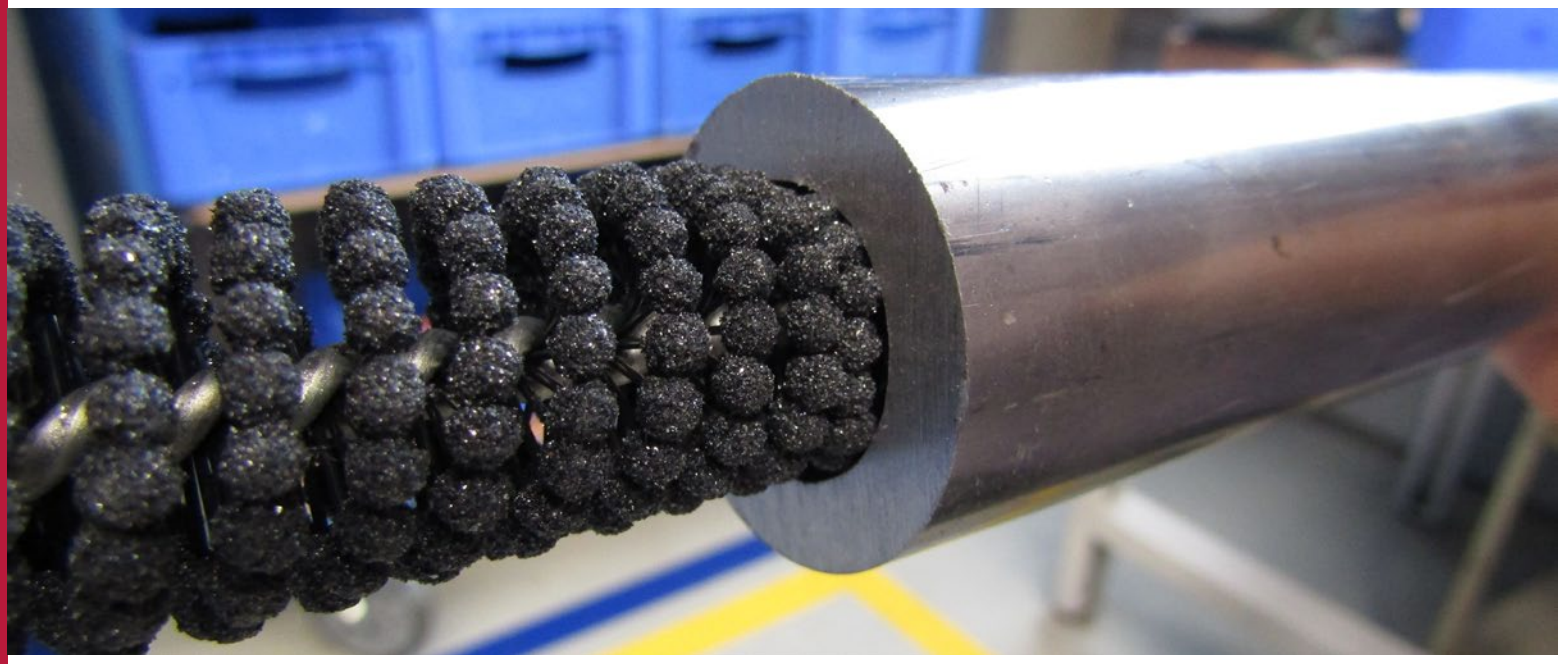
D mm | *inch*	GL mm | *inch*	A mm | *inch*	SD mm	RPM max.	Pack.	**STH 0.12** | *0.005″* Art.-Nr.	**STH 0.20** | *0.008″* Art.-Nr.
10 | *25/64*	90 | *3 1/2*	25 | *1*	1.6	2,500	10	**569.321.00**	
13 | *33/64*	90 | *3 1/2*	25 | *1*	2.2	2,500	10	**569.321.30**	
16 | *5/8*	90 | *3 1/2*	25 | *1*	2.5	2,500	10	**569.321.60**	
19 | *3/4*	90 | *3 1/2*	25 | *1*	3.0	2,500	10		**569.341.90**
25 | *1*	90 | *3 1/2*	25 | *1*	3.0	2,500	10		**569.342.50**
32 | *1 1/4*	90 | *3 1/2*	25 | *1*	3.0	2,500	10		**569.343.20**

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STH = steel wire, high tensile, straight
ROH = stainless steel wire, high tensile
MES = brass wire
PA = polyamide
SIC = silicon carbide bristles



Flexible Hone-Brushes



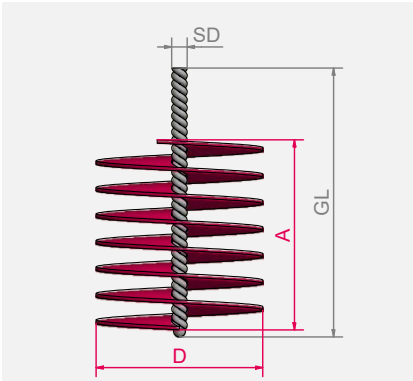
Flexible Hone-Brushes
Lessmann Hone-Brushes are used to improve the inner surface of tubes, bores and cylinder walls. They are equally suitable for burr removal, cleaning and surface finishing.
Thanks to the elasticity and flexibility of the filling, they can also deburr cross bores, openings and channels in the same operation.
At the same time, the use of honing brushes produces a so-called cross cut, which is created by the simultaneous rotation during back and forth movements of the brush while processing. This structure ensures less friction and more even distribution of oil on the surface.

Mechanical Application
Only use the brush with the indicated maximal peripheral speed (RPM max.). The max. RPM only is allowed when the brush is clamped min. for 10 mm into the tool. When the brush is inserted into the suitable work piece, higher RPMs are possible. **Only use the brush right rotating.**

Attention!
When using hone-brushes, we recommend to always use a suitable lubricant (oil or drilling emulsion).

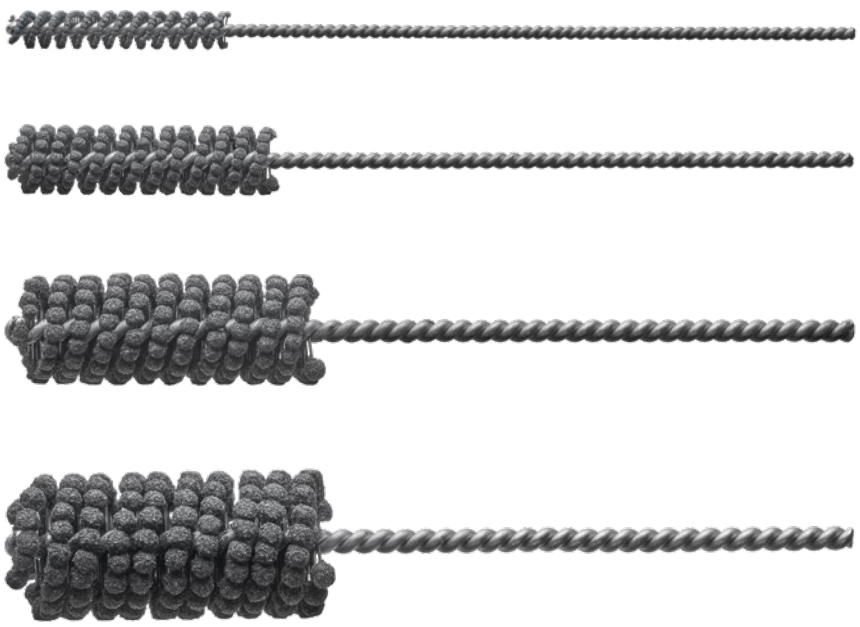


Example of the cross cut produced during honing.



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

SIC = silicon carbide bristles



Flexible Hone-Brushes IBFH, abrasive silicon carbide bristles

D mm | *inch*	max. pipe Ø mm | *inch*	GL mm | *inch*	A mm | *inch*	SD mm	RPM max.	Pack.	**SIC K120** Art.-Nr.	**SIC K180** Art.-Nr.
5,5 | *3/16*	5 | *3/16*	200 | *8*	40 | *1 9/16*	2,1	1.200	1		*591.310.55*
6,5 | *1/4*	5,5 | *3/16*	200 | *8*	40 | *1 9/16*	2,5	1.200	1	*591.210.65*	*591.310.65*
7 | *1/4*	6 | *1/4*	200 | *8*	40 | *1 9/16*	2,5	1.200	1	*591.210.70*	*591.310.70*
8 | *5/16*	7 | *1/4*	200 | *8*	50 | *2*	3,6	1.200	1	*591.210.80*	*591.310.80*
9 | *3/8*	8 | *5/16*	200 | *8*	50 | *2*	3,6	1.200	1	*591.210.90*	*591.310.90*
10 | *3/8*	9 | *3/8*	200 | *8*	50 | *2*	3,6	1.200	1	*591.211.00*	*591.311.00*
11 | *7/16*	10 | *3/8*	200 | *8*	60 | *2 3/8*	3,6	1.200	1	*591.211.10*	*591.311.10*
12 | *1/2*	11 | *7/16*	200 | *8*	60 | *2 3/8*	3,6	1.200	1	*591.211.20*	*591.311.20*
13 | *1/2*	12 | *1/2*	200 | *8*	60 | *2 3/8*	3,6	1.200	1	*591.211.30*	*591.311.30*
15,5 | *5/8*	13 | *1/2*	200 | *8*	60 | *2 3/8*	3,6	1.200	1	*591.211.55*	*591.311.55*
18 | *11/16*	16 | *5/8*	200 | *8*	60 | *2 3/8*	4,6	1.200	1	*591.211.80*	*591.311.80*
20 | *13/16*	18 | *11/16*	200 | *8*	60 | *2 3/8*	4,6	1.200	1	*591.212.00*	*591.312.00*
22 | *7/8*	20 | *13/16*	200 | *8*	70 | *2 3/4*	4,6	1.200	1	*591.212.20*	*591.312.20*
25 | *1*	22 | *7/8*	200 | *8*	70 | *2 3/4*	4,6	1.200	1	*591.212.50*	*591.312.50*
27 | *1 1/16*	24 | *15/16*	200 | *8*	70 | *2 3/4*	5,1	1.200	1	*591.212.70*	*591.312.70*
28 | *1 1/8*	25 | *1*	200 | *8*	70 | *2 3/4*	5,1	1.200	1	*591.212.80*	*591.312.80*
30 | *1 3/16*	27 | *1 1/16*	200 | *8*	70 | *2 3/4*	5,1	1.200	1	*591.213.00*	*591.313.00*
32 | *1 1/4*	29 | *1 1/8*	200 | *8*	70 | *2 3/4*	5,1	1.200	1	*591.213.20*	*591.313.20*
35 | *1 3/8*	32 | *1 1/4*	200 | *8*	70 | *2 3/4*	5,7	1.200	1	*591.213.50*	*591.313.50*
38 | *1 1/2*	35 | *1 3/8*	200 | *8*	70 | *2 3/4*	5,7	1.200	1	*591.213.80*	*591.313.80*
41 | *1 5/8*	38 | *1 1/2*	200 | *8*	70 | *2 3/4*	5,7	800	1	*591.214.10*	*591.314.10*
45 | *1 3/4*	41 | *1 5/8*	200 | *8*	70 | *2 3/4*	5,7	800	1	*591.214.50*	*591.314.50*
48 | *1 7/8*	45 | *1 3/4*	200 | *8*	70 | *2 3/4*	5,7	800	1	*591.214.80*	*591.314.80*
51 | *2*	48 | *1 7/8*	200 | *8*	70 | *2 3/4*	6,5	800	1	*591.215.10*	*591.315.10*
54 | *2 1/8*	51 | *2*	200 | *8*	70 | *2 3/4*	6,5	800	1	*591.215.40*	*591.315.40*
57 | *2 1/4*	54 | *2 1/8*	200 | *8*	70 | *2 3/4*	7,3	800	1	*591.215.70*	*591.315.70*
60 | *2 3/8*	57 | *2 1/4*	200 | *8*	70 | *2 3/4*	7,3	800	1	*591.216.00*	*591.316.00*
64 | *2 1/2*	60 | *2 3/8*	200 | *8*	70 | *2 3/4*	7,3	800	1	*591.216.40*	*591.316.40*

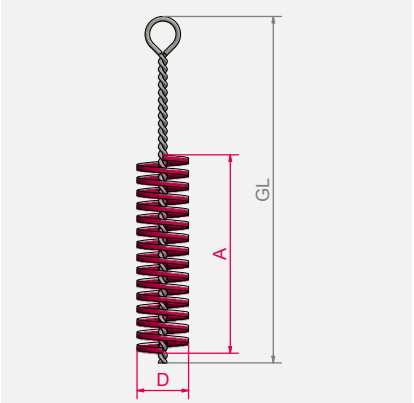
Cylinder Brushes



Cylinder Brushes
For manual cleaning and deburring of tubes, bores etc. Cylinder brushes are also available in other dimensions and materials. When ordering special sizes please mention full specification: total length, filling length, filling material, diameter and quantity.

Cylinder brushes, flat filament
These flat brushes with fine, crimped steel wire are ideal for cleaning areas which are hard to reach. A typical application is removing isolation rests in channels of stators or electric motors.

Stainless Steel Brushes
Information on working on stainless steel you find at www.lessmann.com



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

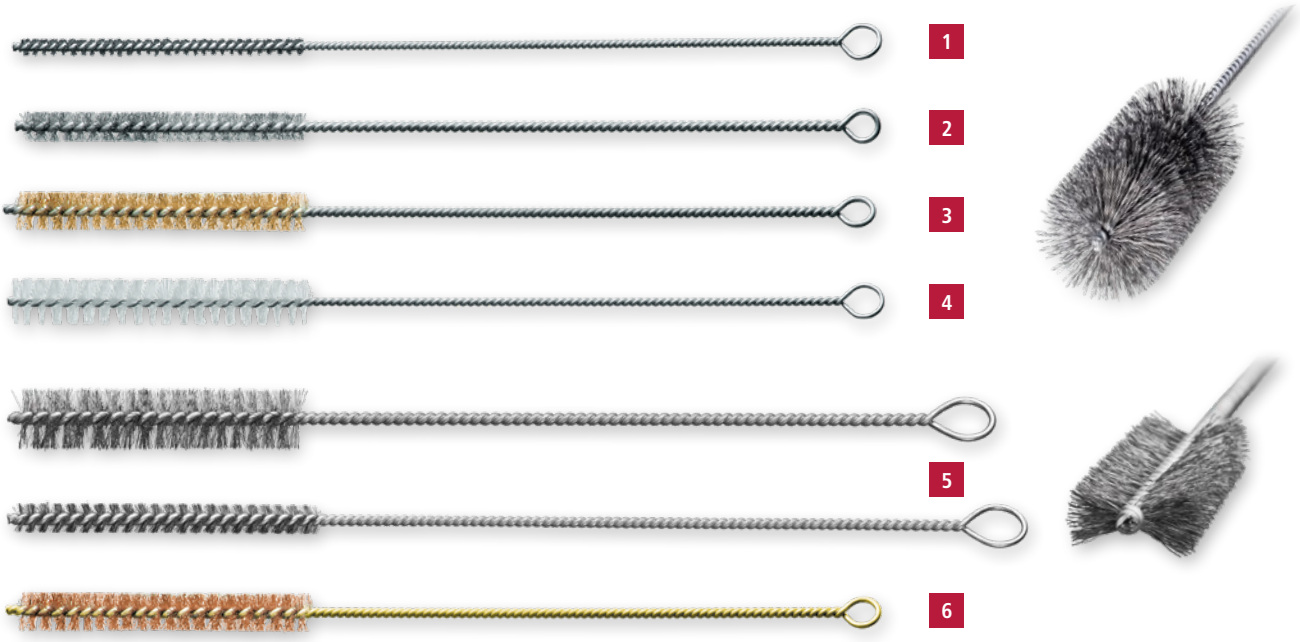
STA	= steel wire
ROF	= stainless steel wire
MES	= brass wire
PA	= polyamide

5 Cylinder brushes, flat filament with Loop IBZ

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	**559.810**	
7 x 10 | 9/32 x 25/64	350 | 14	100 | *4*	10	**559.806**	
8 x 12 | 5/16 x 15/32	350 | 14	100 | *4*	10		**559.802**
8 x 15 | 5/16 x 19/32	350 | 14	100 | *4*	10		**559.803**
10 x 18 | 25/64 x 45/64	350 | 14	100 | *4*	10		**559.804**
10 x 22 | 25/64 x 7/8	350 | 14	100 | *4*	10		**559.805**
12 x 26 | 15/32 x 1 1/32	350 | 14	100 | *4*	10		**559.807**

6 Cylinder brushes, with Loop IBZ, Bronze Wire, fittings brass (low-sparkling)

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	**542.034**
20 | 51/64	330 | 13 3/16	100 | *4*	10	**543.006**
35 | 1 3/8	330 | 13 3/16	100 | *4*	10	**543.926**



Cylinder Brushes with Loop IBZ

				1	2	3	4
D	GL	A	Pack.	STA	ROF	MES	PA
mm | *inch*	mm | *inch*	mm | *inch*		Art.-No.	Art.-No.	Art.-No.	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**	available on demand
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 3/8*	300 | *12*	100 | *4*	10	*542.317*	available on demand	**542.717**	available on demand
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 (long version) with Loop IBZ

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

Hole Cleaning Brushes



1 2 3 4 5

Hole cleaning Brushes with Wooden Handle IBM

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

* conical filling

5 Cylinder Brushes with Shank 8 mm Ø IBG

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

Hole Cleaning Brushes

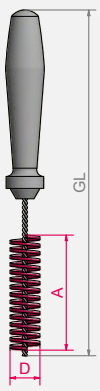
Those hole cleaning brushes have a wooden handle. Hence the brushes allow a very comfortable working in various application fields.

Typically the brushes are used in construction industry or handcraft business for cleaning bore holes or slots.

Besides, Hole Cleaning Brushes are ideal for cleaning threads or deburring cross holes.

Mechanical Application

Only use the brush with the indicated maximal peripheral speed (RPM max.). The max. RPM only is allowed when the brush is clamped min. for 10 mm into the tool. When the brush is inserted into the suitable work piece, higher RPMs are possible. **Only use the brush right rotating.**



Bore Hole Cleaning Brushes



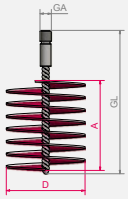
Interior Brushes for bore hole cleaning IBE, Steel, without Thread

D	GL	A	Suitable for bore hole	RPM	Pack.	**STA 0.10** | *0.004"*	**STA 0.15** | *0.006"*	**STA 0.20** | *0.008"*
mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*	max.		Art.-No.	Art.-No.	Art.-No.
12 | *15/32*	130 | *5 1/8*	80 | *3*	10 | *25/64*	1,500	10	**504.301**		
14 | *9/16*	140 | *5 1/2*	80 | *3*	12 | *15/32*	1,500	10	**504.302**		
16 | *5/8*	180 | *7*	80 | *3*	14 | *9/16*	800	10		**504.333**	
20 | *51/64*	200 | *8*	100 | *4*	18 | *45/64*	800	10		**504.334**	
24 | *15/16*	220 | *8 5/8*	100 | *4*	22 | *7/8*	800	10		**504.335**	
26 | *1 1/32*	250 | *10*	100 | *4*	24 | *15/16*	500	10			**504.346**
28 | *1 7/64*	290 | *11 3/8*	100 | *4*	26 | *1 1/32*	500	10			**504.347**

Bore Hole Cleaning Brushes IBG, Stainless Steel, with Thread

D	GL	A	Suitable for bore hole	GA	Pack.	**ROF 0.12** | *0.004"*	**ROF 0.15** | *0.006"*	**ROF 0.20** | *0.008"*
mm | *inch*	mm | *inch*	mm | *inch*	mm | *inch*			Art.-No.	Art.-No.	Art.-No.
12 | *15/32*	130 | *5 1/8*	80 | *3*	10 | *25/64*	M 6	10	**504.501.06**		
14 | *9/16*	140 | *5 1/2*	80 | *3*	12 | *15/32*	M 6	10	**504.502.06**		
16 | *5/8*	180 | *7*	80 | *3*	14 | *9/16*	M 6	10	**504.533.06**		
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		**504.534.06**	
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		**504.535.06**	
26 | *1 1/32*	250 | *10*	100 | *4*	24 | *15/16*	M 6	10			**504.546.06**
28 | *1 7/64*	290 | *11 3/8*	100 | *4*	26 | *1 1/32*	M 6	10			**504.547.06**
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 interior brushes are used in the mounting techniques. The brushes are ideal for cleaning bore holes in most different materials. Afterwards screws and anchors can be inserted easily in the bore hole.



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA = steel wire
ROF = stainless steel wire
MES = brass wire

Tube and Sleeve Brushes



Interior Brushes
These brushes are varied for many different uses: not only for cleaning of tubes, gratings, sleeves and cylinders. Interior brushes regulate current velocity in tubing systems. They are similar to the double spiral tube brushes for deburring cross drillings etc. On these pages are shown standard brushes, single spiral having two drilling wires and the double spiral having four.

Sleeve Brushes
Sleeve brushes have a double spiral and are particularly stable types of tube brushes whose trimming is cut to a conical point. Used in machines they are beneficial for cleaning the sleeves (internal threads) of containers, e. g. after galvanisation.

Mechanical Application
Only use the brush with the indicated maximal peripheral speed (RPM max.). The max. RPM only is allowed when the brush is clamped min. for 10 mm into the tool. When the brush is inserted into the suitable work piece, higher RPMs are possible. **Only use the brush right rotating.**

Brushes with doublespiral
Brushes with a double spiral are mainly used for the treatment of larger diameters or for the treatment of hard materials. A double spiral is more stable and has a higher resistance against untwisting. Hence the brushes can be exposed to higher loads.

Stainless Steel Brushes
Information on working on stainless steel you find at www.lessmann.com

Special diameters
Minimum order € 125.00
Extra charge: Gross per piece
10 – 49 pcs + 50 %
50 – 99 pcs + 25 %
100 pcs and more + 10 %

Special threads under reserve
Extra charge: Gross per piece
10 – 19 pcs + € 5.00
20 – 49 pcs + € 4.00
50 – 99 pcs + € 3.00
100 pcs and more + € 2.00

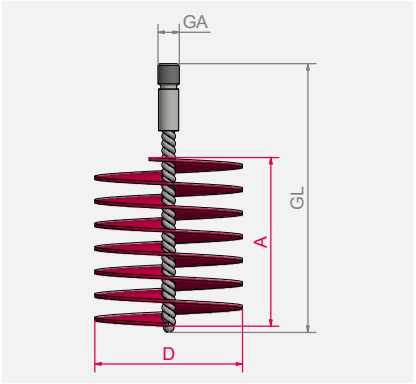
Suitable thread adapter
see on page 131
Handles and Extension Pieces
see on page 131

On request tube brushes are also available with other measurements, other filling materials or other threads.

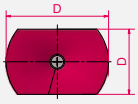
Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire
ROF	= stainless steel wire
MES	= brass wire
PA	= polyamide
SIC	= silicon carbide bristles

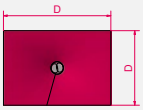




2-sided cropped



on request also 4-sided cropped







Matching handles can be found on page 131

Tube Brushes with external Thread IBG

						1	2	3
D	GL	A	GA	RPM	Pack.	STA crimped	ROF crimped	MES crimped	PA straight
Single Spiral						Art.-No.	Art.-No.	Art.-No.	Art.-No.
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 Interior Brushes with external thread IBG, Silicon Carbid Bristles

D	GL	A	GA	RPM	Pack.	SIC 180/1.0
Single Spiral						Art.-No.
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*



For all brushes with thread M 6, M 10 and W 1/2" a practical hanger assembly is available for presenting the brushes individually. More information you find on page 141.

Tube/Sleeve brushes



1



3



5



2



4

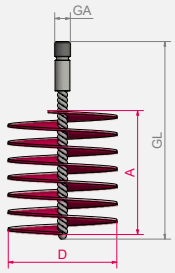


Matching handles can be found on page 131

Tube Brushes with external Thread W 1/2"

				1	2	3	4	5	
				Single Spiral IBG				Double Spiral IBGD	
D	GL	A	Pack.	RPM	STA straight	ROF straight	MES crimped	PA straight	RPM	STA straight
mm	mm	mm	mm	max.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	max.	Art.-No.
20	150	100	10	2,500	**502.120.24**	**502.420.24**	**502.720.24**	**502.820.24**	2,000	**522.120.24**
22	150	100	10	2,500	**502.122.24**	**502.422.24**	**502.722.24**	**502.822.24**	2,000	**522.122.24**
25	150	100	10	2,500	**502.125.24**	**502.425.24**	**502.725.24**	**502.825.24**	2,000	**522.125.24**
28	150	100	10	2,500	**502.128.24**	**502.428.24**	**502.728.24**	*502.828.24*	2,000	**522.128.24**
30	160	100	10	1,000	**506.130**	**506.430**	**506.730**	**506.830**	1,500	**526.130**
32	160	100	10	1,000	**506.132**	**506.432**	**506.732**	**506.832**	1,500	**526.132**
35	160	100	10	1,000	**506.135**	**506.435**	**506.735**	**506.835**	1,500	**526.135**
38	160	100	10	1,000	**506.138**	**506.438**	**506.738**	**506.838**	1,500	**526.138**
40	160	100	10	1,000	**506.140**	**506.440**	**506.740**	**506.840**	1,500	**526.140**
44	160	100	5	1,000	**506.144**	**506.444**	**506.744**	**506.844**	1,500	**526.144**
50	160	100	5	1,000	**506.150**	**506.450**	**506.750**	**506.850**	1,500	**526.150**
57	160	100	5	1,000	**506.157**	**506.457**	**506.757**	**506.857**	1,500	**526.157**
63	160	100	5	1,000	**506.163**	**506.463**	**506.763**	**506.863**	1,500	**526.163**
69	160	100	5	1,000	**506.169**	***506.469***	**506.769**	**506.869**	1,500	**526.169**
75	160	100	5	1,000	**506.175**	**506.475**	**506.775**	**506.875**	1,500	**526.175**
82	160	100	5	1,000	**506.182**	**506.482**	**506.782**	**506.882**	1,500	**526.182**
88	160	100	5	1,000	**506.188**	*506.488*	*506.788*	**506.888**	1,500	**526.188**
94	160	100	5	1,000	**506.194**	*506.494*	*506.794*	**506.894**	1,500	**526.194**
101	160	100	5	1,000	**506.101**	**506.401**	**506.701**	**506.801**	1,500	**526.101**
125	160	100	5	1,000	**506.106**	*506.406*	**506.706**	*506.806*	1,500	**526.106**
150	160	100	5	1,000	**506.211**	*506.411*	**506.711**	**506.811**	1,000	*526.111*
200	160	100	5	1,000	**506.220**	available on demand	*506.720*	**506.820**	1,000	available on demand

Mechanical Application
Only use the brush with the indicated maximal peripheral speed (RPM max.). The max. RPM only is allowed when the brush is clamped min. for 10 mm into the tool. When the brush is inserted into the suitable work piece, higher RPMs are possible. **Only use the brush right rotating.**



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

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*	Format	GL mm | *inch*	A mm | *inch*	GA	RPM max.	Pack.	STA straight Art.-No.	PA straight Art.-No.
	Single Spiral								
1	30 | *1 3/16*	⊙	160 | *6 1/4*	100 | *4*	M 10i	1,000	10	*506.130.60*	
1	40 | *1 5/8*	⊙	160 | *6 1/4*	100 | *4*	M 10i	1,000	10	*506.140.60*	
1	50 | *2*	⊙	160 | *6 1/4*	100 | *4*	M 10i	1,000	10	*506.150.60*	
1	60 | *2 3/8*	⊙	160 | *6 1/4*	100 | *4*	M 10i	1,000	10	*506.160.60*	
1	80 | *3*	⊙	160 | *6 1/4*	100 | *4*	M 10i	1,000	10	*506.180.60*	
1	90 | *3 1/2*	⊙	160 | *6 1/4*	100 | *4*	M 10i	1,000	10	**507.190**	
1	101 | *4*	⊙	160 | *6 1/4*	100 | *4*	M 10i	1,000	10	*506.101.60*	
1	120 | *4 3/4*	⊙	160 | *6 1/4*	100 | *4*	M 10i	1,000	10	**507.105**	*506.805.60*
2	20 x 30 | *51/64 x 1 3/16*	⊙	140 | *5 1/2*	80 | *3*	M 10i		10	**533.405**	
2	15 x 30 | *19/32 x 1 3/16*	⊙	160 | *6 1/4*	100 | *4*	M 10i		10	*533.408*	
2	30 x 50 | *1 3/16 x 2*	⊙	160 | *6 1/4*	100 | *4*	M 10i		10	*532.218.60*	
2	50 x 100 | *2 x 4*	⊙	160 | *6 1/4*	100 | *4*	M 10i		10	*532.303.60*	

Suitable back board brushes you find at page 129.

⊙ round | ⊙ 2-sided cropped | on request also 4-sided cropped

Sleeves Brushes Conical, without Thread

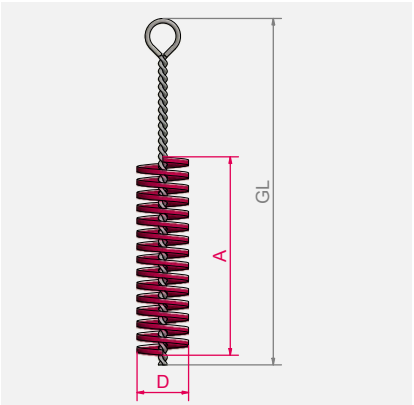
	D mm | *inch*	GL mm | *inch*	A mm | *inch*	RPM max.	Pack.	Single Spirale IBE STA crimped Art.-No.	Double Spirale IBD STA straight Art.-No.
3	10-20 | *25/64 - 51/64*	170 | *6 3/4*	100 | *4*	1,000	10	**541.372**	**549.101**
3	15-25 | *19/32 - 1*	170 | *6 3/4*	100 | *4*	1,000	10	**540.321**	**549.102**
3	20-30 | *51/64 - 1 3/16*	170 | *6 3/4*	100 | *4*	1,000	10	**541.373**	**549.103**
3	25-35 | *1 - 1 3/8*	170 | *6 3/4*	100 | *4*	1,000	10	**540.323**	**549.104**
3	32-42 | *1 17/64 -1 5/8*	170 | *6 3/4*	100 | *4*	1,000	5	**540.324**	**549.105**
3	40-50 | *1 5/8 - 2*	170 | *6 3/4*	100 | *4*	1,000	5	**540.325**	**549.106**
3	38-70 | *1 1/2 - 2 3/4*	170 | *6 3/4*	100 | *4*	1,000	5	*540.225*	**549.107**
3	60-95 | *2 3/8 - 3 3/4*	170 | *6 3/4*	100 | *4*	1,000	5	**540.327**	**549.108**

On request also tube and sleeve brushes with crimped wire are available.

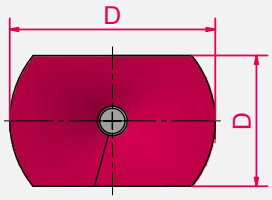
Boiler Brushes / Stove Pipe Brushes



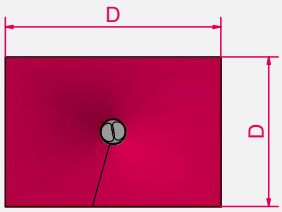




2-sided cropped



on request also 4-sided cropped



Boiler Brushes
The systematic care of boilers and regular cleaning by brushing increases the boiler efficiency and reduces toxic emissions.

LESSMANN boiler brushes are of outstanding quality made using the best materials and precise manufacturing procedures. Our current programme includes brushes in standard dimensions and special executions. As OEM supplier to important boiler manufacturers we are able to produce large quantities in an efficient way. What is even more important is our know how in meeting the critical tolerances demanded by our customers.

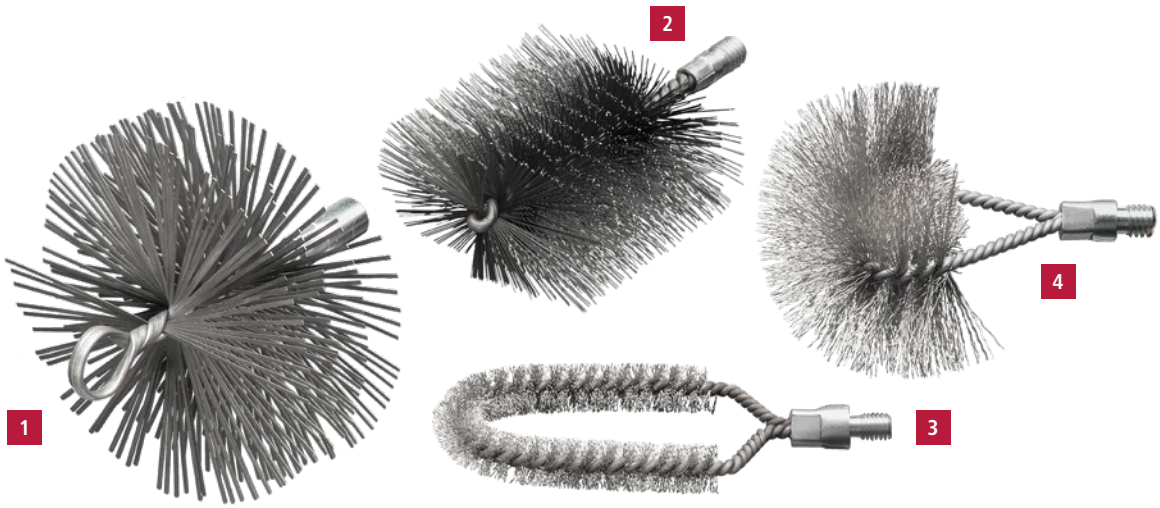
Stove Pipe Brushes
The stove pipe brushes are available in two different executions: with twisted handle (brush and handle one part) or with external thread, for screwing and lengthing by using a separate handle.

Handles and Extension Pieces
For tube brushes, boiler brushes and stove pipe brushes, see pages 122 et seq.
The twisted handles have an internal thread and a grip loop, the extension pieces have both an internal thread and an external thread.

Suitable Thread Adapters
see page 131

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire
PA	= polyamide



EAN

1 Chimney Brushes with Eye and internal Thread IBZG, Flat Wire 2.0 x 0.40

Filling	D	GL	A	Internal Thread	Pack	Art.-No.
STA flat	125	160	55	M 12 i	1	**507.007**
STA flat	150	160	55	M 12 i	1	**507.001**
STA flat	175	160	55	M 12 i	1	**507.002**
STA flat	200	160	55	M 12 i	1	**507.003**
STA flat	250	160	55	M 12 i	1	**507.004**
STA flat	300	160	55	M 12 i	1	*507.005*
STA flat	350	160	55	M 12 i	1	*507.006*

Boiler Brushes with external Thread IBG, Steel Wire, rectangular/curved

	Filling	D mm | *inch*	Format	GL mm | *inch*	A mm | *inch*	GA/GI	Pack.	Art.-No.
2	**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**
	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*
	STA crimped	80 x 150 | *3 x 6*	curved	150 | *6*	120 | *4 3/4*	M 10i	5	*529.311.60*

⊙ 2-sided cropped
on request also 4-sided cropped

Boiler Brushes



1 2 3

Boiler Brushes with Handle IBZ

	Filling	D mm | *inch*	Format	GL mm | *inch*	A mm | *inch*	Pack.	Art.-No.
1	**PA** straight	20 | *51/64*	⊙	600 | *23 5/8*	100 | *4*	10	**544.804**
2	**STA** crimped	50 | *2*	⊙	700 | *27 1/2*	100 | *4*	10	**544.301**
	STA crimped	90 | *3 1/2*	⊙	600 | *23 5/8*	100 | *4*	10	*544.302*
	STA crimped	10 | *25/64*	⊙	850 | *33 1/2*	100 | *4*	10	**545.320**
	STA crimped	15 | *19/32*	⊙	850 | *33 1/2*	100 | *4*	10	*545.321*
	STA crimped	20 | *51/64*	⊙	850 | *33 1/2*	100 | *4*	10	**545.322**
	STA crimped	25 | *1*	⊙	850 | *33 1/2*	100 | *4*	10	**545.307**
	STA crimped	35 | *1 3/8*	⊙	850 | *33 1/2*	100 | *4*	10	**545.311**
	STA crimped	50 | *2*	⊙	850 | *33 1/2*	100 | *4*	10	**545.312**
	STA crimped	60 | *2 3/8*	⊙	850 | *33 1/2*	100 | *4*	10	**545.338**
3	**PA** straight	12 x 14 | *15/32 x 9/16*	⊙	600 | *23 5/8*	150 | *6*	10	**554.903**
	STA straight	17 x 50 | *43/64 x 2*	⊙	960 | *38*	60 | *2 3/8*	10	**564.101***
	STA crimped	30 x 50 | *1 3/16 x 2*	⊙	800 | *31 1/2*	100 | *4*	10	**551.801**
	STA crimped	40 x 50 | *1 5/8 x 2*	⊙	1,000 | *39 3/8*	80 | *3*	10	**553.711**
	STA straight	40 x 80 | *1 5/8 x 3*	⊙	1,000 | *39 3/8*	100 | *4*	10	**552.404**
	STA straight	50 x 100 | *2 x 4*	⊙	1,000 | *39 3/8*	100 | *4*	10	**552.403**

* with scooped scratcher in the handle

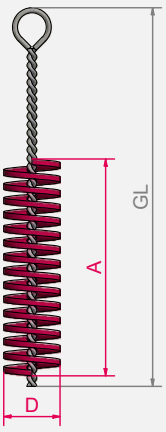
⊙ 2-sided cropped | on request also 4-sided cropped

⊙ round

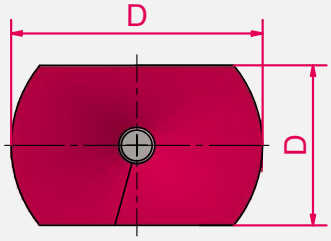
Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA = steel wire

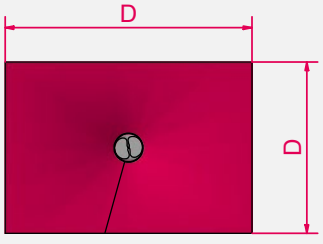
PA = polyamide



2-sided cropped



on request also 4-sided cropped



Boiler Brushes-Sets



1 Brush Set, 5 pieces

Content: 1 piece each	A	Format	Set with handle, big edition, steel wire: Art.-No.	D	GL	Art.-No. Set	Set with handle, small edition, steel wire: Art.-No.	D	GL	Art.-No. Set
Cylinder Brush	100	⊙	545.303	38	1.000	**599.921**	544.307	15	600	**599.931**
Cylinder Brush	100	⊙	545.331	100	1.000		544.361	25	800	
Boiler Brush	100	⬭	552.811	30 x 70	1.000		559.831	31 x 20	600	
Boiler Brush	100	⬭	552.816	50 x 100	1.000		551.811	30 x 20	500	
Boiler Brush	100	flat filament	559.713	75 x 30	1.000		551.812	50 x 40	700	

2 Brush Set, Steel Wire, external Thread W 1/2", crimped, 9 pieces

Content: 1 piece each		D mm | *inch*	GL mm | *inch*	A mm | *inch*	Format	Art.-No. Set
506.330	Interior Brushes	30 | *1 3/16*	160 | *6 1/4*	100 | *4*	⊙	**599.962**
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 Eye		500 | *20*			
567.771	Extension		500 | *20*			

Brush Set, Polyamide Bristles, external Thread W 1/2", crimped, 9 pieces

Content: 1 piece each		D mm | *inch*	GL mm | *inch*	A mm | *inch*	Format	Art.-No. Set
506.838	Interior Brushes	38 | *1 1/2*	160 | *6 1/4*	100 | *4*	⊙	**599.991**
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 Eye		500 | *20*			
567.771	Extension		500 | *20*			

Stove Pipe Brushes



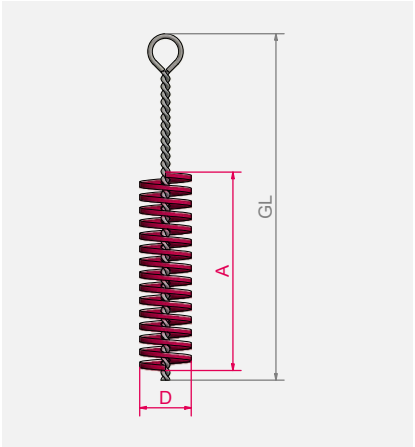
Stove Pipe Brushes with Twisted Handle IBZ

	Filling	D mm | *inch*	GL mm | *inch*	A mm | *inch*	Pack.	Art.-No.
1	**STM**	130 | *5 1/8*	2,000 | *78 3/4*	200 | *8*	10	**546.302**
	STM	150 | *6*	2,000 | *78 3/4*	200 | *8*	10	**546.306**
	STM	180 | *7*	2,000 | *78 3/4*	200 | *8*	10	*546.314*
	STM	200 | *8*	2,000 | *78 3/4*	200 | *8*	10	*546.318*
2	**BAS**	150 | *6*	2,000 | *78 3/4*	200 | *8*	10	*546.906*

Delivery only in noted packaging unit. If you need smaller quantities, please order stove pipe brushes with separate handle.

3 Stove Pipe Brushes with external thread, separate Handle IBZG

Filling	D mm | *inch*	GL mm | *inch*	A mm | *inch*	GA	Pack.	Art.-No.
STM	80 | *3*	275 | *10 7/8*	200 | *8*	M 10	5	**507.307**
STM	100 | *4*	275 | *10 7/8*	200 | *8*	M 10	5	**507.308**
STM	130 | *5 1/8*	275 | *10 7/8*	200 | *8*	M 10	5	**507.301**
STM	150 | *6*	275 | *10 7/8*	200 | *8*	M 10	5	**507.302**
STM	160 | *6 3/8*	275 | *10 7/8*	200 | *8*	M 10	5	**507.303**
STM	180 | *7*	275 | *10 7/8*	200 | *8*	M 10	5	**507.304**
STM	200 | *8*	275 | *10 7/8*	200 | *8*	M 10	5	**507.305**
BAS	150 | *6*	275 | *10 7/8*	200 | *8*	M 10	5	**507.959**



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STM = brass coated steel

BAS = bassine black

Accessories



Handle with Eye

	GL mm | *inch*	GI/GA	Format	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 Extension

	GL mm | *inch*	GI/GA	Format	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**

Adapter Threads

			GL mm | *inch*	Pack.	Art.-No.
4	Internal W 1/2"	Internal M 12	40 | *1 3/8*	1	**001.211**
	Internal W 1/2"	Internal M 10	40 | *1 3/8*	1	**001.212**
	Internal W 3/8"	Internal M 10	40 | *1 3/8*	1	*001.215*
	External M 10	Internal W 1/2"	40 | *1 3/8*	1	**001.222**
	External M 10	Internal W 3/8"	40 | *1 3/8*	1	**001.225**
5	Internal W 1/2"	Shank Ø 6 mm	50 | *2*	1	**000.071**
	Internal M 6	Shank Ø 6 mm	50 | *2*	1	**000.072**
6	Internal W 1/2"		155 | *6*	1	**599.002**
	Internal M 6		130 | *5 1/8*	1	**599.001**

Fitting Brushes



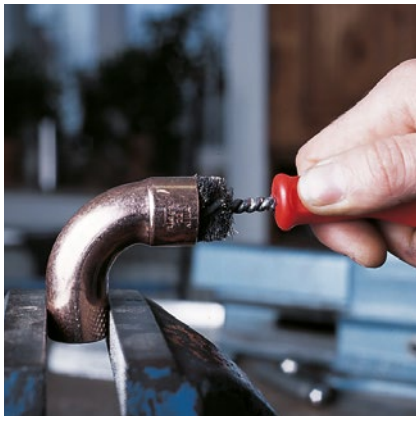
EAN

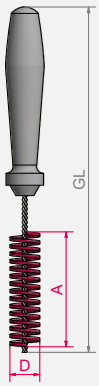
Interior Fitting Brushes IBM

D mm | *inch*	GL	A	Filling Material	Pack.	Art.-No.
8 | *5/16*	185	12	**ROF** 0.10 | *0.004″*	10	**562.508**
10 | *25/64*	185	12	**ROF** 0.10 | *0.004″*	10	**562.510**
12 | *15/32*	185	15	**ROF** 0.10 | *0.004″*	10	**562.512**
15 | *19/32*	185	20	**ROF** 0.15 | *0.006″*	10	**562.515**
18 | *45/64*	185	20	**ROF** 0.15 | *0.006″*	10	**562.518**
22 | *7/8*	185	25	**ROF** 0.20 | *0.008″*	10	**562.522**
28 | *1 7/64*	185	25	**ROF** 0.20 | *0.008″*	10	**562.528**
35 | *1 3/8*	185	25	**ROF** 0.20 | *0.008″*	10	**562.535**

Fitting Brushes
With designed two-components handle
For the inner cleaning in tubes in gas, water and climatic conditions. We use only stainless steel wire as the filling material for these brushes. This prevents long-term damage by material deposit in tubes.

Recommendation for users: When using interior fitting brushes, please only use brushes with stainless steel wire. This will avoid pitting by the use of rusting wire parts.





Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA = steel wire
ROF = stainless steel wire
PP = polyprophylene

Brushes and Scratcher



1 Battery Terminal Brushes

Filling Material	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 Material	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 Material	D mm | *inch*	GL mm | *inch*	H mm | *inch*	Pack.	Art.-No.
bristles	10 | *25/64*	123 | *4 7/8*	20 | *51/64*	100	**045.910**
bristles	15 | *19/32*	140 | *5 1/2*	25 | *1*	100	**045.915**

4 Rust Scratcher

Filling Material	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 Brush mutual filled

	D mm | *inch*	GL mm | *inch*	H mm | *inch*	Pack.	Art.-No.
ROF straight 0.30 + **spring steel strip** 6.4 x 0.8	15 | *19/32*	180 | *7*	22/25 | *7/8/1*	100	*184.412*

Battery Terminal Brushes
For cleaning of battery terminals. The twisted brush is conical filled for cleaning connection terminals of the battery cable. To clean the battery terminals use the ringshaped filed cards stuck in the handle.

Soluble Oil Brushes
With twisted wire handle for workshop use.

Soldering Fluid Brushes
The handle is made of tinned metal.

End brush with double-sided filling
End brushes with double-sided filling can be used for the manual removement of zinc ash without harming the zinc surface. Zinc ash is the result of oxidation on the surface of zinc baths. This happens usually on the edges of steelgirders with head and base plates. The spring steel strip on the one end of the end brush is used to remove more solid parts of dirt, whereas the with stainless steel wire filled other side of the brush can be used to remove the remaining dirt.

LESSMANN®

THE GERMAN BRUSH COMPANY

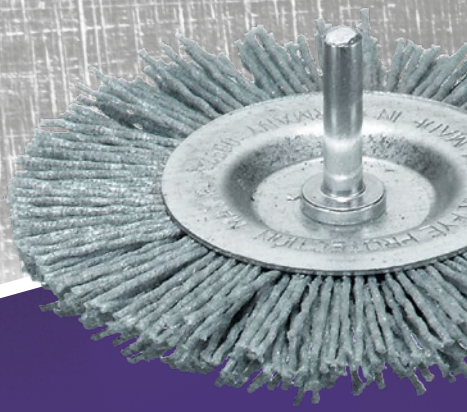


DIY BRUSHES AND SALES PROMOTION

07







Do It Yourself Brushes



D.I.Y Brushes with Shank
Do It Yourself brushes are an excellent alternative to the professional tools previously shown in this catalogue. Available are cup brushes from diameter 50 – 75 mm, wheel brushes diameter 50 – 100 mm, end brushes and cylinder brushes.

Stainless Steel Brushes
Information on working on stainless steel you find at www.lessmann.com

Attractive assortment
Coarse and fine steel wire, brass wire and abrasive filaments are available as filling materials.

The brushes are packed in small display cartons, 10 pieces per carton.

We offer different packaging to present these and other common brushes with shanks in specialist shops.

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire, crimped
ROF	= stainless steel wire
MES	= brass wire, crimped
SIC	= silicon carbide bristles

1



2

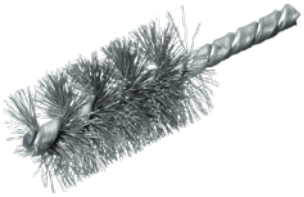


3

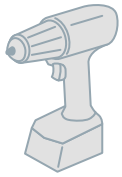




4



5



1 Wheel Brushes with Shank Ø 6 mm

D mm | *inch*	A mm | *inch*	RPM max.	Pack.	**STA 0.25** | *0.010"*	**STA 0.35** | *0.014"*	**ROF 0.20** | *0.008"* Art.-No.	**ROF 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 max.	Pack.	**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 with diameter 0.20 mm / 0.008"
** filament for this article with diameter 0.30 mm / 0.012"

3 Cup Brushes with Shank Ø 6 mm

D mm | *inch*	RPM max.	Pack.	**STA 0.20** | *0.008"* Art.-No.	**STA 0.30** | *0.012"* Art.-No.	**ROF 0.20** | *0.008"* Art.-No.	**ROF 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 max.	Pack.	**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**	**430.129**
75 | *3*	4,500	10	**430.136**	**430.138**	**430.139**

5 Cylinder Brushes with Shank Ø 6 mm

D mm | *inch*	RPM max.	Pack.	**STA 0.30** | *0.012"* Art.-No.
28 | *1*	1,500	10	**541.301**

Presentation „Cut Case“ Carton





EAN

Brushes in Cut Cases

Description	Filling material			Pack.	Carton size	Art.-No.
File Cleaner	**STA** straight 0.30	250 x 40		10	1	**037.201.CC**
Hand Brush	**STA** straight 0.35	2 Rows		10	1	**100.021.CC**
Hand Brush	**STA** straight 0.35	3 Rows		10	1	**100.031.CC**
Hand Brush	**STA** straight 0.35	4 Rows		10	1	**100.041.CC**
Hand Brush	**STA** straight 0.35	5 Rows		8	1	**100.051.CC**
Hand Brush	**STA** straight 0.35	6 Rows		8	1	**100.061.CC**
Hand Brush	**ROF** crimped 0.35	3 Rows		10	1	**104.631.CC**
Hand Brush	**ROF** crimped 0.35	4 Rows		10	1	**104.641.CC**
Hand Brush	**MES** crimped 0.35	3 Rows		10	1	**107.631.CC**
Hand Brush	**MES** crimped 0.35	4 Rows		10	1	**107.641.CC**
Hand Brush	**STA** straight 0.35	4 Rows	with Scraper	8	1	**120.401.CC**
Rivet Brush	**STA** straight 0.35	3 Rows	V-shaped	8	1	**120.801.CC**
Rivet Brush	**ROF** straight 0.35	3 Rows	V-shaped	8	1	**120.811.CC**
Duster	**PP** straight 0.40	4 Rows		6	2	*124.801.CC*
Spark Plug Brush	**MES** crimped 0.15	3 Rows		25	1	**125.211.CC**
Fine Scratch Brush	**MES** crimped 0.15	4 Rows		15	1	**126.411.CC**
Fine Scratch Brush	**PA** straight 0.30	4 Rows		15	1	**126.451.CC**
Staining Brush	**MES** crimped 0.15	7 Rows		6	1	**144.001.CC**
Staining Brush	**Leather/Fibre**	3/7 Rows		4	1	*144.701.CC*
Professional Hand Brush	**STA** straight 0.35	2 Rows	2 Components Handle	10	1	**182.401.CC**
Professional Hand Brush	**ROF** straight 0.35	2 Rows	2 Components Handle	10	1	**182.421.CC**
Professional Hand Brush	**MES** crimped 0.25	2 Rows	2 Components Handle	10	1	**182.451.CC**

Measurement in mm: Carton Size 1: 300 x 100 x 130 | Carton Size 2: 300 x 200 x 130

Cut Cases for presenting the products
Cut Cases are a simple alternative for presenting brushes in large quantities. The Products can be inserted in the self-service wall modularly.



EAN

Brushes in Cut Cases

Description	Filling material			Pack.	Carton size	Art.-No.
Wheel Brush with Plastic Body	**SIC** 80 / 1.2	7 Rows	Thread M 14	2	1	**402.880.CC**
Disc Brush with Plastic Body	**SIC** 80 / 1.2	4 Rows	Thread M 14	2	1	**405.845.CC**
Wheel Brush with Shank	**STA** gewellt 0,25	DRM 75	Shank 6 mm	25	1	**410.132.CC**
Wheel Brush with Shank	**STA** gewellt 0,35	DRM 100	Shank 6 mm	15	1	**410.153.CC**
Cup Brush	**STA** crimped 0.35	DIA 65	Thread M 14	15	1	*421.167.CC*
Cup Brush	**ROF** crimped 0.35	DIA 65	Thread M 14	15	1	*421.367.CC*
Cup Brush with Shank	**STA** gewellt 0,30	DRM 50	Shank 6 mm	15	1	**430.123.CC**
Cup Brush with Shank	**STA** gewellt 0,30	DRM 75	Shank 6 mm	15	1	**430.133.CC**
Knot Conical Brush	**STH** straight 0.50	DIA 100	Thread M 14	5	1	*471.257.CC*
Knot Wheel Brush	**STH** straight 0.50	DIA 115	Bore 22.2	6	1	*472.211.CC*
Knot Cup Brush	**STH** straight 0.50	DIA 65	Thread M 14	12	1	*482.217.CC*
Knot Cup Brush	**STH** straight 0.50	DIA 90	Thread M 14	8	1	*485.237.CC*
Cylinder Brush	**STA** gewellt 0,30	DRM 100	Shank 6 mm	20	1	**541.301.CC**

Measurement in mm: Carton Size 1: 300 x 100 x 130 | Carton Size 2: 300 x 200 x 130

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

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

Packing and Sales Promotion



Technical data on front, details and EAN on back of the Blister Packing

Brushes with blister packing
All standard brushes for drilling machines and angle grinders are available with blister packing. The blister packing is available with attractive labels with information about technical data and EAN-bar code. The clam shells emphasize the brushes' value, protect them and provide good visible presentation.

On request we can arrange your individual private label solution.

Please note:
We will soon be replacing all plastic blister packs with sustainable card-board packaging.



EAN

Brushes for Angle Grinders in Blister Packaging

	D mm | *inch*	Thread mm | *inch*	**STH 0.35** | *0.014"* Art.-No.	**STH 0.50** | *0.020"* Art.-No.	**ROF 0.35** | *0.012"* Art.-No.	**ROH 0.50** | *0.020"* Art.-No.	**STA 0.35** | *0.014"* Art.-No.
Knot Cup Brushes	65 | *2 1/2*	M 14	*482.117.09*	*482.217.09*		*482.817.09*	
	65 | *2 1/2*	M 10		*482.214.09*			
Knot Wheel Brushes	115 | *4 1/2*	Bo. 22.2 | *7/8*		*472.211.09*		*472.811.09*	
	115 | *4 1/2*	M 14		*472.217.09*			
Knot Bevel Brushes	100 | *4*	M 14		*471.257.09*			
	115 | *4 1/2*	M 14		*472.257.09*		*472.857.09*	
Cup Brushes crimped	60 | *2 3/8*	M 14			*421.367.09*		*421.167.09*
	60 | *2 3/8*	M 10					*421.164.09*
	75 | *3*	M 14					*423.167.09*
Conical Brushes crimped	100 | *4*	M 14					*422.177.09*

EAN

Brushes for Grinders and Drilling Machines with Shank Ø 6 mm in Blister Packaging

	D mm | *inch*	**STH 0.35** | *0.014"* Art.-No.	**STH 0.50** | *0.020"* Art.-No.	**RO4 0.35** | *0.014"* Art.-No.
Knot End Brushes	19 | *3/4*	*453.278.09*		
	22 | *7/8*			*454.378.09*
Knot Wheel Brushes	75 | *3*		*417.198.09*	

EAN

D.I.Y. Brushes for Grinders and Drilling Machines with Shank Ø 6 mm in Blister Packaging

	D mm | *inch*	**STA 0.25** | *0.010"* Art.-No.	**STA 0.30** | *0.012"* **0.35** | *0.014"* Art.-No.	**ROF 0.30** | *0.012"* Art.-No.	**MES 0.25** | *0.010"* Art.-No.	**SIC 80/1.2** Art.-No.
Wheel Brushes	50 | *2*		*410.123.09*			
	75 | *3*		*410.133.09*	*410.135.09*	*410.136.09*	*410.138.09*
	100 | *4*		*410.153.09*			*410.158.09*
Cup Brushes	50 | *2*	*430.122.09*	*430.123.09*		*430.126.09*	*430.128.09*
	75 | *3*		*430.133.09*			*430.138.09*
Cylinder Brushes	28 | *1*		*541.301.09*			

Sales Promotion Hangers / Card



1 2



3

Low-cost product presentation – Brushes on card

Presentation for tube brushes
With this practical hanger assembly from now on also tube brushes with thread can be presented on self-service walls in the retail market.
The hangers are available in M 6, M 10 and W 1/2". All hangers are with a eurohole.
A label can be fixed at the front of the hanger.

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA = steel wire, crimped
STH = steel wire, high tensile, straight
MES = brass wire, crimped
SIC = silicon carbide bristles

1 Hanger assembly for tube brushes, PP black, with euro hole

Interior 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	**000.501**
M 10	135 | *5*	42 | *1 5/8*	2 | *5/64*	10	**000.503**
W 1/2"	135 | *5*	42 | *1 5/8*	2 | *5/64*	10	**000.507**

EAN

2 Brushes with thread, incl. hanger assembly

	Diameter Brush mm | *inch*	Total length Brush mm | *inch*	Total length Brush mm | *inch*	Thread Brush	Pack.	STA Art.-No.
Tube 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	**506.130.03**
	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 / 3*	160 | *6 1/4*	100 | *4*	W 1/2"	10	**532.202.03**
	50 x 100 | *2 / 4*	160 | *6 1/4*	100 | *4*	W 1/2"	10	**532.203.03**

EAN

3 Brushes with Shank Ø 6 mm on Card

Description and technical data please see pages 75 and 137.

	D mm | *inch*	Pack.	**STA 0.30** | *0.012"* **0.35** | *0.014"*	**MES 0.25** | *0.010"* **0.30** | *0.012"*	**SIC 80** Art.-No.	**STH knotted 0.50** | *0.020"*
Wheel Brushes	50 | *2*	10	**410.123.07**			
	75 | *3*	10	**410.133.07**	**410.136.07**	*410.138.07*	**417.198.07**
	100 | *4*	10	**410.153.07**		**410.158.07**	
Cup Brushes	50 | *2*	10	**430.123.07**	**430.126.07**	**430.128.07**	
	75 | *3*	10	**430.133.07**		**430.138.07**	
Cylinder Brushes	28 | *1*	10	**541.301.07**			

Sales Promotion

Professionalism, service, quality...
The LESSMANN Display units will make a good impression on your customers. They are not only good for your image but will also have a positive effect on promoting and increasing your brush sales. The comprehensive and at the same time clear presentation makes the customers choice much easier.

Take advantage of our experience and use this possibility that will lead to successful increased sales. Beside your special demands the most important thing to know is the branch where your most important customers come from and what their demands are. We have tried and tested variations of assortments for different kind of constellation. Please do not hesitate to contact us and we will arrange your individual programme. Because the production of high quality brushes is as important as having success with our products!

1 | Self-service Wall 100 x 220 cm
The most effective sales promotion for your LESSMANN brush assortment. Available with LESSMANN logo or Brush-Know-how label.

2 | Individual mix for Success
Products that fit in with the wishes of your (most important) customers and their main demand, arranged together with you and your customers. Your assortment can mainly consist of technical brushes or hand brushes.

3 | Carton Packing
All brushes for angle grinders in sales promoting single packing – stable and safe.

4 | Hand Brushes with EAN Code
All standard hand brushes (article no. 10x.xxx) with EAN code. Without extra charges for you!

5 | Display boxes for Shank Brushes
Available as a standard for all shank wheel brushes, cup brushes and end brushes with shank.

6 | Brush-Know-how Flyer
The most important brush applications of our brush assortment in length DIN with technical information and hints!

7 | Hanger Assembly for tube brushes
With this hanger with euro hole, brushes with thread can be presented.

8 | Cut Cases
Cut Cases for an easy solution of presenting products in large quantities.

We will help you with the right choice of shelf
On request we can arrange the right shelf solution for presenting your brushes!

Small self-service wall
A suitable alternative solution: A practical self-service wall with the measurements 67 x 180 cm.



Private Label
A good idea with different solution possibilities. Ask for your own brand!



Sales promoting blister packing
For all drilling machines and angle grinders.



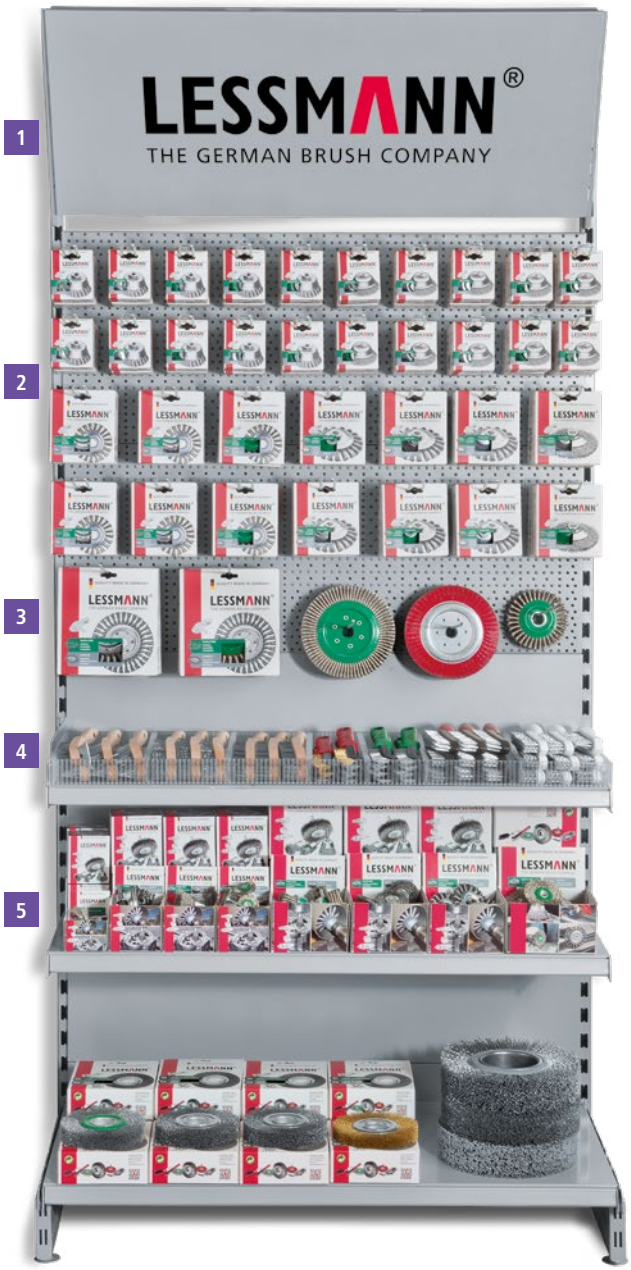
Take a look at quality
All technical data and safety information as well as observation windows for recognising the brushes (e. g. green marking for stainless steel brushes).

Please note:
We will soon be replacing all plastic blister packs with sustainable cardboard packaging.



Stainless Steel Marking
LESSMANN brushes with stainless steel wire can easily be recognised by green cups or side plates.









Brush-Know-how flyer
The most important brush application of our brush assortment in length DIN with technical information and hints!

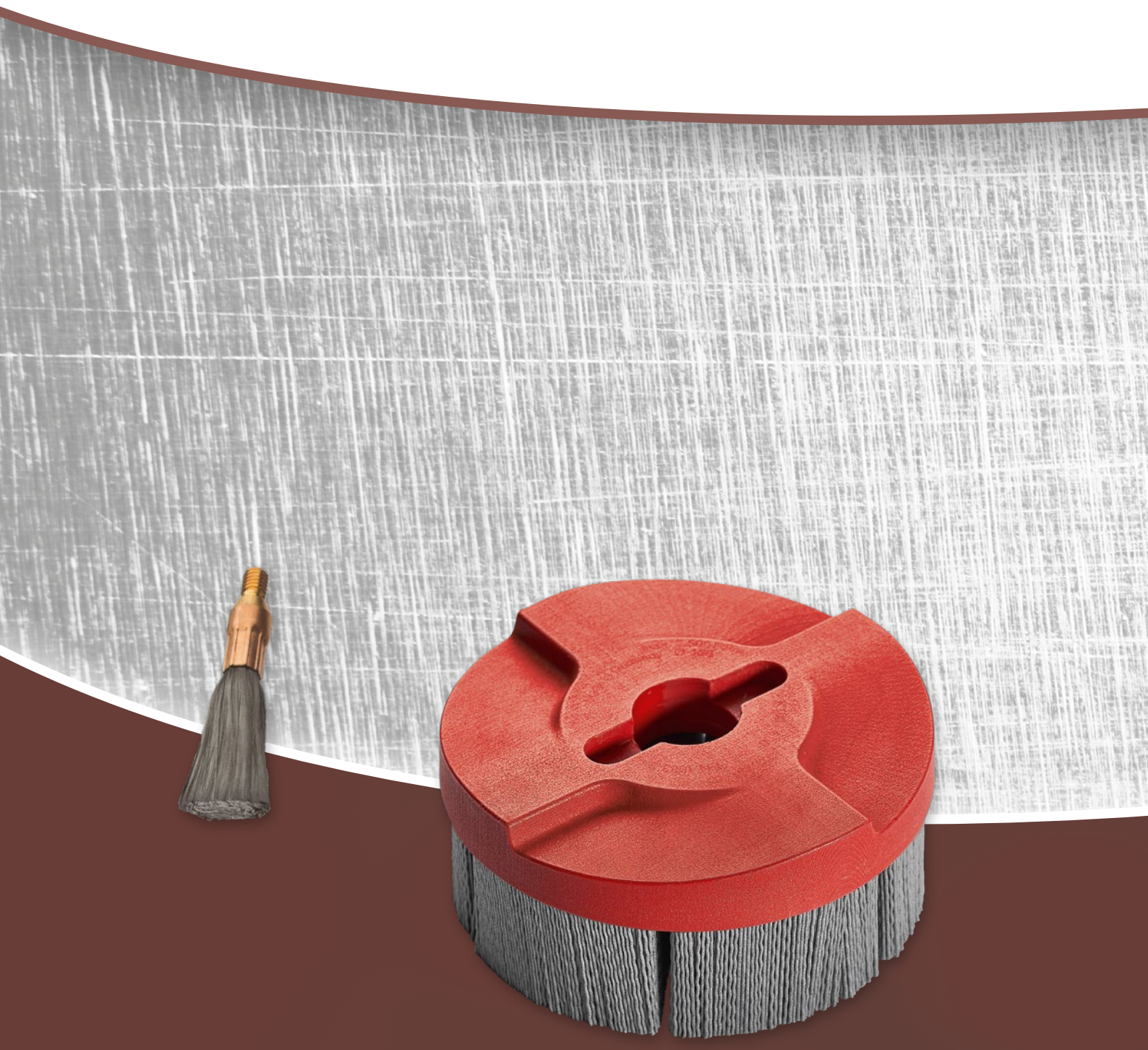
Order now:
German version: Art.-No. **99BKHDEU**
English version: Art.-No. **99BKHENG**



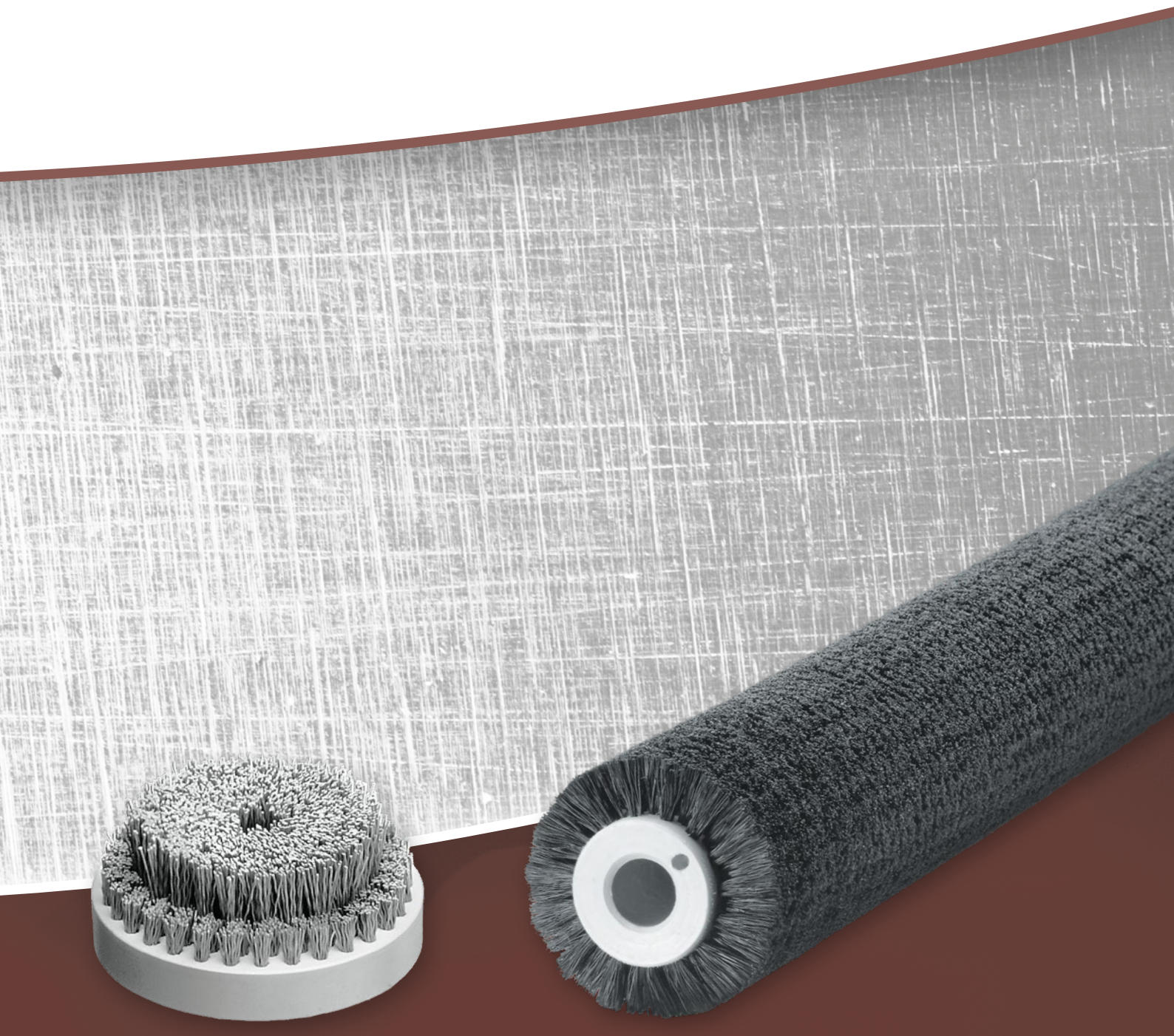
Cut Cases
Cut Cases for an easy solution of presenting products in large quantities.

LESSMANN®

THE GERMAN BRUSH COMPANY



08 INDUSTRIAL BRUSHES



Brushes with carbon fibre



Brushes with carbon fibre for electrochemical cleaning

To use in machines for cleaning weld seams

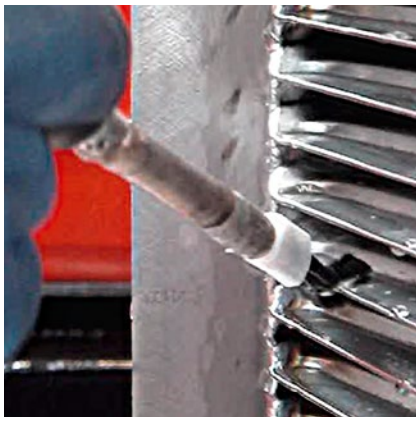
Due to oxidation on stainless steel surfaces temper colour is a result from heating. Hence often a post-treatment of the surface is necessary to reestablish the original character.
End brushes with carbon fibres are used in special machines for cleaning weld seams. The typical electrochemical jobs are the following:

Cleaning
To remove tepering colour and scales on stainless steel surfaces, e.g. on weld seams.

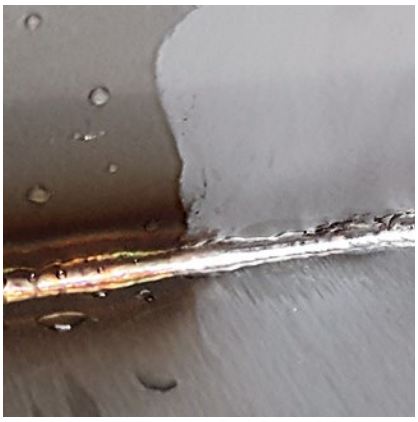
Polishing
For polishing stainless steel surfaces. Residues can be removed with end brushes.

Marking
With special patterns surfaces can be marked permanently by the electrochemical process.

Electroplating / Surfacing
Due to the use of the end brushes, different coatings can be put on the surfaces or they can be refined.



Cleaning of areas which are hard to reach



Before the treatment | After the treatment
Cleaning of weld seams

End brushes for standard machines
For many customary available machines for weld seam treatment LESSMANN offers the suitable end brushes.
Depending on the customers' demands the end brushes are available with different adapters, e.g. interior / exterior threads.

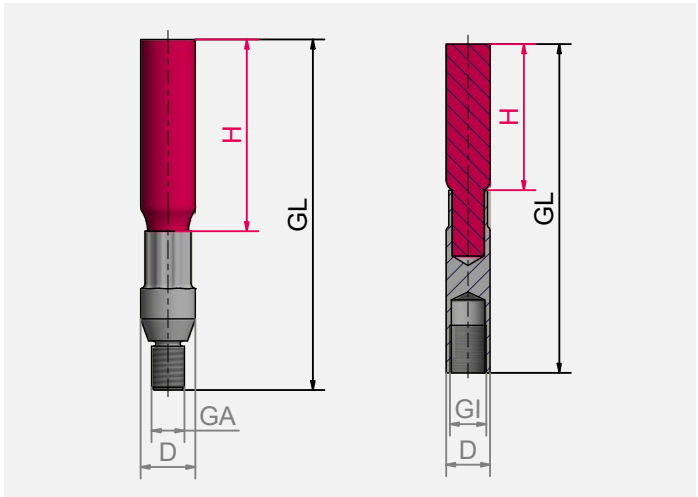
Time-saving and effective
Unlike other processes, working with special machines for weld seam cleaning are environmentally friendly and by using it correctly no toxic vapours are generated.
Due to the high flexibility of the filament also areas which are hard to reach can be treated easily.
By using LESSMANN brushes within a short time a clean result is achieved. Weld seams are treated without any residues and surfaces are treated without being damaged.



Brushes with carbon fibre

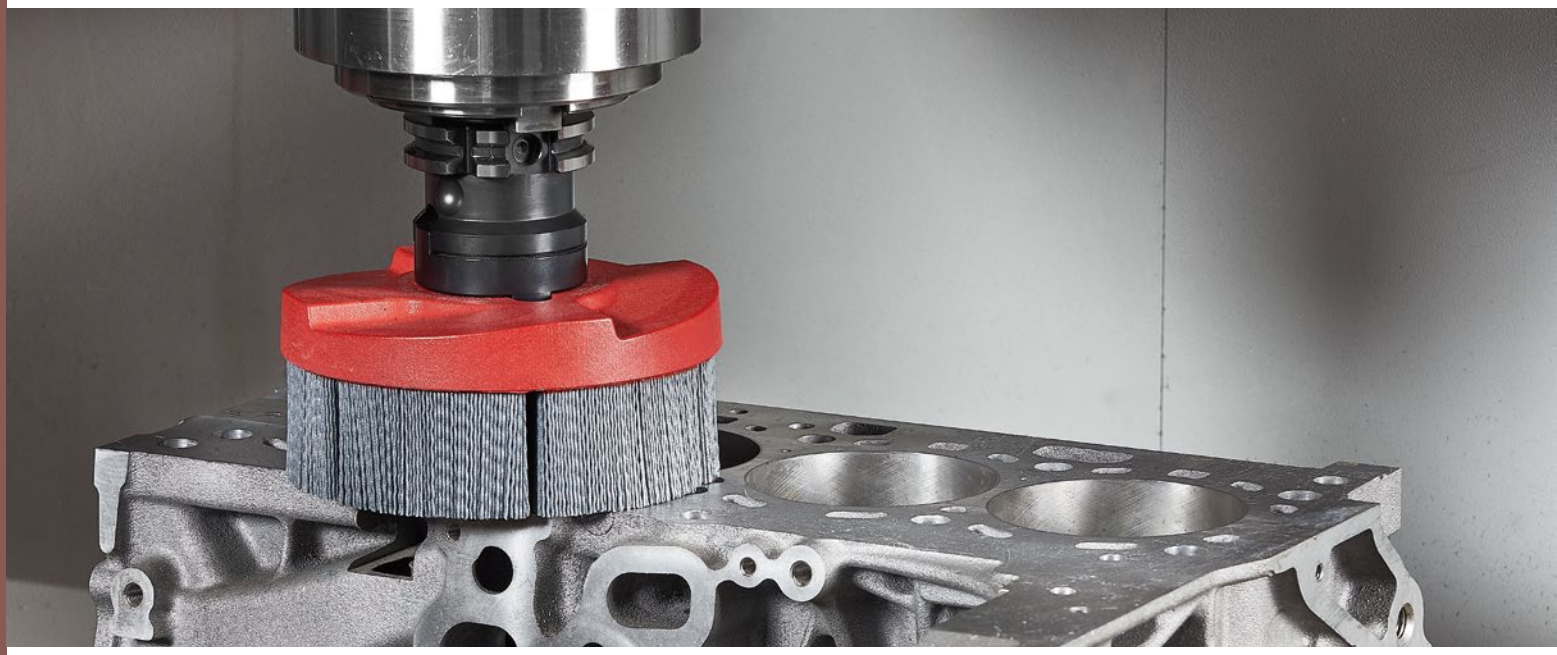
	Sleeve	D mm | *inch*	GL mm | *inch*	H mm | *inch*	Shape of thread	GA/GI	Presentation	Pack.	Art.-No.
1	Copper	10 | *25/64*	65 | *2 3/8*	30 | *1 3/16*	outside	M6		10	**047.700**
2	Copper	12 | *15/32*	90 | *3 1/2*	40 | *1 5/8*	inside	M10 x 0.75	Plastic coating	10	**047.705**
	Copper	12 | *15/32*	90 | *3 1/2*	40 | *1 5/8*	inside	M10 x 1.0	Plastic coating + side thread M4	10	**047.707**
	Copper	10 | *25/64*	80 | *3 1/4*	30 | *1 3/16*	inside	M8 x 1.0	Plastic coating	10	**047.708**
3	Stainless Steel	8 | *5/16*	50 | *2*	30 | *1 3/16*	outside	M6 x 1.0	Teflon sleeve (DRM 12 mm)	10	**047.750**
	Stainless Steel	8 | *5/16*	50 | *2*	30 | *1 3/16*	outside	M6 x 1.0		10	**047.755**
4	Stainless Steel	8 | *5/16*	72 | *2 53/64*	42 | *1 21/32*	outside	M6 x 0.75	Plastic coating	10	**047.754**
5	Stainless Steel	12 | *15/32*	75 | *3*	40 | *1 5/8*	inside	M10		10	**047.757**
6	Stainless Steel	10 | *25/64*	130 | *5 1/8*	60 | *2 3/8*	outside	M6 x 0.75	Plastic coating + external thread M12	10	*047.763**
	Stainless Steel	10.5 | *13/32*	130 | *5 1/8*	60 | *2 3/8*	outside	M6 x 0.75	Plastic coating + external thread M14	10	*047.764**
7	Brass	12 | *15/32*	75 | *3*	40 | *1 5/8*	inside	M10		10	**047.801**

* Teflon protective sleeve on request



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

High Performance Filament Brushes



HFB Disc Brushes
LESSMANN high performance surface finishing tools achieve excellent deburrings and edge radiusing on exterior and interior areas of work pieces. Next to the applications in machining centers, especially in linear deburring and finishing lines with planetary brush systems HFB brushes obtain high efficiency.

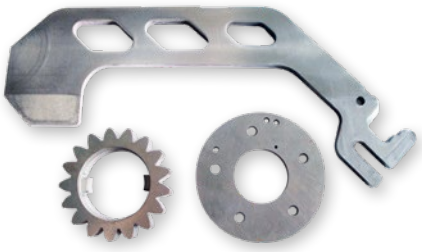
They are used for e. g. for the deburring of
- blanked parts
- sintered parts
- hydraulic and pneumatic work pieces
- aluminium work pieces
- and many more

Also work pieces which are exposed to high pressures demand precise egde radiuses. LESSMANN HFB brushes are ideal tools which achieve these requirements outstandingly.

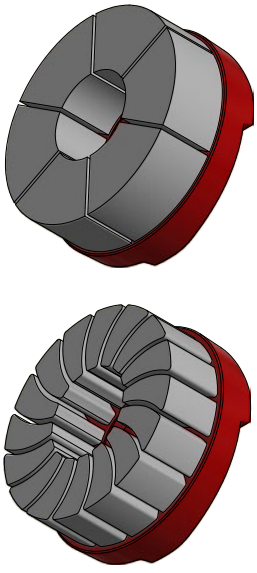
Filling material
In a special production process LESSMANN HFB brushes are manufactured with a very high filling density. Available are high abrasive nylons with silicon carbide, ceramic or diamond grit. Standard in LESSMANN HFB Brushes high quality filling material is used (PA 6.12). It is very bending resistant and abrasion-resistant.
Due to the application orientated selection of the filling materials an excellent deburring and constant edge radiusing in a short working time is achieved.

Depending on the HFB application the brushes can be used under dry condition or with addition of coolants.

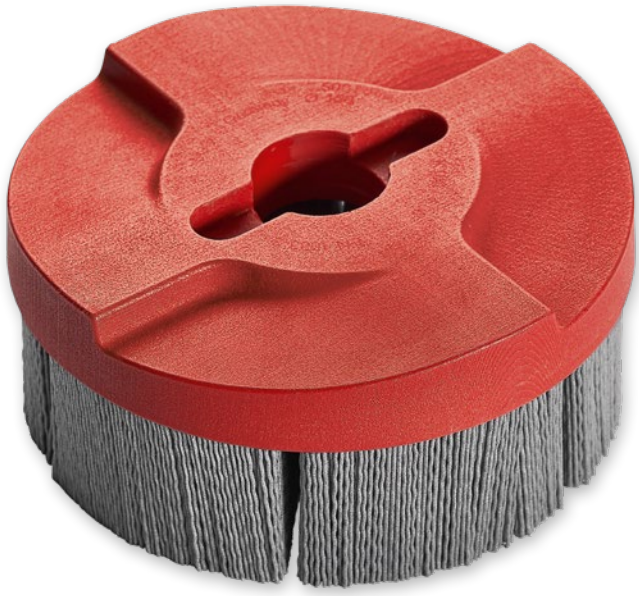
Arrangement filling material
Depending on the requirements, the brushes can be manufactured with individual filling fields. For example, full filament is possible, but also the division of the abrasive bristles into defined fields or deviation of the bristles. Depending on the direction of rotation, more effective processing is possible, for example due to the optimum removal of cooling water.



Typical work pieces which are treated with LESSMANN HFB brushes.



Examples arrangement filling material

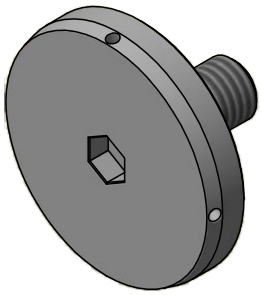


Revised clamping system
LESSMANN manufactures brush types for all common brands of machines and drilling patterns according to customer specifications. Our basic versions, suitable for the common machines with cutter head holder (DIN 6357) or combi-milling arbor holder (DIN 6358), as well as special models are available short-term. LESSMANN HFB brushes are also suitable for accessories for working under wet conditions, e.g. clamping screws with coolant holes.

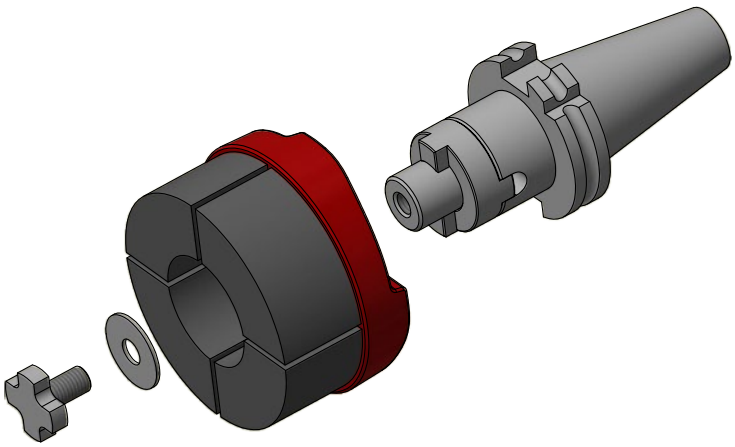
On request we can deliver the brushes with bore according to your special requirements.

Revised design
LESSMANN HFB brushes are constantly being further developed to meet the latest technical requirements. The latest adaptation is the revised design of the brush plate, which has been given a curved shape. Thus the brush can be used more flexible and the brush body is even more stable. The resulting dynamic rotation gives the brush optimum conditions for precise work. In addition, less chips and oil are trapped in the brush during machining, which leads to less abrasive wear.

User tips
- The optimum speed is usually clearly below the maximum speed. Please note the information on the brush body. See page 12 for details.
- The feed rate of the brush depends on the desired brush result and must be determined individually.
- When using the brush, make sure that all edges and surfaces to be machined are reached. In order to ensure uniform processing, it is important that the brush is not removed from the workpiece prematurely, especially during start-up and run-out.



Clamping screw with coolant holes



Common combi arbor holder for HFB brushes.

Contact us for further information and a nonbinding consultation!

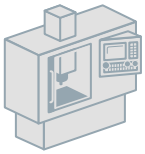
High Performance Filament Brushes



1



2



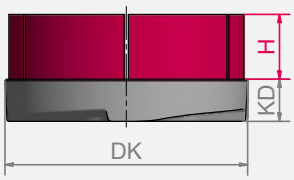
1 HFB Disc Brushes, full body, silicon carbide bristles

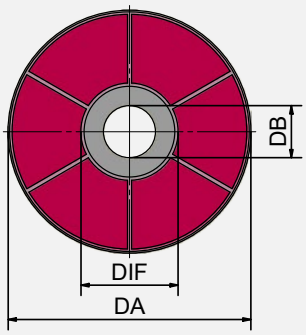
Body Ø **DK** mm | *inch*	Filling Ø **DA** mm | *inch*	Open Space **DIF** mm | *inch*	Filling Length **H** mm | *inch*	Bore **DB**	Body Thickness **KD** mm | *inch*	RPM max.	Pack.	**SIC 80/1,2** Art.-Nr.	**SIC 120/1,1** Art.-Nr.	**SIC 180/1,0** Art.-Nr.
50 | *2*	45 | *2*	25 | *1*	35 | *1 3/8*	16 DKN	18 | *5/8*	4,500	1	**601.204.20**	**601.304.20**	**601.404.20**
75 | *3*	70 | *2 3/4*	34 | *1 1/4*	35 | *1 3/8*	22 DKN	20 | *3/4*	4,500	1	**602.214.20**	**602.314.20**	**602.414.20**
100 | *4*	95 | *3 1/2*	45 | *2*	35 | *1 3/8*	22 DKN	20 | *3/4*	3,600	1	**603.214.20**	**603.314.20**	**603.414.20**
125 | *5*	120 | *4 3/4*	55 | *2 31/4*	40 | *1 5/8*	27 DKN	22 | *7/8*	3,000	1	**604.225.20**	**604.325.20**	**604.425.20**
150 | *6*	145 | *5 71/100*	60 | *2 3/8*	40 | *1 5/8*	32 DKN	25 | *1*	2,500	1	**605.265.20**	**605.365.20**	**605.465.20**

2 HFB Disc Brushes, full body, ceramic grit

Body Ø **DK** mm | *inch*	Filling Ø **DA** mm | *inch*	Open Space **DIF** mm | *inch*	Filling Length **H** mm | *inch*	Bore **DB**	Body Thickness **KD** mm | *inch*	RPM max.	Pack.	**KK 80/1,2** Art.-Nr.	**KK 120/1,1** Art.-Nr.
50 | *2*	45 | *2*	25 | *1*	35 | *1 3/8*	16 DKN	18 | *5/8*	4,500	1	**601.204.30**	**601.304.30**
75 | *3*	70 | *2 3/4*	34 | *1 1/4*	35 | *1 3/8*	22 DKN	20 | *3/4*	4,500	1	**602.214.30**	**602.314.30**
100 | *4*	95 | *3 1/2*	45 | *2*	35 | *1 3/8*	22 DKN	20 | *3/4*	3,600	1	**603.214.30**	**603.314.30**
125 | *5*	120 | *4 3/4*	55 | *2 31/4*	40 | *1 5/8*	27 DKN	22 | *7/8*	3,000	1	**604.225.30**	**604.325.30**
150 | *6*	145 | *5 71/100*	60 | *2 3/8*	40 | *1 5/8*	32 DKN	25 | *1*	2,500	1	**605.265.30**	**605.365.30**

DKN = double keyway





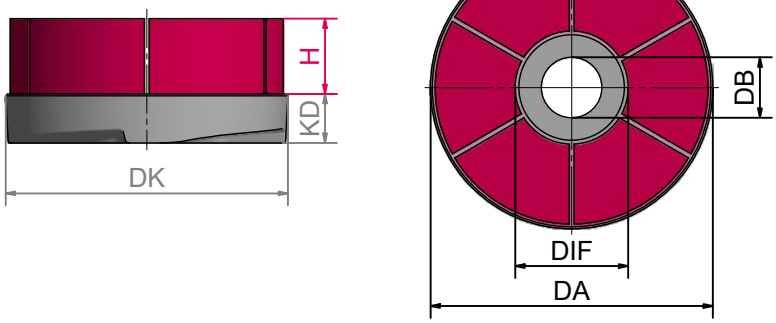
Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

SIC = silicon carbide bristles

KK = ceramic grit

Enquiry for High Performance Filament Brushes

Drawing / description of application



Piece number _____

Brush Application ☐ dry ☐ wet

☐ deburring

☐ others _____

Material to be treated ____°C Temperature

☐ steel

☐ aluminium

☐ stainless steel

☐ others _____

Filling material

☐ silicon carbide bristles (SIC)

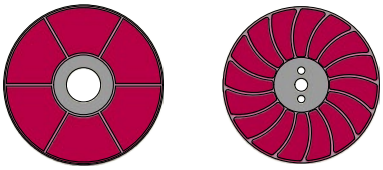
☐ aluminium oxide bristles (AO)

☐ ceramic grit (KK)

☐ diamond grit (DIA)

Diameter of filling material _____

filling placement



☐ full-body ☐ turbo

turbo right / left (standard right) _____

Please indicate the dimensions according to the technical drawing (mm):

DK body diameter _____ mm

DA Dia filament outside _____ mm

DIF Dia filament inside _____ mm

H Filling height _____ mm

Deviation of the bristles _____ °

Sender: company, contact person

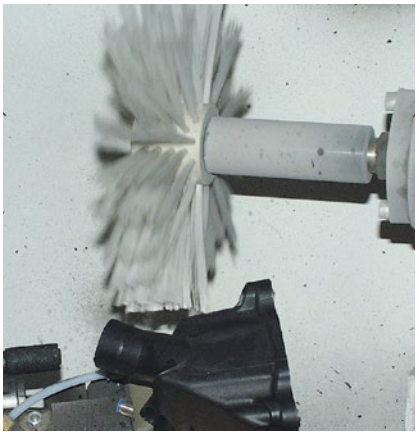
☐ Standard bore
(adapted to body diameter, see table on left page)

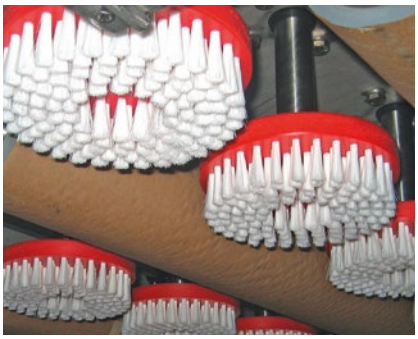
☐ Special bore _____

Inquiries and Infos:
Phone: +49 9082 707-0 info@lessmann.com
Fax: +49 9082 707-76 www.lessmann.com

Staple Set Brushes



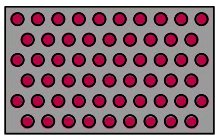


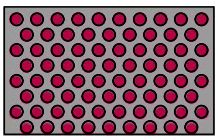


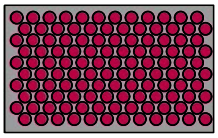
Staple Set Brushes
For applications with little mechanic load, brushes in a staple set edition are produced.
Typical applications for staple set Wheel Brushes and Wide Face Brushes, Disc Brushes or Lath Brushes are for example cleaning, deburring, surface finishing, structurizing, smoothing, transporting, sorting or moistening.
Depending on the requirements, the filling material can be fixed individually into the body. The distance of the bundles are variable and comply with the application.
As filling material next to different wires also fibres are available. Also mixed filament in various mixing proportions are possible.
Disc Brushes usually are delivered with thread or bore. Staple set wheel and roller brushes are produced with bore or arbour absorption, depending on the customers' specification.

Please inform yourself on the following pages and do not hesitate to contact us for personal advice!

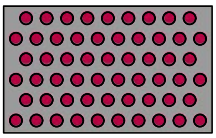
Possible desities of brush filling material
for Wheel Brushes and Wide Face Brushes, Disc Brushes and Lath Brushes

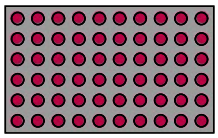

thin filling material

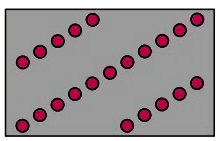

mean desity of filling material


dense filling material

Possible placement of brush filling material
for Wheel Brushes and Wide Face Brushes, Disc Brushes and Lath Brushes


staggered filling material


straight filling material


spiral filling material

Disc Brushes



Disc Brushes – Measurements

DA	KD	H		DB/GI			
External diameter	Body height	Trim height	Deviation	Thread	Body	Trim	Trim
mm	mm	mm	of the Bristles		Material	Material	Density
10 – 800	10 – 100	8 – 95 steel 8 – 135 Plastic	max. 45°	freely selectable	PP, PE, PA, Wood, Plywood	STA, STM, MES, ROF, PP, PE, PA, FIB, ROS, SIC, AO	thin, mean, dense

Disc Brushes – for cleaning and deburring

Disc Brushes are used for the treatment of plane surfaces on almost every material. The numerous variations of body and trimming materials and adapter systems make them for all purposes applicable.

For deburring working pieces, disc brushes can be inserted in individual equipments as well as in machining centres for removing secondary burrs.

Disc Brushes for the wood machining industry

Disc brushes used for the wood machining industry have a very long filling material (SIC). Used on angle grinders, the disc brushes are ideal for maintaining, cleaning, structuring or polishing wood.

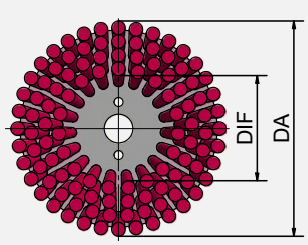
The brushes are very effective when working on large surfaces.

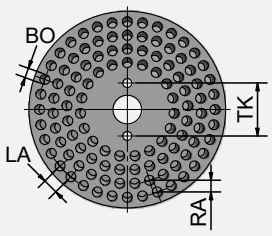
Circular Discs – Standard Body

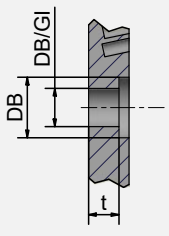
If your application allows the mentioned sizes, we recommend our standard bodies.

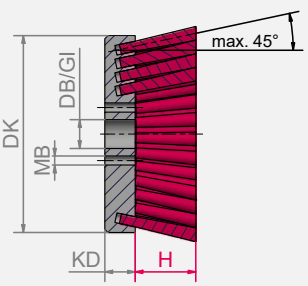
Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire
STM	= brass coated steel
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



1

2

3

Disc Brushes

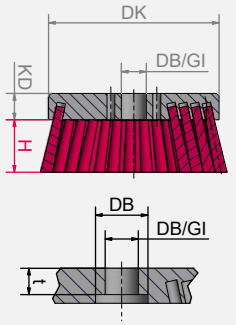
	Filling	DK mm | *inch*	H mm | *inch*	DB/GI mm | *inch*	KD mm | *inch*	RPM max.	Pack.	Art.-No.
	STA 0.20 | *0.008"*	150 | *6*	25 | *1*	M 14	25 | *1*	2,500	1	**405.006**
	SIC 180/1.0	125 | *5*	25 | *1*	22.2 | *7/8*	25 | *1*	3,000	5	*405.854*
	SIC 180/1.0	150 | *6*	20 | *3/4*	25 | *1*	25 | *1*	2,500	25	*405.835*
	SIC 120/1.1	150 | *6*	25 | *1*	25 | *1*	25 | *1*	2,500	4	*405.864*
1	**Mixed filament STA** 0.30 / **PA** 0.35	130 | *5 1/8*	40 | *1 3/8*	M 14	25 | *1*	2,500	10	*405.908*
1	**Mixed filament STA** 0.30 / **PA** 0.35	200 | *8*	40 | *1 3/8*	M 14	25 | *1*	2,000	10	*405.905*

2 Disc Brushes for the wood machining

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

Circular Discs – Standard Body Measurements (in Stock) Body Material PP (red)

DK mm | *inch*	KD mm | *inch*	DB mm | *inch*	DB/GI mm | *inch*	t mm | *inch*	Other
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*	mounting 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*	mounting 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*	mounting hole 2 x Ø 11 mm, TK 56
220 | *8 5/8*	20 | *3/4*	40 | *1 5/8*			



The standard bodies can be adapted on demand (dress to size, drill) for receiving other measurements.

3 Brush intake with shank

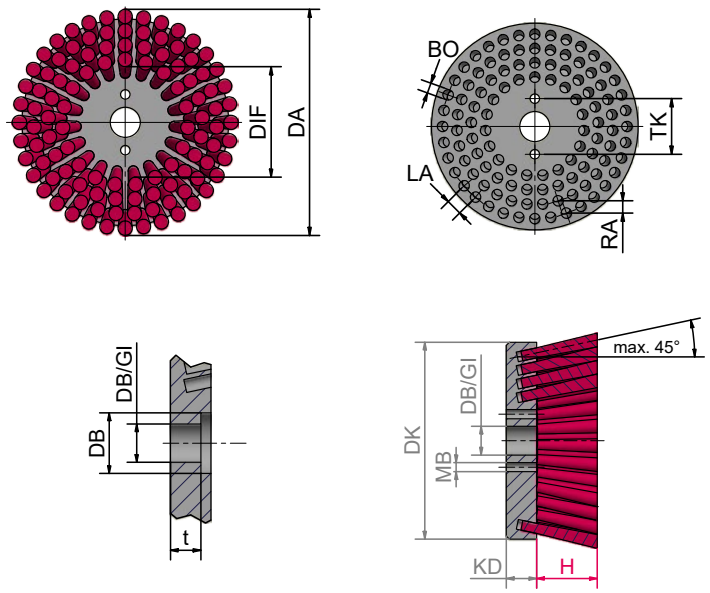
D mm | *inch*	KL mm | *inch*	mm | *inch*	Art.-No.
16 | *5/8*	81 | *3 3/16*	Bore 35/25 | *1 3/8/1*	*000.051*

Enquiry for Disc Brushes

Drawing / description of application

Circular Discs – Standard Body Measurements (in Stock) Body Material PP (red)

DK	KD	DB	DB/GI	t	Other
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*	mounting 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*	mounting 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*	mounting hole 2 x Ø 11 mm, TK 56
220 | *8 5/8*	20 | *3/4*	40 | *1 5/8*			



Sender: company, contact person

Inquiries and Infos:
Phone: +49 9082 707-0 info@lessmann.com
Fax: +49 9082 707-76 www.lessmann.com

Piece number: _____

Brush Application ☐ dry ☐ wet
- ☐ deburring
- ☐ cleaning
- ☐ surface treatment
- ☐ others _____

Material to be treated _____ °C Temperature
- ☐ steel
- ☐ aluminium
- ☐ wood
- ☐ stainless steel
- ☐ plastic
- ☐ others _____

Filling material
- ☐ steel
- ☐ brass coated steel
- ☐ brass
- ☐ stainless steel
- ☐ polypropylene
- ☐ polyethylene
- ☐ polyamide
- ☐ silicon carbide bristles (SIC)
- ☐ aluminium oxide bristles (AO)
- ☐ fibre
- ☐ horse hair
- ☐ other _____

Diameter of filling material _____

Filling density



☐ light ☐ medium ☐ close

Filling placement



☐ **full seat** ☐ **block fill** ☐ **dynamic fill**

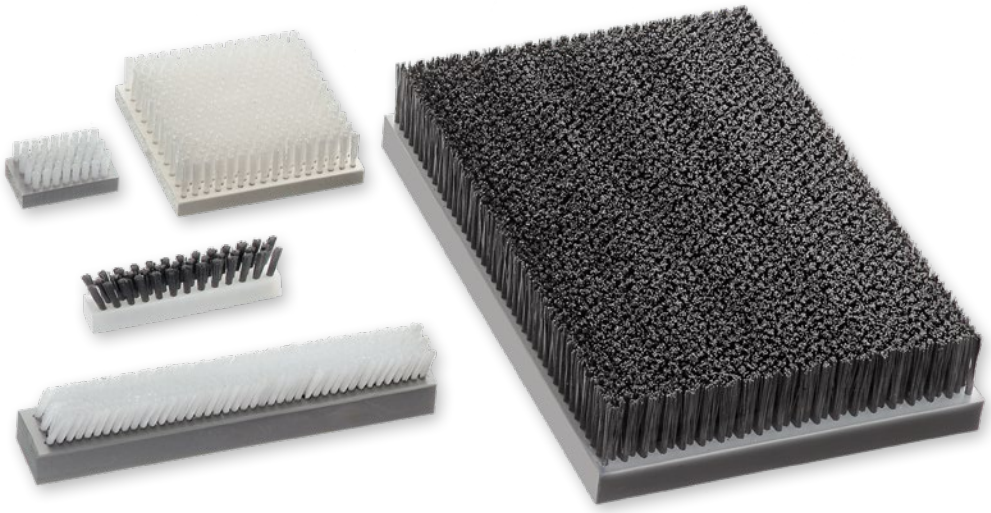
Please mention measurements according to drawing (mm)

DK	body diameter _____	mm
DA	outer diameter _____	mm
DIF	inner diameter _____	mm
KD	body thickness _____	mm
DB/GI	bore _____	mm
DB	diameter counterbore _____	mm
TK	pitch circle drive bore _____	mm
MB	diameter drive bore _____	mm
H	trim height _____	mm
Stocking skew _____		°

Body material
- ☐ polypropylene (standard)
- ☐ other _____

INDUSTRIAL BRUSHES

Lath Brushes

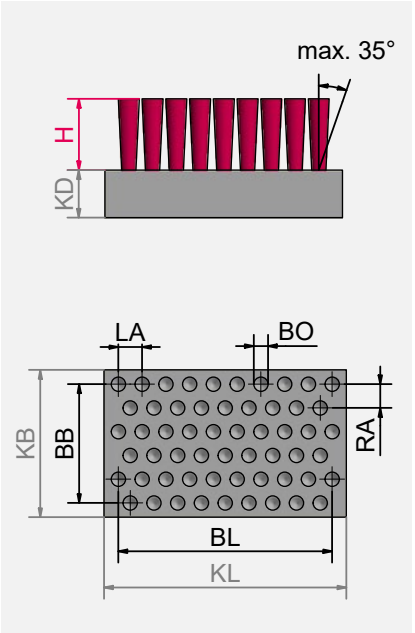


Lath Brushes – Measurements

KB	KL	KD	H	Deviation	Body	Filling	Filling
mm	mm	mm	mm	of the Bristles	Material	Material	Density
8–750	8–2400	10–100	8–95 Steel 8–135 Plastic	max. 35°	PP, PE, PA, Wood, Stack wood	STA, STM, MES, ROF, PP, PE, PA, FIB, ROS, SIC, AO	thin, mean, dense

Lath Brushes
Lath Brushes work in machines and are used for clearing, cleaning, insulating and discharging electric charges etc. Various body materials are possible: including wood and plastic.
The filling material can be manifold and goes from fine horsehair to firm steel wire. Through the deviation of the bristles until 35° the lath bushes are very flexible in their applications.

As required the stocked standard bodies could be reworked (turned, drilled out) to get further dimensions

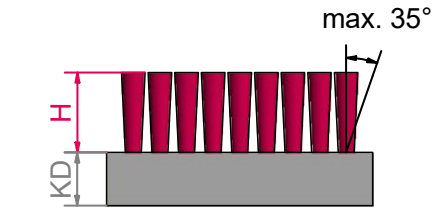


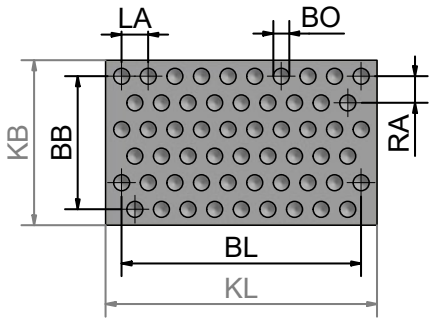
Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 184).

STA	= steel wire
STM	= brass coated steel
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 for Lath Brushes

Drawing / description of application





Sender: company, contact person

Piece number _____

Brush Application ☐ dry ☐ wet

- ☐ caulk
- ☐ cleaning
- ☐ fix
- ☐ transporting
- ☐ others _____

Material to be treated_____°C Temperature

- ☐ steel
- ☐ aluminium
- ☐ wood
- ☐ stainless steel
- ☐ plastic
- ☐ others _____

Filling material

- ☐ steel
- ☐ brass coated steel
- ☐ brass
- ☐ stainless steel
- ☐ polypropylene
- ☐ polyethylene
- ☐ polyamide
- ☐ silicon carbide bristles (SIC)
- ☐ aluminium oxide bristles (AO)
- ☐ fibre
- ☐ horse hair
- ☐ others _____

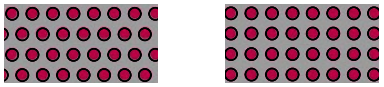
Diameter of filling material _____

Filling density



☐ light ☐ medium ☐ close

Filling placement



☐ **added** ☐ **straight**

Please mention measurements according to drawing (mm)

KL	total length	_____	mm
KB	total width	_____	mm
KD	body thickness	_____	mm
BL	occupied length	_____	mm
BB	occupied width	_____	mm
H	trim height	_____	mm
Deviation of the Bristles		_____	°

Body material

- ☐ polypropylene (standard)
- ☐ other _____

Inquiries and Infos:
Phone: +49 9082 707-0 info@lessmann.com
Fax: +49 9082 707-76 www.lessmann.com

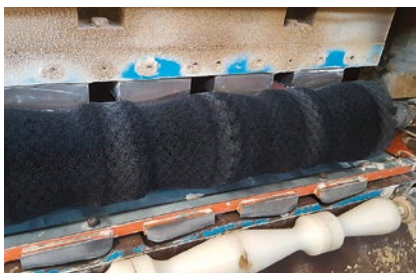
Wheel Brushes and Wide Face Brushes



Staple Set Wheel and Roller Brushes – Measurements							
D	KD	KL	A	d	Body	Filling	Filling
mm	mm	mm	mm	mm	Material	Material	Density
45 – 440 steel 45 – 500 plastic	25 – 250	5 – 800	3 – 780	freely selectable	PP, PE, PA, Wood	STA, STM, MES, ROF, PP, PE, PA, FIB, ROS, SIC, AO	thin, mean, dense
Standard body diameter (on stock) in body material PP							
50, 80, 100, 140							

Staple Set Wheel and Roller Brushes
These brushes are used for cleaning, deburring, surface finishing, structurizing, smoothing and transporting.
The brush body is of wood or plastic. The filling material is determined by the brushes purpose. Please also consider temperature, chemical and mechanical characteristics during use. Filling lenght, filling material, filling diameter and filling density are significant for the mode of action of the brush.
The density of the filling material can be varied by the diameter and the distance of and from the hole.
The staple set wheel and roller brushes are available with bore or arbor absorption, depending on the customers' specification.
The mentioned data in the chart should support you defining the right brush for your application.
For further information or support do not hesitate to contact us by e-mail, phone or fax. We will be very pleased to support you.

Note:
For applications which have a high mechanical load on the brushes we advise our wheel and roller brushes with crimped or knotted wire (chapters „Wheel Brushes" & „Deburring Brushes" in this catalogue).



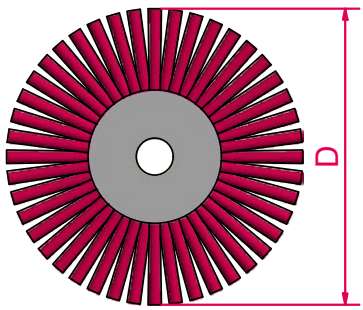
As required the stocked standard bodies could be reworked (turned, drilled out) to et further dimensions

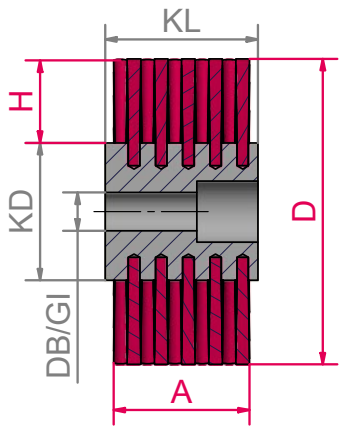
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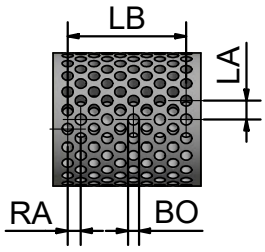
STA	= steel wire
STM	= brass coated steel
ROF	= stainless steel wire
MES	= brass wire
PP	= polypropylene
PA	= polyamide
PE	= polyethylene
FIB	= fibre
ROS	= horse hair
SIC	= silicon carbide bristles
AO	= aluminium oxide bristles

Enquiry for punched Wheel and Wide Face Brushes

Drawing / description of application







Sender: company, contact person

Piece number_____

Brush Application ☐ dry ☐ wet
- ☐ deburring
- ☐ cleaning
- ☐ roughening / structuring
- ☐ transporting
- ☐ others _____

Material to be treated_____°C Temperature
- ☐ steel
- ☐ aluminium
- ☐ wood
- ☐ stainless steel
- ☐ plastic
- ☐ others _____

Filling material
- ☐ steel
- ☐ brass coated steel
- ☐ brass
- ☐ stainless steel
- ☐ polypropylene
- ☐ polyethylene
- ☐ plyamide
- ☐ silicon carbide bristles (SIC)
- ☐ aluminium oxide bristles (AO)
- ☐ fibre
- ☐ horse hair
- ☐ others _____

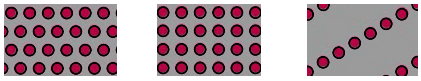
Diameter of filling material _____

Filling density



☐ light ☐ medium ☐ close

Filling design



☐ **added** ☐ **straight** ☐ **spirally**

Please mention measurements according to drawing (mm)

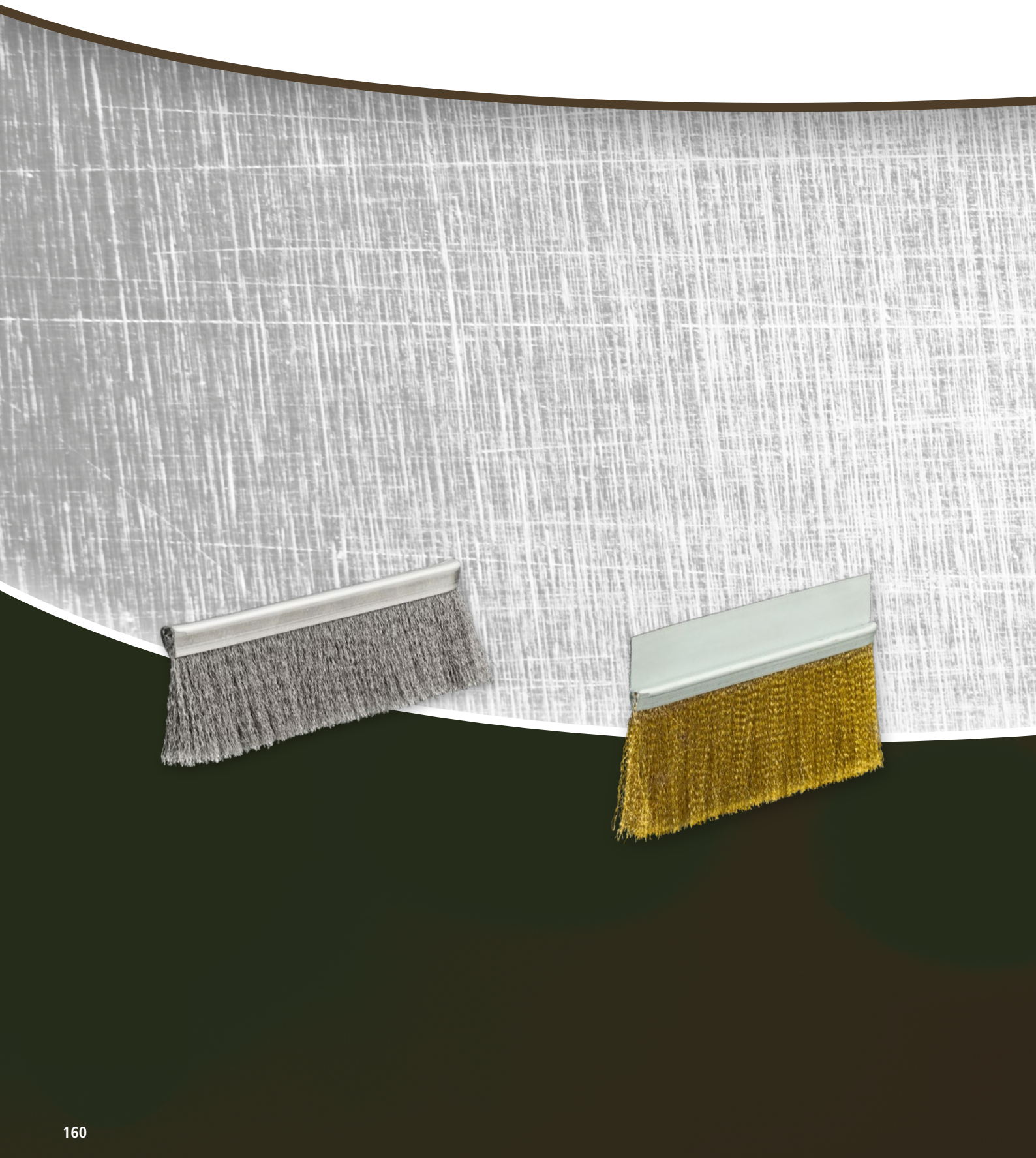
D	outer diameter _____	mm
KD	body diameter_____	mm
KL	body lenght _____	mm
A	occupied width _____	mm
DB/GI	bore _____	mm

Body material
- ☐ polypropylene (standard)
- ☐ other _____

Inquiries and Infos:
Phone: +49 9082 707-0 info@lessmann.com
Fax: +49 9082 707-76 www.lessmann.com

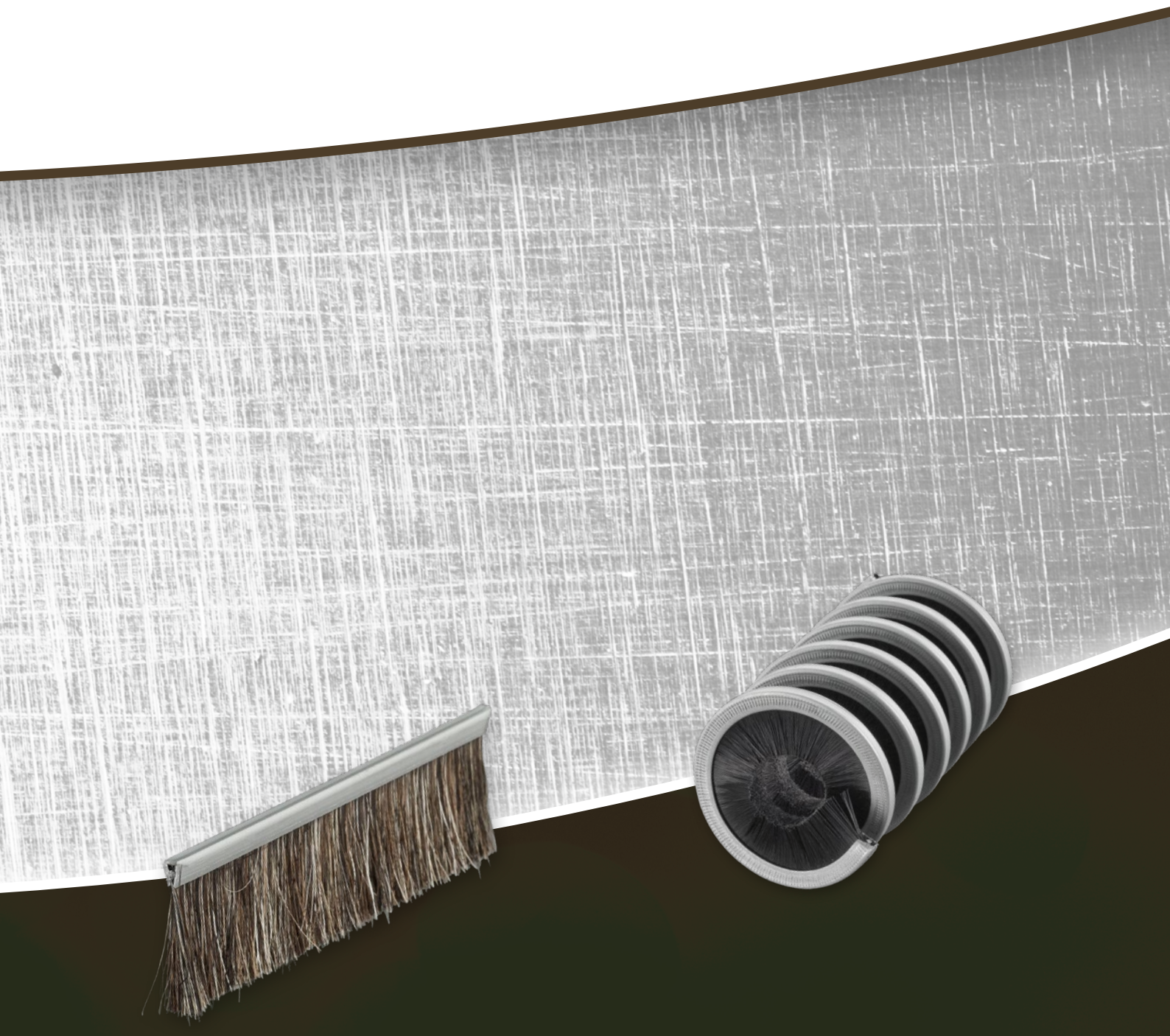
LESSMANN®

THE GERMAN BRUSH COMPANY



09

STRIP BRUSHES



Strip Brushes

Strip brushes
Strip brushes can be used in many ways. Strip brushes have very dense and close fillings and thus they can help to save energy with long lifetime.

They seal gates and doors and prevent of infiltration, cold, humidity, leaves and dirt. They also protect moving parts (installation in machines and systems) from dust and other undesirable particles. Strip brushes also can be used for transport, guiding and securing of sensitive objects. Strip brushes from Lessmann are available in different shapes and with different adapters and filling materials.





Filling materials
All LESSMANN strip brushes are available with the following filling materials:

Natural hair:
Horse hair, grey and black





Highly effective and the most used material of filling for sealing gates and both hinged doors and sliding doors. This type of filling can be used in wet and dry areas and even at high temperatures (up to 150 °C). Their static charge is low. As standard, we use a mixture of 70 % horsehair and 30 % polyethylene.

The color specification „grey" (top) refers to light horsehair, „black" (bottom) refers to dark horsehair. However, since it is a natural material, color variations may occur.

Synthetic filaments:
- Polypropylene PP,
  Ø 0.15 – 3 mm, white and black.

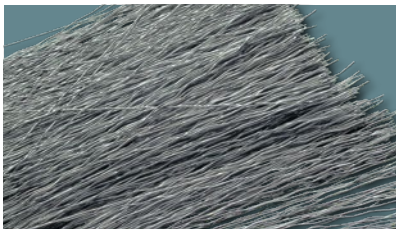


Inexpensive bristle for many uses, does not absorb water, retains initial rigidity in wet environments, low bend recovery.

- Polyamide 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 max. 10 %.
  PA 6.12 (ideally suited for use in wet environments): Flexible and excellent bend recovery, high abrasion resistance, water absorption up to max. 3 %.

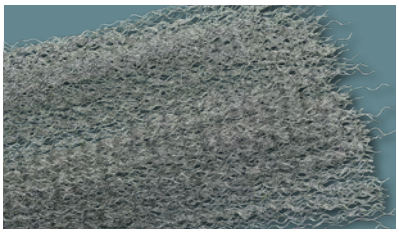
- Polyester (PBT),
  Ø 0.08 – 3 mm, black, white, transparent.
  Lower water absorption than PA 6.12, very good bend recovery, good chemical resistance.

Wires:
- Steel wire



Good mechanical properties, good wear resistance, temperature resistance (up to approx. 300 °C).
Suitable for deburring, derusting, roughening and paint removal.

- Stainless steel wire



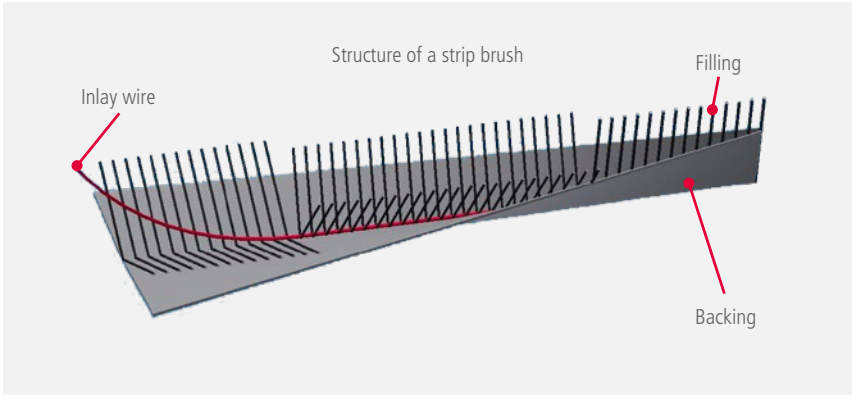
Usable in high-temperature range (up to approx. 400 °C), corrosion-resistant.

- Brass wire



Softer, therefore very suitable for working on soft woods and sensitive metal surfaces, temperature resistant (up to approx. 200 °C).



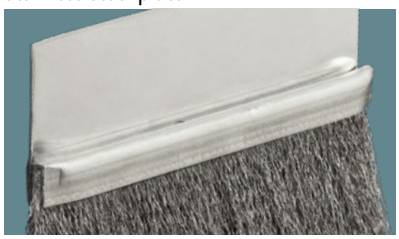


Standard backing
The filling materials of strip brushes will be bound in a U-shaped metal strip.

We offer following backings:
- Zinc-plated steel plate



- Stainless steel plate

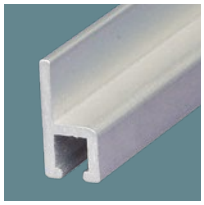


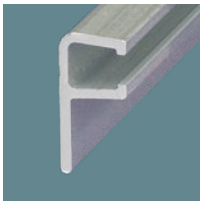
- Brass strip (only for selected brush types, please inquire)



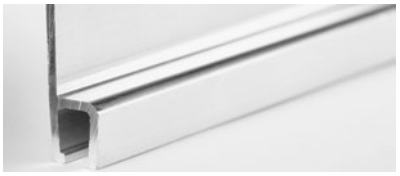
- Other backing materials available on request.

Profiles
In general, we supply our strip brushes in holding profiles made of high-quality, untreated aluminum, both type „h" / A and type „F" / AG.

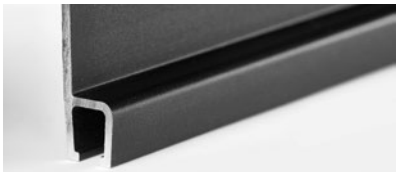

h Profile / Type A


F Profile / Type AG

On request, the profiles are also available with anodizing and colored coatings:
- Silver (C-0)



- Black (C-35)



- Powder coated profiles in different colours

Other natural hair, bristles, fibers, plant fibers, plastic bristles and wires in different variants available on request.

The length of profiles and brushes is limited to max. 3 500 mm due to shipping restrictions.

Ordering information
For all strip brushes, please **always indicate in addition** to the article number
- the desired trim height (BH)
- the total length (GL)

We will automatically select the optimum filament diameter for you based on the fill height.
The given article numbers always refer to a brush without a frame coating.
For all other versions, please use the inquiry form on pages 177/178.

You can also find our **enquiry forms** in the respective category at:
www.lessmann.com/en/Products

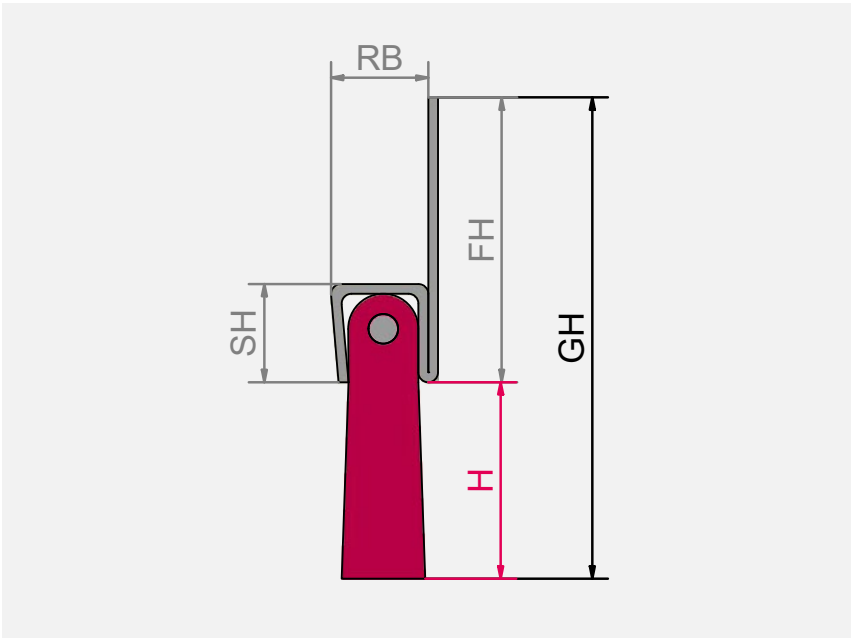
Sealing brushes straight fittings



Sealing brushes straight						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	Filament Ø
	mm	mm	mm	mm	mm	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	mm
FH 17	6	7	17	8 – 19	max. 36	*220.353.10*	*230.453.10*	*220.353.00*	*230.453.00*	*220.323.00*	*230.423.00*	0.15
				20 – 39	max. 56					*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	*221.353.10*	*231.453.10*	*221.353.00*	*231.453.00*	*221.323.00*	*231.423.00*	0.15
				20 – 39	max. 61					*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	*222.353.10*	*232.453.10*	*222.353.00*	*232.453.00*	*222.323.00*	*232.423.00*	0.15
				20 – 39	max. 64					*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	*223.353.10*	*233.453.10*	*223.353.00*	*233.453.00*	*223.323.00*	*233.423.00*	0.15
				20 – 39	max. 69					*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	*224.353.10*	*234.453.10*	*224.353.00*	*234.453.00*	*224.323.00*	*234.423.00*	0.15
				20 – 39	max. 79					*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 demand**	*on demand**	–
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 demand**	*on demand**	–

* additional over-shearing of the bristles possible on request.





Ordering information
For all strip brushes, please **always indicate in addition** to the article number
- the desired trim height (H)
- the total length (GL)

We will automatically select the optimum filament diameter for you based on the fill height.
The given article numbers always refer to a brush without a frame coating.
For all other versions, please use the inquiry form on page 177.

For *items printed in italics* consider our minimum order value (see page 184).

PA	= Polyamide
ROS	= Horse hair (mixed with 30% Polyethylene)
STV	= Zinc-plated steel
ROF	= Stainless steel

Sealing brushes straight
We offer sealing brushes in different sizes as well as different backing width and length of the legs. The sealing brushes can be mounted directly. Depending on the brush application we offer different filling materials.

On request we can produce the profiles with perforation or/and notches at the profile legs.

The brushes type „FH 40/D" and „FH 50/D" are produced with a thicker metal sheet and are therefore much more stable and resistant than the standard types.

Sealing brushes angled fittings

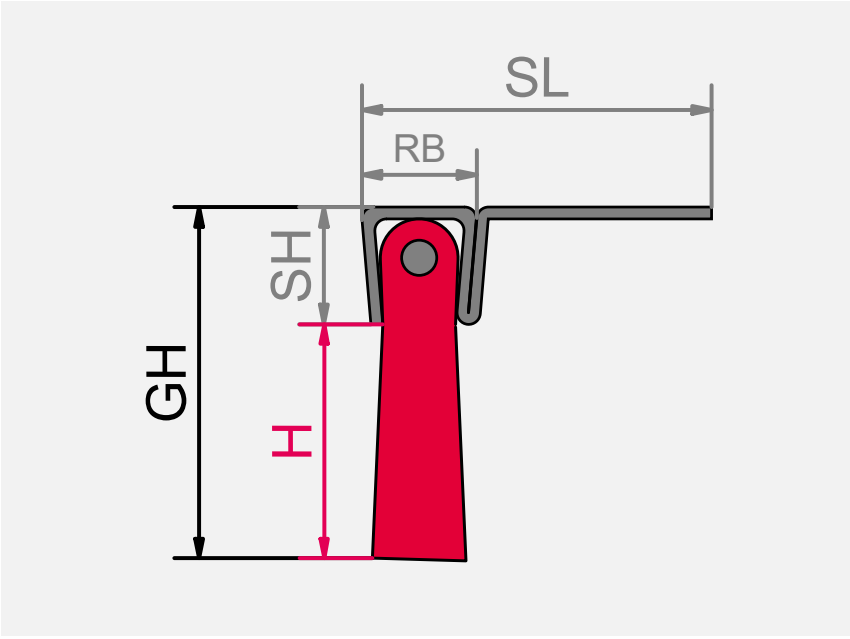




Sealing brushes angled						ROS grey		ROS black		PA 6.6 black		
Type	RB	SH	SL	H	GH	Backing STV	Backing ROF	Backing STV	Backing ROF	Backing STV	Backing ROF	Filament Ø
	mm	mm	mm	mm	mm	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	mm
SL 16	6	7	16	8–19	max. 26	*240.353.10*	*250.453.10*	*240.353.00*	*250.453.00*	*240.323.00*	*250.423.00*	0.15
				20–39	max. 46					*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	*241.353.10*	*251.453.10*	*241.353.00*	*251.453.00*	*241.323.00*	*251.423.00*	0.15
				20–39	max. 46					*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	*242.353.10*	*252.453.10*	*242.353.00*	*252.453.00*	*242.323.00*	*252.423.00*	0.15
				20–39	max. 46					*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	*243.353.10*	*253.453.10*	*243.353.00*	*253.453.00*	*243.323.00*	*253.423.00*	0.15
				20–39	max. 46					*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	*244.353.10*	*254.453.10*	*244.353.00*	*254.453.00*	*244.323.00*	*254.423.00*	0.15
				20–39	max. 46					*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	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 demand**	*on demand**	–
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 demand**	*on demand**	–

* additional over-shearing of the bristles possible on request.





Ordering information
For all strip brushes, please **always indicate in addition** to the article number
- the desired trim height (H)
- the total length (GL)

We will automatically select the optimum filament diameter for you based on the fill height.
The given article numbers always refer to a brush without a frame coating.
For all other versions, please use the inquiry form on page 177.

For *items printed in italics* consider our minimum order value (see page 184).

PA	= Polyamide
ROS	= Horse hair (mixed with 30% Polyethylene)
STV	= Zinc-plated steel
ROF	= Stainless steel

Sealing brushes angled
We offer sealing brushes in different sizes as well as different backing width and length of the legs. The sealing brushes can be mounted directly. Depending on the brush application we offer different filling materials.

On request we can produce the profiles with perforation or/and notches at the profile legs.

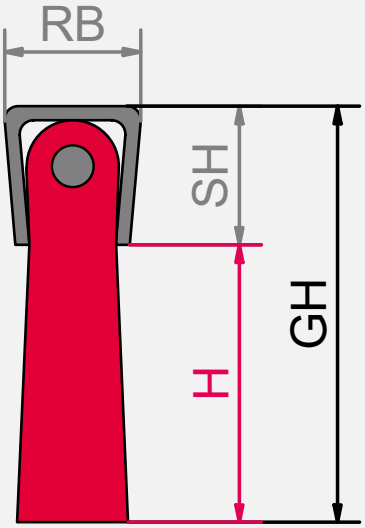
The brushes type „SL 39/D" and „SL 49/D" are produced with a thicker metal sheet and are therefore much more stable and resistant than the standard types.

Strip brushes for slots / profiles



Strip brushes for slots / profiles					ROS grey		ROS black		PA 6.6 black		
Type	RB	SH	H	GH	Backing STV	Backing ROF	Backing STV	Backing ROF	Backing STV	Backing ROF	Filament Ø
	mm	mm	mm	mm	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	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
3	2.8–3.2	2.8–3.0	8–19	max. 22	*202.853.10*	*212.753.10*	*202.853.00*	*212.753.00*	*202.821.00*	*212.721.00*	0.10
			20–39	max. 42					*202.823.00*	*212.723.00*	0.15
			40–60	max. 63					*202.825.00*	*212.725.00*	0.20
3.5	3.3–3.7	3.8–4.2	8–19	max. 23	*203.853.10*	*213.753.10*	*203.853.00*	*213.753.00*	*203.821.00*	*213.721.00*	0.10
			20–39	max. 43					*203.823.00*	*213.723.00*	0.15
			40–65	max. 69					*203.825.00*	*213.725.00*	0.20
4	3.7–4.2	3.8–4.2	6–19	max. 23	*204.853.10*	*214.753.10*	*204.853.00*	*214.753.00*	*204.823.00*	*214.723.00*	0.15
			20–39	max. 43					*204.826.00*	*214.726.00*	0.25
			40–60	max. 64					*204.827.00*	*214.727.00*	0.30
4.5	4.4–4.6	4.8–5.2	6–24	max. 29	*20J.153.10*	*21J.253.10*	*20J.153.00*	*21J.253.00*	*20J.123.00*	*21J.223.00*	0.15
			25–59	max. 64					*20J.126.00*	*21J.226.00*	0.25
			60–90	max. 95					*20J.127.00*	*21J.227.00*	0.30
5	4.7–5.2	5.0–5.3	6–24	max. 29	*206.153.10*	*216.253.10*	*206.153.00*	*216.253.00*	*206.123.00*	*216.223.00*	0.15
			25–59	max. 64					*206.126.00*	*216.226.00*	0.25
			60–90	max. 95					*206.127.00*	*216.227.00*	0.30
8	7.5–8.3	8.9–9.5	30–100	max. 110	*207.A53.10*	*217.B53.10*	*207.A53.00*	*217.B53.00*	*207.A29.00*	*217.B29.00*	0.40
			101–300	max. 310					*207.A2E.00*	*217.B2E.00*	0.60
			301–550	max. 560					*207.A2J.00*	*217.B2J.00*	0.80
10	9.7–10.5	9.9–10.5	30–100	max. 110	*208.A53.10*	*218.B53.10*	*208.A53.00*	*218.B53.00*	*208.A29.00*	*218.B29.00*	0.40
			101–300	max. 310					*208.A2E.00*	*218.B2E.00*	0.60
			301–550	max. 560					*208.A2J.00*	*218.B2J.00*	0.80





Strip brushes for slots / profiles
We offer strip brushes in different sizes as well as different backing width and length of the legs. Depending on the brush application we offer different filling materials.

The mentioned dimensions vary due to the density, the thickness and the selection of the trim material. Upon request, all brushes can be adapted to existing profiles.

Ordering information
For all strip brushes, please **always indicate in addition** to the article number
- the desired trim height (H)
- the total length (GL)

We will automatically select the optimum filament diameter for you based on the fill height.
The given article numbers always refer to a brush without a frame coating.
For all other versions, please use the inquiry form on page 177.

For *items printed in italics* consider our minimum order value (see page 184).

PA	= Polyamide
ROS	= Horse hair (mixed with 30% Polyethylene)
STV	= Zinc-plated steel
ROF	= Stainless steel

Strip brushes in aluminum profile

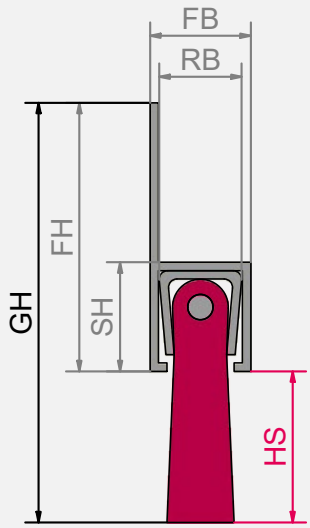


Strip brushes in aluminum profile								ROS grey		ROS black		PA 6.6 black		
Brush type	Profile type	SH	SL	FB	FH	H	GH	Backing STV	Backing ROF	Backing STV	Backing ROF	Backing STV	Backing ROF	Filament Ø
		mm	mm	mm	mm	mm	mm	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	mm
2.5	13.5 A	4.0	–	4.4	13.5	4–47	max. 61	*261.C53.10*	*271.D53.10*	*261.C53.00*	*271.D53.00*	*261.C23.00*	*271.D23.00*	0.15
4	15 A	7.0	–	7.3	15	3–16	max. 31	*264.853.10*	*274.753.10*	*264.853.00*	*274.753.00*	*264.823.00*	*274.723.00*	0.15
						17–36	max. 51					*264.826.00*	*274.726.00*	0.25
						37–57	max. 72					*264.827.00*	*274.727.00*	0.30
	16 AG	–	16.0	7.3	7.0	3–16	max. 23	*265.853.10*	*275.753.10*	*265.853.00*	*275.753.00*	*265.823.00*	*275.723.00*	0.15
						17–36	max. 43					*265.826.00*	*275.726.00*	0.25
						37–57	max. 64					*265.827.00*	*275.727.00*	0.30
5	17 A	9.2	–	8.8	17	3–21	max. 38	*266.153.10*	*276.253.10*	*266.153.00*	*276.253.00*	*266.123.00*	*276.223.00*	0.15
						22–56	max. 73					*266.126.00*	*276.226.00*	0.25
						57–87	max. 104					*266.127.00*	*276.227.00*	0.30
	25 A	9.2	–	8.8	25	3–21	max. 46	*262.153.10*	*272.253.10*	*262.153.00*	*272.253.00*	*262.123.00*	*272.223.00*	0.15
						22–56	max. 81					*262.126.00*	*272.226.00*	0.25
						57–87	max. 112					*262.127.00*	*272.227.00*	0.30
	40/5 A	9.2	–	8.8	40	3–21	max. 61	*269.153.10*	*279.253.10*	*269.153.00*	*279.253.00*	*269.123.00*	*279.223.00*	0.15
						22–56	max. 96					*269.126.00*	*279.226.00*	0.25
						57–87	max. 127					*269.127.00*	*279.227.00*	0.30
	18 AG	–	18	8.5	8.5	3–21	max. 30	*260.153.10*	*270.253.10*	*260.153.00*	*270.253.00*	*260.123.00*	*270.223.00*	0.15
						22–56	max. 65					*260.126.00*	*270.226.00*	0.25
						57–87	max. 96					*260.127.00*	*270.227.00*	0.30
	25 AG	–	25	8.5	8.5	3–21	max. 30	*263.153.10*	*273.253.10*	*263.153.00*	*273.253.00*	*263.123.00*	*273.223.00*	0.15
						22–56	max. 65					*263.126.00*	*273.226.00*	0.25
						57–87	max. 96					*263.127.00*	*273.227.00*	0.30
8	40/8 A	13.5	–	12.5	40	27–97	max. 137	*267.A53.10*	*277.B53.10*	*267.A53.00*	*277.B53.00*	*267.A29.00*	*277.B29.00*	0.40
						98–297	max. 337					*267.A2E.00*	*277.B2E.00*	0.60
						298–547	max. 587					*267.A2J.00*	*277.B2J.00*	0.80
	40/8 AG	–	40	12.5	13.5	27–97	max. 111	*268.A53.10*	*278.B53.10*	*268.A53.00*	*278.B53.00*	*268.A29.00*	*278.B29.00*	0.40
						98–297	max. 311					*268.A2E.00*	*278.B2E.00*	0.60
						298–547	max. 561					*268.A2J.00*	*278.B2J.00*	0.80

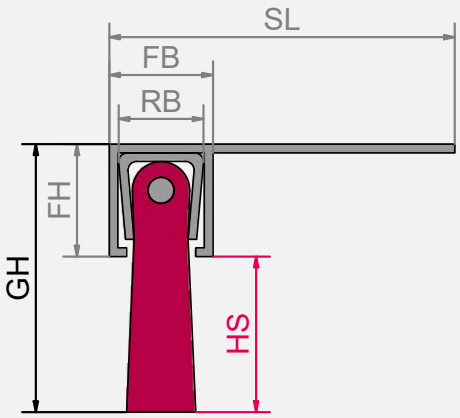




h-profile / Type A



F-profile / Type AG



Profiles
We supply h- and F-profiles made of aluminum for strip brushes. On request we can produce the profiles with perforation or/and notches at the profile legs as well as cut them on requested measurement. Anodized and powder coated profiles are also available in different colors upon request.

Standard lenghts of the profiles:
1 000 mm, 1 100 mm, 1 200 mm, 1 300 mm, 2 000 mm, 2 500 mm, 3 000 mm.

For *items printed in italics* consider our minimum order value (see page 184).

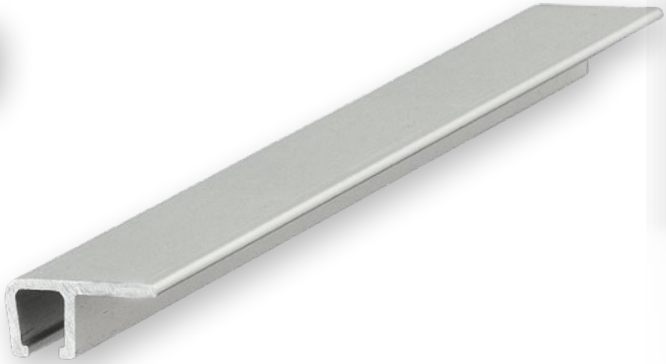
PA	= Polyamide
ROS	= Horse hair (mixed with 30% Polyethylene)
STV	= Zinc-plated steel
ROF	= Stainless steel

Ordering information
For all strip brushes, please **always indicate in addition** to the article number
- the desired trim height (H)
- the total length (GL)

We will automatically select the optimum filament diameter for you based on the fill height.
The given article numbers always refer to a brush without a frame coating.
For all other versions, please use the inquiry form on page 177.

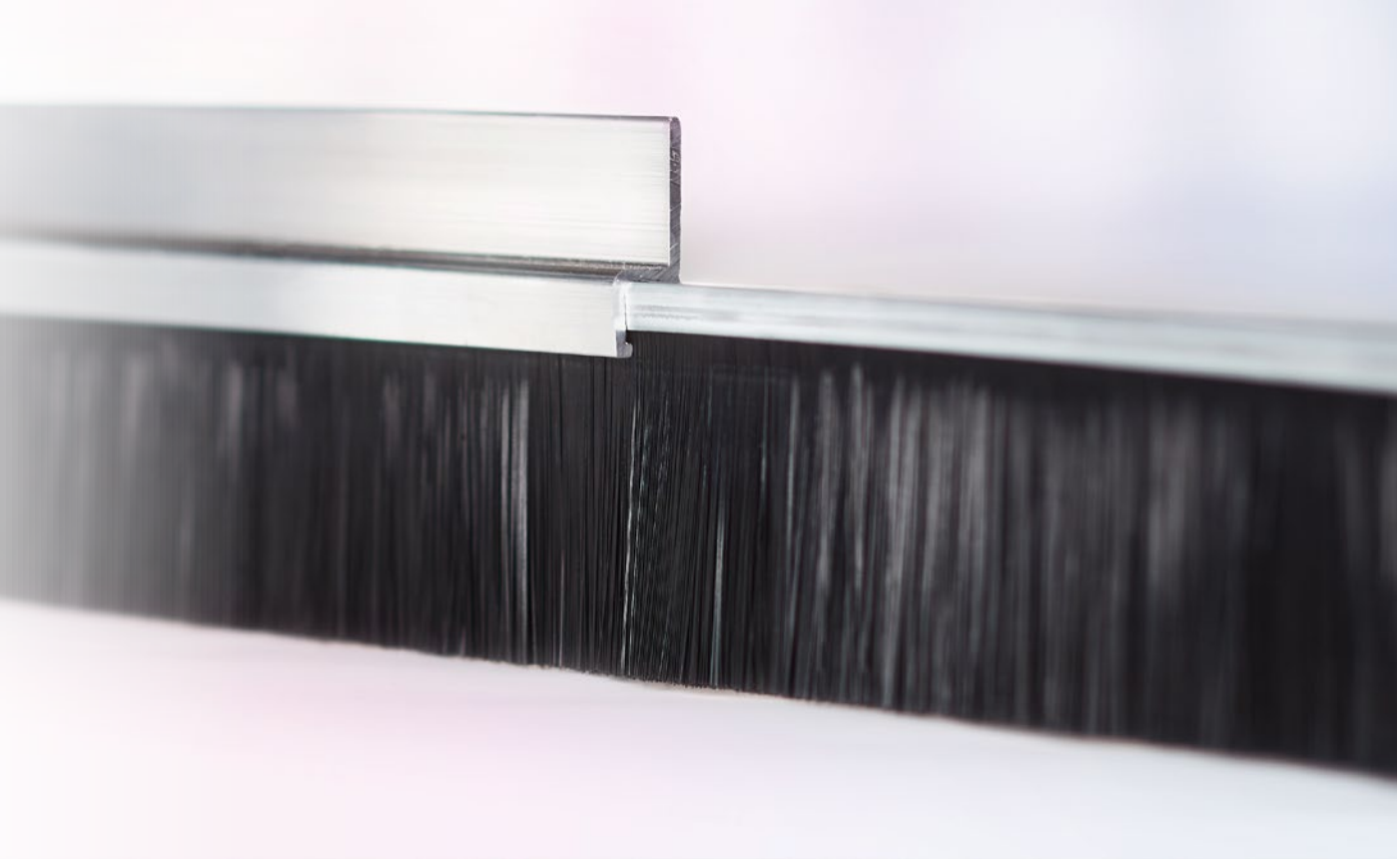
Aluminum profiles

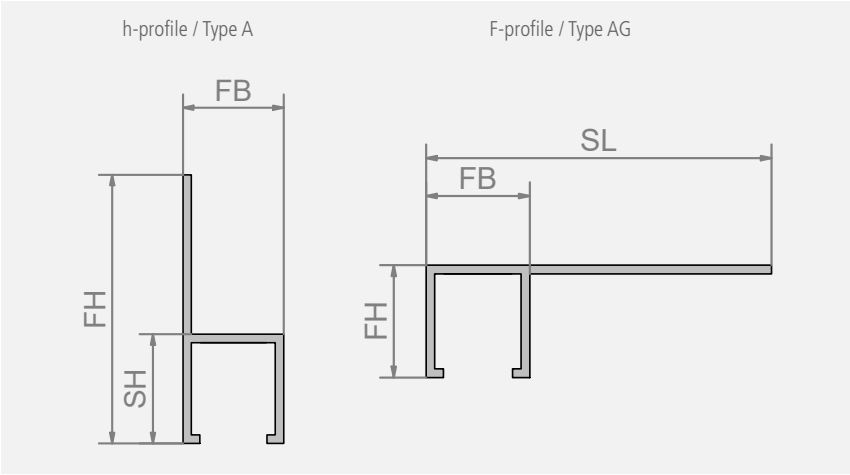




Aluminum profiles (without brushes)

Profile type	Fitting for brush type	FB	SL	FH	Backing blank
		mm	mm	mm	Art.-Nr.
13,5 A	2,5	4,4		13,5	*2Z0.000.00*
15 A	4	7,3		15	*2Z1.000.00*
16 AG	5	7,3	16	7,0	*2Z2.000.00*
17 A		8,8		17	*2Z3.000.00*
18 AG		8,5	18	8,5	*2Z4.000.00*
25 A		8,8		25	*2Z6.000.00*
25 AG		8,5	25	8,5	*2Z7.000.00*
30 A		10,2		30	*2Z8.000.00*
40/5 A		8,8		40	*2Z9.000.00*
40/8 A	8	12,5		40	*2ZB.000.00*
40/8 AG		12,5	40	13,5	*2ZA.000.00*





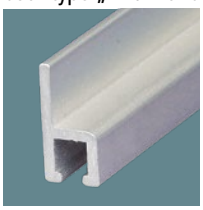
Ordering information
For all profiles, please **always indicate in addition** to the article number
- the total length (GL)

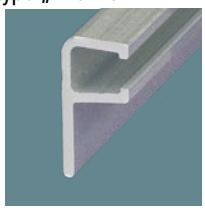
The given article numbers always refer to a profile without a frame coating.
For all other versions, please use the inquiry form on page 177.

Profiles
We supply h- and F-profiles made of aluminum for strip brushes. On request we can produce the profiles with perforation or/and notches at the profile legs as well as cut them on requested measurement. Anodized and powder coated profiles are also available in different colors upon request.

Standard lenghts of the profiles:
1 000 mm, 1 100 mm, 1 200 mm, 1 300 mm, 2 000 mm, 2 500 mm, 3 000 mm.

In general, we supply our holding profiles made of high-quality, untreated aluminum, both type „h" / A and type „F" / AG.

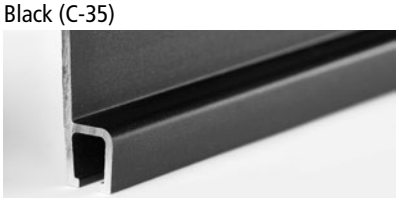

h Profile / Type A


F Profile / Type AG

On request, the profiles are also available with anodizing and colored coatings:
- Silver (C-0)



- Black (C-35)



- Powder coated profiles in different colours

Shaped strip brushes, filling facing outwards



Shaped strip brushes. filling facing outwards							ROS black or grey		PA 6.6 black		
Type	RB	SH	DI	DA	H	GH	Backing STV	Backing ROF	Backing STV	Backing ROF	Filament Ø
	mm	mm	mm	mm	mm	mm	Art. No.	Art. No.	Art. No.	Art. No.	mm
2.5	2.4–2.7	2.7–2.9	6–80	26–186	7–50	max. 53	*on demand*	*on demand*	*on demand*	*on demand*	0.15
3	2.8–3.2	2.8–3.0	12–80	34–206	8–19	max. 22	*on demand*	*on demand*	*on demand*	*on demand*	0.10
					20–39	max. 42			*on demand*	*on demand*	0.15
					40–60	max. 63			*on demand*	*on demand*	0.20
4	3.7–4.2	3.8–4.2	20–140	40–266	6–19	max. 23	*on demand*	*on demand*	*on demand*	*on demand*	0.15
					20–39	max. 43			*on demand*	*on demand*	0.25
					40–60	max. 64			*on demand*	*on demand*	0.30
5	4.7–5.2	5.0–5.3	25–140	47–326	6–24	max. 29	*on demand*	*on demand*	*on demand*	*on demand*	0.15
					25–59	max. 64			*on demand*	*on demand*	0.25
					60–90	max. 95			*on demand*	*on demand*	0.30
8	7.5–8.3	8.9–9.5	80–320	160–1000	30–100	max. 110	*on demand*	*on demand*	*on demand*	*on demand*	0.40
					101–300	max. 310			*on demand*	*on demand*	0.60
						max. 560			*on demand*	*on demand*	0.80

Special shaped strip brushes
Special shaped strip brushes complement our assortment of classic strip brushes.

Spiral or ring shaped brushes are available with outward or inward facing filament.

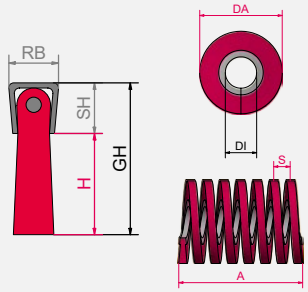
Strip brushes with **filling facing outward** can be used for cleaning, polishing, for applying liquids, for gentle transport and for deburring.

We offer strip brushes in different sizes and backing width and height. Depending on the individual application we offer different filling materials.

Ordering information
For all shaped strip brushes, please **always indicate in addition** to the article number
- the desired trim height (H)
- inner & outer diameter
- work width

Please use the inquiry form on page 178.

We will automatically select the optimum filament diameter for you based on the fill height.

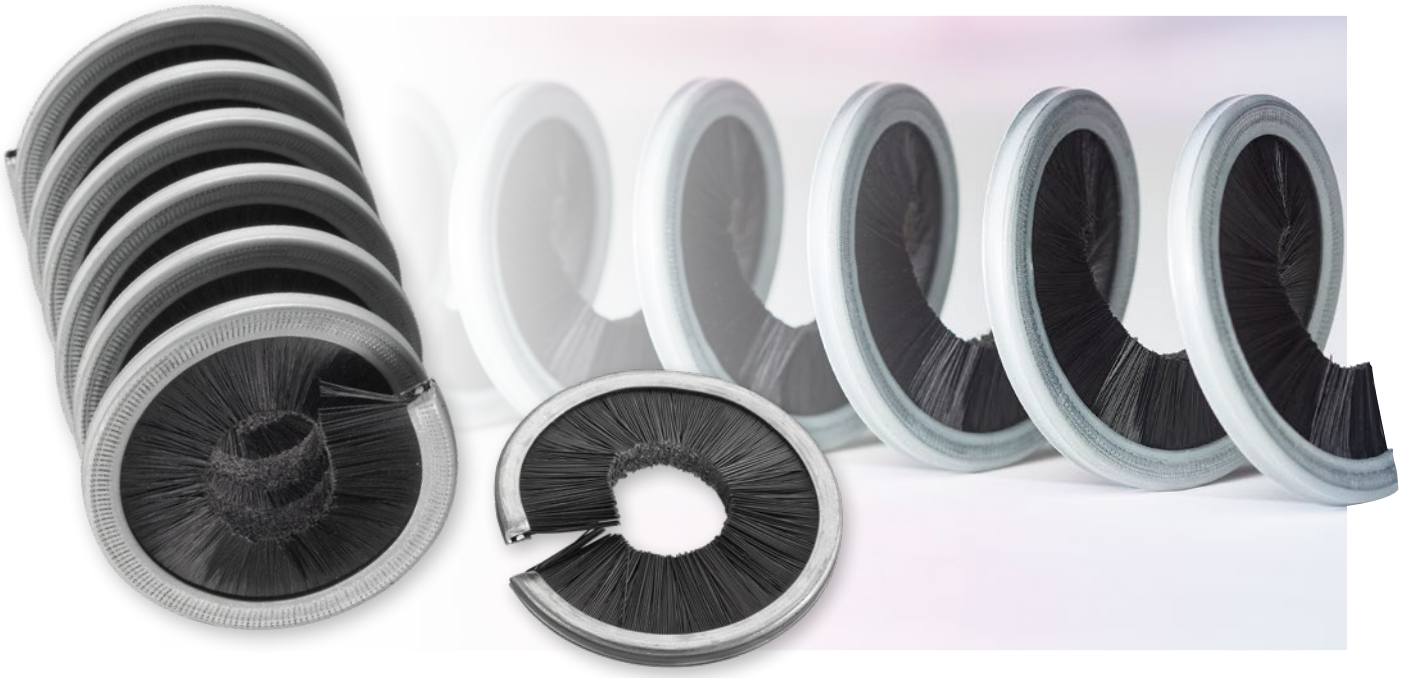


Shaped strip brushes, filling facing outwards

For *items printed in italics* consider our minimum order value (see page 184).

PA = Polyamide
ROS = Horse hair (mixed with 30% Polyethylene)
STV = Zinc-plated steel
ROF = Stainless steel

Shaped strip brushes, filling facing inwards



Shaped strip brushes. filling facing inwards							ROS black or grey		PA 6.6 black		
Typ	RB	SH	DI	DA	H	GH	Backing STV	Backing ROF	Backing STV	Backing ROF	Filament Ø
	mm	mm	mm	mm	mm	mm	Art. No.	Art. No.	Art. No.	Art. No.	mm
2.5	2.4–2.7	2.7–2.9	0–240	20–260	7–50	max. 53	*on demand*	*on demand*	*on demand*	*on demand*	0.15
					8–19	max. 22			*on demand*	*on demand*	0.10
3	2.8–3.2	2.8–3.0	0–260	22–290	20–39	max. 42	*on demand*	*on demand*	*on demand*	*on demand*	0.15
					40–60	max. 63			*on demand*	*on demand*	0.20
					6–19	max. 23			*on demand*	*on demand*	0.15
4	3.7–4.2	3.8–4.2	0–320	20–340	20–39	max. 43	*on demand*	*on demand*	*on demand*	*on demand*	0.25
					40–60	max. 64			*on demand*	*on demand*	0.30
					6–24	max. 29			*on demand*	*on demand*	0.15
5	4.7–5.2	5.0–5.3	0–320	22–345	25–59	max. 64	*on demand*	*on demand*	*on demand*	*on demand*	0.25
					60–90	max. 95			*on demand*	*on demand*	0.30
					30–100	max. 110			*on demand*	*on demand*	0.40
8	7.5–8.3	8.9–9.5	0–420	80–500	101–300	max. 310	*on demand*	*on demand*	*on demand*	*on demand*	0.60
					301–550	max. 560			*on demand*	*on demand*	0.80

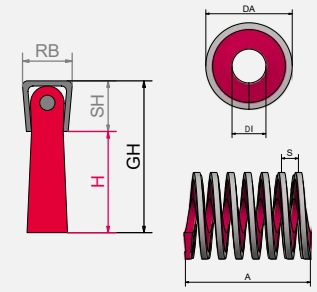
Strip brushes with **filling facing inwards** can be used for sealing, cleaning and carrying cylindrical parts in mechanical engineering, tool manufacturing and vehicle construction.

We offer strip brushes in different sizes and backing width and height. Depending on the individual application we offer different filling materials.

Ordering information
For all shaped strip brushes, please **always indicate in addition** to the article number
- the desired trim height (H)
- inner & outer diameter
- work width

Please use the inquiry form on page 178.

We will automatically select the optimum filament diameter for you based on the fill height.



Shaped strip brushes, filling facing inwards

For *items printed in italics* consider our minimum order value (see page 184).

PA = Polyamide
ROS = Horse hair (mixed with 30% Polyethylene)
STV = Zinc-plated steel
ROF = Stainless steel

Cup shaped strip brushes



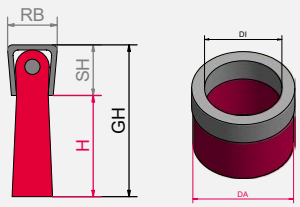
Cup shaped strip brushes						ROS black or grey		PA 6.6 black		
Type	RB	SH	DI/DA	H	GH	Backing STV	Backing ROF	Backing STV	Backing ROF	Filament Ø
	mm	mm	mm	mm	mm	Art. No.	Art. No.	Art. No.	Art. No.	mm
2.5	2.4–2.7	2.7–2.9	14–120	7–50	max. 53	*on demand*	*on demand*	*on demand*	*on demand*	0.15
3	2.8–3.2	2.8–3.0	15–130	8–19	max. 22	*on demand*	*on demand*	*on demand*	*on demand*	0.10
				20–39	max. 42			*on demand*	*on demand*	0.15
				40–60	max. 63			*on demand*	*on demand*	0.20
4	3.7–4.2	3.8–4.2	25–140	6–19	max. 23	*on demand*	*on demand*	*on demand*	*on demand*	0.15
				20–39	max. 43			*on demand*	*on demand*	0.25
				40–60	max. 64			*on demand*	*on demand*	0.30
5	4.7–5.2	5.0–5.3	50–180	6–24	max. 29	*on demand*	*on demand*	*on demand*	*on demand*	0.15
				25–59	max. 64			*on demand*	*on demand*	0.25
				60–90	max. 95			*on demand*	*on demand*	0.30
8	7.5–8.3	8.9–9.5	90–500	30–100	max. 110	*on demand*	*on demand*	*on demand*	*on demand*	0.40
				101–300	max. 310			*on demand*	*on demand*	0.60
				301–550	max. 560			*on demand*	*on demand*	0.80

Cup shaped strip brushes can be used for sealing rotating tools or nozzles, for cleaning, for applying liquids and polishing surfaces.

Ordering information
For all shaped strip brushes, please **always indicate in addition** to the article number
- the desired trim height (H)
- inner & outer diameter

Please use the inquiry form on page 178.

We will automatically select the optimum filament diameter for you based on the fill height.



Cup shaped strip brushes

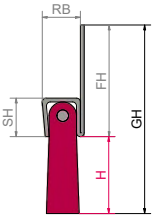
For *items printed in italics* consider our minimum order value (see page 184).

PA = Polyamide
ROS = Horse hair (mixed with 30% Polyethylene)
STV = Zinc-plated steel
ROF = Stainless steel

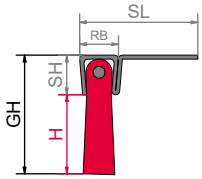
Inquiry for straight strip brushes

Drawing / description of application

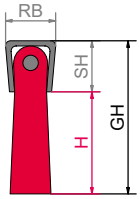
☐ Sealing brushes straight (Type h / FH)



☐ Sealing brushes angled (Type F / SL)



☐ Strip brushes for slots

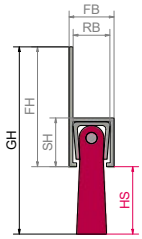


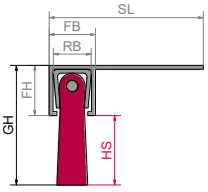
☐ Strip brushes in aluminum slot

☐ Aluminum profile (without brush)

Form/Type of profile

☐ h / A ☐ F / AG





Anodization

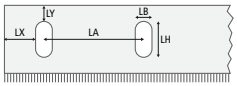
☐ Blank / none

☐ Silver

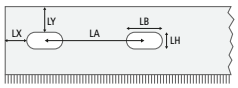
☐ Black

☐ Predefined perforation

☐ vertical



☐ horizontal



Standard perforations	
Round	Slot holes
mm	mm
4,5	4,5 x 14
5,5	4,5 x 18
6,0	5,8 x 20
6,5	6,0 x 20
7,0	7,0 x 12
10,0	7,0 x 15
	9,0 x 15
	9,0 x 20

Sender: Company, contact person

No. of pieces _____

Brush length _____ mm

Application _____ ☐ **dry** ☐ **wet**

- ☐ sealing
- ☐ sloughing
- ☐ cleaning
- ☐ deburring
- ☐ roughening
- ☐ transporting
- ☐ other _____

Material to be treated ____°C Temperature

- ☐ steel
- ☐ aluminum
- ☐ wood
- ☐ stainless steel
- ☐ plastic
- ☐ other _____

Filling material

- ☐ horse hair ☐ mixed with 30% PE ☐ pure
- ☐ Polyamide (PA)
- ☐ Polypropylene (PP)
- ☐ steel
- ☐ brass coated steel
- ☐ brass
- ☐ stainless steel
- ☐ abrasive filament (SIC)
- ☐ abrasive filament (AO)
- ☐ fibre
- ☐ other _____

☐ Diameter for filling material _____ mm

Please indicate the dimensions according to the technical drawing

H filling height _____ mm

RB backing width _____ mm

SH socket height _____ mm

GH total height _____ mm

FH backing height _____ mm

SL socket length _____ mm

LB perforation width _____ mm

LH perforation height _____ mm

LY distance _____ mm
from upper backing edge

LX distance _____ mm
from lateral backing edge

LA hole spacing _____ mm

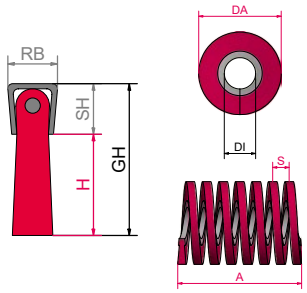
\+ number of holes _____ pcs.

Inquiries and info under: Tel.: +49 9082 707-0 info@lessmann.com
Fax: +49 9082 707-76 www.lessmann.com

Inquiry for shaped strip brushes

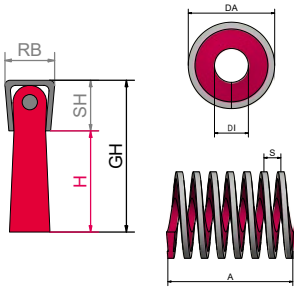
Drawing / description of application

☐ Shaped strip brushes, filling facing outwards



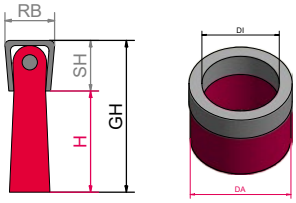
Form
☐ Spiral ☐ Ring

☐ Shaped strip brushes, filling facing inwards



Form
☐ Spiral ☐ Ring

☐ Cup shaped strip brushes



Sender: Company, contact person

No. of pieces _____

Application _____ ☐ **dry** ☐ **wet**

- ☐ sealing
- ☐ sloughing
- ☐ cleaning
- ☐ deburring
- ☐ roughening
- ☐ transporting
- ☐ other _____

Material to be treated ____°C Temperature

- ☐ steel
- ☐ aluminum
- ☐ wood
- ☐ stainless steel
- ☐ plastic
- ☐ other _____

Filling material

- ☐ horse hair ☐ mixed with 30% PE ☐ pure
- ☐ Polyamide (PA)
- ☐ Polypropylene (PP)
- ☐ steel
- ☐ brass coated steel
- ☐ brass
- ☐ stainless steel
- ☐ abrasive filament (SIC)
- ☐ abrasive filament (AO)
- ☐ fibre
- ☐ other _____

☐ Diameter for filling material _____ mm

Please indicate the dimensions according to the technical drawing

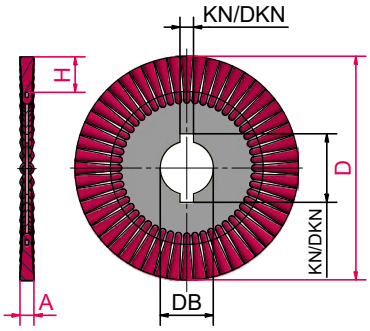
H	filling height	_____	mm
RB	backing width	_____	mm
SH	socket height	_____	mm
GH	total height	_____	mm
FH	backing height	_____	mm
SL	socket length	_____	mm
DI	diameter inner	_____	mm
DA	diameter outer	_____	mm
A	work width	_____	mm
number of windings (spiral brushes)		_____	pcs.
S	pitch (if required)	_____	mm

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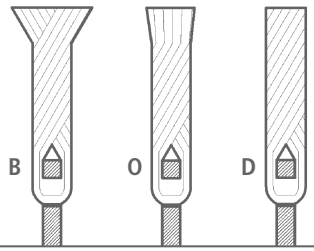
Enquiry for Cutback Brushes

ENQUIRY FORMS

Drawing / description of application



Knot type ZF



Piece number _____

Brush Application ☐ dry ☐ wet

☐ removal of pipe coatings

☐ others _____

Material to be treated ____°C Temperature

☐ steel

☐ stainless steel

☐ others _____

Filling material

☐ steel

☐ brass coated steel

☐ stainless steel

Diameter of filling material:_____

Please indicate the dimensions according to the technical drawing (mm):

D	Diameter _____	mm
DB	bore _____	mm
DKN	double keyway _____	mm
H	trim 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 are cut completely)

Used machine

☐ stationary machine, Type _____

☐ others _____

Machine data

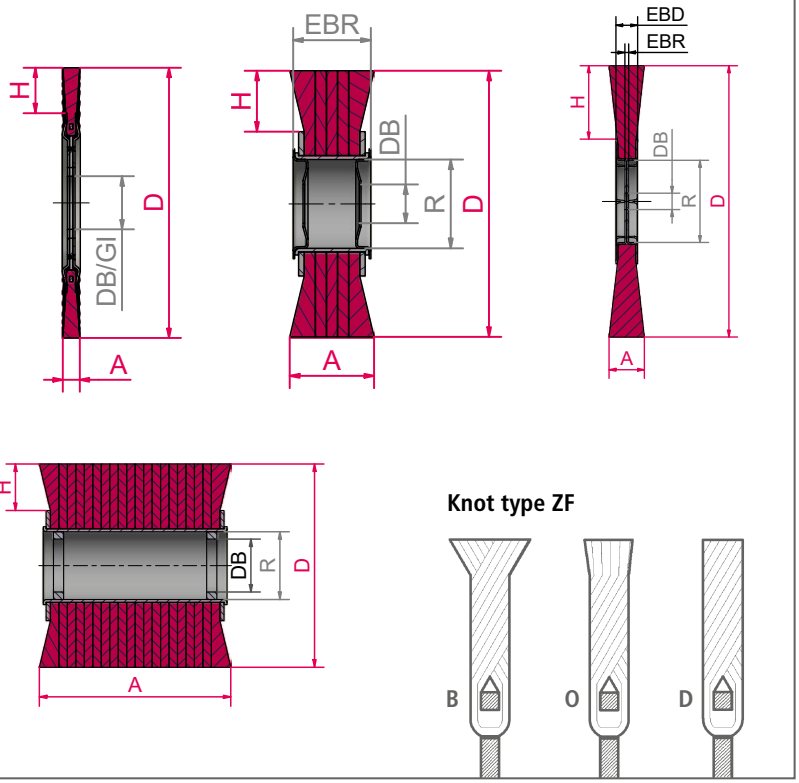
max. speed _____

Sender: Company, contact person

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Enquiry for Wheel and Deburring Brushes

Drawing / description of application



Sender: Company, contact person

Piece number _____

Brush Application ☐ dry ☐ wet

- ☐ derusting
- ☐ removing paint
- ☐ deburring
- ☐ cleaning
- ☐ roughening / structuring
- ☐ weld dressing
- ☐ others _____

Material to be treated _____°C Temperature

- ☐ steel
- ☐ aluminium
- ☐ wood
- ☐ stainless steel
- ☐ plastic
- ☐ others _____

Filling material

- ☐ crimped ☐ knotted
- ☐ steel
- ☐ brass coated steel
- ☐ brass
- ☐ stainless steel
- ☐ polyamide
- ☐ silicon carbide bristles (SIC)
- ☐ aluminium oxide bristles (AO)

Diameter of filling material _____

Please indicate the dimensions according to the technical drawing (mm):

D Diameter _____ mm

DB bore/thread _____ mm

H trim height _____ mm

A working width _____ mm

R tube _____ mm

EBR clamping width _____ mm

Knot type if necessary (more aggressive execution)

- ☐ B Rose Bud
- ☐ O open Knot (wire ends are cut)
- ☐ D Fully knotted (wire ends are cut completely)

Used machine

- ☐ Hand-operated machine (e.g. angle grinders) _____
- ☐ stationary machine (z.B. CNC) _____
- ☐ others _____

Machine data

max. speed _____

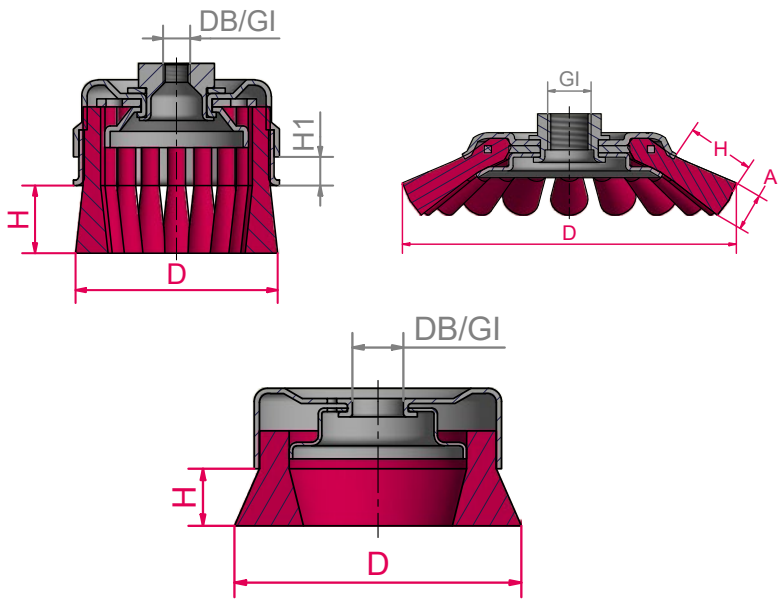
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Enquiry for Cup and Bevel Brushes

Drawing / description of application



Sender: Company, contact person

Piece number _____

Brush Application ☐ dry ☐ wet

- ☐ derusting
- ☐ removing paint
- ☐ deburring
- ☐ cleaning
- ☐ weld dressing
- ☐ others _____

Material to be treated ____°C Temperature

- ☐ steel
- ☐ aluminium
- ☐ stainless steel
- ☐ others _____

Filling material

- ☐ crimped ☐ knotted
- ☐ steel
- ☐ brass coated steel
- ☐ brass
- ☐ stainless steel
- ☐ silicon carbide bristles (SIC)

Diameter of filling material _____

Please indicate the dimensions according to the technical drawing (mm):

D	Diameter	_____	mm
DB/GI	bore/thread	_____	mm
H	trim height	_____	mm
A	working width	_____	mm
H1	Height of support cuff	_____	mm

Used machine

- ☐ hand-operated machine (e.g. angle grinders)_____
- ☐ stationary machine (z.B. CNC)_____
- ☐ others _____

Machine data

max. speed _____

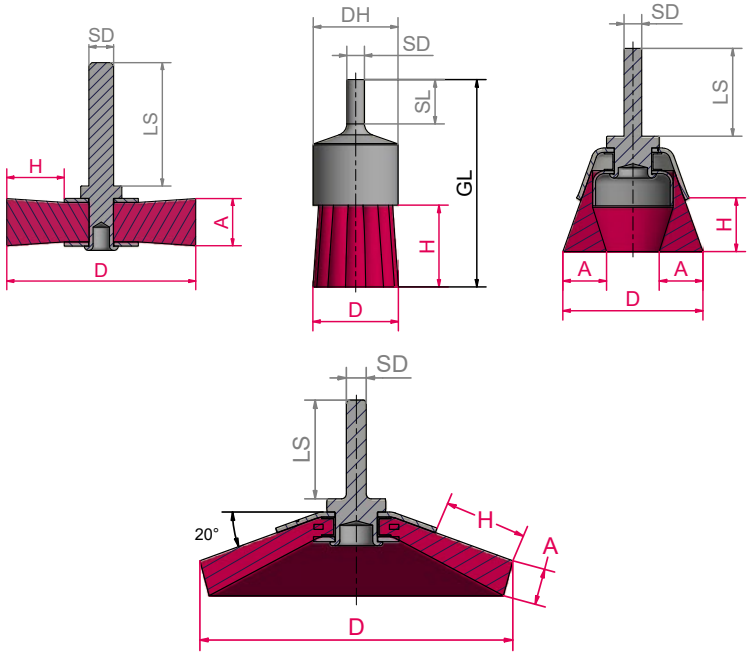
max. brush height _____ mm

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Enquiry for Brushes with Shank

Drawing / description of application



Sender: Company, contact person

Piece number _____

Brush Application ☐ dry ☐ wet

- ☐ derusting
- ☐ removing paint
- ☐ deburring
- ☐ cleaning
- ☐ roughening / structuring
- ☐ weld dressing
- ☐ others _____

Material to be treated ____°C Temperature

- ☐ steel
- ☐ aluminium
- ☐ wood
- ☐ stainless steel
- ☐ plastic
- ☐ others _____

Filling material

- ☐ crimped ☐ knotted
- ☐ steel
- ☐ brass coated steel
- ☐ brass
- ☐ stainless steel
- ☐ polyamide
- ☐ silicon carbide bristles (SIC)

Diameter of filling material _____

Please indicate the dimensions according to the technical drawing (mm): (shank standard 6 mm)

D	Diameter	_____	mm
H	trim hight	_____	mm
A	working width	_____	mm
GL	overall length	_____	mm
DH	Housing diameter	_____	mm

Used machine

- ☐ hand-operated machine (e.g. angle grinders)_____
- ☐ stationary machine (z.B. CNC)_____
- ☐ others _____

machine data

max. speed _____

Inquiries and Infos:
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Enquiry for Interior Brushes

ENQUIRY FORMS

Drawing / description of application

Piece number _____

Brush Application ☐ dry ☐ wet

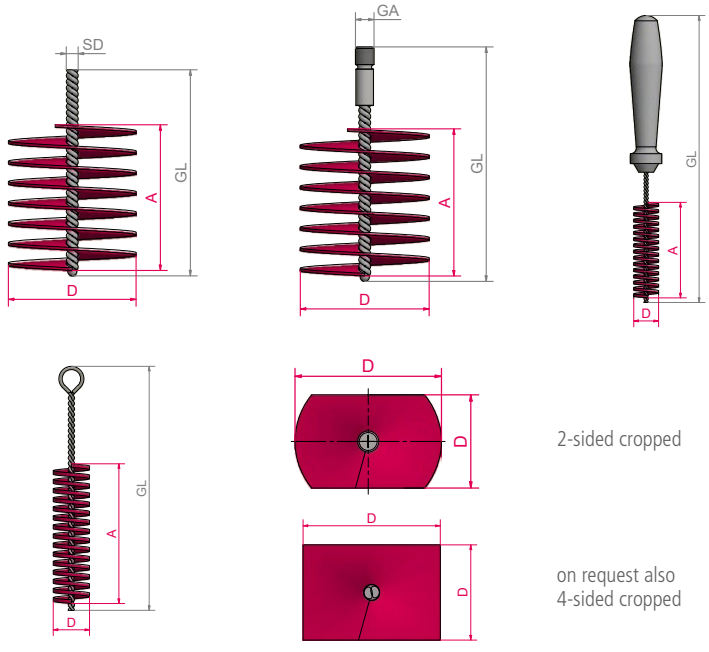
- ☐ derusting
- ☐ deburring
- ☐ cleaning
- ☐ others _____

Material to be treated ____°C Temperature

- ☐ steel
- ☐ aluminium
- ☐ stainless steel
- ☐ plastic
- ☐ others _____

Filling material

- ☐ steel
- ☐ brass coated steel
- ☐ brass
- ☐ stainless steel
- ☐ polyamide
- ☐ silicon carbide bristles (SIC)
- ☐ aluminium oxide bristles (AO)
- ☐ others _____



Diameter of filling material _____

Please indicate the dimensions according to the technical drawing (mm):

D Diameter _____ mm

SD core wire _____ mm

A working width _____ mm

GL overall length _____ mm

Commitment

- ☐ manually
- ☐ machine _____

Brush mount

- ☐ shank _____ mm
- ☐ thread _____

Sender: Company, contact person

Inquiries and Infos:
Phone: +49 9082 707-0 info@lessmann.com
Fax: +49 9082 707-76 www.lessmann.com

General Conditions of Sale and Delivery

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 abovementioned 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
(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. Where quantities are indicated as "circa", we may exceed or fall below the agreed quantity up to 10 %.

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 nor-

mes, 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 guaranties, 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 tortuous 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 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

In cases of doubt, the German version of these General Conditions of Sale and Delivery shall apply.

Version: September 2023

Minimum order value:
For stock articles (**bold printed** articles):
net € 100.00

For special production and *italic printed* articles:
net € 250.00 / article

Extra payment for incomplete packets:
net € 5.00

Delivery costs on request.
Express delivery on extra charge available.

We reserve the right to change the construction and design of the brushes in the course of further technical developments. Information to measurements are approximate and not binding. All measurements are in mm.

The LESSMANN free dimension tolerances apply. Request these if necessary.

Prefer the digital version? You can also find our terms and conditions at **www.lessmann.com/downloads**

Notes

Purchase Order Form

Supplier
Lessmann GmbH
Lucas-Schultes-Str. 2
D-86732 Oettingen

Buyer

.....

.....

.....

.....

Date .....

Customer Number .....

Contact Person .....

Phone .....

E-Mail .....

Order Number: .....

Article Number	Article Name	Quantity	Price	Discount	Date of Delivery

Shipping Address (if different from above):

.....

.....

.....

.....

Billing Address (if different from above):

.....

.....

.....

.....

☐ **Yes, please electronic order confirmation to be sent to: E-Mail** .....

☐ **Yes, please electronic invoice to be sent to: E-Mail** .....

For more information about our brush selection please visit our website www.lessmann.com/en/Products

We hereby accept the current „General Conditions of Sale and Delivery" of Lessmann GmbH as printed in the Lessmann catalogue on page 184 available to us.

Buyer's Signature / Stamp

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