

LESSMANN[®]
THE GERMAN BRUSH COMPANY

CATALOGUE



2019



QUALITY MADE IN GERMANY



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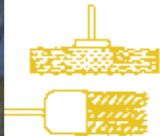
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THE GERMAN BRUSH COMPANY

Dear customers,
dear interested parties,

for more than 70 years, the name LESSMANN stands for a medium-size family business with high-quality surface finishing tools "Made in Germany". We thank our partners and valued customers for their support! Through seven decades of experience we are able to provide you with the highest quality and innovative products. The latest knowledge and ideas are combined in-house and implemented to first-class products for our customers worldwide.

Retailers receive a wide assortment of **standard goods** for fair prices. **Industrial customers** may expect **custom-made products** which agree upon the special demands in their production processes. Permanent product improvements, working with innovative raw materials and being willed to break through technical limits again and again brings us new possibilities to create the best solutions for you.

Therefore we are pleased to present the new catalog of Lessmann this year. Not only the catalog design is updated, we also added more interesting products to our **catalog range**. For example, on page 24 we provide brushes for the cut-back application or on page 64 you will find brushes for low-sparking applications. In addition, all technical drawings have been optically revised and provide you with a better overview of the specified dimensions.

Last year we also invested in our Oettingen site again and expanded capacities, we schedule delivery dates even more precisely and produce and operate even more efficiently.

Steady service, fast response, selected suppliers and a constantly growing know-how of our qualified and committed employees – with these values we also would like to remain your professional partner for technical brushes as "THE GERMAN BRUSH COMPANY".

For the achievements and decisions we stand with our name.

Your

J Lessmann
Jürgen Lessmann

D. Lessmann
Dieter Lessmann



QUALITY, FAIRNESS, RELIABILITY

To do the right things to the right time: the success of our company nowadays is based on contributions and entrepreneurial decisions in the past. This day, we, as a family enterprise in the third generation, are facing new customer demands and market statuses, react flexible and work efficient, to gear our company up for the future!

Quality, Fairness and Reliability are the most important values in the relation to our customers and partners, since Johann LESSMANN and its children Edgar and Traudel founded a small brush factory in Oettingen.

Strict quality management, uncompromising customer orientation and decades of experience make up the foundation of our success. One of the most important strengths are our 240 qualified and motivated employees, who are willing to get into new challenges, react flexible and to bring in their knowledge und competence. That's how we work together to have a mutual success.



**FUTURE-ORIENTED
INVESTMENT**

An important investment into the future is the construction of our new 4,200 sqm production hall in 2013: this step is a visible sign of our stable growth. We set another milestone in 2016 by the enlargement of our high rack storage area. 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.



PEFC Certification System

PEFC is a transparent and independent certification system to ensure sustainable forest management. Due to the regional approach, the system is particularly suitable for all forest owners, especially the family forest enterprises typical in Germany. An inspection is carried out by independent experts and ensures compliance with the standards. Lessmann uses PEFC certified wood, e. g. in hand brushes that come from a regional forest that is managed sustainable or complies with PEFC standards.



PEFC/04-31-0389

Promoting sustainable forest management
www.pefc.de

PERFECT SERVICE FOR 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.



LESSMANN[®]
THE GERMAN BRUSH COMPANY

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 American market.

INDIVIDUAL SOLUTIONS FOR SPECIAL APPLICATIONS

Often technical brushes for very special applications are requested. Devarnishing surfaces or rounding burrs. Each application is different and a standard tool could not be used in each case.

Every day we develop new brushes for industrial demands. In the majority of the cases, the aim of the operator is to increase productivity. Our experienced consultants will help you to make the right choice and to find the appropriate design of the brushes for your individual needs.



"SIMPLY THE BEST" BY TESTING

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 withstand 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.

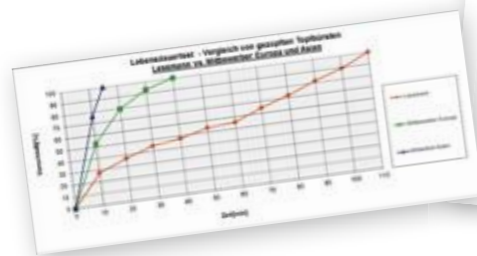
Beside the quality aspect these tests are helpful in optimising materials used, as well as component parts and the construction of brushes. Even if in comparison tests with competitor brushes such testing has shown and proved the high quality of our products:

We keep on testing to guarantee customer satisfaction.



Quality is our feature!

Accredited with DIN EN ISO 9001:2015



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 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. The indicated curves inform you about the expected power. The power ratings refer to a brush with 30 mm width.

Working with Shank Brushes

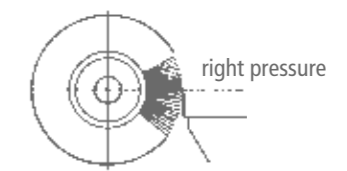
When working with shank brushes please note that the shank has to be inserted fully into the tool.

This is especially necessary when working with high RPM, for example on straight grinders and pneumatic tools.

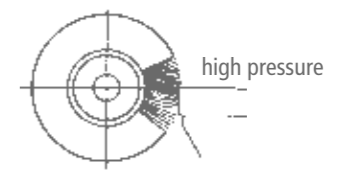
Mechanical Application

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.

Correct

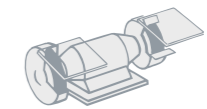


Incorrect



Machine usage:

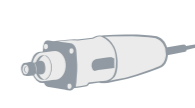
These symbols in the chapters show on which machines the brushes usually are used.



Stationary equipment



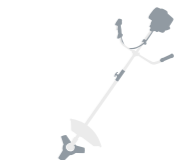
Angle grinder



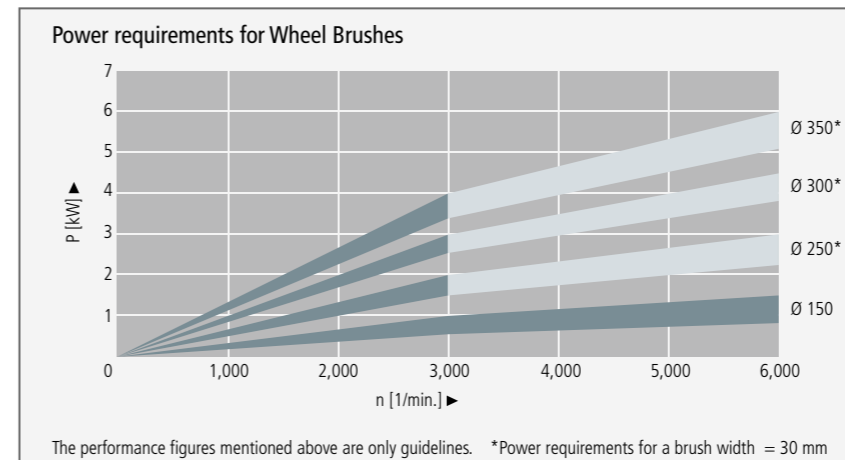
Straight grinder



Drilling machine



Grass trimmer



minimum bore size for wheel brushes according to DIN 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

Recommended use of brushes on angle grinders – the right combination

Common idle speed of angle grinders (WS)	Brush diameter	60	65	75	80	90	100	115	125	150	178	200
Ø 115, 11,000 RPM = WS 1	Knot Wheel Brush						WS 1	WS 1	WS 2	WS 3	WS 4	WS 5
Ø 125, 11,000 RPM = WS 2	Cup Brush, Crimped Wire	WS 2		WS 2	WS 3		WS 3		WS 5	WS 5		
Ø 150, 9,000 RPM = WS 3	Knot Cup Brush without Bridle		WS 1	WS 2	WS 2	WS 2	WS 3/4		WS 5			
Ø 180, 8,500 RPM = WS 4	Knot Cup Brush with Bridle				WS 3/4		WS 3/4		WS 5			
Ø 230, 6,500 RPM = WS 5	Knot Bevel Brush						WS 1					
	Knot Bevel Brush						WS 1	WS 1				

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

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.

Information for brushing on stainless steel materials you find at www.lessmann.com

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

Recommended Peripheral Speed for Brushing Application

Application	Peripheral Speed in m/s							
	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					

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

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

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

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

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 THE 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.



ROF / RO4 / ROL / R08 Stainless Steel Wire

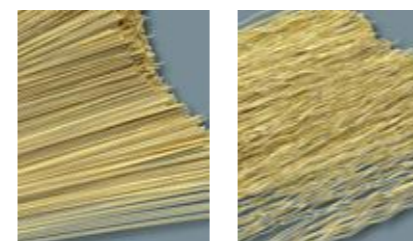
- ROF** must be used when working on stainless steel. Material number (WNR.) 1.4301 (AISI 304). This wire is resistant against corrosion and certain acids and bleaches.
- RO4** Premium-quality stainless steel wire. WNr. 1.4401 (AISI 316)
- R08** High heat resistant stainless steel wire. WNr. 1.4860.
- 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 and a long lifetime even in extreme applications. WNr. 1.4310 (AISI 301)

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



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 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)
• Polyamid (PA) - PA 6, PA 6.6, PA 6.12
• Polyethylen (PE)



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.



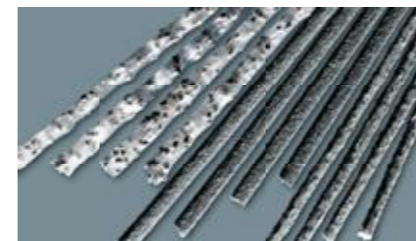
Encapsulated Brushes
Encapsulated brushes are ideal for an aggressive work on working pieces and for a very exact working in edges and angles.
By embedding steel wire, stainless steel wire, brass coated wire or brass wire in tough plastic, the filling width always remains the same and early break of 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.



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%



3 grits in silicon carbid

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

By ordering our standard grit, also with small quantities you receive short delivery times!
The chemical components of nylon please find at www.lessmann.com

Physical Characteristics								
	STA	STH	ROF	ROH	RO4	RO8	STM / STL	MES
WNR.			1.4301	1.4310	1.4401	1.4860		CuZn36 / CuZn37
AlSI			304	301	316			
Tensile Strength in N/mm ² *	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/cm ³	7,85	7,85	7,85	7,85	7,85	7,90	7,85	8,50
Temperature Consistency 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

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.

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.

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.

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.

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

Stainless Steel Brushes

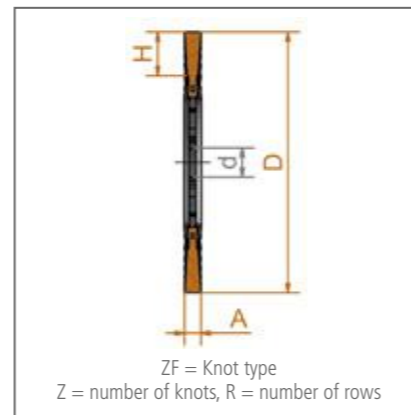
LESSMANN-brushes with stainless steel have green side plates. We use wire with material number 1.4310. Material number 1.4401 can be used on request.

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

User Tip:

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

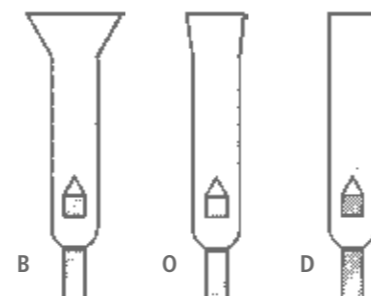
On request other bores and wire diameter are available.



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

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

Knot types ZF



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



Chunky packaging

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



IIIIII
EAN

Knot Wheel Brushes, Steel Wire, Brass Wire

D mm inch	A mm inch	d mm inch	H	Z	ZF	R	RPM max.	Pack.	STH 0.35 0.014"	STH 0.50 0.020"	STH 0.80 0.031"	STM 0,50 0.020"	left-right knotted STH 0.50 0.020"
									Art.-No.	Art.-No.	Art.-No.	Art.-No.	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	472.117*	472.217*		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	473.117*	473.217*		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	475.117*	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		

IIIIII
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"	ROH 0.50 0.020"	left-right knotted ROH 0.50 0.020"
									Art.-No.	Art.-No.	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



IIII
EAN

Knot Wheel Brushes, multiple rows

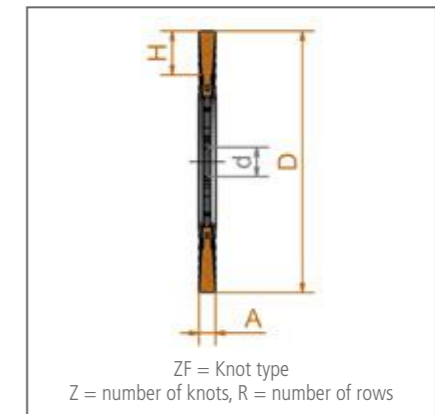
D	A	EB	d Stand	d min	H	ZF	Z x R	RPM	Pack.	STH 0.35	STH 0.50	ROH 0.35	ROH 0.50
mm inch			mm inch					max.		0.014"	0.020"	0.014"	0.020"
100 4	22-24	12	20 3/4	10	21	B	20 x 2	12,500	1	471.12K	471.22K	471.72K	471.82K
100 4	30-32	18	20 3/4	10	21	B	20 x 3	12,500	1	471.13K	471.23K	471.73K	471.83K
100 4	34-36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

Joint Cleaning Brushes

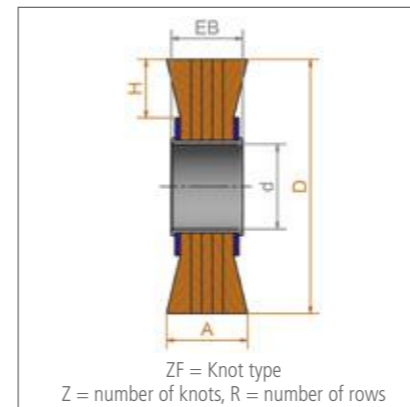


Joint Cleaning Brushes

D	A	d	H	Z	ZF	R	RPM	Pack.	STA 0.50 0.020"	STA 0.80 0.031"	STM 0.50 0.020"
mm inch	mm inch	mm inch					max.		Art.-No.	Art.-No.	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	
300 12	6 1/4	25.4 1	67	64	D	1	5,000	5	478.225.06	478.325.06	
300 12	8 5/16	25.4 1	67	64	D	1	5,000	5	478.225.08	478.325.08	
300 12	10 3/8	25.4 1	67	64	D	1	5,000	5	478.225.10	478.325.10	



Knot Wheel Brushes, multiple 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 repair. 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 152).

- 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

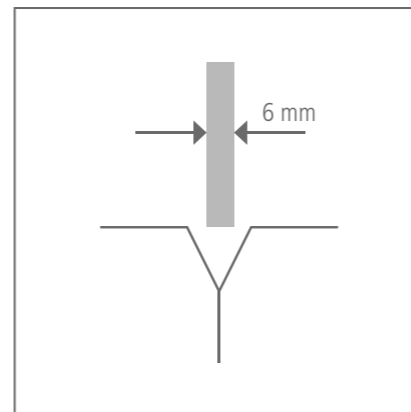
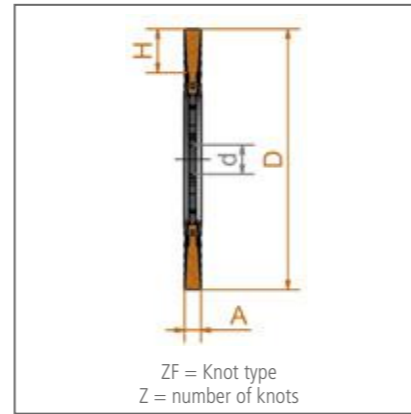


Pipeline-Brushes / Stringer Bead Brushes
LESSMANN-Pipelinebrushes are specially developed for professional use on U- and V-welds in the pipeline industry.

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.



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 152).

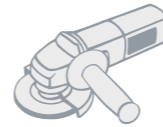
STH = steel wire, high tensile, straight



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	472.207.32	472.208.32
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	473.207.40	473.208.40
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	475.207.48	475.208.48
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	475.208.56
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

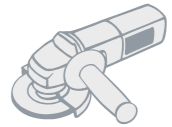
Pipeline Brushes / Stringer Bead Brushes



1

2

3



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 2	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

1 Pipeline-Brushes / Stringer Bead Brushes, rose bud									STH 0.50 0.020"
D	A	d	H	Z	ZF	RPM	Pack.		Art.-No.
mm inch	mm inch	mm inch				max.			
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									STH 0.50 0.020"
D	A	d	H	Z	ZF	RPM	Pack.		Art.-No.
mm inch	mm inch	mm inch				max.			
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									STM 0.35 0.014"
D	A	d	H			RPM	Pack.		Art.-No.
mm inch	mm inch	mm inch				max.			
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

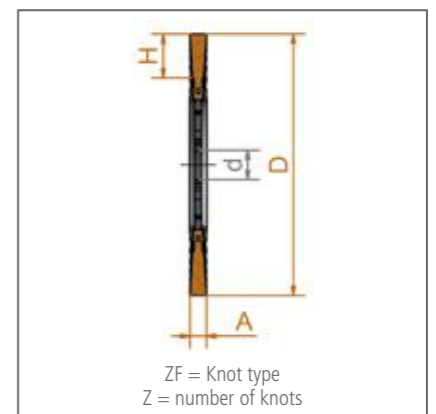
Pipeline Brushes / Stringer Bead Brushes with rose bud
Knotted brushes with rose bud have a longer life time. They are used for a professional treatment of weld seams in the tube and pipeline construction.

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.

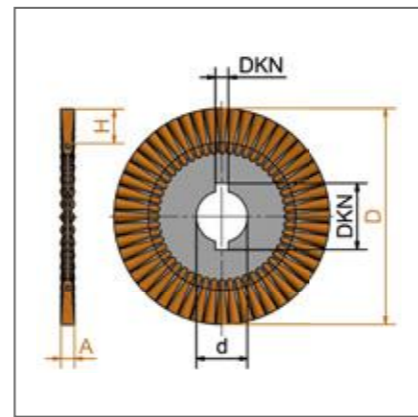
Pipeline Brushes / Stringer Bead Brushes, encapsulated
With encapsulated pipeline brushes a very exact and precise working is possible. By embedding in tough plastic the filling width always remains the same and early break of the wires can be prevented. A working width of 6 mm still allows to reach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

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

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 (PE). 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

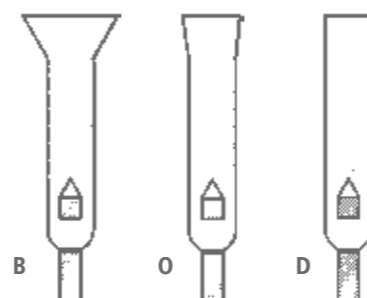
Left-right knotted cutback brushes usually are more aggressive, hence they are often used for heavy brushing operations. The knots of this type of brush open less, therefore there are ideal for the treatment of edges.

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

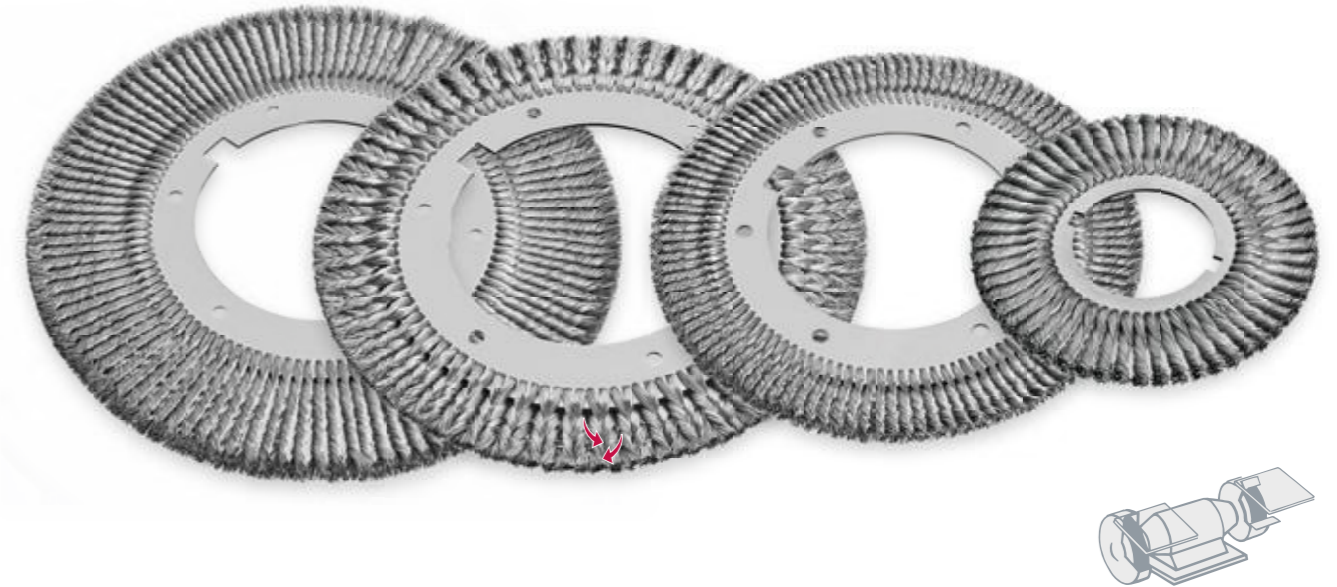
STH = steel wire, high tensile, straight

ROH = stainless steel wire, high tensile, straight

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	d	Keyways	Z	ZF	STH	ROH
250	13	45	102	115,8 x 13	56	O	0,63	0,50 / 0,80
300	13	60	102	115,8 x 13	64	O	0,80	0,50 / 0,80
390	13	45	200,6	233 x 24	114	O right-left knotted (WZ)	0,63 / 0,80	0,80
465	13	82,5	200,6	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.



Please follow the QR-Code or fill in the form below:



Enquiry for Cutback Brushes

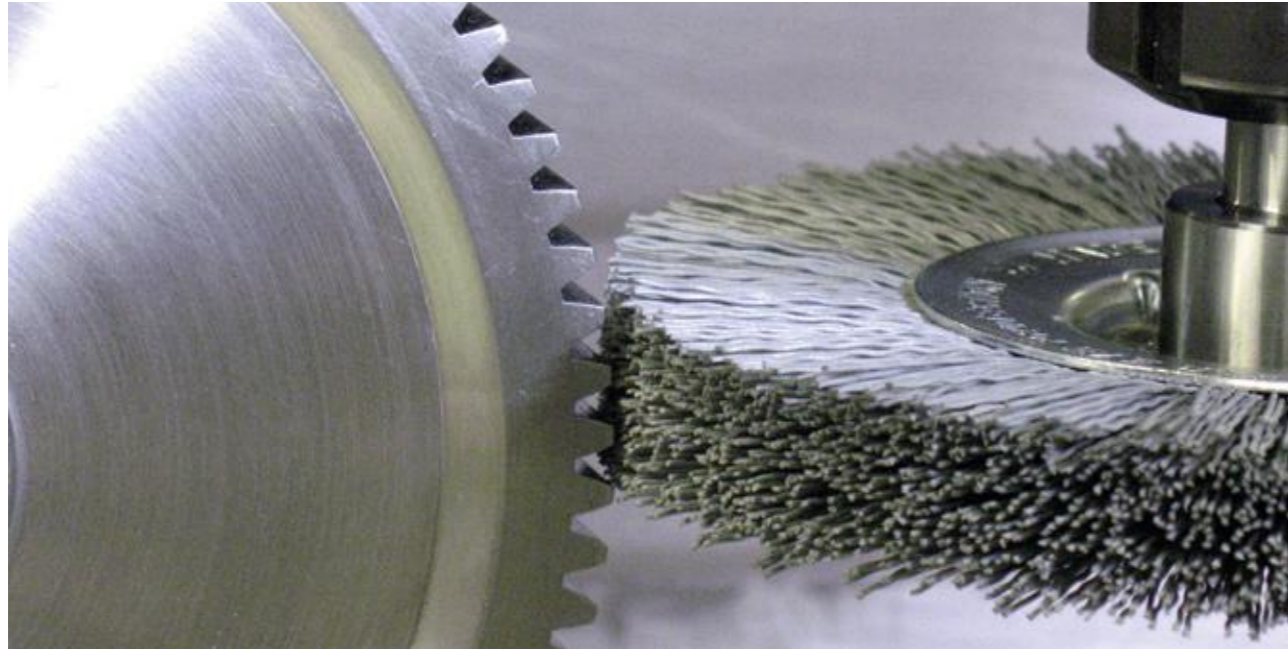
sender: company, contact person

Please fill in

- Piece number: _____
- D diameter _____ mm
- A working width _____ mm
- H trim height _____ mm
- d bore _____ mm
- Keyways _____ mm
- Z number of knots _____
- ZF knot type _____
- filling material _____
- wire diameter _____ mm

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

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

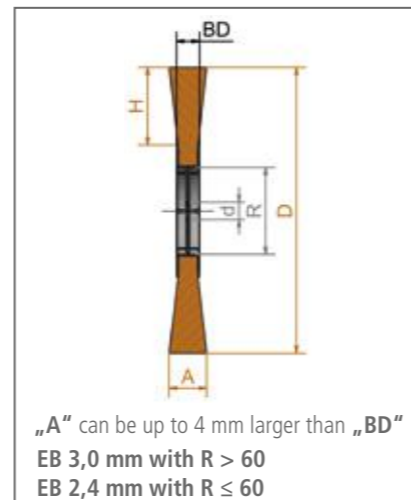
The flexible bristles align to the different shapes of working pieces.

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



For further information on abrasive filaments please see page 13.

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

SIC = silicon carbide bristles



1 Single Segment Wheel Brushes, Silicon Carbide Bristles

D	R	BD	H	d Stand.	d	RPM	Pack.	SIC 80/1.2	SIC 120/1.1	SIC 120/0.6	SIC 180/1.0	SIC 320/0.6
mm inch				mm inch	min./max.	max.		Art.-No.	Art.-No.	Art.-No.	Art.-No.	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	43	12 1/2	12-40	6,000	5			351.841	351.851	351.871
200 8	60	16	54	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	25-130	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	25-130	3,600	5		381.831	381.841	381.851	381.871
300 12	200	19	30	25.4 1	25.4-170	2,600	5			387.841	387.851	

2 Single Segment Wheel Brushes, Silicon Carbide Bristles, 2 rows

D	R	BD	H	d Stand.	d	RPM	Pack.	SIC 120/0.6	SIC 180/1.0	SIC 320/0.6
mm inch				mm inch	min./max.	max.		Art.-No.	Art.-No.	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

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 5,50 / 11 - 25 pcs. EUR 3,50

Single Segment Wheel Brushes



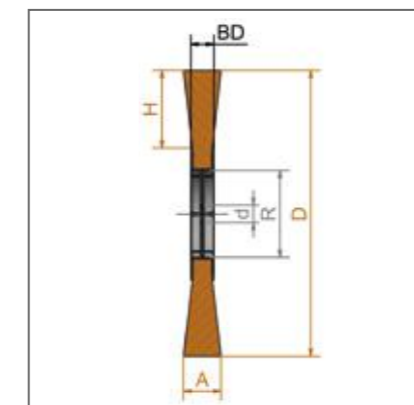
Single Segment Wheel Brushes, Steel Wire									1			2		
D	R	BD	H	d Stand.	d	RPM	Pack.		STA 0.20 0.008"	STA 0.30 0.012"	STL 0.35 0.014"			
mm inch				mm inch	min./max.	max.			Art.-No.	Art.-No.	Art.-No.			
80 3 1/4	26	12	17	12 1/2	12-16	12,000	5		310.141	310.161	available on demand			
100 4	30	12	21	12 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	43	12 1/2	12-40	6,000	5		351.141	351.161	351.707			
200 8	60	16	54	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									STH 0.35 0.014"			
D	R	BD	H	d Stand.	d	RPM	Pack.					
mm inch				mm inch	min./max.	max.			Art.-No.			
200 8	80	20	43	16 5/8	16-60	6,000	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 5,50 / 11 - 25 pcs. EUR 3,50

Single Segment Wheel Brushes, Stainless Steel Wire									ROF 0.20 0.008"		ROF 0.30 0.012"	
D	R	BD	H	d Stand.	d	RPM	Pack.					
mm inch				mm inch	min./max.	max.			Art.-No.	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	43	12 1/2	12-40	6,000	5		351.341	351.361		
200 8	60	16	54	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 5,50 / 11 - 25 pcs. EUR 3,50



„A“ can be up to 4 mm larger than „BD“
EB 3,0 mm with R > 60
EB 2,4 mm with R ≤ 60

For further information on abrasive filaments please see page 13.
Item Nos. in bold are available ex stock.
 Consider our minimum order value for *italic printed* article numbers (see page 152).
 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 8 - 10.

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

Stainless Steel Brushes

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

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.

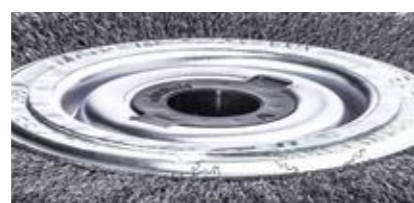
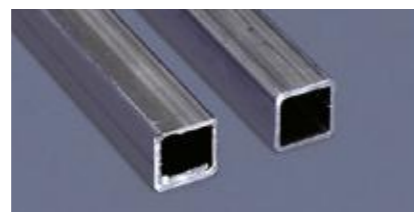
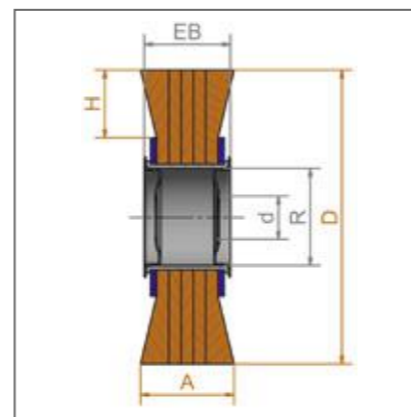


Plate with tube 80 and 100 (Set 4 / 5)

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

STA = steel wire, crimped

STM = brass coated steel, crimped



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.

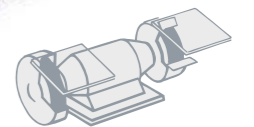
Set 5 / tube 80 + 100:
brushes with metal discs, bore 50.8

and double keyway 7x13; plus adapter to bore 32.



1

2



IIIIII
EAN

Wheel Brushes, Steel Wire

D	A	EB	R	H	d Stand.	d	RPM	Pack.	1		2
									STA 0.15 0.006"	STA 0.20 0.008"	STM 0.30 0.012"
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	<i>312.143</i>	312.163
100 4	20-22	19	30	23	Set 1	10-30	8,000	1	<i>323.132</i>	323.142	323.162
100 4	28-30	25	30	23	Set 1	10-30	8,000	1	<i>323.133</i>	323.143	323.163
125 5	21-23	20	40	27	Set 2	13-40	6,000	1	<i>334.132</i>	334.142	334.162
125 5	29-31	26	40	27	Set 2	13-40	6,000	1	available on demand	<i>334.143</i>	334.163
150 6	22-24	20	40	33	Set 2	13-40	6,000	1	<i>344.132</i>	344.142	344.172*
150 6	30-34	26	40	33	Set 2	13-40	6,000	1	<i>344.133</i>	344.143	344.173*
150 6	23-25	22	50	33	Set 3	13-50	6,000	1	<i>345.132</i>	345.142	345.162
150 6	30-34	30	50	33	Set 3	13-50	6,000	1	<i>345.133</i>	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
178 7	32-35	30	50	37	Set 3	16-50	6,000	1	<i>355.133</i>	355.143	355.163
200 8	24-27	22	50	48	Set 3	16-50	6,000	1	<i>365.132</i>	365.142	365.172*
200 8	35-38	30	50	48	Set 3	16-50	6,000	1	<i>365.133</i>	365.143	365.173*
200 8	28-32	29	80	38	Set 4+1	16-80	4,500	1	available on demand	366.142	366.162
200 8	40-45	39	80	38	Set 4+1	16-80	4,500	1	available on demand	<i>366.143</i>	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
250 10	43-48	39	100	50	Set 4+1	20-100	3,600	1	available on demand	<i>377.143</i>	377.163
250 10	55-60	49	100	50	Set 4+1	20-100	3,600	1	available on demand	<i>377.144</i>	377.164
300 12	30-35	34	120	50	Set 4	32-100	3,000	1			388.172*
300 12	35-40	30	100	60	Set 4	30-100	3,000	1	available on demand	387.142	387.162
300 12	42-47	46	120	50	Set 4	32-100	3,000	1			388.173*
300 12	47-52	39	100	60	Set 4	30-100	3,000	1	available on demand	<i>387.143</i>	387.163
350 14	35-40	30	100	85	Set 5	32-100	2,400	1	available on demand	<i>397.142</i>	397.172*
350 14	55-60	39	100	85	Set 5	32-100	2,400	1	available on demand	<i>397.143</i>	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 5,50 / 11 - 25 pcs. EUR 3,50

Wheel Brushes



WHEEL BRUSHES

IIIIII
EAN

Wheel Brushes, Stainless Steel

D mm inch	A	EB	R	H	d Stand. mm inch	d min./max.	RPM max.	Pack.	ROF 0.20 0.008"		ROF 0.30 0.012"	
									Art.-No.	Art.-No.	Art.-No.	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	23-25	22	50	33	Set 3	13-50	6,000	1	345.342	345.362		
150 6	30-34	30	50	33	Set 3	13-50	6,000	1	345.343	345.363		
178 7	23-26	22	50	37	Set 3	16-50	6,000	1	355.342	355.362		
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	48	Set 3	16-50	6,000	1	365.342	365.362		
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 5,50 / 11 - 25 pcs. EUR 3,50

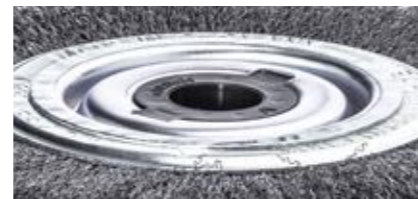


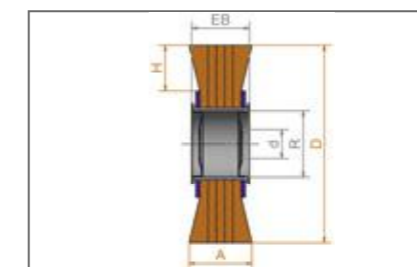
Plate with tube 80 and 100 (Set 4 / 5)

IIIIII
EAN

Wheel Brushes, Brass Wire

D mm inch	A	EB	R	H	d Stand. mm inch	d min./max.	RPM max.	Pack.	MES 0.20 0.008"		MES 0.30 0.012"	
									Art.-No.	Art.-No.	Art.-No.	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	
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	
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	

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 5,50 / 11 - 25 pcs. EUR 3,50



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

ROF = stainless steel wire, crimped
MES = brass wire, crimped

Brushes for the wood machining industry



Satin Brushes

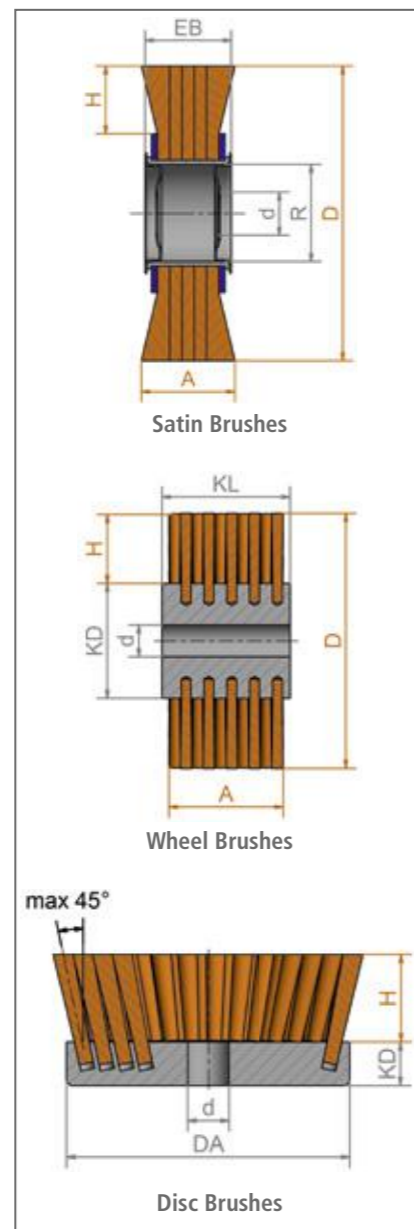
Satin brushes are the perfect tool for satining, polishing, abrading/smoothing, matting and structuring.

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, structuring 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.



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

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



Satin Brushes										
	D	A	H	d	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	max.		Art.-No.	Art.-No.	Art.-No.	Art.-No.
1	100 4	12 1/2	21	19.2 3/4	8,000	5	320.341.19	320.821.19	320.703.19	
2	100 4	70 2 3/4	23	19.2 3/4	8,000	1	323.348.19	323.828.19	323.704.19	
	100 4	100 4	23	19.2 3/4	8,000	1	323.305.19	323.805.19	323.705.19	323.900.10
	D	A	H	d	RPM	Pack.		STM 0.35 0.014"	SIC 80/1.2	SIC K 120/1.1
	mm inch	mm inch		mm inch	max.			Art.-No.	Art.-No.	Art.-No.
2	100 4	120 4 3/4	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 5,50 / 11 - 25 pcs. EUR 3,50

3 Staple Set Wheel Brushes											
	D	KL	A	d	KD	RPM	Pack.	SIC 46/1.6	SIC 60/1.5	SIC 80/1.2	SIC 120/1.10
	mm inch					max.		Art.-No.	Art.-No.	Art.-No.	Art.-No.
	140 5 1/2	58	40	M 14	80	2,500	1	402.881	402.882	402.880	402.883
	140 5 1/2	90	75	M 14	80	2,500	1	402.891	402.892	402.890	402.893

4 Staple Set Disc Brushes										
Filling	DA	KD	H	d	RPM	Pack.	Art.-No.			
	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			

Special Models

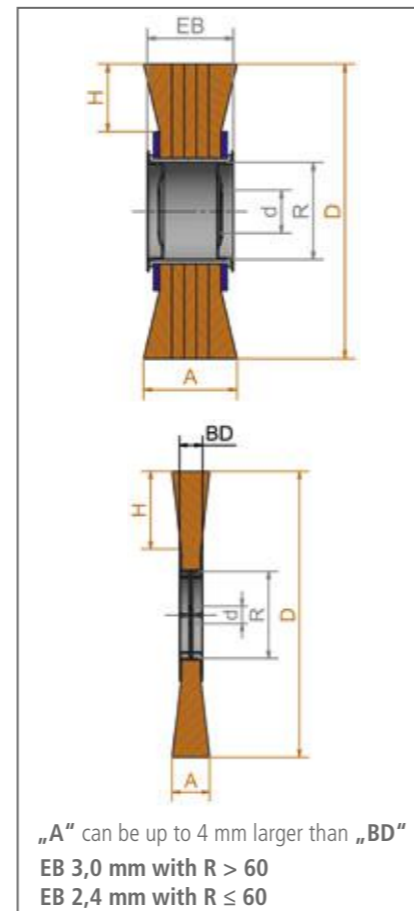


Band Saw Brushes

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. The brushes are suitable for all common machines.

Stripping Brushes

For the removal of laquer and other insulations from cables and electric equipment. The polished surface and the concentric running enable soft removal of laquer from the wires.



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

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



WHEEL BRUSHES

Band Saw Brushes, polyamide

	D	A	H	d	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	10	14	12	8,000	10	300.091		
	100	13	21	12	8,000	10	320.001	320.003	320.009
	100	13	21	13	8,000	10	320.004		
2	100	13	21	SW 17	8,000	5	320.00K.17		
3	100	20-22	23	12	8,000	10		323.002	
	100	20	23	12	8,000	5		323.003*	
1	125	13	33	13	8,000	5			330.001

* bore with plastic sleeve

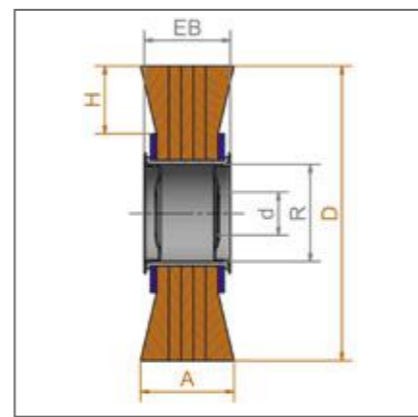
Band Saw Brushes, steel wire

	D	A	H	d	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.
6	80	12	20	10	15,000	10	312.141				
5	100	12	21	SW 17	8,000	5		320.16K.17			
4	100	13	21	12.7	4,500	10		320.161.12			
	60	10-12	19	6	15,000	10			300.742		
	80	15	27	6.8	15,000	10			311.742.01		
	80	15	27	8	15,000	10				311.762	
7	80	18-20	27	6	15,000	10					310.702.06

8 Stripping Brushes

	D	A	d	Pack.	STA 0.10 0.004" Art.-No.	STA 0.15 0.006" Art.-No.	STA 0.20 0.008" Art.-No.	STA 0.25 0.010" Art.-No.	STA 0.30 0.012" Art.-No.
	mm inch	mm inch	mm inch						
	30 1 1/4	20 3/4	6 1/4	10	301.213.10	301.213.15	301.213.20		301.213.30
	35 1 1/2	20 3/4	6 1/4	10		301.214.15	301.214.20	available on demand	301.214.30
	40 1 3/8	25 1	10 3/8	10		301.225.15	301.225.20	301.225.25	301.225.30
	80 3	30 1 1/4	16 5/8	10			301.236.20	available on demand	301.236.30

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 152).
STH = steel wire, high tensile, crimped
ROF = stainless steel wire, crimped
SIC = silicon carbide bristles
AO = aluminium oxide bristles



Small Diameter crimped Wheels SDW

1		D	A	d	H	RPM max.	Pack.	STH 0.15 0.006"	STH 0.20 0.008"	STH 0.35 0.014"	ROF 0.15 0.006"	
mm	inch	mm	inch	mm	inch			Art.-No.	Art.-No.	Art.-No.	Art.-No.	
50	2	10	3/8	13	1/2	13	1/2	20,000	10	35E.136	35E.146	35E.336
63	2 1/2	10	3/8	13	1/2	20	3/4	20,000	10	36E.146	36E.176	37E.336
75	3	12	1/2	13	1/2	20	3/4	20,000	10	37E.137	37E.147	
75	3	12	1/2	16	5/8	22	7/8	15,000	10			

2		D	A	d	H	RPM max.	Pack.	SIC K120/0.6	SIC K180/0.9	SIC K320/0.6		
mm	inch	mm	inch	mm	inch			Art.-No.	Art.-No.	Art.-No.		
50	2	10	3/8	13	1/2	12	1/2	15,000	10	35E.846	35E.856	35E.876
50	2	10	3/8	16	5/8	12	1/2	15,000	10	35E.847	35E.857	35E.877
63	2 1/2	10	3/8	13	1/2	18	5/8	15,000	10	36E.846	36E.856	36E.876
63	2 1/2	10	3/8	16	5/8	18	5/8	15,000	10	36E.847	36E.877	36E.877

Wheel Brushes for the treatment of hard metal

3		D	A	EB	d	H	RPM max.	Pack.	Diamant K400			
mm	inch	mm	inch	mm	inch	mm	inch		Art.-No.			
150	6	5	13/64	11	7/16	20	3/4	23	59/64	3,000	1	<i>408.819.DB</i>
150	6	10	3/8	16.5	21/32	20	3/4	23	59/64	3,000	1	<i>408.829.DB</i>
150	6	15	5/8	22	7/8	20	3/4	23	59/64	3,000	1	<i>408.839.DB</i>

4		D	A	EB	d	H	RPM max.	Pack.	AO 600			
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	<i>320.061*</i>
150	6	15	5/8	15	5/8	20	3/4	23	59/64	3,000	1	<i>345.051*</i>

* Filling with angular cut



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.

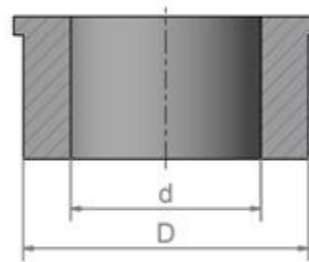
The practical adapter sets can also be ordered separately.

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

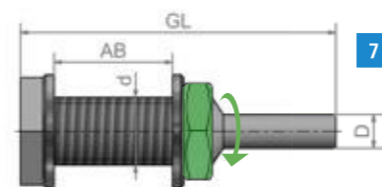
Drive Arbors
For use on drilling machines.

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 page 31 - 33. Please indicate the required bore size on your order and note that normally two metal plates are required for one brush.

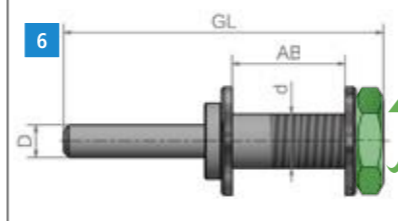
Adapter



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 152).



Adapter Sets		D	d	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
5	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.					

Drive Arbors		D mm inch	GL mm inch	d	AB	RPM max.	Pack.	Art.-No.
6		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. 11 mm	4,500	1	000.043
7		6 1/4	40 1 ^{3/8}	M 10 left	max. 30 mm	4,500	1	000.044
		6 1/4	50 2	M 12 left	max. 15 mm	4,500	1	000.045

Metal Discs as Spare Part		Pack.	Art.-No.
R 30	2	<i>000.631</i>	
R 40	2	<i>000.641</i>	
R 50	2	<i>000.651</i>	
R 80	2	<i>000.661</i>	
R 100*	2	<i>000.671</i>	

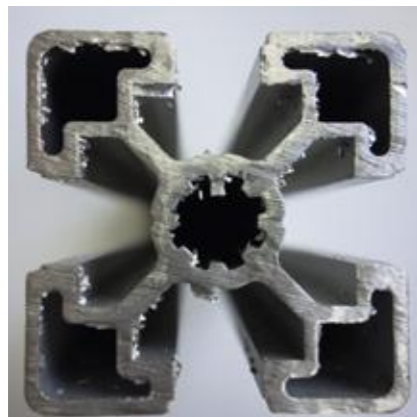
Bore must be indicated!
* On request with double keyset 12 x 7 (50.8 / 52.9 / 54.5)



LESSMANN



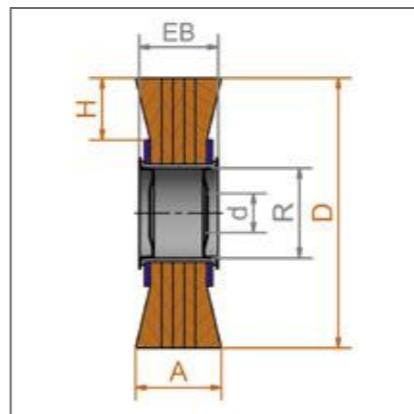
Deburring Brushes



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 imbalance 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 break of the wires can be prevented. Therefore the brush has a longer life time and a better durability.

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

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 152).

STH = steel wire, high tensile, crimped

STM = brass coated steel, crimped

STL = cord wire, crimped



1 Deburring Brushes, Steel Wire

D mm inch	A mm inch	EB	R mm inch	H mm inch	d Stand.	RPM max.	Pack.	STH 0.20 0.008"	STH 0.35 0.014"	STH 0.50 0.020"
								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}	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 mm inch	A mm inch	EB	R mm inch	H mm inch	d Stand.	RPM max.	Pack.	STL 0.38 0.015"	STM 0.38 0.015"
								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

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; d min/max: 30 mm ≤ d ≤ R; Deburring Brushes also available with tube 120.

Deburring Brushes



Deburring Brushes, Stainless Steel Wire

D mm inch	A mm inch	EB	R	H	d	RPM	Pack.	1		2	
								ROH 0.20 0.008"	ROH 0.35 0.014"	ROH 0.50 0.020"	ROL 0.35 0.014"
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	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; d min/max: 30 mm ≤ d ≤ R; Deburring Brushes also available with tube 120.

Deburring Brushes, encapsulated

D mm inch	A mm inch	R	H	d	Pack.	3		4	
						STH 0.20 0.008"	STH 0.35 0.014"	ROH 0.20 0.008"	ROH 0.35 0.014"
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



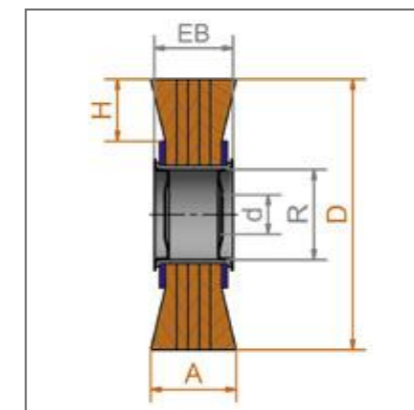
Deburring Brushes, Silicon Carbide Bristles

D mm inch	A mm inch	EB	R	H	d	RPM	Pack.	SIC 80/1.2	SIC 120/1.1	SIC 180/1.0	SIC 320/0.56
								Art.-No.	Art.-No.	Art.-No.	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	60 2 3/8	53	100 4	50 2	50.8	3,600	1	377.824.T1	377.835.T1	377.854.T1	377.875.T1
250 10	60 2 3/8	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

Deburring Brushes, mixed filament

D mm inch	A mm inch	EB	R	H	d	RPM	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; d min/max: 30 mm ≤ d ≤ R; Deburring Brushes also available with tube 120.



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 152).

- 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

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.

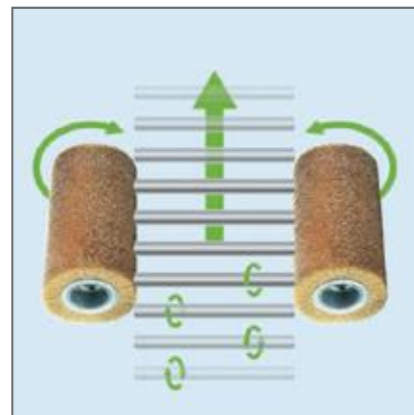
Roller Brushes

Deburring brushes are available with **D = 250 - 400 mm** and **A = 55 - 700 mm**

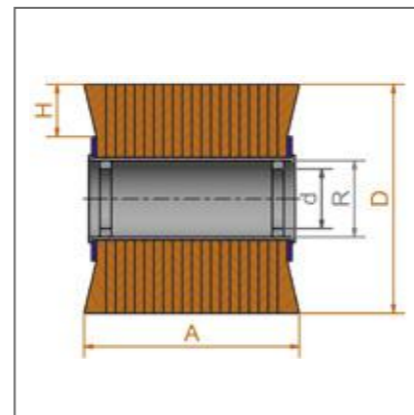
In your inquiry please indicate measure **D**, **A** and the bore e. g. **50.8 mm**, **52.9 mm** or **54.5 mm** with double keyway **13 x 7 mm**. Other bores up to 120 mm are available on demand.

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.



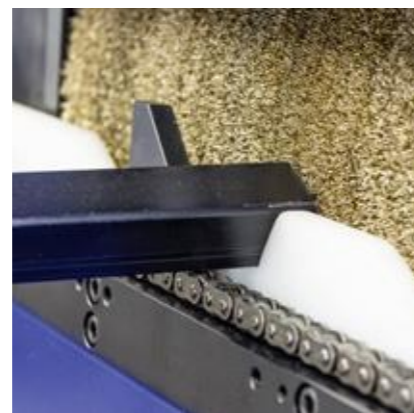
Function chart of a deburring machine with roller brushes



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

- 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 146 - 147.



Roller Brushes, Steel Wire

D	A	R	H	d	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	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	d	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



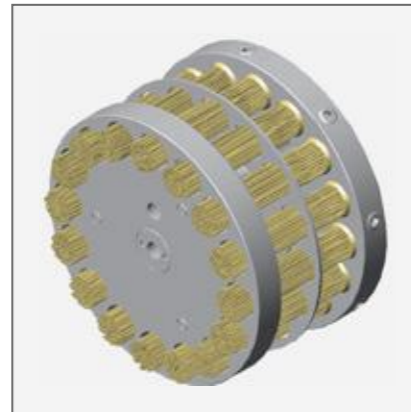
Deburring End Brushes

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.

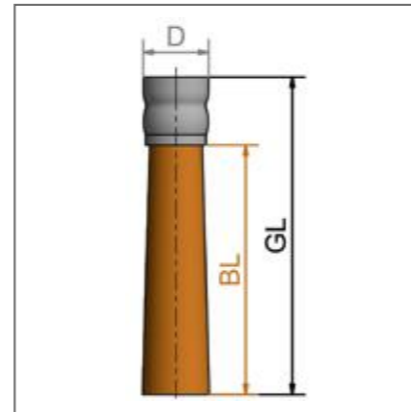
The metal bush fits all standard collets.

Stainless Steel

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



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 152).

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	BL	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	BL	Pack.	STL 0.35 0.014"	STL 0.38 0.015"
mm inch	mm inch	mm inch		Art.-No.	Art.-No.
25 1	120 4 ^{3/4}	95 3 ^{1/2}	16	048.701	<i>048.081</i>

3 Deburring End Brushes, Stainless Steel Wire

D	GL	BL	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

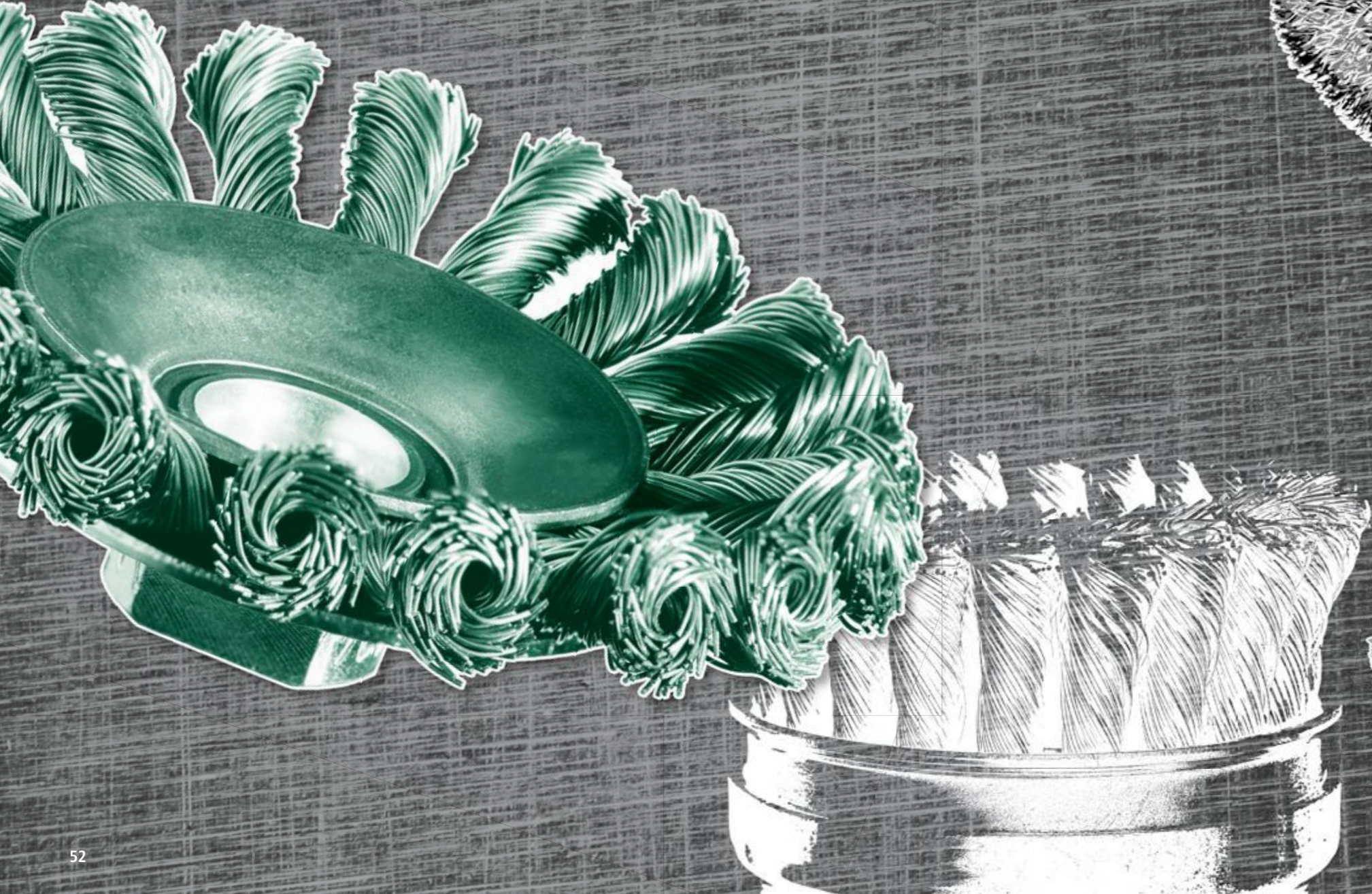
D	GL	BL	Pack.	4		5
				SIC 80 / 1.2	SIC 120 / 1.1	SIC 180 / 1.0
mm inch	mm inch	mm inch		Art.-No.	Art.-No.	Art.-No.
25 1	120 4 ^{3/4}	95 3 ^{1/2}	16	048.821	048.841	048.851
25 1	120 4 ^{3/4}	95 3 ^{1/2}	16			048.901*
						048.941**

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

Brush Adapter for deburring end brushes

Suitable for all common deburring machines	Art.-No.
Device for 8 End Brushes	available on demand
Device for 16 End Brushes	<i>048.999</i>
Device for 24 End Brushes	<i>048.998</i>

LESSMANN



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!

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!

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.

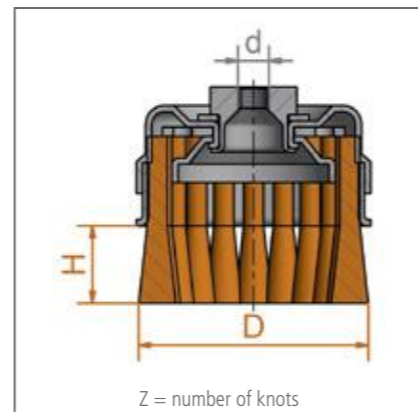
Special Designs

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-sparking applications.

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

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



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

STH = steel wire, high tensile, straight

STM = brass coated steel, straight

Chunky packaging

Many articles you receive as standard in handy covering boxes (10 pieces per carton).



1 2 3 4 5 6 7 Knot Cup Brushes without Bridle, 1 Row, Steel Wire, Brass coated Steel Wire

	D mm inch	d mm inch	H mm inch	Z	RPM max.	Pack.	1 2 3 4 5 6 7			
							STH 0.35 0.014" Art.-No.	STH 0.50 0.020" Art.-No.	STM 0.35 0.014" Art.-No.	STM 0.50 0.020" Art.-No.
	65 2 1/2	M 10 x 1.5	20 3/4	18	12,500	1	482.114*	482.214*	available on demand	
	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*
	75 3	M 14 x 2.0	20 3/4	20	12,500	1	483.117*	483.217*	483.317	
1 2 3	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*
	100 4	M 14 x 2.0	25 1	26	9,000	1	available on demand	486.237*	available on demand	
	125 5	M 14 x 2.0	25 1	32	7,000	1	available on demand	487.237	available on demand	
	150 6	M 14 x 2.0	30 1 1/4	36	6,600	1	available on demand	488.237	available on demand	
	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*		

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

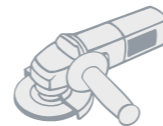
D mm inch	d mm inch	H mm inch	Z	RPM max.	Pack.	STH 0.35 0.014" Art.-No.	STH 0.50 0.020" Art.-No.
80 3 1/4	M 14 x 2.0	33 1 1/4	18	12,500	25	480.117	480.217

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

D mm inch	d mm inch	H mm inch	Z	RPM max.	Pack.	STH 0.35 0.014" Art.-No.	STH 0.50 0.020" Art.-No.	STH 0.80 0.031" Art.-No.
100 4	5/8" - 11 UNC	25 1	26+20	9,000	1	486.148	486.248	486.348
125 5	5/8" - 11 UNC	25 1	32+26	7,000	1	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

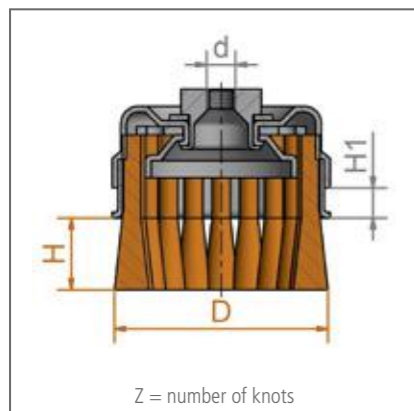


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EAN

Knot Cup Brushes with Bridle, 1 Row, Steel Wire

D	d	H	H ₁	Z	Pack.	STH 0.35 0.014"	STH 0.50 0.020"	STH 0.80 0.031"
mm inch	mm inch	mm inch	mm inch			Art.-No.	Art.-No.	Art.-No.
80 3 1/4	22.2 7/8	25 1	15 5/8	20	1	484.111	484.211*	484.311*
80 3 1/4	M 14 x 2.0	25 1	15 5/8	20	1	484.117*	484.217*	484.317*
80 3 1/4	5/8" - 11 UNC	25 1	15 5/8	20	1	484.118	484.218	484.318
100 4	22.2 7/8	23 7/8	12 1/2	26	1	486.111	486.211*	486.311*
100 4	M 14 x 2.0	23 7/8	12 1/2	26	1	486.117*	486.217*	486.317*
100 4	5/8" - 11 UNC	23 7/8	12 1/2	26	1	486.118	486.218*	486.318*
125 5	22.2 7/8	23 7/8	15 5/8	32	1	487.111	487.211	487.311
125 5	M 14 x 2.0	23 7/8	15 5/8	32	1	487.117	487.217	487.317
125 5	5/8" - 11 UNC	23 7/8	15 5/8	32	1	487.118	487.218	487.318

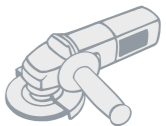
* Packed 10 pieces per carton.
After removing the bridle there is the following further trimming length (see measure H1).



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 152).

STH = steel wire, high tensile, straight

ROH = stainless steel wire, high tensile, straight



IIIIII
EAN

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

D	d	H	Z	RPM	Pack.	ROH 0.35 0.014"	ROH 0.50 0.020"	
mm inch	mm inch	mm inch		max.		Art.-No.	Art.-No.	
65 2 1/2	M 10 x 1.5	20 3/4	18	12,500	1	482.714	482.814*	
65 2 1/2	M 14 x 2.0	20 3/4	18	12,500	1	482.717*	482.817*	
75 3	M 14 x 2.0	20 3/4	20	12,500	1	available on demand	483.817*	
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*

IIIIII
EAN

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

D	d	H	H ₁	Z	RPM	Pack.	ROH 0.35 0.014"	ROH 0.50 0.020"
mm inch	mm inch	mm inch	mm inch		max.		Art.-No.	Art.-No.
80 3 1/4	22.2 7/8	25 1	15 5/8	20	9,000	1	484.711	484.811
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	22.2 7/8	23 7/8	12 1/2	26	9,000	1	486.711	486.811
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	9,000	1	available on demand	487.817

* Packed 10 pieces per carton

Cup Brushes



IIIIII
EAN

Cup Brushes with Crimped Wire

D	d	H	RPM	Pack.					
					1	2	3		
mm inch	mm inch	max.							
65 2 3/8	M 10 x 1,5	20	12,000	1	STA 0.20 0.008"	STA 0.35 0.014"	STA 0.50 0.020"	ROH 0.30/0.35 0.012"	MES 0.30 0.012"
					Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.
65 2 3/8	M 14 x 2.0	20	12,000	1	421.147	421.164*	421.197	421.364	421.564
75 3	M 14 x 2.0	22	12,500	1		423.167*	available on demand	423.367*	available on demand
75 3	5/8" - 11 UNC	22	12,500	1		423.168*	available on demand	423.368	available on demand
80 3 1/4	22.2 7/8	25	8,500	1		424.171*	available on demand	424.361	available 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	available on demand
100 4	22.2 7/8	30	9,000	1		426.171*	426.191	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	available on demand	available on demand	available 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	429.191		
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		

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Cup Brushes, Brass Coated Steel Wire, Abrasive Filament

D	d	H	RPM	Pack.				
					4			
mm inch		max.						
65 2 3/8	M 14 x 2.0	20	12,000	1	STL 0.35 0.014"	STM 0.30 0.012"	SIC 80/1.2	SIC 180/0.9
					Art.-No.	Art.-No.	Art.-No.	Art.-No.
100 4	22.2 7/8	30	9,000	1	426.701	421.767	421.827	421.857
100 4	M 14 x 2.0	30	9,000	1	426.707	426.767		

* Packed 10 pieces per carton

IIIIII
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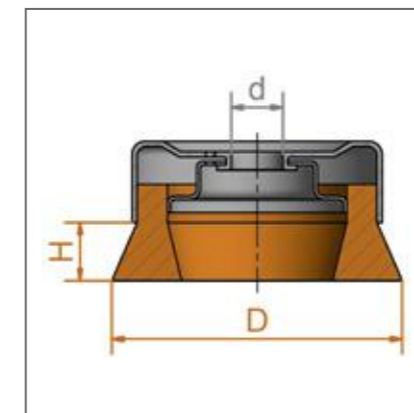
Cup Brushes, Straight Filament

	D	d	H	RPM	Pack.	STH 0.35 0.014"	STM 0.35 0.014"	STL 0.35	SIC 80/1.2	SIC K180/1.0
						Art.-No.	Art.-No.	Art.-No.	Art.-No.	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	7,000	1	447.277*	available on demand	447.707		

1 with bridle | * Packed 10 pieces per carton

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 152).

- 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, straight
- MES = brass wire, crimped
- SIC = silicon carbide bristles

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

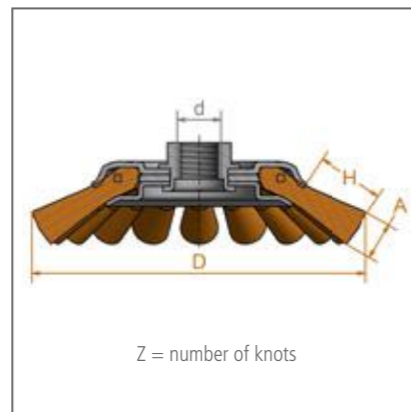
LESSMANN brushes with stainless steel wire have green cups. We use wire with material number 1.4310. Material number 1.4401 can be used on request.

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.



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

- 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



1 Knot Bevel Brushes, Steel Wire, Stainless Steel Wire

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

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

D mm inch	A mm inch	d mm inch	H	Z	RPM max.	Pack.	4	
							STM 0.35 0.014"	STM 0.50 0.020"
							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*

5 Bevel Brushes, Crimped Wire

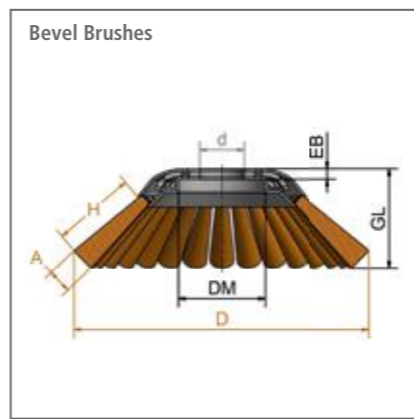
D mm inch	A mm inch	d	H	RPM max.	Pack.	5		
						STA 0.35 0.014"	ROF 0.30 0.012"	STM 0.30 0.012"
						Art.-No.	Art.-No.	Art.-No.
100 4	10 3/8	M 14 x 2.0	20	15,000	1	422.177*	422.367*	422.767

7 Wheel Brushes, crimped wire, with thread

D mm inch	A mm inch	d	H	RPM max.	Pack.	7	
						ROF 0.30 0.012"	STM 0.30 0.012"
						Art.-No.	Art.-No.
115 4 1/2	12 1/2	M 14	24	12,500	1	304.361.14	304.761.14
125 5	13 1/2	M 14	19.5	12,500	1	335.361.14	335.761.14

* Packed 10 pieces per carton

Brushes for grass trimmers



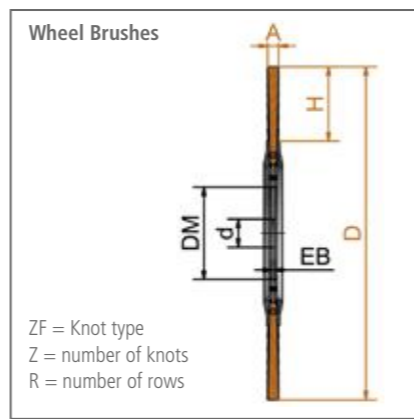
Brushes for grass trimmers
Knotted brushes on grass trimmers are ideal for removing weeds on grass pavers, curbstones, cobbled areas or other spots which are hard to reach. Those brushes clean larger areas like courtyards, terraces or longer alleys effortless and sustainable.

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

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.



Right adaption of the brush



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

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



Knotted Bevel Brushes, for grass trimmers

	D	A	EB	DM	H	GL	Z	d	ZF	RPM	Pack.	STH 0.50 0.020"	STM 0.50 0.020"
	mm inch	mm inch			mm inch			mm inch		max.		Art.-No.	Art.-No.
1	170 6 ^{3/4}	12 1/2	6	50	50 2	58	32	20 3/4	B	10,000	1	475.250.01	
	170 6 ^{3/4}	12 1/2	6	50	50 2	58	32	25.4 1	B	10,000	1	475.251.01	
2	200 8	14 9/16	6	64	37 1 1/2	55	36	20 3/4	B	10,000	1	476.250.01	476.250.SM
	200 8	14 9/16	6	64	37 1 1/2	55	36	25.4 1	B	10,000	1	476.251.01	476.251.SM

The brushes are suitable for all common grass trimmer and brush cutter models. Possible special diameters or special bores are deliverable on demand.

Knotted Wheel Brushes, for grass trimmers

	D	A	EB	DM	H	Z	d	ZF	RPM	Pack.	STH 0.50 0.020"
	mm inch	mm inch			mm inch		mm inch		max.		Art.-No.
3	175 6 ^{7/8}	6 1/4	8	68	34 1 1/4	40	20 3/4	B	12,500	1	475.260.01
	175 6 ^{7/8}	6 1/4	6	68	34 1 1/4	40	25.4 1	B	12,500	1	475.261.01
	200 8	6 1/4	8	68	46 1 49/64	40	20 3/4	B	12,500	1	476.260.01
	200 8	6 1/4	6	68	46 1 49/64	40	25.4 1	B	12,500	1	476.261.01
4	250 10	6 1/4	3	83	42 1 5/8	56	20 3/4	B	10,000	1	477.260.01
	250 10	6 1/4	3	83	42 1 5/8	56	25.4 1	B	10,000	1	477.261.01
	300 12	6 1/4	3	83	67 2 5/8	56	20 3/4	B	10,000	1	478.260.01
	300 12	6 1/4	3	83	67 2 5/8	56	25.4 1	B	10,000	1	478.261.01

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 152).

BRO = bronze wire



- 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	Pack.	BRO 0.20/BRO 0.40* Art.-No.	
3	25	12	108.331	
4	25	12	108.341	
5	25	12	108.351	
4	25	12	108.041*	

2 Handbrushes export model; KL 350				
Rows	H	Pack.	BRO 0.30 Art.-No.	
3	30	6	122.771	
4	30	6	122.821	
5	30	6	122.871	

3 Dusters; KL320				
Rows	H	Pack.	BRO 0.25 Art.-No.	
4	40	12	124.181	

4 Spark Plug Brushes; KL 200				
Rows	H	Pack.	BRO 0.15 Art.-No.	
3	15	12	132.801	

5 Brooms and scrubs						
Rows	KL	KB	H	Pack.	BRO 0.40 Art.-No.	
6	300	70	55	12	146.270	
6	220	60	40	12	148.170	



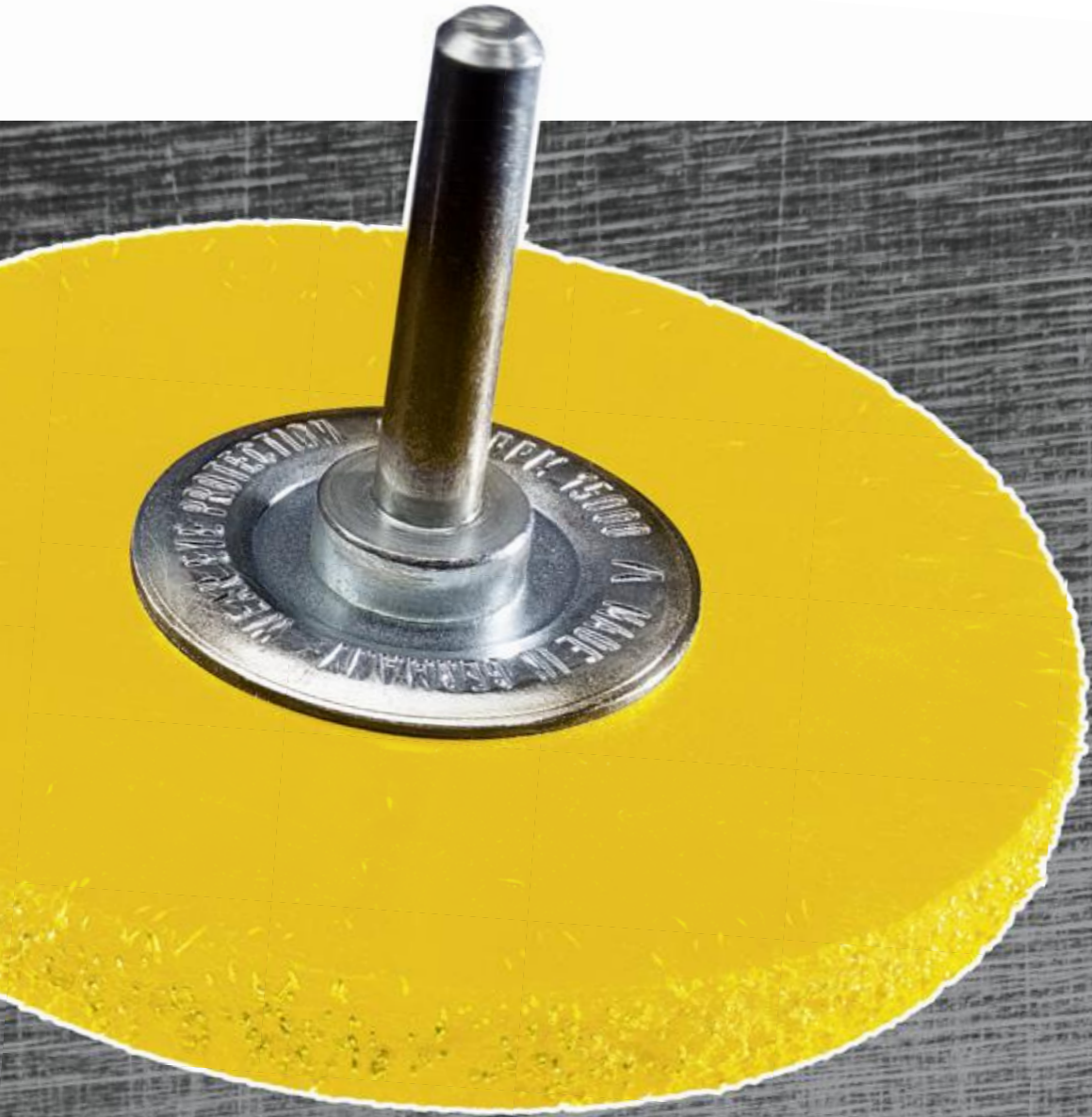
Special models								
	Rows	KL	KB	A	H	Pack.	BRO 0.15 crimped Art.-No.	BRO 0.08 crimped Art.-No.
6	7	150	50	140	20	12	144.011	
	6	180	60	170	20	12	144.111	
	6	150	50	130	15	12	144.311	
7	6	180	60	160	20	12	144.411	
8	11	120	70	110	14	4		152.811

Cup Brushes									
	D	H	H1	Z	RPM max.	Cup	Pack.	BRO 0.30 crimped Art.-No.	BRO 0.50 knotted Art.-No.
9	125	30			8,000	brass wire	1	427.661.MS	
10	125	23	15	32	7,000	brass wire	1		487.011.MS

11 Wheel Brushes										
	D	A	EB	R	H	d. Stand	d. min./max.	RPM	Pack.	BRO 0.30 crimped Art.-No.
	150	23-25	22	50	33	Set 3	13-50	6,000	1	345.662.MS

12 Cylinder Brushes; GL330					
	D	A	drilling wire	Pack.	BRO 0.20 Art.-No.
	10	100	MES 2.5	10	542.034
	20	100	MES 2.5	10	543.006
	35	100	MES 3.0	10	543.926

GL = total length
KL = body length



LESSMANN



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.

Knotted Wheel Brushes with Shank

It does not matter if the brush has one or two rows, the brush is the perfect 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.

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.

Wheel brushes with shank completely stainless steel

All the inner and outer parts of these brushes such as shanks, side plates, rings, etc. are made of stainless steel. Therefore these brushes are the perfect tool for working in damp and difficult places. These brushes do not have green side plates.

Structuring Brushes with Shank

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

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.

Stainless Steel Brushes

LESSMANN 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. More information for brush applications on stainless materials you will find at www.lessmann.com

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.

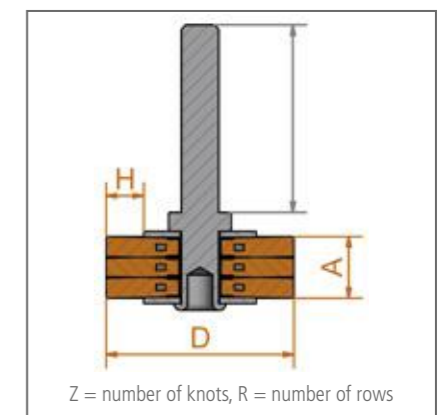


Knotted Wheel Brushes with Shank Ø 6 mm

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

Wheel Brushes with Shank Ø 6 mm, Encapsulated

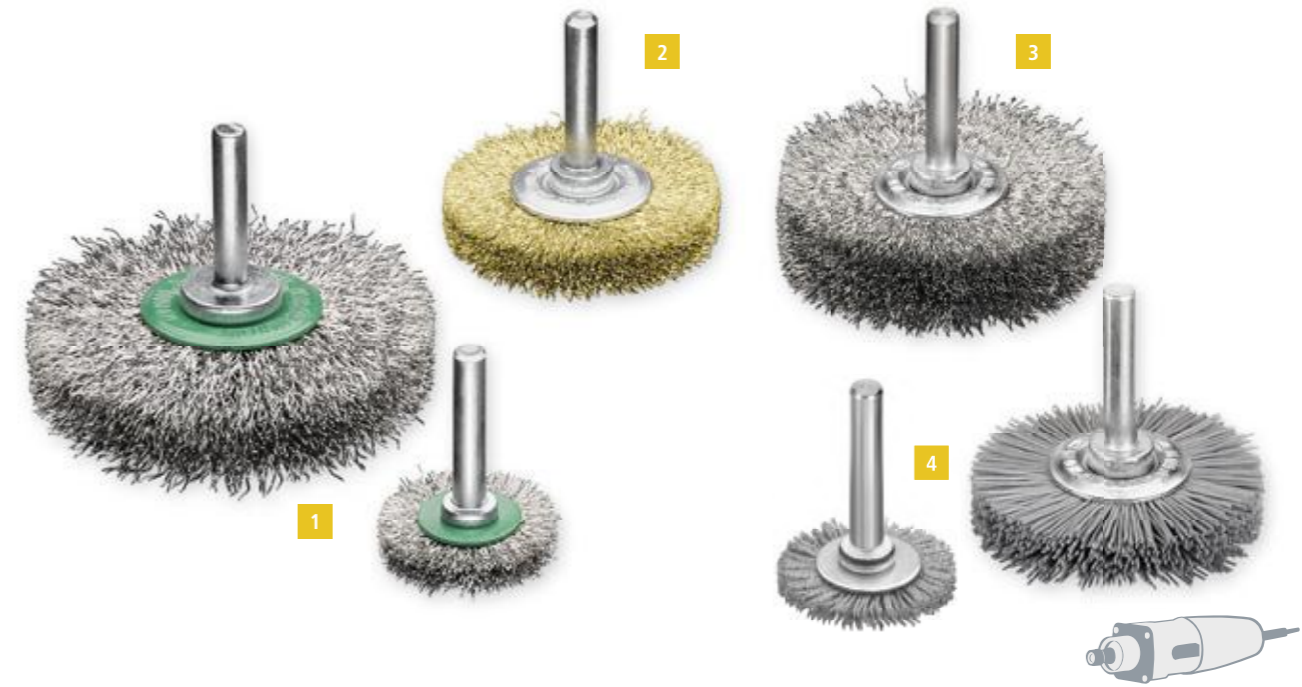
	D mm inch	A mm inch	H mm inch	RPM max.	Pack.	STA 0.30 0.012"
						Art.-No.
3	50 2	8 5/16	13 1/2	15,000	10	415.160
	60 2 3/8	8 5/16	18 3/4	15,000	10	416.160
	76 3	8 5/16	23 7/8	15,000	10	417.160



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

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

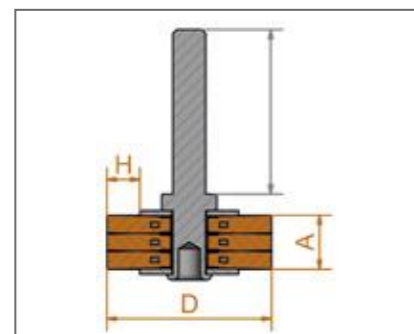
Wheel Brushes with Shank



Wheel Brushes with Shank Ø 6 mm						1 2		3	
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"	STM 0.25 0.010"
mm inch			max.		Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.
20 3/4	6	3	20,000	10	411.132	411.142			
30 1 1/4	6	6	20,000	10	413.132	413.142	413.162		
30 1 1/4	9	6	20,000	10	<i>413.133</i>	<i>413.143</i>	<i>413.163</i>		
40 1 3/8	8	9	18,000	10	414.132	414.142	414.162	414.192	<i>414.752</i>
40 1 3/8	11	9	18,000	10	<i>414.133</i>	<i>414.143</i>	<i>414.163</i>	<i>414.193</i>	available on demand
50 2	10	12	15,000	10	<i>415.132</i>	<i>415.142</i>	<i>415.162</i>	415.192	415.752
50 2	14	12	15,000	10	415.133	415.143	415.163	<i>415.193</i>	<i>415.753</i>
60 2 3/8	10	17	15,000	10	<i>416.132</i>	416.142	416.162	available on demand	<i>416.752</i>
60 2 3/8	14	17	15,000	10	416.133	416.143	416.163	<i>416.193</i>	available on demand
70 2 3/4	12	19	15,000	10	<i>417.132</i>	417.142	417.162	417.192	417.752
70 2 3/4	16	19	15,000	10	417.133	417.143	417.163	available on demand	available on demand
80 3 1/4	12	20	15,000	10	available on demand	418.142	418.162	<i>418.192</i>	<i>418.752</i>
80 3 1/4	18	20	15,000	10	available on demand	418.143	418.163	available on demand	available on demand
70 2 3/4	10	14	15,000	10				417.196*	

Structuring Brushes with Shank Ø 8 mm						4	
D	A	H	RPM	Pack.	STM 0.25 0.010"	SIC 80/1.4	
mm inch			max.		Art.-No.	Art.-No.	
80 3 1/4	35	28	4,000	1	418.704	<i>418.803</i>	

* larger plates



Item Nos. in bold are available ex stock. Consider our minimum order value for italic printed article numbers (see page 152).

- STA = steel wire, crimped
- STM = brass coated steel, crimped
- ROF = stainless steel wire, crimped
- RO4 = stainless steel wire, straight, 1.4401
- MES = brass wire, crimped
- SIC = silicon carbide bristles

Wheel Brushes with Shank Ø 6 mm, Stainless Steel and Brass Wire									
					1		2		
D	A	H	RPM	Pack.	ROF 0.20 0.008"	ROF 0.30 0.012"	RO4 0.30 0.012"	MES 0.20 0.008"	
mm inch	mm inch	mm inch	max.		Art.-No.	Art.-No.	Art.-No.	Art.-No.	
20 3/4	6 1/4	3 1/8	20,000	10	411.342			411.542	
30 1 1/4	6 1/4	6 1/4	20,000	10	413.342	<i>413.362</i>		413.542	
30 1 1/4	9 3/8	6 1/4	20,000	10	413.343	<i>413.363</i>		<i>413.543</i>	
40 1 3/8	8 5/16	9 3/8	18,000	10	414.342	414.362	414.462	414.542	
40 1 3/8	11 4/9	9 3/8	18,000	10	414.343	available on demand		<i>414.543</i>	
50 2	10 3/8	12 1/2	15,000	10	415.342	415.362	415.462	415.542	
50 2	14 9/16	12 1/2	15,000	10	415.343	415.363		415.543	
60 2 3/8	10 3/8	17 5/8	15,000	10	416.342	416.362	416.462	416.542	
60 2 3/8	14 9/16	17 5/8	15,000	10	416.343	416.363		416.543	
70 2 3/4	12 1/2	19 3/4	15,000	10	417.342	417.362	417.462	417.542	
70 2 3/4	16 5/8	19 3/4	15,000	10	417.343	417.363		417.543	
80 3 1/4	12 1/2	20 3/4	15,000	10	418.342	418.362	418.462	418.542	
80 3 1/4	18 3/4	20 3/4	15,000	10	418.343	418.363		418.543	

3 Wheel Brushes with Shank Ø 6 mm, Completely Stainless									
					ROF 0.20 0.008"		ROF 0.30 0.012"		
D	A	H	RPM	Pack.	Art.-No.		Art.-No.		
mm inch	mm inch	mm inch	max.						
50 2	15 5/8	12 1/2	15,000	10	415.301		415.302		
60 2 3/8	17 5/8	17 5/8	15,000	10	416.303		<i>416.302</i>		
70 2 3/4	18 3/4	19 3/4	15,000	10	417.306		417.309		

4 Wheel Brushes with Shank Ø 6 mm, Silicon Carbide Bristles										
					SIC 120/0.6		SIC 120/1.1		SIC 180/1.0	SIC 320/0.6
D	A	H	RPM	Pack.	Art.-No.		Art.-No.		Art.-No.	Art.-No.
mm inch	mm inch	mm inch	max.							
30 1 1/4	6 1/4	6 1/4	18,000	10	413.841					413.871
40 1 3/8	10 3/8	12 1/2	15,000	10			414.842			414.872
50 2	10 3/8	12 1/2	15,000	10			415.842		<i>415.852</i>	415.872
70 2 3/4	12 1/2	20 3/4	15,000	10			417.842		417.852	417.872
80 3 1/4	14 9/16	22 7/8	15,000	10			418.842		<i>418.852</i>	418.872

Cup Shank Brushes



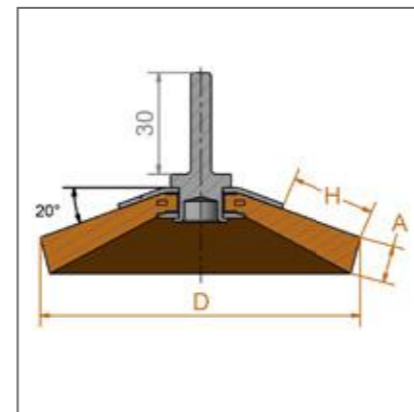
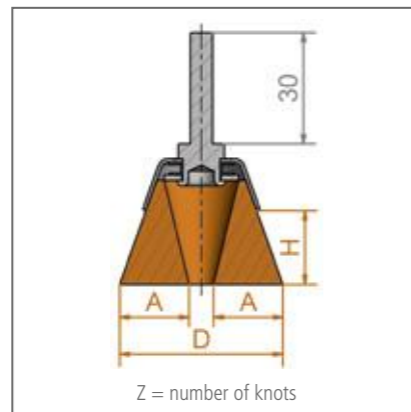
Cup Brushes with Shank
Ideal for working on medium and large areas.

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.

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.



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

- 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			
					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"
mm inch	mm inch	mm inch	max.		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	22 7/8	20 3/4	10,500	10	435.142	435.162	435.342	435.362	435.542	435.562
60 2 3/8	25 1	25 1	8,000	10	available on demand	436.162	available on demand	436.362	available on demand	
70 2 3/4	30 1 1/4	25 1	6,000	10	437.142	437.162	437.342	437.362	437.542	

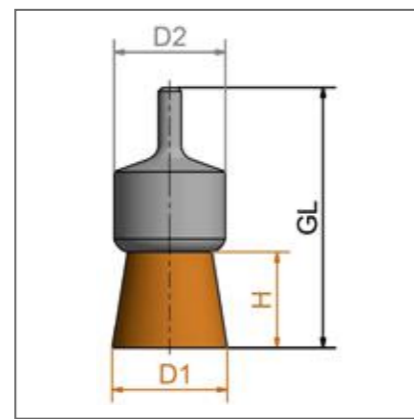
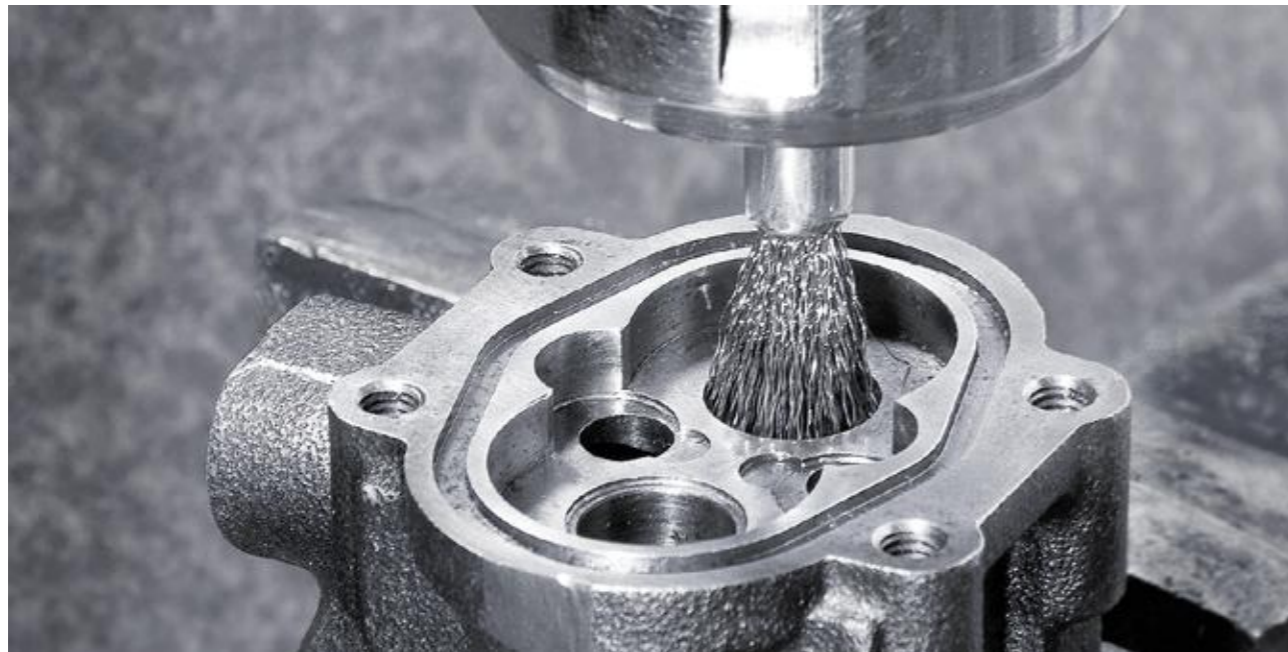
3 Cup Brushes with Shank Ø 6 mm and plastic cup							
D	A	H	RPM	Pack.			
					ROF 0.20 0.008"	ROF 0.25 0.010"	ROF 0.30 0.012"
mm inch	mm inch	mm inch	max.		Art.-No.	Art.-No.	Art.-No.
40 1 3/8	20 3/4	30 1 1/4	15,000	10	434.345	434.355	434.365
50 2	25 1	28 1	10,500	10	435.345	435.355	435.365

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 End 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	4,500	10		483.230

6 Knot 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	12 1/2	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 152).

- 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 advantages when working with encapsulated brushes are longer lifetime and harder brush effect. However, it might be possible that the brush will leave marks on the work piece.

Stainless 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.



Special End Brushes with Shank Ø 6 mm, narrow crimping

	D1 mm inch	D2 mm inch	H mm inch	GL mm inch	RPM max.	Pack.	STA 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

	D1 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	100 4	4,500	10	469.131	469.151	469.362
	31.8 1 1/4	8 5/16	100 4	4,500	10	469.133	469.153	available on demand
	38.1 1 1/2	8 5/16	100 4	4,500	10	available on demand	available on demand	available on demand
	50.8 2	8 5/16	100 4	4,500	10	available on demand	available on demand	available on demand

4 End Brushes with Shank Ø 6 mm, Encapsulated

	D1 mm inch	D2 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 7/16	30 1 1/4	75 3	10,000	10	456.160

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

	D1 mm inch	D2 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	20,000	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



BRUSHES WITH SHANK

End Brushes with Shank Ø 6 mm, Steel Wire

	D1	D2	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, Stainless Steel and Brass Wire

	D1	D2	H	GL	RPM	Pack.	Shape	ROF 0.20 0.008"	ROF 0.30 0.012"	MES 0.20 0.008"	MES 0.30 0.012"
	mm inch	mm inch			max.			Art.-No.	Art.-No.	Art.-No.	Art.-No.
1	12 1/2	10 3/8	20	60	20,000	10		451.341	451.361	451.541	451.561
2	12 1/2	10 3/8	20	60	20,000	10			451.362	<i>451.542</i>	<i>451.562</i>
3	12 1/2	10 3/8	20	120	15,000	10		458.341	458.361	458.541	458.561
4	17 5/8	16 5/8	22	65	20,000	10		452.341	452.361	452.541	452.561
	23 7/8	22 7/8	25	68	18,000	10		453.341	453.361	453.541	453.561
5	30 1 1/4	29 1 1/8	25	68	18,000	10		456.341	456.361	456.541	456.561
6	50 2	22 7/8	18	68	18,000	10			453.363		

End Brushes with Shank Ø 6 mm, complete Stainless Steel

	D1	D2	H	GL	RPM	Pack.	Shape	ROF 0.30 0.012"
	mm inch	mm inch			max.			Art.-No.
	12 1/2	10 3/8	20	60	20,000	10		451.305
	17 5/8	16 5/8	22	65	20,000	10		452.304
	23 7/8	22 7/8	25	68	18,000	10		453.301

9 End Brushes with Shank Ø 6 mm, Steel Wire high tensile, dense version, longer lifetime

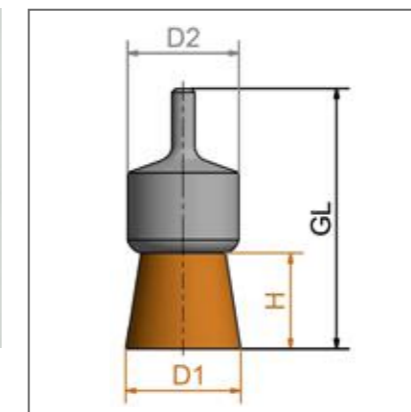
	D1	D2	H	GL	RPM	Pack.	Shape	STH 0.30 0.012"
	mm inch	mm inch	mm inch	mm inch	max.			Art.-No.
	12 1/2	12 1/2	20 3/4	66 2 1/2	20,000	10		451.261.BD
	17 5/8	16 5/8	22 7/8	65 2 1/2	20,000	10		452.261.BD
	23 7/8	22 7/8	25 1	68 2 3/4	18,000	10		453.261.BD
	30 1 1/4	29 1 1/8	25 1	68 2 3/4	18,000	10		456.261.BD

End Brushes with Shank Ø 6 mm, Brass Steel Wire, Cord Wire

	D1	D2	H	GL	RPM	Pack.	Shape	7	8	
	mm inch	mm inch	mm inch	mm inch	max.			STM 0.25 0.010"	STL 0.175 0.007"	STL 0.22 0.009"
								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



Brushes also available with plastic cover.



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

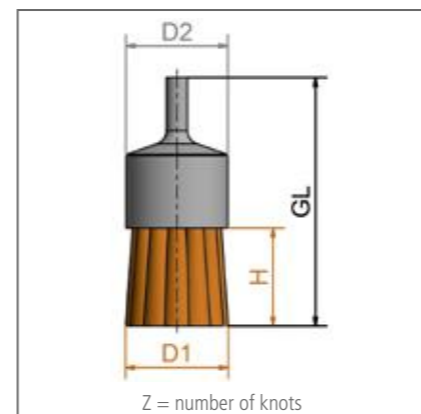
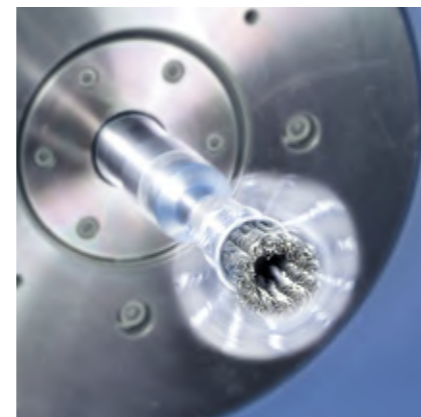
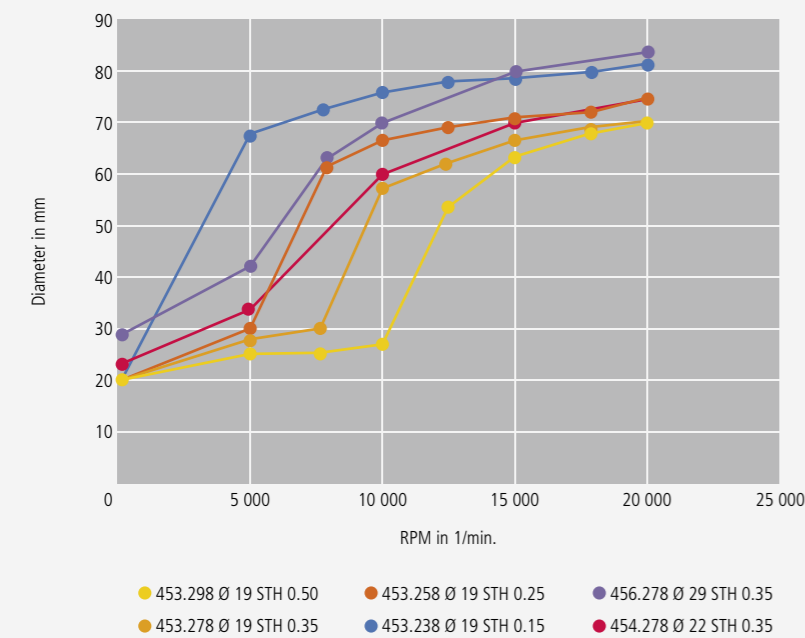
- STA = steel wire, crimped
- STH = steel wire, high tensile, crimped
- STM = brass coated steel, crimped
- STL = cord wire, crimped
- ROF = stainless steel wire, crimped
- MES = brass wire, crimped

Knot End Brushes



BRUSHES WITH SHANK

Opening of the end brushes depending on the RPM



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 6 Ø, 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.

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

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

Knotted End Brushes with Shank Ø 6 mm, Steel Wire

	D1/D2 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
2	19 3/4	72 2 7/8	28 1	6	B	20,000	10		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	available on demand	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

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

	D1/D2 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

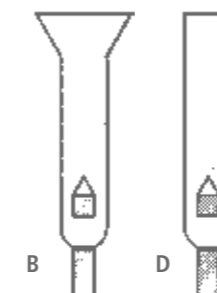
Knotted End Brushes with Shank Ø 6 mm, Stainless Steel Wire

	D1/D2 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.
	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
	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

* filled with epoxy resin

Knotted types ZF

- B: Rose Bud
- D: Fully knotted (wire ends are cut completely)



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 152).

STH = steel wire, high tensile, straight

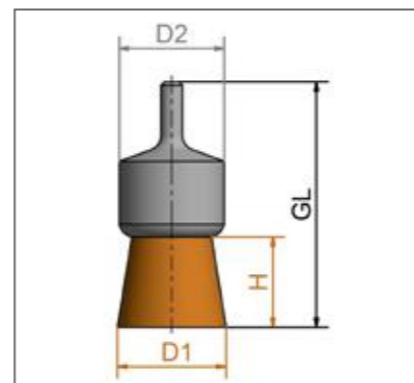
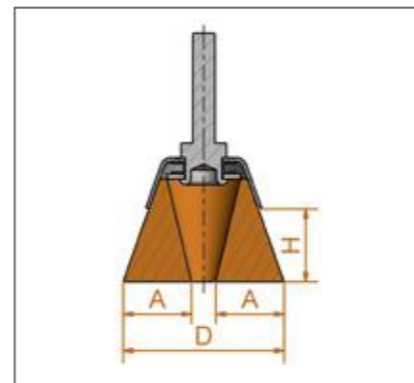
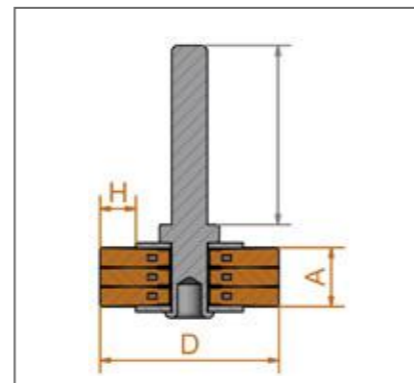
ROF = stainless steel wire, crimped

MES = brass wire, crimped

PA = polyamide

SIC = silicon carbide bristles

AO = aluminium oxide bristles



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.AO
19 3/4	2	5	12,000	10	410.222	410.322	410.522	410.872	410.882	410.892	410.872.AO
22 7/8	2	6	10,000	10	410.223	410.323	410.523	410.873	410.883	410.893	410.873.AO

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.AO	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.AO	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.AO	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	430.092	430.872.AO
18 3/4	2	6	15,000	10	430.223	430.323	430.523	430.873	430.883	430.893	430.873.AO

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.AO	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.AO	430.813.DB	430.032	430.002.WB	430.002.SB	430.002.ZH

3 Miniature End Brushes with shank Ø 3 mm

D1 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.AO

D1 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.AO	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

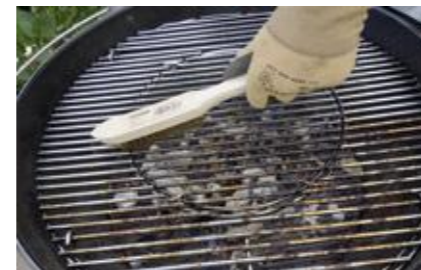


Hand Brushes



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



LESSMANN Handbrushes are of superb quality and yet are economic 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 turning stamps or tampon printing at low cost.

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

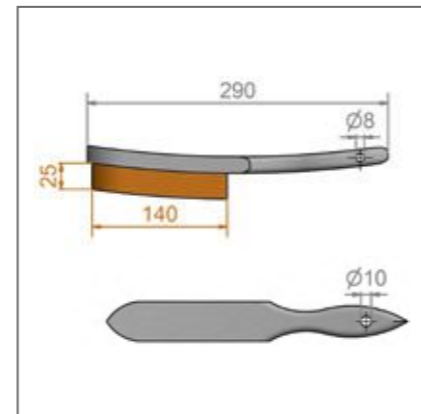
Information on brushing on stainless materials you will find at www.lessmann.com

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.



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



Promoting sustainable forest management
www.pefc.de

Hand Brushes Standard



IIIIII
EAN

Hand Brushes								
	Rows >	1	2	3	4	5	6	
Filling	Pack.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	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			102.431	102.441		
2	STA crimped 0.30 0.012"	12	102.611	102.621	102.631	102.641	102.651	102.661
	ROF crimped 0.15 0.006"	12		104.321	104.331	104.341	104.351	
	ROF crimped 0.20 0.008"	12		104.421	104.431	104.441	104.451	
	ROF crimped 0.35 0.012"	12	104.611	104.621	104.631	104.641	104.651	104.661
	ROF straight 0.35 0.012"	12	103.711	103.721	103.731	103.741	103.751	103.761
	RO8 straight 0.30 0.012"	12		105.721	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	<i>107.411</i>	107.421	107.431	107.441	107.451	107.461
	MES crimped 0.35 0.014"	12	<i>107.611</i>	107.621	107.631	107.641	107.651	107.661
	MES straight 0.35 0.014"	12		106.621	106.631	106.641	106.651	
4	BRO crimped 0.20 0.008"	12			<i>108.331</i>	108.341	108.351	
	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.

Other sparkless brushes can be found on page 64

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

STA = steel wire

STM = brass coated steel

ROF = stainless steel wire

RO8 = stainless steel wire, extremely heat resistant

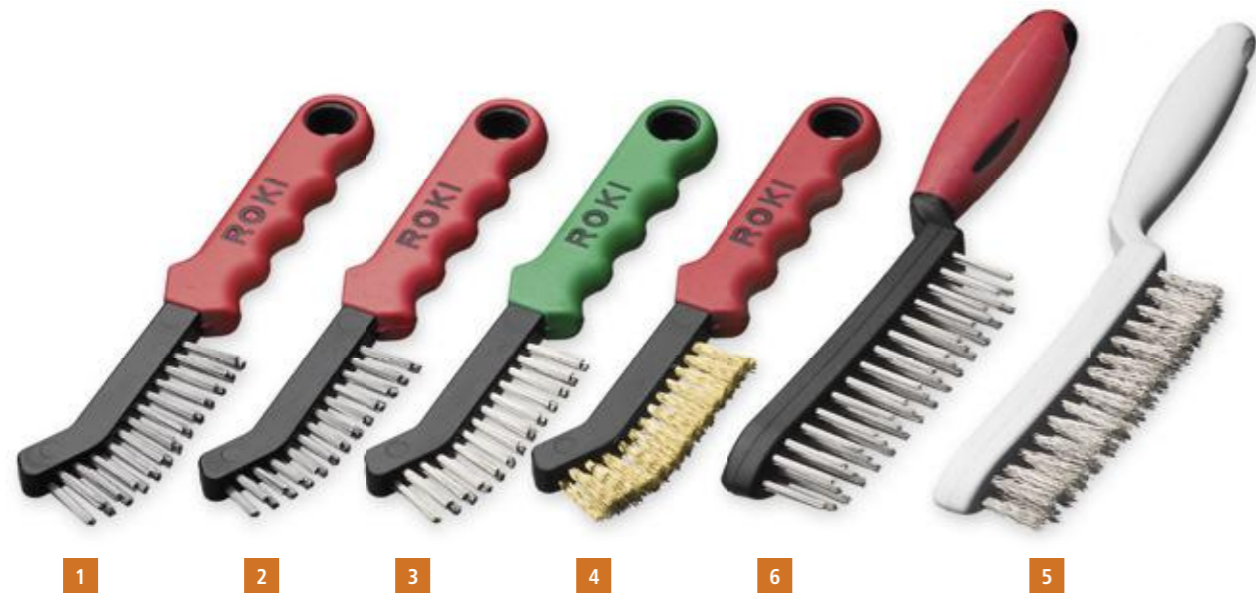
MES = brass wire

BRO = bronze wire

PA = polyamide

FIB = fibre

Special Hand Brushes



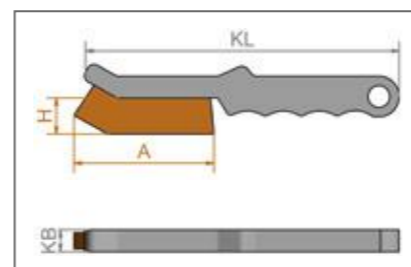
Special Hand Brushes

Filling	Rows	KL	KB	A	H	Pack.	Art.-No.
Brake Caliper Brushes with Two-Components Handles							
1 STA straight 0.35 0.014"	2 x 13	225 9	12 1/2	90 3 1/2	22 7/8	10	182.401
2 STA crimped 0.30 0.012"	2 x 13	225 9	12 1/2	90 3 1/2	22 7/8	10	182.411
3 ROF straight 0.35 0.014"	2 x 13	225 9	12 1/2	90 3 1/2	22 7/8	10	182.421
4 MES crimped 0.25 0.010"	2 x 13	225 9	12 1/2	90 3 1/2	22 7/8	10	182.451

Filling	Rows	KL	KB	A	H	Pack.	Art.-No.
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	136 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

Filling	Rows	KL	KB	A	H	Pack.	Art.-No.
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

* Special hand brushes, pointed | For the food industry



Special Hand Brushes



Special Hand Brushes

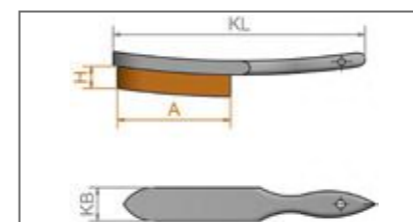
Filling	Rows	KL	KB	A	H	Pack.	Art.-No.
1 Rivet Brushes							
STA straight 0.35 0.014"	3 x 15	290 11 3/8	35 1 1/2	135 5 3/8	35 1 1/2	12	120.801
ROF straight 0.35 0.014"	3 x 15	290 11 3/8	35 1 1/2	135 5 3/8	35 1 1/2	12	120.811
RO8 straight 0.30 0.012"	3 x 15	290 11 3/8	35 1 1/2	135 5 3/8	35 1 1/2	12	120.831
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	12	185.811

Filling	Rows	KL	KB	A	H	Pack.	Art.-No.
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
STA straight 0.35 0.014"	6 x 15	290 11 3/8	38 1 1/2	130 5 1/8	25 1	12	<i>120.601</i>
ROF straight 0.35 0.014"	4 x 15	290 11 3/8	33 1 1/4	130 5 1/8	25 1	12	<i>120.412</i>

Filling	Rows	KL	KB	A	H	Pack.	Art.-No.
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

Filling	Rows	KL	KB	A	H	Pack.	Art.-No.
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
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

Filling	Rows	KL	KB	A	H	Pack.	Art.-No.
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 152).

- STA = steel wire
- STM = brass coated steel
- ROF = stainless steel wire
- RO8 = stainless steel wire, extremely heat resistant
- MES = brass wire
- BRO = bronze wire

Spark Plug Brushes



Fine Scratch Brushes



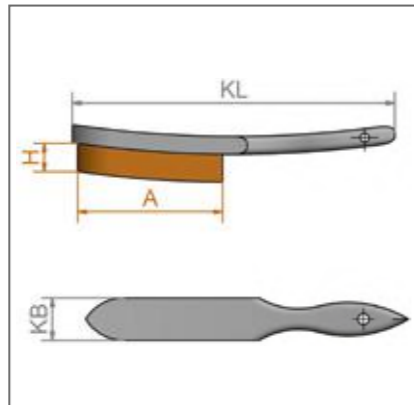
Spark Plug Brushes									
	Filling	Rows	KL mm inch	KB mm inch	A mm inch	H mm inch	Pack.	Art.-No.	
	MES crimped 0.15 0.006"	2 x 5	100 4	15 5/8	25 1	15 5/8	12	125.111	
	MES crimped 0.15 0.006"	3 x 5/6	150 6	15 5/8	40 1 3/8	15 5/8	12	125.211	
	STA crimped 0.15 0.006"	3 x 5/6	150 6	15 5/8	40 1 3/8	15 5/8	12	125.201	
	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	
	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	
	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*	
	ROF crimped 0.20 0.008"	3 x 5/6	150 6	15 5/8	40 1 3/8	15 5/8	12	125.241	
	PA straight 0.30 0.012"	3 x 5/6	150 6	15 5/8	40 1 3/8	15 5/8	12	125.251	
	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	24 1	55 2 1/4	18 3/4	12	125.511	
	MES crimped 0.15 0.006" / PP	5 x 8/10	190 1 1/2	24 1	55 2 1/4	12 1/2	12	125.521	
	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 coated									
	ROF crimped 0.10 0.004"	3 x 7/8	150 6	15 5/8	39 1 3/8	9	12	125.234	

Fine Scratch Brushes									
	Filling	Rows	KL mm inch	KB mm inch	A mm inch	H mm inch	Pack.	Art.-No.	
	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	
1	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	225 9	20 3/4	110 4 3/8	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	
	MES crimped 0.15 0.006"	4	225 9	20 3/4	100 4	20 3/4	12	182.162**	
	ROF crimped 0.15 0.006"	4	225 9	20 3/4	110 4 3/8	20 3/4	12	126.481	
9	ROF crimped 0.15 0.006"	4	225 9	20 3/4	100 4	20 3/4	12	182.152**	
2	STA crimped 0.15 0.006"	4	225 9	20 3/4	110 4 3/8	20 3/4	12	126.401	
3	PA straight 0.30 0.012"	4	225 9	20 3/4	110 4 3/8	20 3/4	12	126.451	
	PP straight 0.30 0.012"	4	225 9	20 3/4	100 4 3/8	20 3/4	12	182.172**	
4	ROS	4	225 9	20 3/4	110 4 3/8	20 3/4	12	126.472	
Special Brushes									
6	MES crimped 0.35 0.014"	4 x 11/12	350 14	22 7/8	80 3	10 3/8	12	137.701	
7	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	
	MES crimped 0.35 0.014"	4 x 11/12	350 14	22 7/8	77 3	10 3/8	12	182.807**	
5	MES crimped 0.35 0.014"	4 x 11/12	400 15 3/4	20 3/4	77 3	10 3/8	12	183.704**	
	MES crimped 0.35 0.014"	4 x 11/12	450 17 3/4	22 7/8	77 3	10 3/8	12	182.811**	
	MES crimped 0.30 0.012"	5 x 9/8	700 27 1/2	25 1	54 2 1/4	6 1/4	12	183.706**	
8	MES crimped 0.25 0.010"	2 x 10	200 8	15 5/8	80 3	19 3/4	12	132.701	

* Wooden body varnished | ** Plastic body

** Plastic body | For the food industry

Spark Plug Brushes
These small brushes are for all fine brushwork requiring thin wire. They are available in different sizes and filling materials. The models 182.001 and 182.331 have plastic bodies, the other models have a beech wood body. The body of 125.311 is varnished.

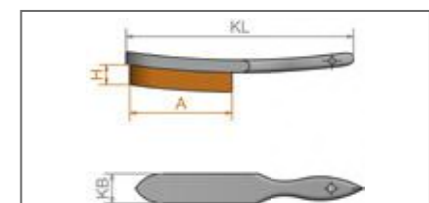


Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

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

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.



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 brushes 144.701 and 144.801 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

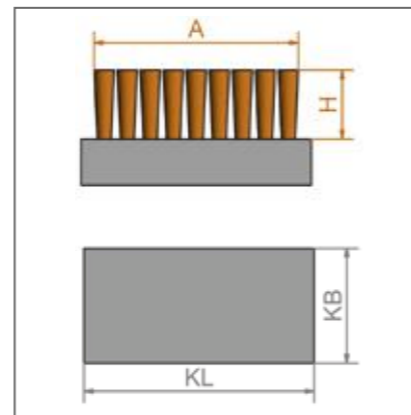
For pre and retreatment of brickwork for painters and bricklayers. All models have a jute or plastic strap.

Plasterer's Brushes

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

Spiked Rollers

For use before the removal of wallpaper. The spiked roller perforates the paper allowing absorption of stripping solvent. The roller is of plastic with the steel pins obliquely arranged to ensure maximum efficiency in use. The handle can be made longer with customised telescopic handles. For safety the roller is supplied with a protective cover.



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

STA = steel wire

STM = brass coated steel

BRO = bronze wire



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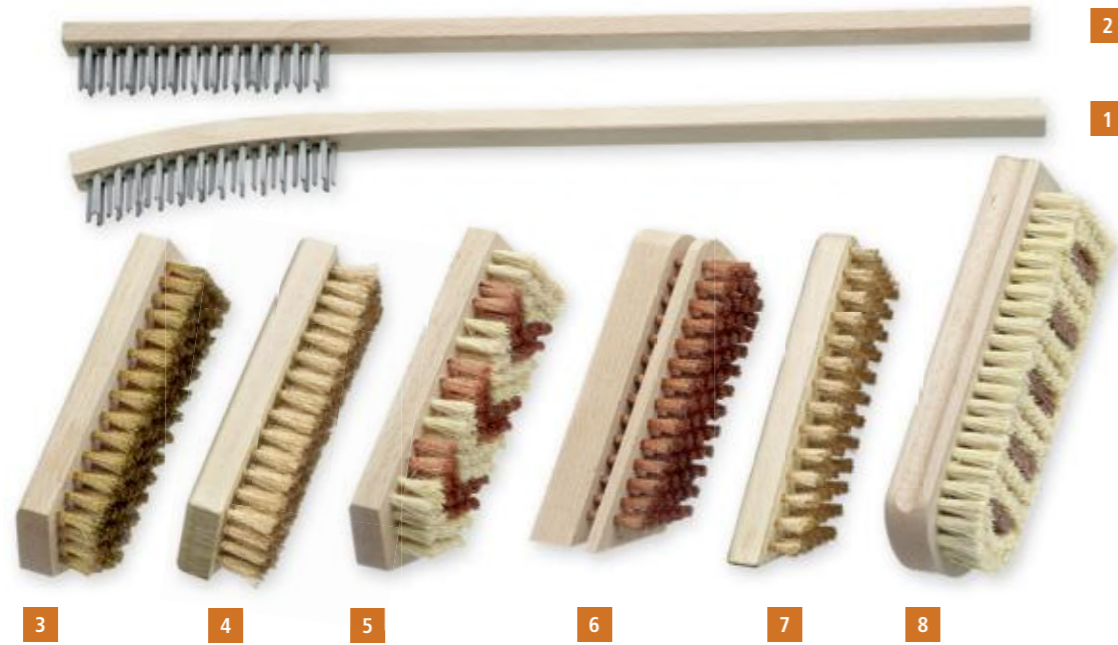


Special Hand Brushes

	Filling	Rows	KL	KB	A	H	Pack.	Art.-No.
			mm inch	mm inch	mm inch	mm inch		
Hand Brushes Rectangular and Violin								
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

Special Models



Radiator Brushes

	Filling	Rows	KL mm inch	KB mm inch	A 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**

Staining Brushes

	Filling	Rows	KL mm inch	KB mm inch	A 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
	BRO 0.15 0.006" / FIB	7	180 7	60 2 3/8	170 6 5/8	20 3/4	12	144.121
6	BRO crimped 0.15 0.006"	6	150 6	50 2	130 5 1/8	20 3/4	12	144.211***
	BRO crimped 0.15 0.006"	6	150 6	50 2	130 5 1/8	15 5/8	12	144.311
7	BRO crimped 0.15 0.006"	6	180 7	60 2 3/8	160 6 3/8	15 5/8	12	144.411
8	Leather + FIB	3/7	175 6 7/8	60 2 3/8	160 6 3/8	20 3/4	12	144.701
	Leather + FIB	4/9	203 8	72 2 7/8	190 7 1/2	20 3/4	12	144.801

* Wooden body curved | ** Wooden body straight | *** with adjustable board

Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 152).

STA = steel wire

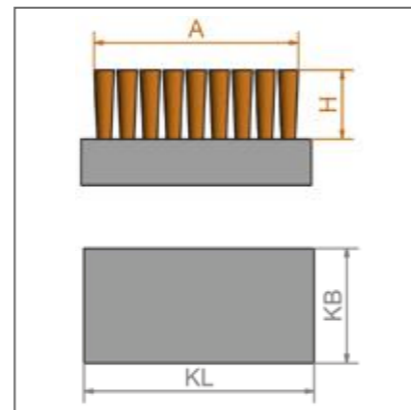
ROF = stainless steel wire

MES = brass wire

BRO = bronze wire

PP = polypropylene

FIB = fibre



File Cleaners / Roughing Brushes

	File Cards	KL mm inch	KB mm inch	A 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

File Cards

Filling, without interval	STA 0,30 width 25	STA 0,30 width 38	STA 0,30 width 51	ROF 0,30 width 38
	Art.-No.	Art.-No.	Art.-No.	Art.-No.
	000.311*	000.321*	000.331*	000.323*

Bricklayer's Brushes with Strap

	Filling	Rows	KL mm inch	KB mm inch	A 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" / PP	9	210 8 1/4	95 3 3/4	200 8	20 3/4	12	142.211**

Plasterer's Brushes

	Filling	KL mm inch	KB mm inch	A 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

Spiked Rollers

	Filling	Rows	KL mm inch	KB mm inch	A mm inch	H mm inch	Pack.	Art.-No.
	steel Pins on plastic roller, with Protective Cover	12	290 11 3/8	25 1	148 5 7/8	7 1/4	10	064.050

* Please indicate length. | ** Wooden body varnished

Brooms and Scrubs

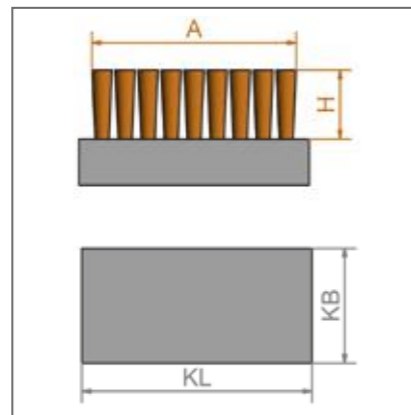


Brooms and Scrubs

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

The shown brooms and scrubs are the best selling models.

The brooms with flat steel wire 1.80 x 0.45 mm make the so called broom lines on cement floors thus receiving a rough surface.



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

STA = steel wire

ROF = stainless steel wire

MES = brass wire



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1 Brooms Flat Wooden Stock, with Handle Hole 23 Ø

Filling	Rows	KL mm inch	KB mm inch	A mm inch	H mm inch	Pack.	Art.-No.
STA straight 0.50 0.020"	5 x 16/17	250 10	60 2 3/8	270 10 5/8	70 2 3/4	12	147.101
STA straight 0.50 0.020"	5 x 20	300 12	60 2 3/8	330 13	70 2 3/4	12	147.401
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
STA straight 0.50 0.020"	6 x 20/21	300 12	70 2 3/4	330 13	70 2 3/4	42	147.200
ROF straight 0.50 0.020"	6 x 20	300 12	70 2 3/4	330 13	70 2 3/4	12	147.261
STA straight 0.50 0.020"	6 x 23	350 14	70 2 3/4	390 15 3/8	70 2 3/4	12	147.301

2 Brooms Raised Wooden Stock, with Handle Hole 23 Ø

Filling	Rows	KL mm inch	KB mm inch	A mm inch	H mm inch	Pack.	Art.-No.
STA straight 0.50 0.020"	5 x 16/17	250 8 1/4	60 2 3/8	270 10 5/8	70 2 3/4	12	146.101
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
STA straight 0.50 0.020"	6 x 23/24	350 14	70 2 3/4	390 15 3/8	70 2 3/4	12	146.301

Scrubs, with Handle Hole 23 Ø

Filling	Rows	KL mm inch	KB mm inch	A 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
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
STA straight 0.25 0.010"	6 x 17/18	240 9 1/2	70 2 3/4	245 9 5/8	35 1 1/2	12	148.201
STA straight 0.40 0.016"	7 x 15/16	230 9	65 2 1/2	220 8 5/8	35 1 1/2	12	148.601*

* Wooden body curved

Dusters



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.

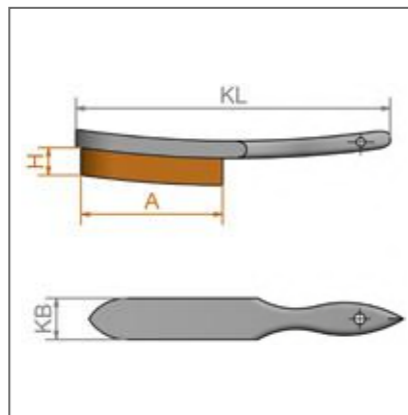
Next to horse hair we offer dusters with coco filament as a good value alternative.

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.



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

- STA = steel wire
- MES = brass wire
- PP = polypropylene
- ROS = horse hair



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Dusters								
	Filling	Rows	KL mm inch	KB mm inch	A mm inch	H mm inch	Pack.	Art.-No.
1	coco	4	280 11	40 1 3/8	160 6 3/8	70 2 3/4	12	124.201
2	coco	4	430 17	40 1 3/8	165 6 1/2	70 2 3/4	20	124.401
3	MES crimped 0.25 0.010"	4	320 12 1/2	35 1 1/2	150 6	40 1 3/8	12	124.121
4	STA straight 0.25 0.010"	4	320 12 1/2	35 1 1/2	150 6	60 2 3/8	12	124.101
5	ROS	6	300 12	43 1 3/4	165 6 1/2	50 2	20	124.301*
6	PP	4	320 12 1/2	35 1 1/2	175 6 7/8	70 2 3/4	12	124.801

* Wooden body varnished

Weed Brushes and Weed Brooms

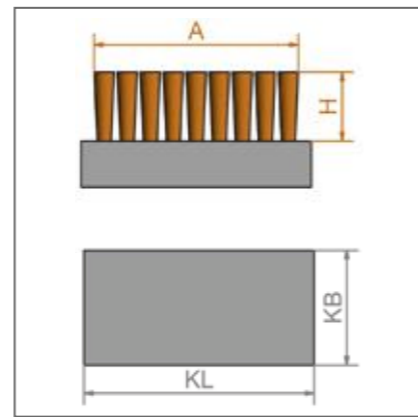


Weed Brush

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.



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“.

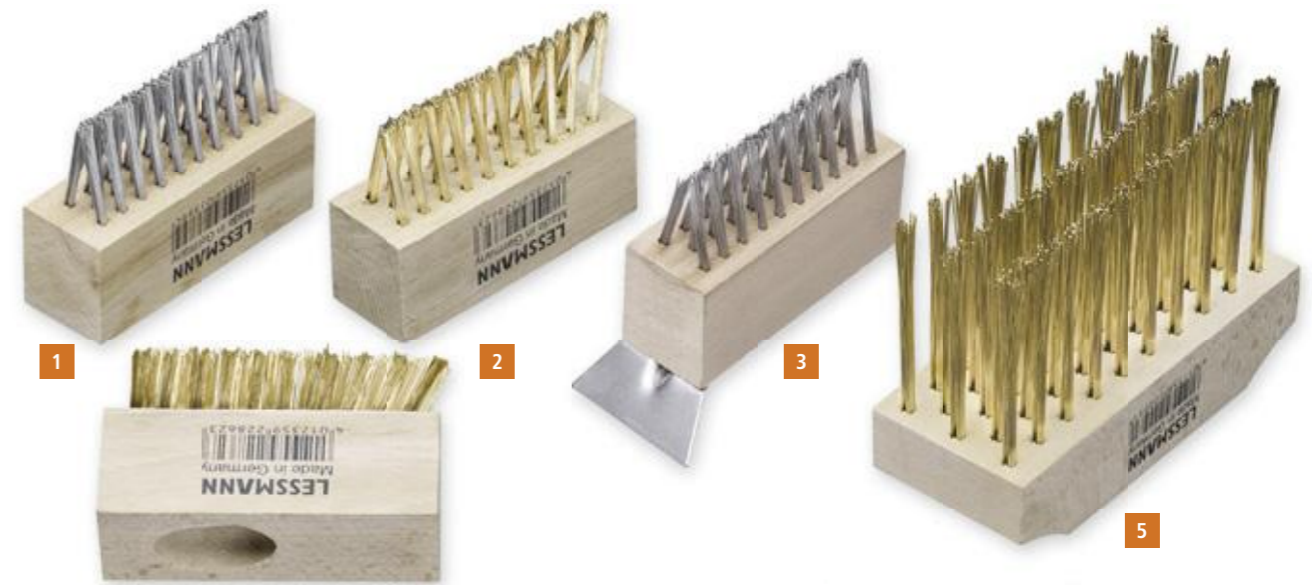
All standard hand brushes have a bar code stamp and LESSMANN-imprint.



Displaybox

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

STA = steel wire
STM = brass coated steel



III III I EAN Weed Brushes, with Handle Hole 23 Ø

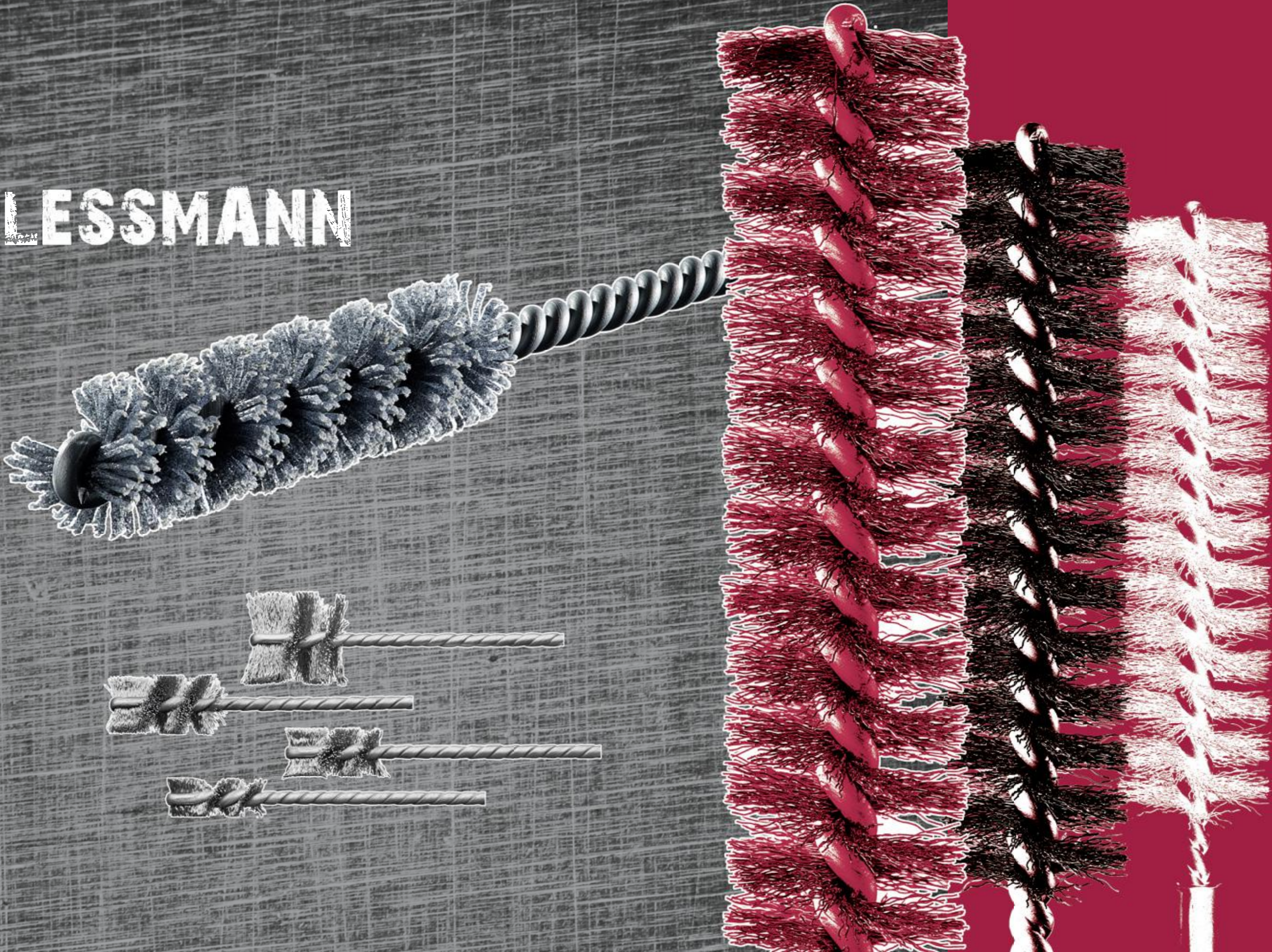
	Filling	KL	KB	H	Rows	Pack.	Art.-No.
		mm inch	mm inch	mm inch			
without handle							
1	STA 0.35 0.014"	100 4	35 1 1/2	36 1 1/2	3	25	151.108
2	STM 0.35 0.014"	100 4	35 1 1/2	36 1 1/2	3	25	151.511
	Filling set in working direction						
3	STA 0.35 0.014" with scraper	100 4	35 1 1/2	42 1 5/8	3	25	151.109
with handle, 1400 mm long, Ø 28 mm, incl. Displaybox							
4	STA 0.35 0.014"	100 4	35 1 1/2	36 1 1/2	3	30	151.991.07*
	STM 0.35 0.014"	100 4	35 1 1/2	36 1 1/2	3	30	151.995.07*
	Filling set in working direction						

III III I EAN Weed Broom, with Handle Hole 23 Ø

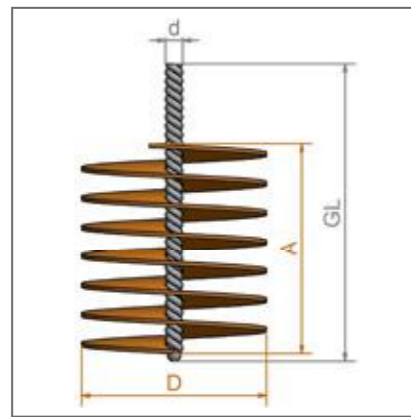
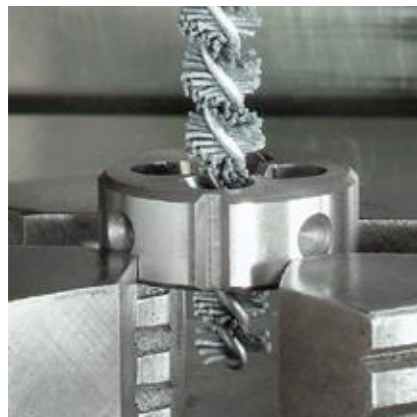
	Filling	KL	KB	H	Rows	Pack.	Art.-No.
		mm inch	mm inch	mm inch			
without handle							
5	STM 0.50 0.020"	140 5 1/2	60 2 3/8	70/60 2 3/4 / 2 3/8	10/9	16	152.510
with handle, 1400 mm long, Ø 28 mm, incl. Displaybox							
	STM 0.50 0.020"	140 5 1/2	60 2 3/8	70/60 2 3/4 / 2 3/8	10/9	12	152.995.07*

* Delivery only in full packaging units.

LESSMANN



Micro Interior Brushes



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.

Micro Interior Brushes, Steel Wire

Micro interior brushes with steel wire are used as thread brushes for descaling, deburring or cleaning:

- Cross corners
- Crossovers
- Tap holes
- Slots

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.**

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

AO = aluminium oxide bristles

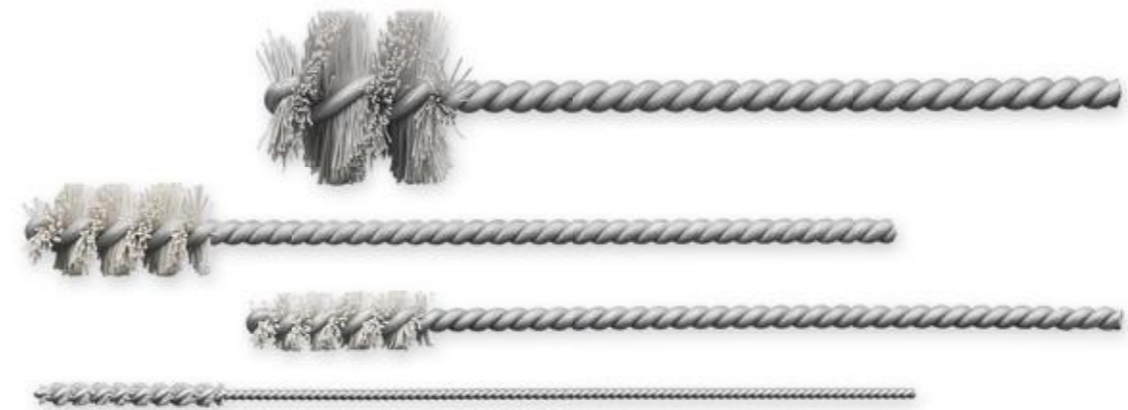


Stainless Steel Brushes

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

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

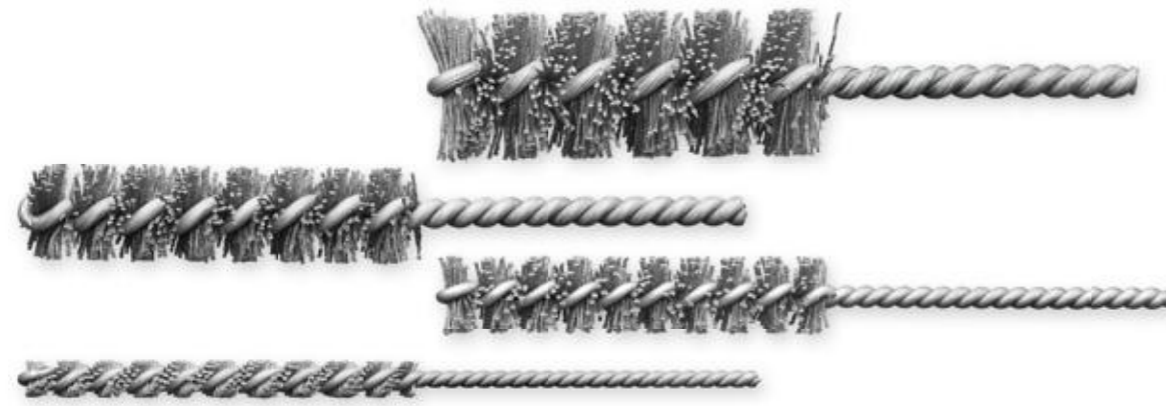
Please ask for our special leaflet „Interior Brushes“.



Microabrasive Interior Brushes IBE, Aluminum Oxide Bristles

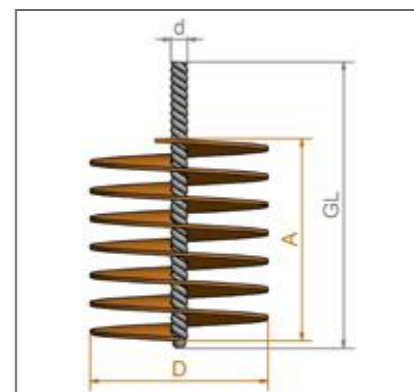
D	GL	A	d	RPM	Pack.	AO 600/0.30	AO 1000/0.25
mm inch	mm inch	mm inch	mm inch	max.		Art.-No.	Art.-No.
3.2 1/8	125 5	25 1	1.5 1/16	800	10	541.084	540.067
4.2 11/64	125 5	25 1	2.2 3/32	1,000	10	541.045	540.068
4.8 3/16	125 5	25 1	2.2 3/32	1,000	10	541.083	540.069
5.5 7/32	125 5	25 1	2.2 3/32	1,000	10	541.079	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
17.5 11/16	125 5	25 1	4.7 3/16	2,000	10	541.039	
16 5/8	125 5	25 1	3.7 5/32	2,000	10	541.089	540.076
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

Interior Brushes



Microabrasive Interior Brushes IBE, Silicon Carbide Bristles							SIC 120/0.6	SIC 320/0.6/**0,3	SIC 1000/0.25
D	GL	A	d	RPM	Pack.				
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	0.9 1/32	1,000	10		543.200.22**	545.200.22	
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			
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 152).

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

Micro Interior Brushes IBH, Steel Wire, Stainless Steel Wire									
D	GL	A	d	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	3.2 1/8	3,500	10	564.220.60			
8 5/16	90 3 1/2	25 1	3.2 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

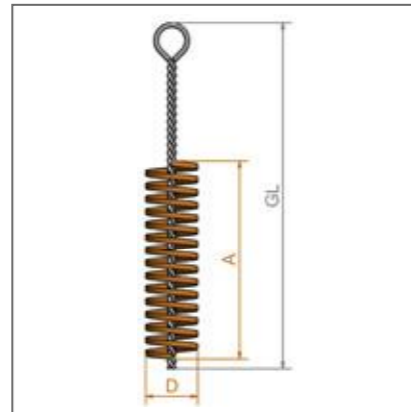
Micro Interior Brushes IBH, Brass Wire and Polyamide									
D	GL	A	d	RPM	Pack.	MES 0.15 0.006"	MES 0.20 0.008"	PA 0.30 0.012"	
mm inch	mm inch	mm inch	mm inch	max.		Art.-No.	Art.-No.	Art.-No.	
8 5/16	90 3 1/2	25 1	3.2 1/8	3,500	10	565.730.80			
10 25/64	90 3 1/2	25 1	3.8 5/32	3,500	10	565.731.00		565.061.00	
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	

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.



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

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

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

5 Cylinder brushes, flat filament with Loop IBZ

D	GL	A	Pack.	STA 0,15	STA 0,20
mm inch	mm inch	mm inch		Art.-No.	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



Cylinder Brushes with Loop IBZ

D	GL	A	Pack.	1	2	3	4
mm inch	mm inch	mm inch		STA Art.-No.	ROF Art.-No.	MES Art.-No.	PA Art.-No.
3 1/8	300 12	100 4	10	542.381	542.541	542.741	542.881
4 5/32	300 12	100 4	10	542.351	542.508	542.740	542.823
5 13/64	300 12	100 4	10	542.347	542.538	542.739	542.822
6 15/64	300 12	100 4	10	542.301	542.501	542.701	542.801
8 5/16	300 12	100 4	10	542.302	542.502	542.702	542.802
10 25/64	300 12	100 4	10	542.303	542.503	542.703	542.803
12 15/32	300 12	100 4	10	542.304	542.504	542.704	542.804
13 33/64	300 12	100 4	10	542.305	<i>542.505</i>	542.705	<i>available on demand</i>
14 9/16	300 12	100 4	10	542.306	<i>542.506</i>	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	<i>available on demand</i>	<i>542.708</i>	542.808
18 45/64	300 12	100 4	10	542.309	<i>542.542</i>	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
40 1 5/8	300 12	100 4	10	542.319	<i>542.519</i>	542.719	542.819
50 2	300 12	100 4	10	542.320	<i>542.520</i>	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	<i>available on demand</i>	547.703	547.803
15 19/32	500 20	100 4	10	547.307	<i>available on demand</i>	547.707	547.807
20 51/64	500 20	100 4	10	547.311	<i>available on demand</i>	547.711	547.811
25 1	500 20	100 4	10	547.313	<i>available on demand</i>	547.713	547.813
30 1 3/16	500 20	100 4	10	547.315	<i>available on demand</i>	547.715	547.815

Hole Cleaning Brushes



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

* conical filling

5 Cylinder Brushes with Shank 8 mm Ø IBG							STA
D	GL	A	RPM	Pack.			Art.-No.
mm inch	mm inch	mm inch	max.				
13 33/64	200 8	55 2 11/64	1,000	10			503.311
20 51/64	200 8	55 2 11/64	1,000	10			503.313
26 1 1/32	200 8	55 2 11/64	800	10			503.314
32 1 17/64	200 8	55 2 11/64	800	10			503.316
38 1 1/2	200 8	55 2 11/64	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.

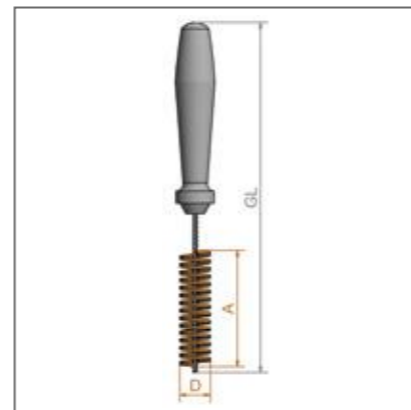
Typically the brushes are used in construction industry or handcraft business for cleaning bore holes or slots.

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

The model 561.304 has the filling material conically cut.

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

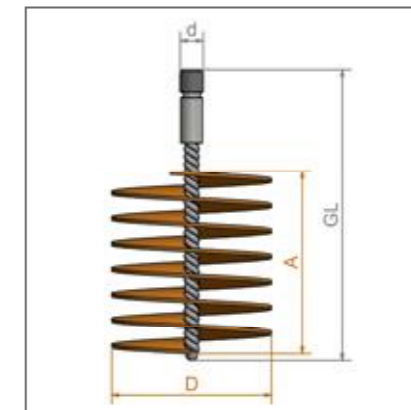


Interior Brushes for bore hole cleaning IBE, Steel, without Thread								
D	GL	A	Suitable for bore hole	RPM	Pack.	STA 0.10 0.004"	STA 0.15 0.006"	STA 0.20 0.008"
mm inch	mm inch	mm inch	mm inch	max.		Art.-No.	Art.-No.	Art.-No.
12 15/32	130 5 1/8	80 3	10 25/64	1,500	10	504.301		
14 9/16	140 5 1/2	80 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	d	Pack.	ROF 0.10 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	
20 51/64	200 8	100 4	18 45/64	M 6	10		504.534.06	
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

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 152).

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 119

Handles and Extension Pieces
 see on page 119

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 152).

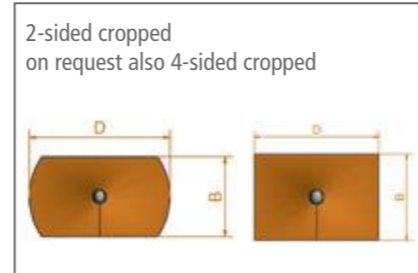
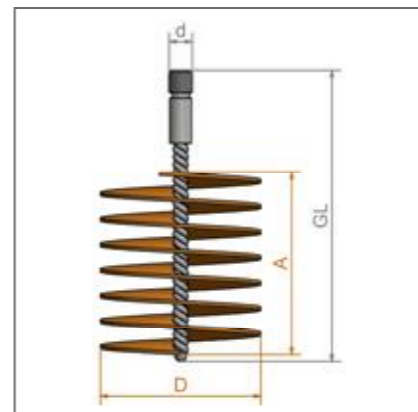
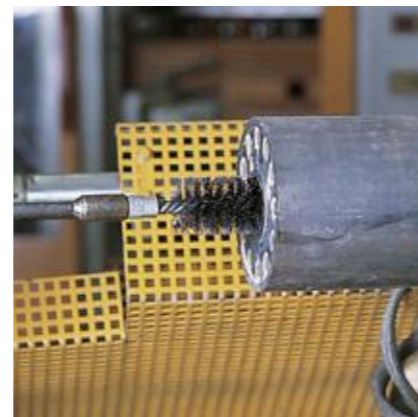
STA = steel wire

ROF = stainless steel wire

MES = brass wire

PA = polyamide

SIC = silicon carbide bristles



2-sided cropped
 on request also 4-sided cropped



Tube Brushes with external Thread IBG

D	GL	A	d	RPM	Pack.				
						1	2	3	
						STA crimped	ROF crimped	MES crimped	PA straight
						Art.-No.	Art.-No.	Art.-No.	Art.-No.
Single Spirale									
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 Carbide Bristles

D	GL	A	d	RPM	Pack.		
						SIC 180/0.9	Art.-No.
Single Spirale							
mm inch	mm inch	mm inch					
10 25/64	115 4 1/2	80 3	M 6	4,000	10		<i>500.010</i>
16 5/8	115 4 1/2	80 3	M 6	4,000	10		<i>500.016</i>
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		<i>502.052.24</i>
25 1	150 6	100 4	W 1/2"	3,500	10		<i>502.055.24</i>
28 1 7/64	150 6	100 4	W 1/2"	3,500	10		<i>502.058.24</i>

We offer one for the tube brushes corresponding handle on page 119



For all brushes with thread M 6, M 10, W 1/2" and W 3/8" a practical hanger assembly is available for presenting the brushes individually. More information you find on page 129.

Tube/Sleeve brushes



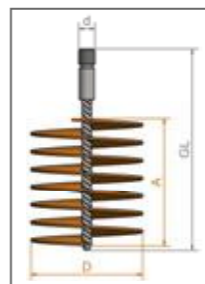
Tube Brushes with external Thread W 1/2"

				1	2	3	4	5		
				Single Spirale IBG				Double Spirale IBGD		
D	GL	A	Pack.	RPM max.	STA straight Art.-No.	ROF straight Art.-No.	MES crimped Art.-No.	PA straight Art.-No.	RPM max.	STA straight Art.-No.
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		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	<i>506.469</i>	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	<i>506.488</i>	<i>506.788</i>	506.888	1,500	526.188
94	160	100	5	1,000	506.194	<i>506.494</i>	<i>506.794</i>	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	<i>506.406</i>	506.706	<i>506.806</i>	1,500	526.106
150	160	100	5	1,000	506.211	<i>506.411</i>	<i>506.711</i>	<i>506.811</i>	1,000	<i>526.111</i>
200	160	100	5	1,000	506.220	available on demand	<i>506.720</i>	<i>506.820</i>	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.**

We offer one for the tube brushes corresponding handle on page 119



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

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

Tube Brushes with internal Thread / Boiler Brushes IBG

B	D	Format	GL	A	d	RPM max.	Pack.	STA straight Art.-No.	PA straight Art.-No.
Single Spirale									
1	30	1 3/16	⊙	160 6 1/4	100 4	M 10i	1,000 10	506.130.60	
	40	1 5/8	⊙	160 6 1/4	100 4	M 10i	1,000 10	506.140.60	
	50	2	⊙	160 6 1/4	100 4	M 10i	1,000 10	506.150.60	
	60	2 3/8	⊙	160 6 1/4	100 4	M 10i	1,000 10	506.160.60	
	80	3	⊙	160 6 1/4	100 4	M 10i	1,000 10	506.180.60	
	90	3 1/2	⊙	160 6 1/4	100 4	M 10i	1,000 10	507.190	
	101	4	⊙	160 6 1/4	100 4	M 10i	1,000 10	506.101.60	
2	120	4 3/4	⊙	160 6 1/4	100 4	M 10i	1,000 10	507.105	506.805.60
	20	51/64	⊙	140 5 1/2	80 3	M 10i	10	533.405	
	15	19/32	⊙	160 6 1/4	100 4	M 10i	10	533.408	
	30	1 3/16	⊙	160 6 1/4	100 4	M 10i	10	532.218.60	
	40	1 5/8	⊙	160 6 1/4	100 4	M 10i	10	532.214.60	
	50	2	⊙	160 6 1/4	100 4	M 10i	10	532.303.60	

Suitable back board brushes you find at page 113.

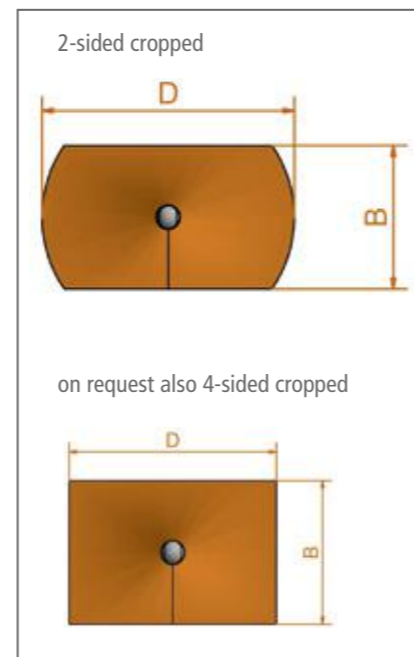
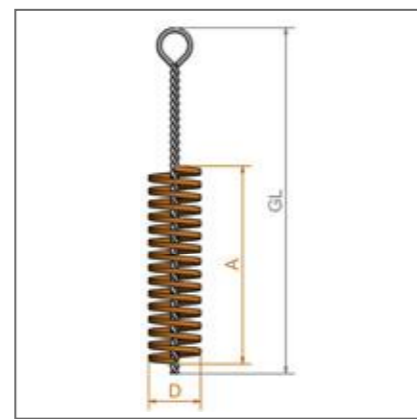
⊙ round | ⊖ 2-sided cropped | on request also 4-sided cropped

Sleeves Brushes Conical, without Thread

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



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 thread nipple, for screwing and lengthing by using a separate handle.

Handles and Extension Pieces

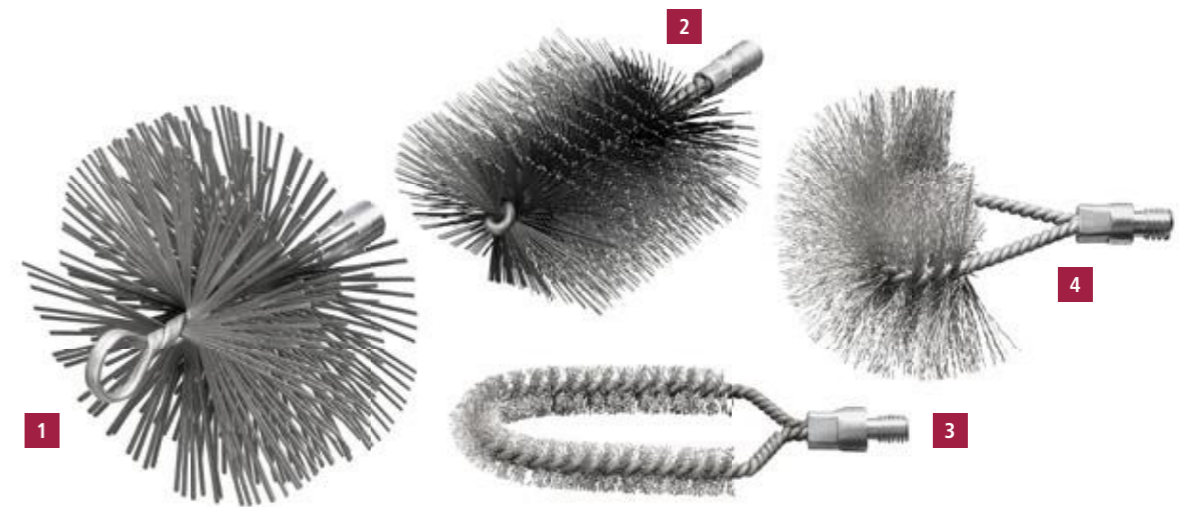
For tube brushes, boiler brushes and stove pipe brushes, see pages 111 - 113, 114 - 118. The twisted handles have an internal thread and a grip loop, the extension pieces have both an internal thread and an external thread.

Suitable Thread Adapters
see page 119

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

STA = steel wire

PA = polyamide



IIIIII
EAN

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

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

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

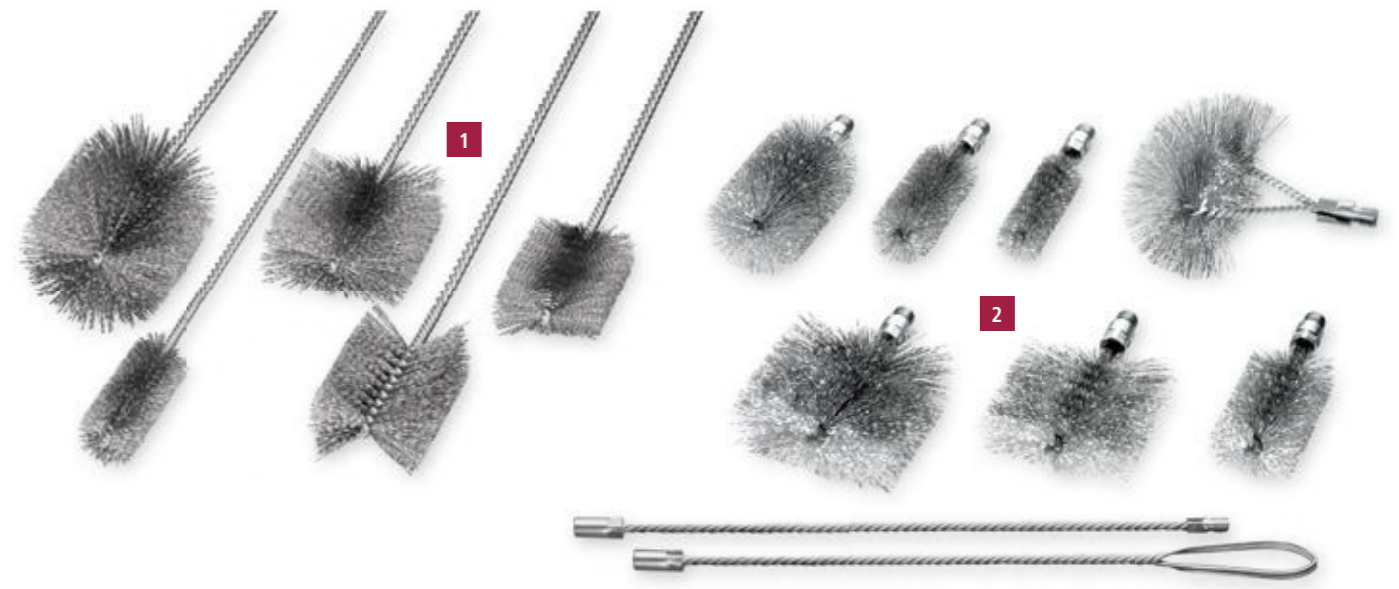
Filling	B mm inch	D mm inch	Format	GL mm inch	A mm inch	d	Pack.	Art.-No.
PA straight	30 1 3/16	50 2	⊖	160 6 3/8	100 4	W 1/2"	5	533.008.24
PA straight	50 2	100 4	⊖	160 6 3/8	100 4	W 1/2"	5	<i>533.010.24</i>
STA straight	30 1 3/16	50 2	⊖	160 6 3/8	100 4	W 1/2"	5	532.218
2 STA straight	30 1 3/16	80 3	⊖	160 6 3/8	100 4	W 1/2"	5	532.211
STA straight	40 1 5/8	80 3	⊖	160 6 3/8	100 4	W 1/2"	5	532.202
STA straight	50 2	100 4	⊖	160 6 3/8	100 4	W 1/2"	5	532.203
STA straight	50 2	120 4 3/4	⊖	160 6 3/8	100 4	W 1/2"	5	532.205
3 STA crimped	18 45/64	70 2 3/4	curved	160 6 3/8	100 4	W 1/2"	5	529.301.24
STA crimped	30 1 3/16	80 3	curved	175 6 7/8	120 4 3/4	W 1/2"	5	529.302
4 STA crimped	80 3	150 6	curved	150 6	120 4 3/4	W 1/2"	5	529.311
PA straight	80 3	150 6	curved	150 6	120 4 3/4	W 1/2"	5	<i>529.811</i>
STA crimped	80 3	150 6	curved	150 6	120 4 3/4	M 10i	5	<i>529.301.60</i>

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

Boiler Brushes



Boiler Brushes-Sets



INTERIOR BRUSHES

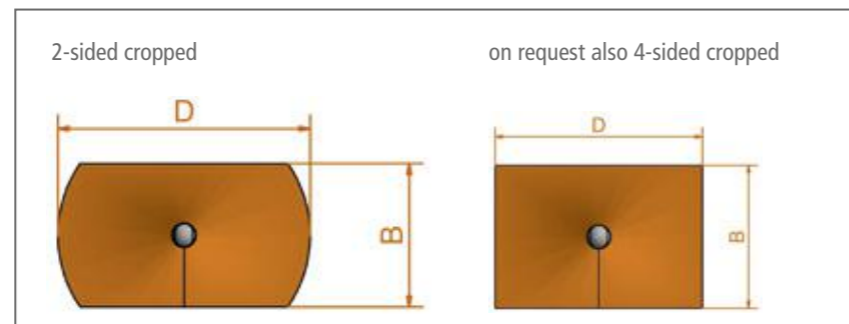
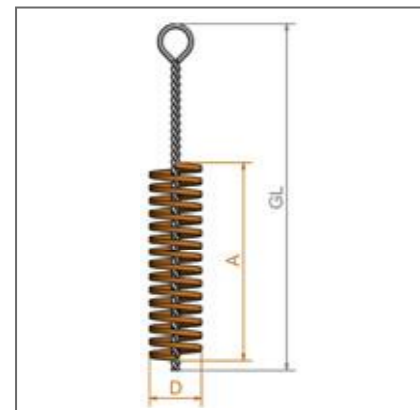
Boiler Brushes with Handle IBE							
Filling	B mm inch	D mm inch	Format	GL mm inch	A mm inch	Pack.	Art.-No.
1 PA straight		20 5/16	⊙	600 23 5/8	100 4	10	544.804
2 STA crimped		50 2	⊙	700 27 1/2	100 4	10	544.301
STA crimped		90 3 1/2	⊙	600 23 5/8	100 4	10	544.302
STA crimped		10 25/64	⊙	850 33 1/2	100 4	10	545.320
STA crimped		15 19/32	⊙	850 33 1/2	100 4	10	<i>545.321</i>
2 STA crimped		20 5/16	⊙	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 15/32	14 9/16	⊙	600 23 5/8	150 6	10	554.903
STA straight	17 43/64	50 2	⊙	960 38	60 2 3/8	10	564.101**
STA crimped	30 1 3/16	50 2	⊙	800 31 1/2	100 4	10	551.801
3 STA crimped	40 1 5/8	50 2	⊙	1,000 39 3/8	80 3	10	553.711
STA straight	40 1 5/8	80 3	⊙	1,000 39 3/8	100 4	10	552.404
STA crimped	40 1 5/8	90 3 1/2	⊙	1,000 39 3/8	80 3	10	564.301*
STA straight	50 2	100 4	⊙	1,000 39 3/8	100 4	10	552.403

* Rod made from spring steel 5 Ø | ** 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 152).

STA = steel wire
PA = polyamide



1 Brush Set, 5 pieces												
						Set with handle, big edition, steel wire			Set with handle, small edition, steel wire			
Content: 1 piece each	A	Format	Art.-No.	B	D	GL	Art.-No. Set	Art.-No.	B	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	70	1.000		559.831	31	20	600	
Boiler Brush	100	⊙	552.816	50	100	1.000		551.811	30	20	500	
Boiler Brush	100	flat filament	559.713	75	30	1.000		551.812	50	40	700	

2 Brush Set, Steel Wire, external Thread W 1/2", crimped, 9 pieces											
Content: 1 piece each	B mm inch	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 1 3/16	50 x 2	160 6 1/4	100 4	⊙						
532.716 Boiler Brush	30 1 3/16	90 3 1/2	160 6 1/4	100 4	⊙						
532.703 Boiler Brush	50 2	100 4	160 6 1/4	100 4	⊙						
529.311 Back board brush	80 3	150 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	B mm inch	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 1 3/16	50 2	160 6 1/4	100 4	⊙						
533.009.24 Boiler Brush	30 1 3/16	90 3 1/2	160 6 1/4	100 4	⊙						
533.010.24 Boiler Brush	50 2	100 4	160 6 1/4	100 4	⊙						
529.811 Back board brush	80 3	150 6	150 6								
567.671 Handle with Eye			500 20								
567.771 Extension			500 20								

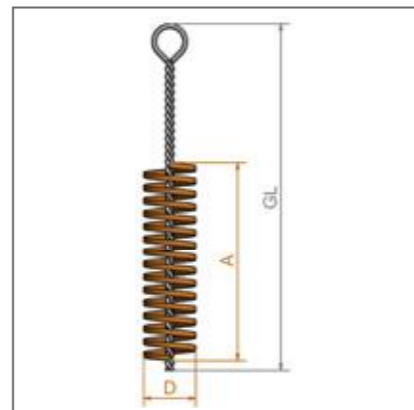
Stove Pipe Brushes



Stove Pipe Brushes with Twisted Handle IBZ						
Filling	D mm inch	GL mm inch	A mm inch	Pack.		Art.-No.
STM	130 5 1/8	2,000 78 3/4	200 8	10		546.302
STM	130 5 1/8	3,000 118	200 8	10		546.304
1 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
BAS	150 6	3,000 118	200 8	10		546.908

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

3 Stove Pipe Brushes with separate Handle IBZG						
Filling	D mm inch	GL mm inch	A mm inch	d	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 152).

STM = brass coated steel

BAS = bassine black

Accessories



Handle with Eye					
	GL mm inch	d	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	d	Format	Pack.	Art.-No.
3	1,000 40	Internal / External M 4	twisted wire	1	566.703
	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	<i>001.215</i>
	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



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EAN

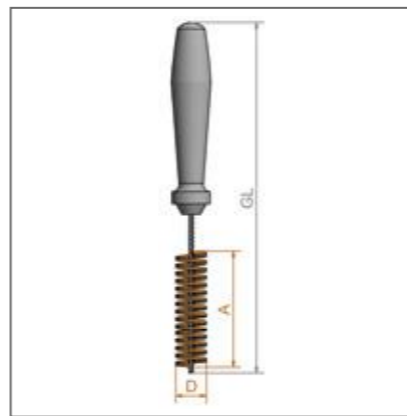
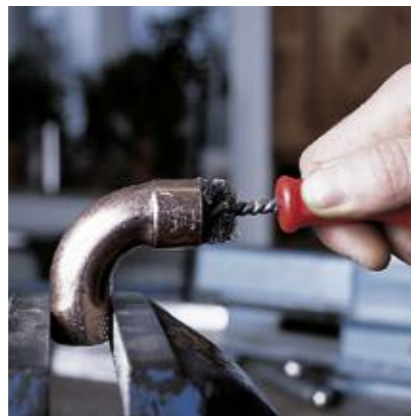
Interior Fitting Brushes IBM

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 152).

STA = steel wire
ROF = stainless steel wire
PP = polypropylene

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	60 2 3/8	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
STA	20 51/64	205 8 5/64	30 1 1/4	200	045.301

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	<i>184.104</i>

* conical filling

5 End Brush mutual filled

Filling Material	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	<i>184.412</i>

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 removal 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



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 152).

STA = steel wire, crimped

ROF = stainless steel wire

MES = brass wire, crimped

SIC = brass wire

1 Wheel Brushes with Shank 6 mm Ø

D mm inch	A mm inch	RPM max.	Pack.	STA 0.20 0.008"	STA 0.30 0.012"	ROF 0.20 0.008"	ROF 0.30 0.012"
				Art.-No.	Art.-No.	Art.-No.	Art.-No.
50 2	8-10 3/8	4,500	10	410.122	410.123		
75 3	8-10 3/8	4,500	10	410.132	410.133	410.134	410.135
75 3	14-16 5/8	4,500	10		410.173		
100 4	8-10 3/8	4,500	10	410.152	410.153	410.154	410.155
100 4	14-16 5/8	4,500	10		410.183		410.185

2

D mm inch	A mm inch	RPM max.	Pack.	MES 0.20 0.008"	MES 0.25 0.010"	SIC 80/1.2	SIC 180/0.9
				Art.-No.	Art.-No.	Art.-No.	Art.-No.
75 3	8-10 3/8	4,500	10		410.136	410.138	
100 4	8-10 3/8	4,500	10	410.156		410.158	<i>410.159</i>



3 Cup Brushes with Shank 6 mm Ø

D mm inch	RPM max.	Pack.	STA 0.20 0.008"	STA 0.30 0.012"	ROF 0.20 0.008"	ROF 0.30 0.012"
			Art.-No.	Art.-No.	Art.-No.	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"	SIC 80/1.2	SIC 320/0.6
			Art.-No.	Art.-No.	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 End Brushes with Shank 6 mm Ø

D mm inch	RPM max.	Pack.	STA 0.30 0.012"	SIC 80/1.2
			Art.-No.	Art.-No.
25 1	12,000	10	455.161	453.821

6 Cylinder Brushes with Shank 6 mm Ø

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

7 D.I.Y. Wheel Brushes with bore

D mm inch	A mm inch	d	RPM max.	Pack.	STA 0.35 0.014"
					Art.-No.
75 3	10 3/8	1/2"	4,500	10	300.102
100 4	10 3/8	1/2"	4,500	10	320.102

Packing and Sales Promotion



Technical data on front, details and EAN on back: 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.

Presentation „Cut Case“ Carton



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.

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

- 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 = brass wire

Brushes for Angle Grinders in Blister Packaging

	D mm inch	Thread mm inch	STH 0.35 0.014"		ROH 0.30 0.012"		STA 0.35 0.014"	
			Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	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	

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

	D mm inch	STH 0.35 0.014"		ROH 0.35 0.014"	
		Art.-No.	Art.-No.	Art.-No.	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	

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

	D mm inch	STA 0.25 0.010"		ROF 0.30 0.012"		SIC 80/1.2	
		Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	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	410.152.09	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	
End Brushes	25 1		455.161.09				
Cylinder Brushes	28 1		541.301.09				

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	8 1	120.401.CC	
Rivet Brush	STA straight 0,35	3 Rows	8 1	120.801.CC	
Rivet Brush	ROF straight 0,35	3 Rows	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
Hand Brush with Plastic Handle	ROF crimped 0,35	3 Rows		10 1	185.431.CC
Wheel Brush with Plastic Body	SIC K 80 / 1,2	7 Rows	Thread M 14	2 1	402.880.CC
Disc Brush with Plastic Body	SIC K 80 / 1,2	4 Rows	Thread M 14	2 1	405.845.CC
Cup Brush	STA crimped 0,35	DIA 65	Thread M 14	15 1	421.167.CC
Cup Brush	ROH crimped 0,30	DIA 65	Thread M 14	15 1	421.367.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
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

Measurement in mm: Carton Size 1: 300x100x130 | Carton Size 2: 300x200x130

Sales Promotion Display



Low-cost product presentation – Brushes on card

Sales Promotion Tube Brushes



1 Displaybox with Toolbrushes

Pack	Catalogue Page	Filling	D mm inch	d mm inch	RPM max.	Pack.	Art.-No.
Knot Cup Brushes	53	STH 0.50 0.020"	65 2 1/2	M 14 x 2.0	12,500	20	482.217.07
Knot Wheel Brushes	17	STH 0.50 0.020"	115 4 1/2	22.2 7/8	12,500	18	472.211.07
Knot Bevel Brushes	59	STH 0.50 0.020"	100 4	M 14 x 2.0	12,500	12	471.257.07
Crimped Cup Brushes	56	STA 0.30 0.012"	60 2 3/8	M 14 x 2.0	12,500	20	421.167.07

2 D.I.Y. Brush Assortments; Shank Brushes

Description and technical data please see table above and on page 124, 125

Contents: 36 pieces assorted						Art.-No.
6 Wheel Brushes	410.132	6 Wheel Brushes	410.153	6 Cup Brushes	430.123	499.907
6 Cup Brushes	430.133	6 End Brushes	455.161	6 Cylinder Brushes	541.301	
9 Wheel Brushes	410.132	9 Cup Brushes	430.123			499.921
9 Wheel Brushes	410.153	9 Cup Brushes	430.133			

3 Brushes with Shank 6 mm Ø on Card

Description and technical data please see table above and on page 69, 124, 125

	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	
End Brushes	25 1	10	455.161.07			
Cylinder Brushes	28 1	10	541.301.07			

The most demanded tool brushes are not only offered single or bulk packed. These fast sellers are presented even better in sale promoting display cartons. They can be put on tool shelves or on the counter.

The standard assortment contains:

- Knot cup brushes diameter 65
- Knot wheel brushes diameter 115
- Knot bevel brushes diameter 100
- Cup brushes with crimped wire diameter 60

A display carton with the best selling Do It Yourself Brushes, bulk packed, completes the offer.

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

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 3/8"	135 5	42 1 5/8	2 5/64	10	000.506
W 1/2"	135 5	42 1 5/8	2 5/64	10	000.507

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

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, W 3/8" and W 1/2". All hangers are with a eurohole.

A label can be fixed at the front of the hanger.

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.

Little helps for orientation (labels)

They give hints regarding brushes and their application. Available for following article groups: Hand brushes, brushes for drilling machines and brushes for angle grinders.

Brush-Know-how Poster

All important brush applications at first glance! Available as label 100 x 40 cm and as poster 40 x 60 cm. Ask us or our representatives!



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.

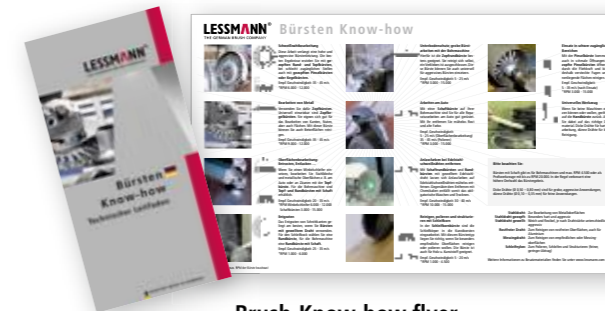


Take a look at quality

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

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

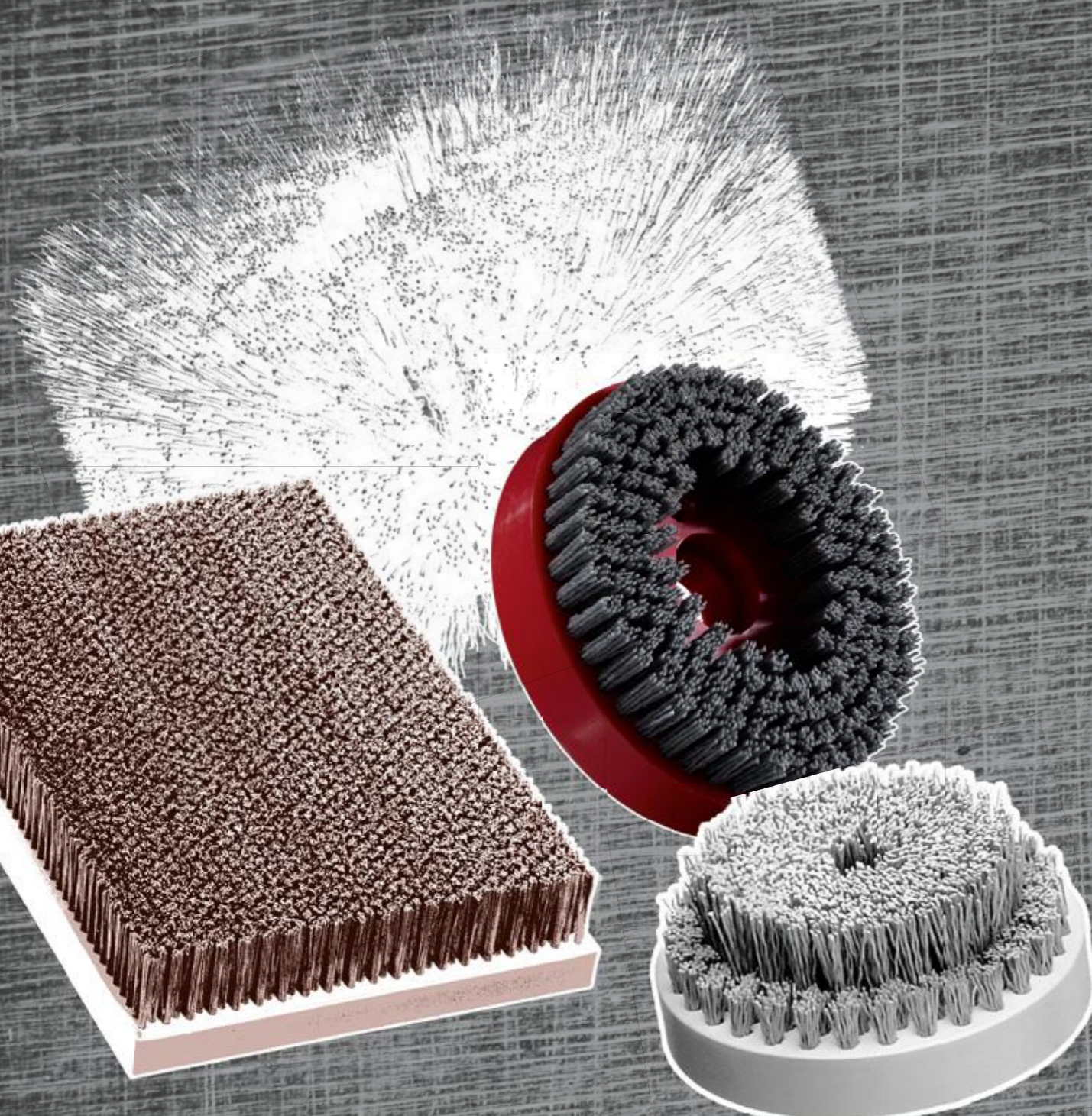
English version: Art.-No. 99BKHENG



Cut Cases

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

LESSMANN



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 tapering colour and scales on stainless steel surfaces, e.g. on weld seams.



Cleaning of areas which are hard to reach



Before the treatment | After the treatment
Cleaning of 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.

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

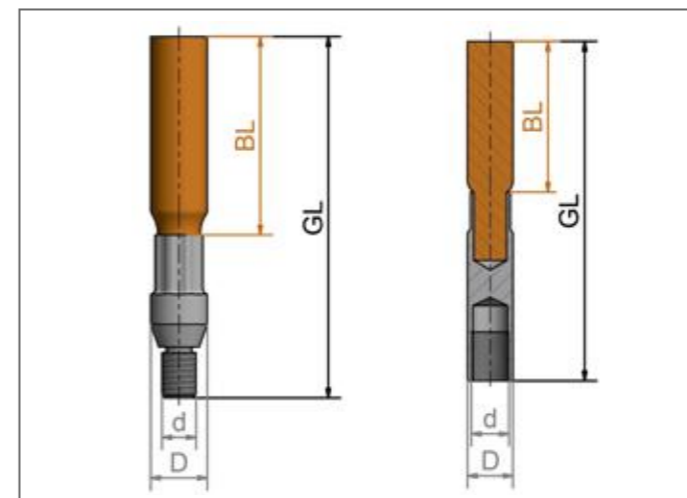
Unlike other processes, working with special machines for weld seam cleaning are environmentally friendly and by using it correctly no toxic vapours are generated.

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.

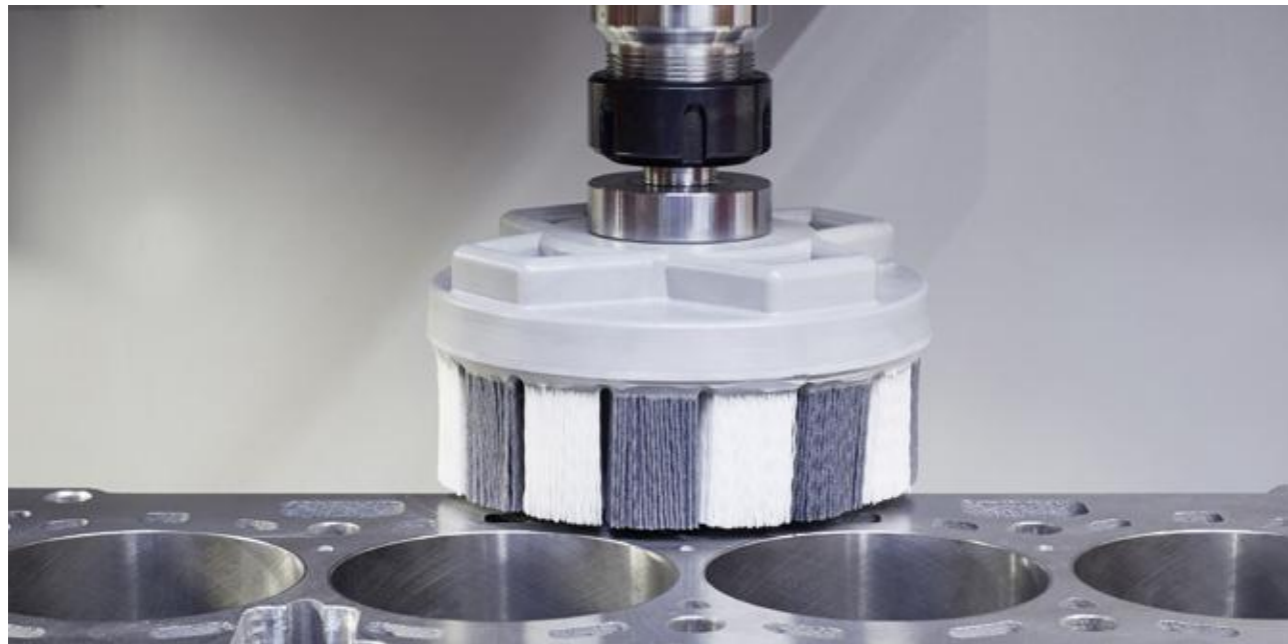


Brushes with carbon fibre									
Sleeve	D	GL	BL	Shape of thread	d	Presentation	Pack.	Art.-No.	
1	Copper	10	65	30	outside	M6		10	047.700
2	Copper	12	90	40	inside	M10 x 0,75	Plastic coating	10	047.705
	Copper	12	90	40	inside	M10 x 1,0	Plastic coating + side thread M4	10	047.707
	Copper	10	80	30	inside	M8 x 1,0	Plastic coating	10	047.708
3	Stainless Steel	8	50	30	outside	M6 x 1,0	Teflon sleeve (DRM 12 mm)	10	047.750
	Stainless Steel	8	50	30	outside	M6 x 1,0		10	047.755
4	Stainless Steel	8	72	42	outside	M6 x 0,75	Plastic coating	10	047.754
5	Stainless Steel	12	75	40	inside	M10		10	047.757
6	Stainless Steel	12	75	40	inside	M10		10	047.801



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 152).

High Performance Filament Brush



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 edge radiuses. LESSMANN HFB brushes are ideal tools which achieve these requirements outstandingly.

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.

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 application HFB brushes can be used under dry or wet conditions.

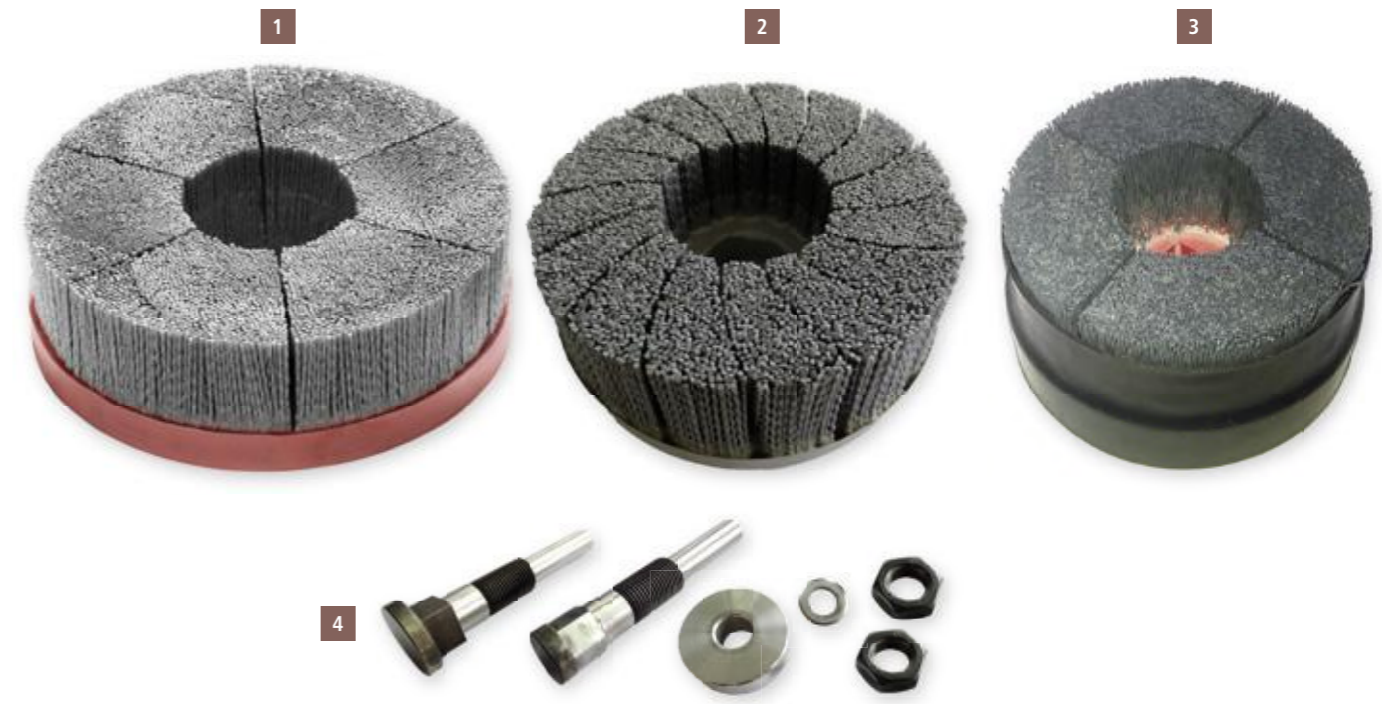
Typically in LESSMANN HFB Brushes high quality filling material is used. It is very bending resistant and low-abrasion, besides it is very appropriate for working under wet conditions.

Depending on the requirements the brushes can be produced with individual filling fields. Full filament but also a fragmentation in pre-defined fields or a deviation of the bristles is possible.

On the customer's demand LESSMANN produces brushes for all machine brands. Our basic executions suitable for all common machines are deliverable within short-term. Please contact us for further information!



Typical work pieces which are treated with LESSMANN HFB brushes.



1 HFB Disc Brushes, Dense Filament

Body Ø	Body Thickness	Trim Length	Bore	open space	RPM max.	suitable for	Pack.	SIC K 60	SIC K 80	SIC K 120	SIC K 180	SIC K 320
DA	KD	H	d	D2 D1				Art.-No.	Art.-No.	Art.-No.	Art.-No.	Art.-No.
50	15	25	6-kant	21 45	3,600	adapter 600.000.83	1	<i>601.131.10*</i>	<i>601.231.10*</i>	<i>601.331.10*</i>	<i>601.431.10*</i>	<i>601.531.10*</i>
75	15	25	4-kant	30 70	3,600	adapter 600.000.84	1	<i>602.141.10*</i>	<i>602.241.10*</i>	<i>602.341.10*</i>	<i>602.441.10*</i>	<i>602.541.10*</i>
100	15	35**	4-kant	43 85	3,600	adapter 600.000.84	1	<i>603.141.10*</i>	<i>603.241.10*</i>	<i>603.341.10*</i>	<i>603.441.10*</i>	<i>603.541.10*</i>
125	15	35**	4-kant	58 120	3,000	adapter 600.000.84	1	<i>604.141.10*</i>	<i>604.241.10*</i>	<i>604.341.10*</i>	<i>604.441.10*</i>	<i>604.541.10*</i>
125	15	40**	18	58 120	3,000		1	<i>604.181.10*</i>	<i>604.281.10*</i>	<i>604.381.10*</i>	<i>604.481.10*</i>	<i>604.581.10*</i>
150	28	40**	18	58 145	2,500		1	<i>605.181.10*</i>	<i>605.281.10*</i>	<i>605.381.10*</i>	<i>605.481.10*</i>	<i>605.581.10*</i>
150	28	25	25/35/+MB	58 145	2,500		1	<i>605.151.10*</i>	<i>605.251.10*</i>	<i>605.351.10*</i>	<i>605.451.10*</i>	<i>605.551.10*</i>

MB = drive bore

4 HFB Adapters

Shaft diameter	Total Length GL	Thread	Bore	Art.-No.
12h6	103	M16x1,5	Hexagonal	<i>600.000.83*</i>
12h6	103	M16x1,5	Square	<i>600.000.84*</i>

* Price on request.

4 | LESSMANN Adapters

(Square and Hexagonal).
Delivery includes 1 aluminium plate,
1 disc, 2 hex nuts.
On demand.

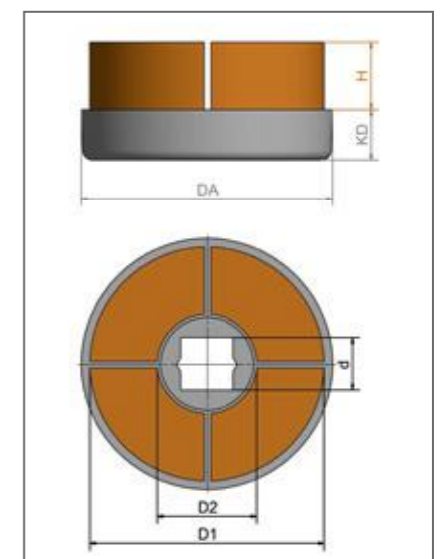
On request we produce the brushes referred to your hole pattern. For this purpose please send us a drawing with measurements.

3 | **For the treatment of ductile or strong materials and when using high peripheral speeds a stabilization sleeve can be mounted. It causes a better stabilization and prevents a disperse of the filling material.

2 | On request different versions, e.g. turbo trim

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

SIC = silicon carbide bristles



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.

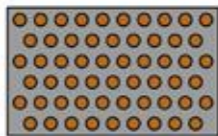
As filling material next to different wires also fibres are available. Also mixed filament in various mixing proportions are possible. Disc Brushes usually are delivered with thread or bore.

Staple set wheel and roller brushes are produced with bore or arbour absorption, depending on the customers' specification.

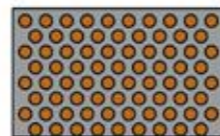
Please inform yourself on the following pages and do not hesitate to contact us for personal advice!

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

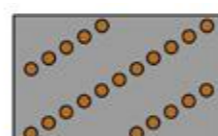
for Wheel Brushes and Wide Face Brushes, Disc Brushes and Lath Brushes



staggered filling material

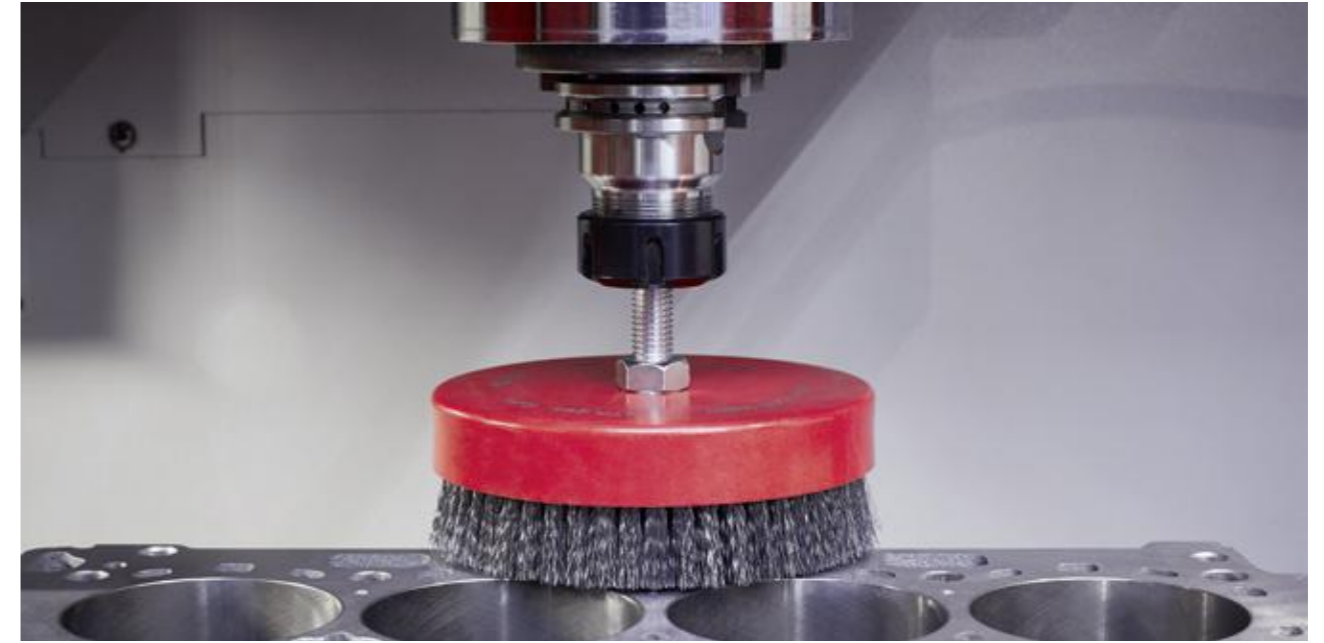


straight filling material



spiral filling material

Disc Brushes



Disc Brushes – Measurements

DA	KD	H	d1/d2				
External diameter	Body height	Trim height	Deviation of the Bristles	Thread	Body Material	Trim Material	Trim 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, structurizing or polishing wood.

The brushes are very effective when working on large surfaces.

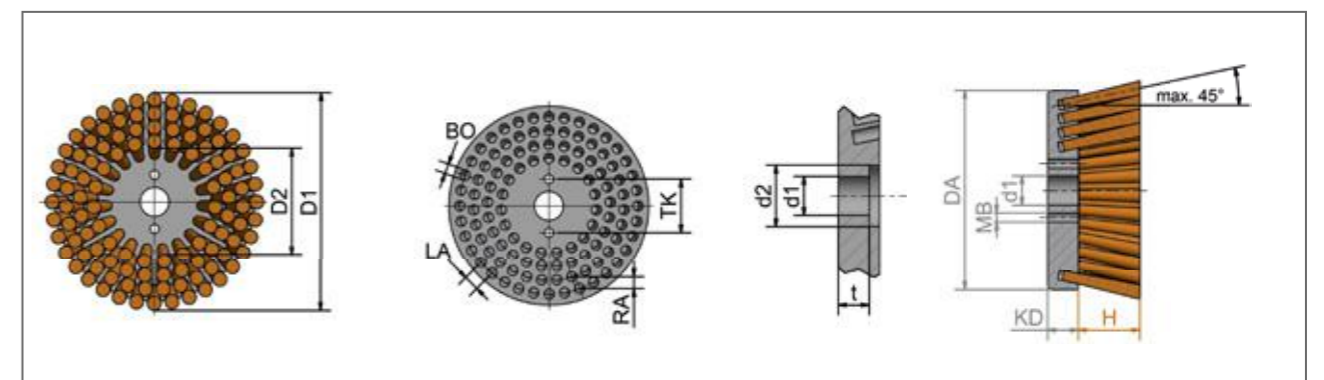
Circular Discs – Standard Body

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

The inquiry form for disc brushes you find on page 141 or at www.lessmann.com

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

- 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



Disc Brushes							
Filling	DA mm inch	KD mm inch	H mm inch	d1 mm inch	RPM max.		Art.-No.
STA 0.20 0.008"	150 6	25 1	25 1	M 14	2,000		405.006
SIC 180/1.0	125 5	25 1	25 1	22.2 7/8	3,000		405.854
SIC 180/1.0	150 6	25 1	20 3/4	25 1	2,000		405.835
SIC 120/1.1	150 6	25 1	25 1	25 1	2,000		405.864
1 Mixed filament STA 0.30 / PA 0.35	130 5 1/8	25 1	40 1 3/8	M 14	2,500		405.908
1 Mixed filament STA 0.30 / PA 0.35	200 8	25 1	40 1 3/8	M 14	1,500		405.905

2 Disc Brushes for the wood machining							
Filling	DA mm inch	KD mm inch	H mm inch	d1	RPM max.	Pack.	Art.-No.
SIC 46/1.6	130 5 1/8	20 3/4	50 2	M 14	2,500	1	405.843
SIC 60/1.5	130 5 1/8	20 3/4	50 2	M 14	2,500	1	405.844
SIC 80/1.2	130 5 1/8	20 3/4	50 2	M 14	2,500	1	405.845

Circular Discs – Standard Body – Measurements (in Stock) Body Material PP (red)		
DA mm inch	KD mm inch	d1
130 5 1/8	20 3/4	Bore 22,5 / 19
150 6	25 1	Bore 12
150 6	25 1	Bore 35 / 25, mounting hole 2 x ø11, TK 56
180 7	18 5/8	Thread M12
180 7	18 5/8	Thread M12 left
200 8	25 1	Bore 12
200 8	25 1	Bore 35 / 25, mounting hole 2 x ø11, TK 56
220 8 5/8	20 3/4	Bore 40

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

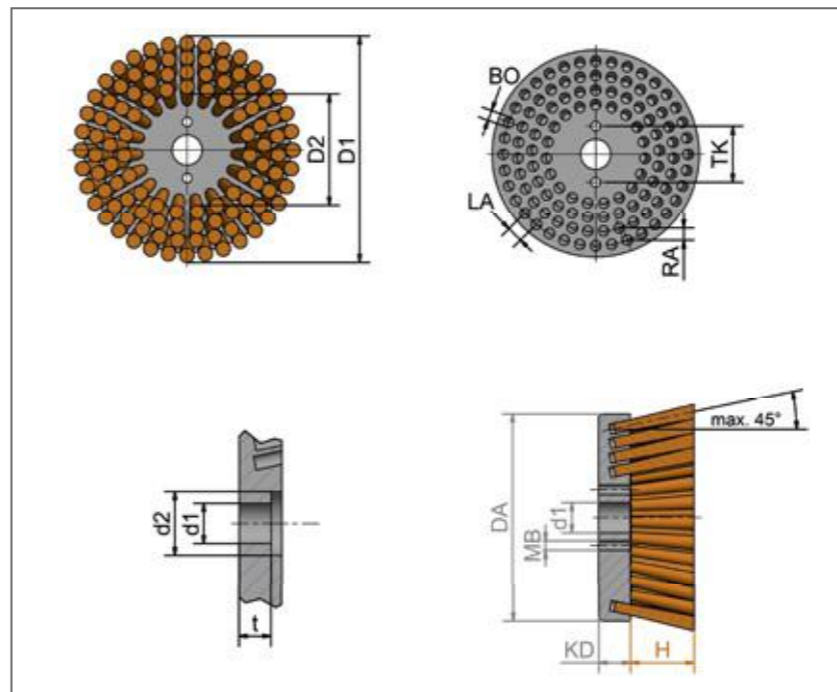
Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 152).

STA = steel wire
PA = polyamide
SIC = silicon carbide bristles

Enquiry for Circular Discs

Drawing / description of application

Grid area for drawing or description of application.



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
 roughening / structuring
 transporting
 others

Material; _____ °C Temperature
 steel
 aluminium
 wood
 stainless steel
 plastic
 others

Filling material
 steel
 brass coated steel
 brass
 stainless steel
 PP
 PA
 PE
 abrasive filament (SIC)
 abrasive filament (AO)
 fibre
 horsehair

Diameter of filling material _____

Filling density
 thin mean dense

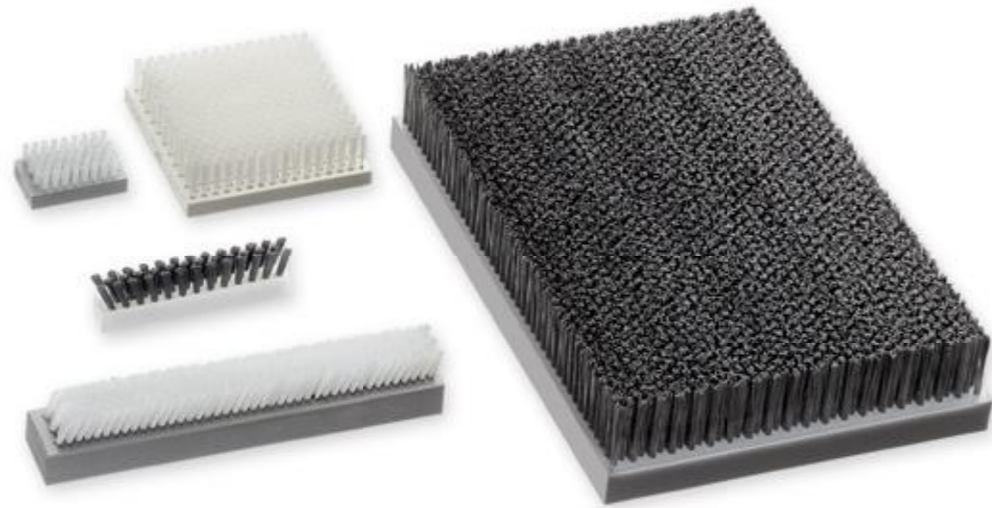
Filling placement
 full-body fields turbo

Please mention measurements according to drawing

DA external diameter _____ mm
D1 dia trim outside _____ mm
D2 dia trim inside _____ mm
KD body height _____ mm
d1 bore _____ mm
d2 dia counterbore _____ mm
TK pitch circle drive bore _____ mm
MB dia drive bore _____ mm
H trim height _____ mm
RA row distance _____ mm
LA hole distance _____ mm
BO bundle bore _____ mm
Deviation of the Bristles _____ °

Body
 PP
 PE
 PA
 wood

Lath Brushes



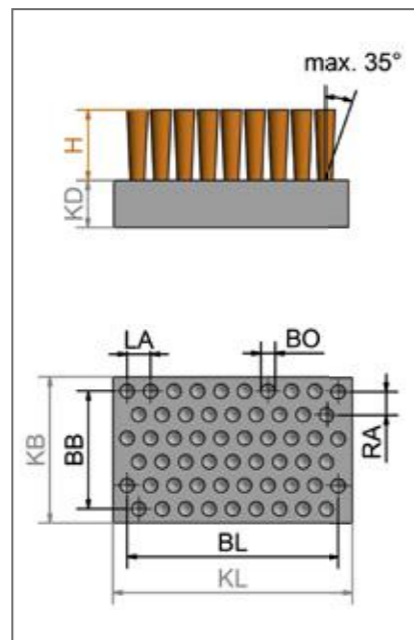
Lath Brushes – Measurements								
KB	KL	KD	H	Deviation	Body	Filling	Filling	
mm	mm	mm	mm	of the Bristles	Material	Material	Density	
8 - 750	8 - 2400	10 - 100	8 - 95 Steel 8 - 135 Plastic	max. 35°	PP, PE, PA, Wood, Stack wood	STA, STM, MES, ROF, PP, PE, PA, FIB, ROS, SIC, AO	thin, mean, dense	

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 brushes 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 152).

- 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

Grid area for drawing or description of application.

Piece number: _____

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

Material; _____ °C Temperature

- steel
- aluminium
- wood
- stainless steel
- plastic
- others

Filling material

- steel
- brass coated steel
- brass
- stainless steel
- PP
- PA
- PE
- abrasive filament (SIC)
- abrasive filament (AO)
- fibre
- horsehair

Diameter of filling material _____

Filling density

- thin
- mean
- dense

Filling placement

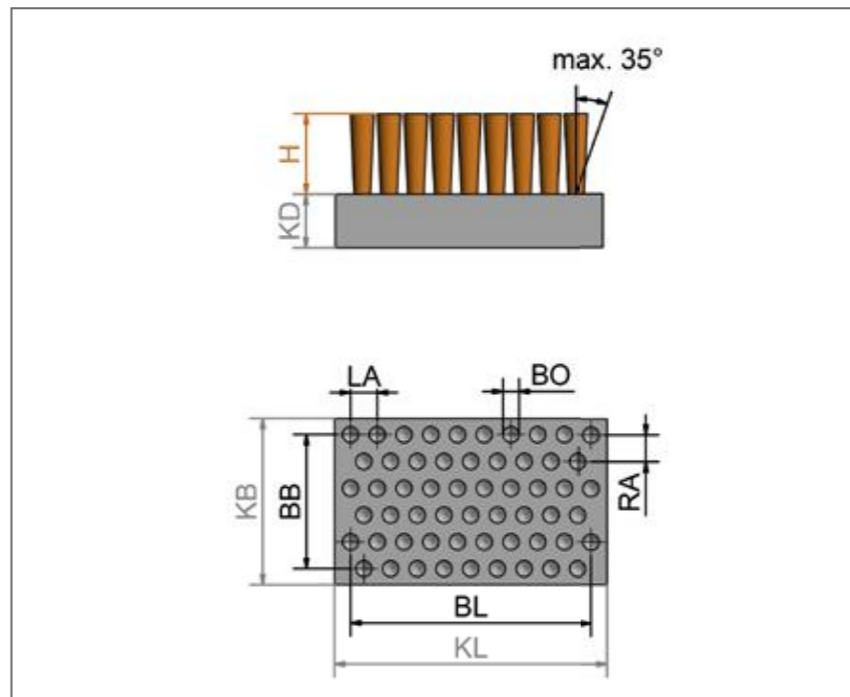
- staggered
- straight

Please mention measurements according to drawing

- KL total length _____ mm
- KB total width _____ mm
- KD body height _____ mm
- BL trim length _____ mm
- BB trim width _____ mm
- H trim height _____ mm
- RA row distance _____ mm
- LA hole distance _____ mm
- BO bundle bore _____ mm
- Deviation of the Bristles _____ °

Body

- PP
- PE
- PA
- wood



sender: company, contact person

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 Material	Filling Material	Filling Density
45 - 440 steel	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
45 - 500 plastic							

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 length, 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 (page 49).



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 152).

- 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 Wheel Brushes / Wide Face Brushes

Drawing / description of application

Grid area for drawing or description of application.

Piece number: _____

Brush Application dry wet

- deburring
- cleaning
- roughening / structurizing
- transporting
- others

Material _____ °C Temperature

- steel
- aluminium
- wood
- stainless steel
- plastic
- others

Filling material

- steel
- brass coated steel
- brass
- stainless steel
- PP
- PA
- PE
- abrasive filament (SIC)
- abrasive filament (AO)
- fibre
- horsehair

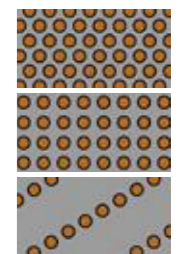
Diameter of filling material _____

Filling density

- thin
- mean
- dense

Filling placement

- staggered
- straight
- spiral

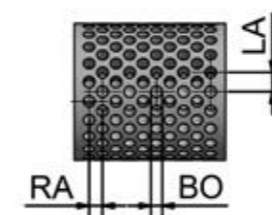
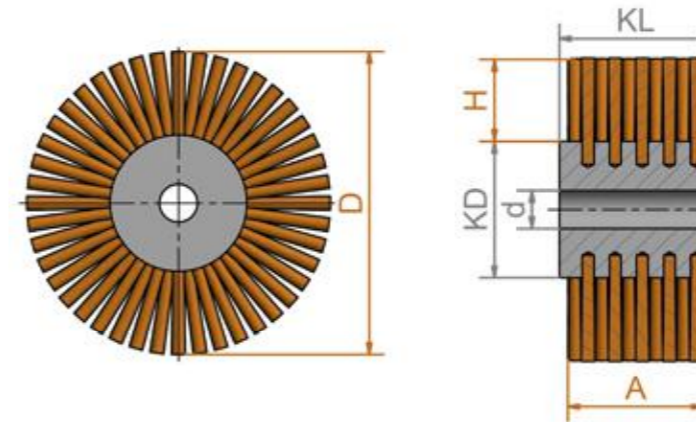


Please mention measurements according to drawing

- D Total Diameter _____ mm
- KD Body Diameter _____ mm
- KL Total Width _____ mm
- A Working length _____ mm
- d Bore _____ mm
- RA row distance _____ mm
- LA hole distance _____ mm
- BO bundle bore _____ mm

Body

- PP
- PE
- PA
- wood



sender: company, contact person

Inquiries and Infos:

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

Strip Brushes



Strip Brushes

Strip brushes are mainly used as cover in association with moving parts. They insulate doors and windows or help to keep moving parts on machines clean. There are many forms and profiles, with or without holders. Therefore, please indicate full measurements and holder details when ordering. The profile can be made of steel, aluminium or plastic. The filling material can be bristles or steel wire.

Brushes for deburring machines

Special Strip Brushes as component part of deburring machines.

The inquiry form for strip brushes you find at www.lessmann.com

Required measurements and data:

GH total height
H filling length
RB back width
shape of fixing

Filling Material:

STA, STM, MES, ROF, PP, PE, PA, FIB, ROS



Strip Brushes with H profile, aluminium

mounting	GH mm inch	FH	H mm inch	FB	RB	Total length mm inch	PA 0.30 0.012" Art.-No.	STA Art.-No.	ROF Art.-No.	Horsehair Art.-No.
H-Profile	50 2	25	25 1	8	5	1,000 40	052.881	051.360	051.558	051.021
H-Profile	90 3 1/2	40	50 2	12	8	1,000 40	052.891	051.348	051.547	available on demand
H-Profile	65 2 1/2	40	25 1	12	8	1,000 40		051.324		

Strip Brushes for deburring machines

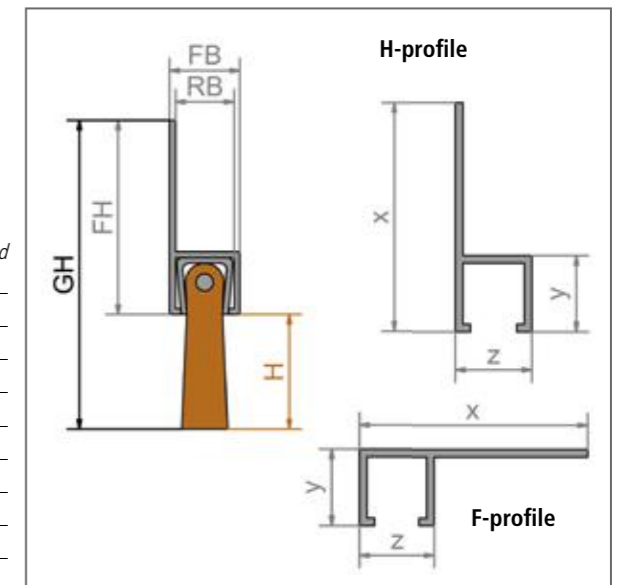
mounting	GH mm inch	H mm inch	Total length mm inch	PA 0.35 0.014" Art.-No.
Steel plate zinc coated	40 1 3/8	35 1 1/2	500 20	052.860
Steel plate zinc coated	40 1 3/8	35 1 1/2	600 23 5/8	052.868

Other dimensions on inquiry.

You find an inquiry form for strip brushes on www.lessmann.com

Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

- 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



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