

THE BRUSH COMPANY

**LESSMANN**  
DRAHTBÜRSTEN · WIRE BRUSHES



Catalogue 2006



2006

Quality made in Germany

# New for 2006

## Innovative Solutions of the Brush Specialist

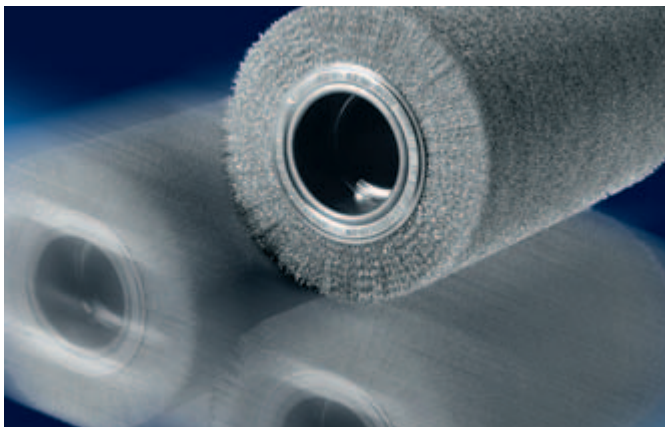
Listed below are some new additions to our 2006 catalogue. These brushes you will find updated on the specified catalogue pages.

Thanks for your interest in our products.

Your Lessmann-Team



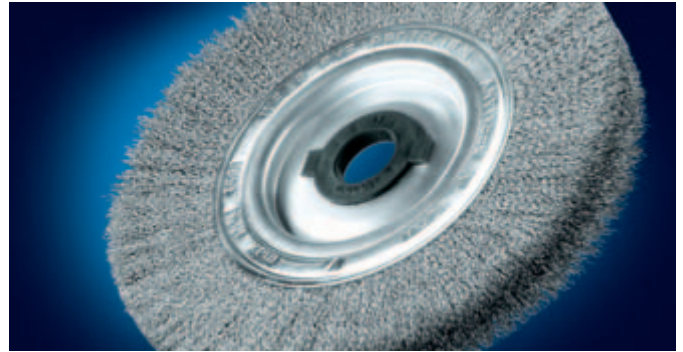
Two Row Knot Cup Brushes of diameter 100–150 mm for special heavy duty use (Page 14)



Roller Brush for deburring machines with extended performance (Page 20)



Single Segment Brush for deburring work and machining centers with both abrasive nylon, stainless steel and steel wire (Page 22)



Plastic Adapter + Double Key Way now for all Standard Wheel Brushes, also with tube 80–100 (Page 18)



Multiple Row Knot Wheel Brush and Wheel Brushes of diameter 250–300 mm for industrial use (Page 12)



Professional Hand Brush with ergonomic Two-Component-Handle (Page 37)



Microabrasive Interior Brushes for precise deburring of e.g. cross bores (Page 48)

# Guidance

The following catalogue provides you with information about us as a company, our products and their uses. The catalogue is set out for easy and rapid reference. In the first section you will learn about how we see ourselves and the potential advantages of your dealing with Lessmann. Following on you will find useful information regarding materials used, testing, technology, safety and sales promotion.

Our products are presented in groups relating to their technical data, advise regarding their composition and the possible application in use. Each of the 8 most important groups of products are shown on this page. These are shown in different colour codes in order that they may be easily found in the catalogue.

The full spectrum and diversity of our specially manufactured items is shown on pages 54 to 57. Please refer to these pages if you cannot find the specific article that you are looking for in the main section of the catalogue.

Please let us know if you have any suggestions about how we might further improve our catalogue.

In the course of further technical developments, the right is reserved to change the construction and appearance of the brushes without prior notice. Indications of size are approximate and without obligation or recourse to third parties.

**Bold printed item numbers** are always on stock. The other items as well as special brushes will be produced for you with a short delivery time. Please also see our terms on page 58.

4-7 Information about Marketing

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# Brushes for success

Some time has passed since brothers and now co directors Dieter and Jürgen Lessmann were young boys seen playing in the factory of their forefathers. Many changes have taken place since then.

With the passing of each year the company has not only increased in both size and numbers of personnel but has also developed in many other ways.

It has increased its wealth of experience, developed technically and embodied a persona for the benefit of one and all.

Over these years of change two things have always remained constant. Firstly the strength of a modern company that has always had an aura of family tradition, and secondly the awareness that success is a result of the teamwork of everybody at Lessmann. The advantage of these values is –

Quality, reliability and fairness.

Worldwide Lessmann brushes are used by all kinds of people working in all manner of trades and industries. In all of the metal working trades such as ship building, foundries, construction and automotive. To these can be added maintenance work, glass making, wood working, paint and heating trades to name but a few. The brushes can be used for coarse to

fine work and all stages in between. In order to meet the more unusual requirements we at Lessmann have more than 10,000 brushes in our assorted range to offer our customers.

Lessmann is the perfect partner to meet and supply the correct brush solution, for each brushing application. However, the most important requirement for being successful is the know how and the eagerness of our 100 or more employees. Thank you.

*Lessmann*  
*D. Lessmann*



# 10 000 Solutions...

Available from stock, produced quickly or developed individually

Lessmann brushes are Made in Germany and are “fit for the globe” whatever type of brush is needed the world over – Lessmann will find the solution. From the variations demanded by the different sources and despite the challenges of international competition we have developed a competence second to none, that will not leave our customers wanting.

As a quality producer of tools we produce several million brushes every year at our production facility in Oettingen. To produce such volumes special technical equipment is necessary. Numerically computer controlled transfer machines, together with other semi and fully automatically equipment facilities are used to meet and ensure both quality and quantity of the production demands.

As a constantly developing and producing specialist we are able to produce special brush models in both small and large series production runs. This is brought about by our own engineering, tool, and equipment building department in association with our modern machine facilities.

With our data processing high rise storage system we can guarantee to fast handling of consignments to our customers. On more than 5,000 pallet stock positions we permanently hold stock of more than 2,000 different types and sizes of brushes. As well as standard brushes this stock also includes many specially produced brushes. In our research and development department we constantly test the life of brushes. The results of our findings enable us to ensure that we continue to produce only the highest quality products.



# Many considerations,

different customers, one aim.

For Lessmann consideration and thorough thinking means more than just developing brushes. For our customers we are a reliable partner who is looking after their interests by helping them to find the right brush solution. We co-operate with distributors, wholesalers and retailers as well as industrial consumers in more than 50 countries throughout the world. Every continent in the world has brushes delivered from here in Dettingen.



We offer support to our customers by way of advice and sales promotion material. A video on brush applications is available. Training for technical salesmen about our brushes is available in order to help give more specific advice to end users.

In co-operation with various industries we develop brushes for very new and specific purposes. Lessmann are well known for their precise solutions and short development times. These are some of the reasons why Lessmann is one of the most renowned companies for technical brushes.



# Perfect Service for Perfect Presentation

Every day the right brush...

LESSMANN knows what is important for traders: short delivery times, an advice service as necessary, no complaints if possible – the ideal situation for articles, which are the most profitable. LESSMANN fully meets these requirements by high quality products, trouble free logistics, committed service, and the ability to supply a complete range of products and attractive packaging, as well as displays.

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](http://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.



## State of the Art Tool Bars

### Self-service Tool Bar Displays

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 customer's choice much easier. Take advantage of our experience and use this idea that will lead to successful and increased sales. Please do not hesitate to contact us and we will arrange your individual programme.

Further presentation and packaging examples as well as sales promotions you will find on page 34/35.

### Display Boxes

The handy boxes for the fast sellers. They can be put on tool shelves or on the counter.

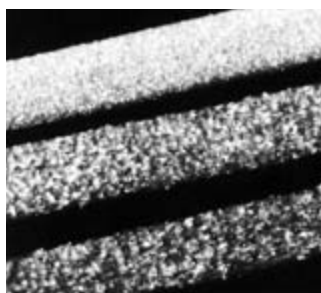


» *"Today abroad calling a client, tomorrow here in our factory, where we develop, test and produce: That's what I like – bringing things together. The high demand of our market and our superb service!"*

**Dieter Lessmann**  
managing director,  
sales and marketing

# Brush filling materials

Important reasons for choosing the right filling material



3 different kinds of grit in silitiumcarbide

## 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.

Following please see the most important materials used and their attributes:

## Steel Wire

In co-operation with the wire producers we develop wires that are specially made for our products. Normally they are alloyed with manganese in order to increase their toughness. The wires will have a higher reverse bending strength to prevent premature breakage. The most important attribute of steel wires is their tensile strength. The standard wires withstand 1,800 – 2,000 N/mm<sup>2</sup>. High tensile wires, e.g. those used for knotted brushes have a tensile strength of 2,300 – 2,500 N/mm<sup>2</sup>.

## Stainless Steel Wire

This wire has to be used when working on stainless steel material. The most common qualities are the wires with material number 1.4301 and 1.4310 (AISI 304 and 301). They are resistant against corrosion and high temperatures. If a brush is required that has to be extremely resistant against acid and bleach, we use the wire 1.4401 (AISI 316). This particular wire is also non-magnetic.

## Brassed Steel Wire

Used as single or stranded wire (corded wire) with a very high tensile strength. The brassed surface protects against corrosion.

## Brass and Bronze Wire

Used for working on nonferrous metals, as they are softer than steel wires. They are also used when working with bleach or when sparkless brushes are needed.

## Synthetic Filaments

These are abrasive resistant and resistant against diluted acids and bleaches, but will only have limited heat resistance. Most often used for cleaning, and sometimes for deburring.

## Abrasive Filaments

These are polyamide filaments 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 nylon align to the different shapes of working pieces. Abrasive nylon bristles also have grinding effects on the side, which makes them even more flexible to application possibilities. Different grits are available (from grit 60 to grit 1000), and you can choose between aluminiumoxyd and silitiumcarbide. As a material for the brush body we recommend PA 6.12 for working in wet places and PA6 for working in dry places.

## Fibre

This is a heat resistant plant fibre. It is especially suitable for cleaning work. Fibre is slightly abrasive, i.e. it can be used for smooth grinding, above all for working on wooden surfaces.

## Horse Hair

Used for light cleaning and dusting work.

## Beech Wood

One of the advantages of wooden handles compared to plastic handles is the ability to absorb fat, oil and moisture. The waste disposal of beech wood is not a problem. The beech for our wooden handles originates only from local, re-timbered forests. Proof has been furnished that the requirements of the Pan European Forest Certification (PEFC) procedure are fulfilled.

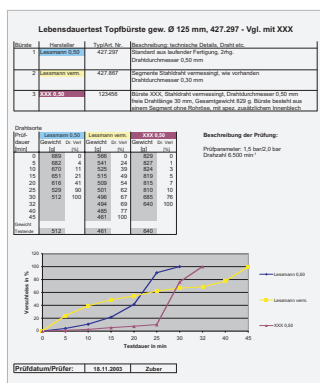




# “Simply the Best” by testing

Innovation and quality management

Our own production of nearly all components of our standard programme of brushes, of more than 10,000 products, 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.

### 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



“R&D, quality management and controlling – important tasks and a challenge: developing ideas to be even more competitive. But on top of this is leading and motivating our staff – the most distinguished task of a manager, as it means working with people.”

**Jürgen Lessmann**, managing director, technology, research, development and production management

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



Registriernummer TGA-ZQ-007/94-00  
Registriernummer TGA-ZM-43-96-60



Cert

# Recommendations for Safe Brush Use

## Safety information and technical introduction

### LESSMANN Quality is Safe

We guarantee the best quality and long lifetime for our products. Our brushes are manufactured according to the existing standard DIN 68 347 part 1 and 2 and EN 1083. 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 Eye Protection!



### Brush Check

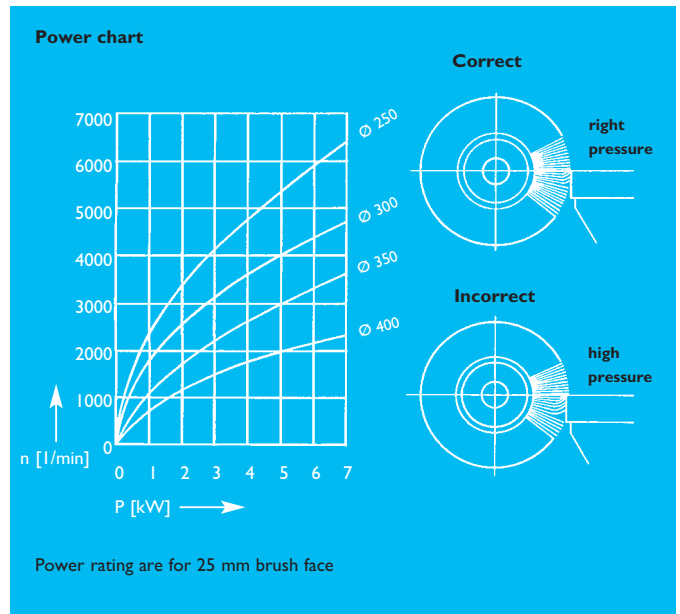
The brushes should be checked for damage before using. A correct mounting is imperative.

### 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



### minimum bore size for wheel brushes according to DIN EN 1083

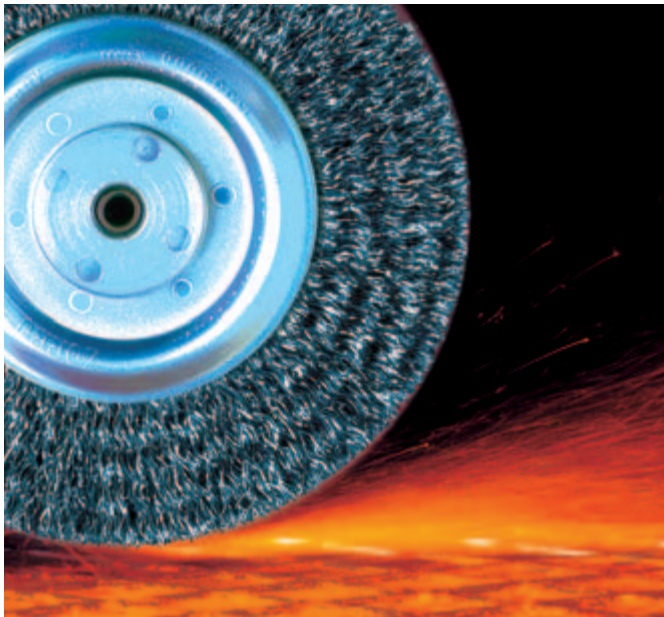
diameter of the brush in mm	minimum diameter of bore in mm
50	4.6
75	6.5
100	10
150	13
200	16
250	20
300	20
350	32



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 25 mm width.

# Producing Quality – brushing the correct way

Important hints for the use of brushes



## 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.

## Peripheral Speed v in m/sec.

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

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

## Conversion mm in Inches

Brush diameter		Wire diameter	
Millimeter	Inches	Millimeter	Inches
25	1"	0.08	0.0031
50	2"	0.10	0.0039
75	3"	0.12	0.0047
100	4"	0.15	0.0059
125	5"	0.20	0.0079
150	6"	0.25	0.0098
180	7"	0.30	0.0118
200	8"	0.35	0.0138
250	10"	0.40	0.0157
300	12"	0.50	0.0197
350	14"	0.80	0.0315

## Conversion m/sec. in ft./min.

1 m/sec. = 197 ft./min.

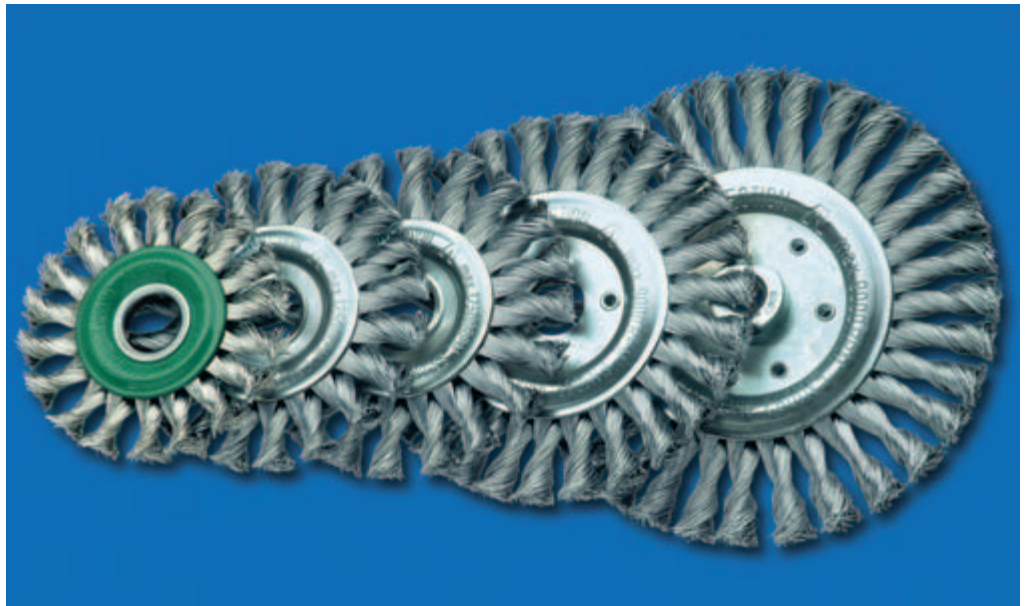
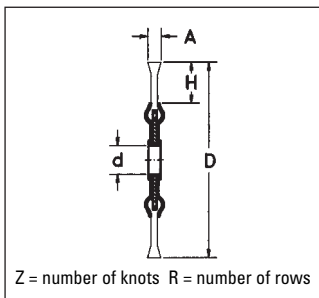
1,000 ft./min. = 5.08 m/sec.

## Recommended Peripheral Speed for Brushing Application

Application	Peripheral Speed in m/s							
	15	20	25	30	35	40	45	50
Removing Burrs			25 – 35					
Cleaning Welds					35 – 45			
Removing Scale					35 – 45			
Polishing				30 – 40				
Working on Plastic	15 – 20							

**Bold printed item numbers are always on stock. The other items as well as special brushes will be produced for you with a short delivery time. Please also see our terms on page 58.**

# Knot Wheel Brushes



## Knot Wheel Brushes

D	A	d	H	Z	R	RPM	Pack.	steel 0.35/0.014"	steel 0.50/0.020"	steel 0.80/0.031"	stainl. 0.35/0.014"	stainl. 0.50/0.020"	
mm/inch	mm/inch	mm/inch				max.		Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	
75 / 3	10 / 3/8	13 / 1/2	15	18	1	20,000	1	<b>470.111</b>	<b>470.211</b>				
100 / 4	12 / 1/2	M 14 x 2.0	22	18	1	12,500	1	<b>471.117</b>	<b>471.217 *</b>			<b>471.817</b>	
115 / 4 1/2	14 / 1/2	22.2 / 7/8	24	20	1	12,500	1	<b>472.111 *</b>	<b>472.211 *</b>		<b>472.711</b>	<b>472.811 *</b>	
115 / 4 1/2	14 / 1/2	M 14 x 2.0	24	20	1	12,500	1	<b>472.117</b>	<b>472.217 *</b>		<b>472.717</b>	<b>472.817</b>	
125 / 5	14 / 1/2	22.2 / 7/8	29	20	1	12,500	1	<b>473.111</b>	<b>473.211 *</b>			<b>473.811</b>	
125 / 5	14 / 1/2	M 14 x 2.0	29	20	1	12,500	1	<b>473.117</b>	<b>473.217</b>			<b>473.817</b>	
150 / 6	14 / 1/2	22.2 / 7/8	32	26	1	9,000	1	<b>474.111</b>	<b>474.211</b>	<b>474.311</b>		<b>474.811</b>	
150 / 6	14 / 1/2	M 14 x 2.0	32	26	1	9,000	1	474.117	<b>474.217</b>	474.317		<b>474.817</b>	
178 / 7	14 / 1/2	22.2 / 7/8	38	32	1	9,000	1	<b>475.111</b>	<b>475.211 *</b>	<b>475.311</b>		<b>475.811 *</b>	
178 / 7	14 / 1/2	M 14 x 2.0	38	32	1	9,000	1	475.117	<b>475.217</b>	475.317		<b>475.817</b>	
200 / 8	14 / 1/2	22.2 / 7/8	41	36	1	9,000	1	<b>476.111</b>	<b>476.211</b>	<b>476.311</b>		476.811	
200 / 8	14 / 1/2	50.8 / 2	41	36	1	9,000	1			476.210.51			
200 / 8	25 / 1	50.8 / 2	41	36	2	9,000	1			476.220.51			
200 / 8	35 / 1 1/2	50.8 / 2	41	36	3	9,000	1			476.231			
<b>NEW</b>	250 / 10	18 / 3/4	50.8 / 2**	42	52	1	4,500	1		477.210.75	477.310.75		
<b>NEW</b>	205 / 10	30 / 1 1/4	50.8 / 2**	42	52	2	4,500	1		477.220.75	477.320.75		
<b>NEW</b>	300 / 12	18 / 3/4	50.8 / 2**	56	58	1	3,600	1		478.210.75	478.310.75		
<b>NEW</b>	300 / 12	30 / 1 1/4	50.8 / 2**	56	58	2	3,600	1		478.220.75	478.320.75		

Thread 5/8 x 11 NC on request / \* packed 25 pieces per carton / \*\* with double key way

### 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.

*We recommend that the brush should be turned during use in order to maintain sharpened wire ends.*

LESSMANN's knotted brushes are filled with a special high tensile strength steel wire in order to meet the exacting requirements during use.

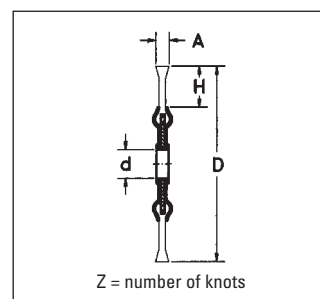
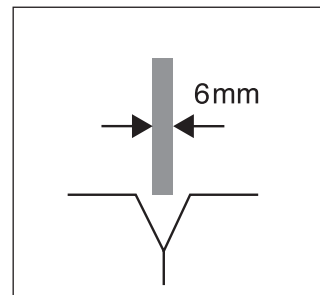
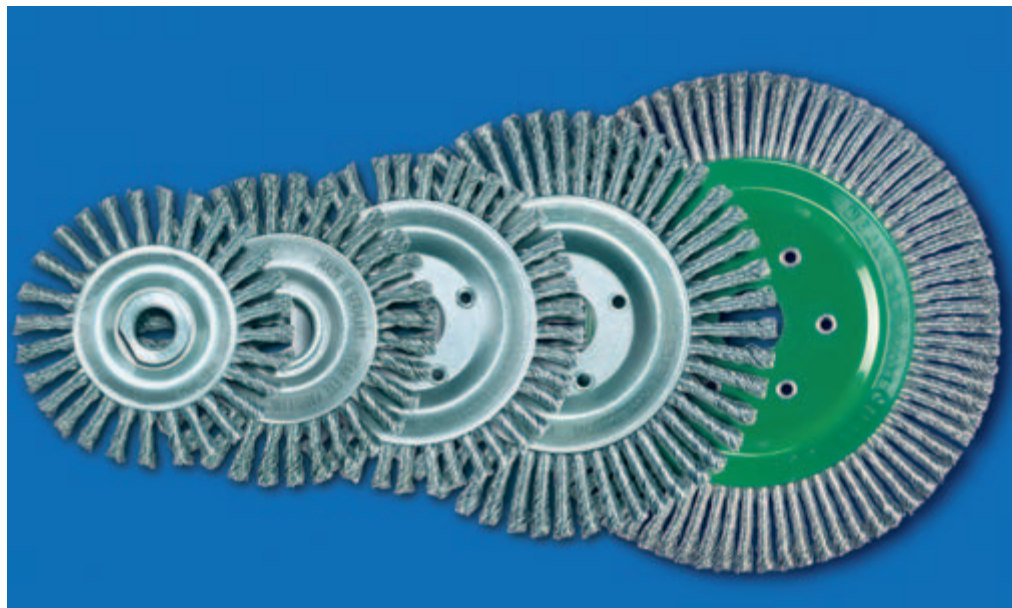
### Stainless Steel Brushes

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.

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

### Knot Wheel Brushes with multiple Rows

The brushes with one row can be produced as multi row brushes. They can also be made with other wire diameters and other bores. These brushes are made to order.



## Pipeline-Brushes, Steel 0.50/0.020"

D mm/inch	A mm/inch	H	Z	RPM max.	Pack.* 	Bo. 22.2 / 7/8" Art. No.	M 14 x 2.0 Art. No.	W 5/8 x 11 NC Art. No.
100 / 4	6 / 1/4	19	28	20,000	5		<b>471.207.28</b>	471.208.28
115 / 4 1/2	6 / 1/4	22	32	15,000	5/10	<b>472.201.32</b>	472.207.32	472.208.32
115 / 4 1/2	6 / 1/4	22	39	15,000	10	472.201.39		
125 / 5	6 / 1/4	18	40	12,500	5/10	<b>473.201.40</b>	473.207.40	473.208.40
150 / 6	6 / 1/4	30	48	12,500	5/10	<b>474.201.48</b>	474.207.48	474.208.48
178 / 7	6 / 1/4	36	48	12,500	5/10	<b>475.201.48</b>	475.207.48	475.208.48
178 / 7	6 / 1/4	30	56	12,500	5/10	<b>475.201.56</b>	475.207.56	475.208.56
178 / 7	6 / 1/4	30	76	12,500	5/10	<b>475.201.76</b>	475.207.76	475.208.76

## Pipeline-Brushes, Stainless 0.50/0.020"

D mm/inch	A mm/inch	H	Z	RPM max.	Pack.* 	Bo. 22.2 / 7/8" Art. No.	M 14 x 2.0 Art. No.	W 5/8 x 11 NC Art. No.
100 / 4	6 / 1/4	19	28	20,000	5		<b>471.807.28</b>	471.808.28
115 / 4 1/2	6 / 1/4	22	32	15,000	5/10	<b>472.801.32</b>	472.807.32	472.808.32
115 / 4 1/2	6 / 1/4	22	39	15,000	10	472.801.39		
125 / 5	6 / 1/4	18	40	12,500	5/10	<b>473.801.40</b>	473.807.40	473.808.40
150 / 6	6 / 1/4	30	48	12,500	5/10	<b>474.801.48</b>	474.807.48	474.808.48
178 / 7	6 / 1/4	36	48	12,500	5/10	<b>475.801.48</b>	475.807.48	475.808.48
178 / 7	6 / 1/4	30	56	12,500	5/10	<b>475.801.56</b>	475.807.56	475.808.56
178 / 7	6 / 1/4	30	76	12,500	5/10	<b>475.801.76</b>	475.807.76	475.808.76

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

### Pipeline-Brushes

LESSMANN-Pipelinebrushes are specially developed for professional use on U- and V-welds in the pipeline industry.

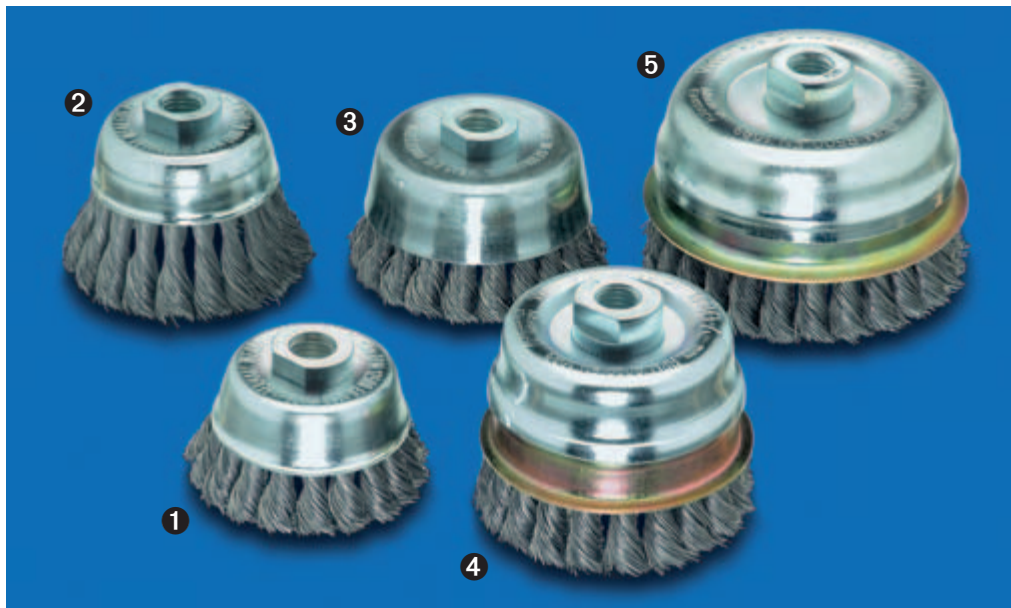
The remarkable features of the high quality LESSMANN Pipeline-brushes are the long lifetime and the quietness of running. They are especially narrow and therefore they are the perfect tool for cleaning all welds at tube connections.

### 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.



## Knot Cup Brushes



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

	D mm/inch	d mm/inch	H	Z	RPM max.	Pack. 	steel 0.35/0.014" Art. No.	steel 0.50/0.020" Art. No.	steel 0.80/0.031" Art. No.
	65 / 2 1/2	M 10 x 1,5	20	18	12,500	1	<b>482.114 *</b>	<b>482.214 *</b>	
①	65 / 2 1/2	M 14 x 2,0	20	18	12,500	1	<b>482.117 *</b>	<b>482.217 *</b>	<b>482.317</b>
	75 / 3	M 14 x 2,0	20	18	12,500	1	<b>483.117</b>	<b>483.217</b>	
②	80 / 3 1/4	M 14 x 2,0	33	18	12,500	25	<b>480.117</b>		
③	90 / 3 1/2	M 14 x 2,0	22	20	11,500	1		<b>485.237 *</b>	
NEW	100 / 4	M 14 x 2,0	25	26		1		486.237	
NEW ⑥	125 / 5	M 14 x 2,0	25	32		1		487.237	
⑦	150 / 6	M 14 x 2,0	22	36	6,600	1		488.237	
	150 / 6	W 5/8 x 11 NC	22	36	6,600	1		488.238	

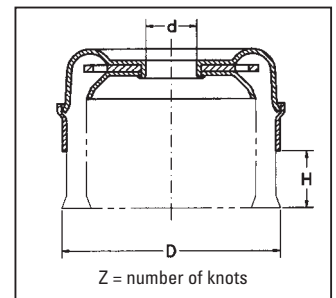
### Knot Cup Brushes with Bridle, 1 Row, Steel Wire

	D mm/inch	d mm/inch	H	Z	RPM max.	Pack. 	steel 0.35/0.014" Art. No.	steel 0.50/0.020" Art. No.	steel 0.80/0.031" Art. No.
	80 / 3 1/4	22,2 / 7/8	25	20	9,000	1	<b>484.111</b>	<b>484.211</b>	<b>484.311</b>
④	80 / 3 1/4	M 14 x 2,0	25	20	9,000	1	<b>484.117</b>	<b>484.217 *</b>	<b>484.317</b>
	80 / 3 1/4	W 5/8 x 11 NC	25	20	9,000	1	484.118	<b>484.218</b>	484.318
	100 / 4	22,2 / 7/8	23	26	9,000	1	<b>486.111</b>	<b>486.211 **</b>	<b>486.311 **</b>
⑤	100 / 4	M 14 x 2,0	23	26	9,000	1	<b>486.117</b>	<b>486.217</b>	<b>486.317</b>
	100 / 4	W 5/8 x 11 NC	23	26	9,000	1	486.118	<b>486.218 **</b>	<b>486.318 **</b>
	125 / 5	22,2 / 7/8	25	32	7,000	1	487.111	<b>487.211</b>	<b>487.311</b>
	125 / 5	M 14 x 2,0	25	32	7,000	1	<b>487.117</b>	<b>487.217</b>	<b>487.317</b>
	125 / 5	W 5/8 x 11 NC	25	32	7,000	1	487.118	487.218	487.318

### NEW Knot Cup Brushes without Bridle, 2 Rows, Steel Wire

	D mm/inch	d mm/inch	H	Z	RPM max.	Pack. 	steel 0.35/0.014" Art. No.	steel 0.50/0.020" Art. No.	steel 0.80/0.031" Art. No.
	100 / 4	W 5/8 x 11 NC	25	26+20		1		486.248	
⑧	125 / 5	W 5/8 x 11 NC	25	32+26		1		487.248	
	150 / 6	W 5/8 x 11 NC	25	36+32		1		488.248	

\* Packed 25 pieces per carton. / \*\* packed 20 pieces per carton.



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

D mm/inch	d mm/inch	H	Z	RPM max.	Pack. 	stainless 0.35/0.014" Art. No.	stainless 0.50/0.020" Art. No.
65 / 2 1/2	M 10 x 1,5	20	18	12,500	1	<b>482.714</b>	482.814
<b>65 / 2 1/2</b>	M 14 x 2,0	20	18	12,500	1	<b>482.717 *</b>	<b>482.817 *</b>
75 / 3	M 14 x 2,0	20	20	12,500	1		<b>483.817</b>
80 / 3 1/4	M 14 x 2,0	33	18	12,500	25	<b>480.717</b>	

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

D mm/inch	d mm/inch	H	Z	RPM max.	Pack. 	stainless 0.35/0.014" Art. No.	stainless 0.50/0.020" Art. No.
80 / 3 1/4	22,2 / 7/8	25	20	9,000	1	484.711	484.811
<b>80 / 3 1/4</b>	M 14 x 2,0	25	20	9,000	1	<b>484.717</b>	<b>484.817 *</b>
80 / 3 1/4	W 5/8 x 11 NC	25	20	9,000	1	484.718	484.818
100 / 4	22,2 / 7/8	23	26	9,000	1	<b>486.711</b>	486.811
<b>100 / 4</b>	M 14 x 2,0	23	26	9,000	1	<b>486.717</b>	<b>486.817</b>
100 / 4	W 5/8 x 11 NC	23	26	9,000	1	486.718	486.818
<b>NEW 125 / 5</b>	M 14 x 2,0	23	32	9,000	1		487.817

\* Packed 25 pieces per carton.

### Knot 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.

LESSMANN's knotted brushes are filled with a special steel wire of high tensile strength in order to meet the demands of this type of brush. 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!

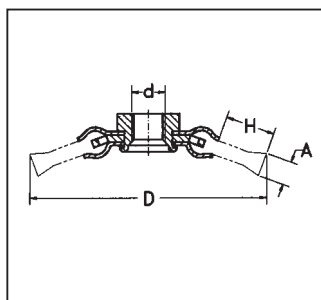
### Stainless Steel Brushes

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.

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 Conical Brushes



### Knot Conical Brushes

	D	A	d	H	Z	RPM max.	Pack.	steel 0.35/0.014" Art. No.	steel 0.50/0.020" Art. No.	stainl. 0.35/0.014" Art. No.	stainl. 0.50/0.020" Art. No.
	mm/inch	mm/inch	mm/inch								
	100 / 4	12 / 1/2	M 10 x 1.5	20	18	12,500	1		<b>471.254</b>		
❶	100 / 4	12 / 1/2	M 14 x 2.0	20	18	12,500	1	<b>471.157</b>	<b>471.257 *</b>	<b>471.757</b>	<b>471.857 *</b>
	100 / 4	12 / 1/2	22.2 / 7/8	20	18	12,500	1		<b>471.251</b>		
❷	115 / 4 1/2	12 / 1/2	M 14 x 2.0	24	20	15,000	1	<b>472.157</b>	<b>472.257 *</b>	<b>472.757</b>	<b>472.857 *</b>
	115 / 4 1/2	12 / 1/2	22.2 / 7/8	24	20	15,000	1		<b>472.251</b>		

### Conical Brushes

	D	A	d	H	RPM max.	Pack.	③ steel 0.35/0.014" Art. No.	④ stainless 0.30/0.012" Art. No.	brassed steel 0.30/0.012" Art. No.
	mm/inch	mm/inch							
	100 / 4	10 / 3/8	M 14 x 2.0	20	12,500	1	<b>422.177 *</b>	<b>422.367</b>	<b>422.767</b>

\* Packed 25 pieces per carton.

» She believes that a constructive, pleasant co-operation is not only important for human relationships but also the best way putting things forward for customers and the company.  
*"To be in contact with customers means to find together the best solutions."*

**Cornelia Kitzsteiner**  
 manager of export and domestic sales



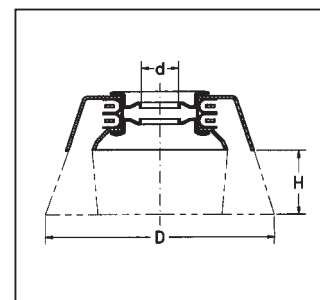
### Knot Conical Brushes

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 conical brushes are packed individually for self display. These brushes are also available bulk packed.

### 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.





## Cup Brushes with Crimped Wire

	D mm/inch	d mm/inch	H	RPM max.	Pack. 	steel 0.20/0.008" Art. No.	steel 0.35/0.014" Art. No.	steel 0.50/0.020" Art. No.	stainless 0.30/0.012" Art. No.	brass 0.30/0.012" Art. No.
<b>2</b>	60 / 2 3/8	M 10 x 1.5	20	12,000	1		<b>421.164 *</b>		<b>421.364</b>	421.564
	60 / 2 3/8	M 14 x 2.0	20	12,000	1	421.147	<b>421.167 *</b>	<b>421.197</b>	<b>421.367 *</b>	<b>421.567</b>
	75 / 3	M 14 x 2.0	25	12,500	1		<b>423.167 *</b>		<b>423.367</b>	
	75 / 3	W 5/8 x 1   NC	25	12,500	1		<b>423.168</b>		423.368	
	80 / 3 1/4	22.2 / 7/8	25	8,500	1		<b>424.171</b>		424.361	
<b>3</b>	80 / 3 1/4	M 14 x 2.0	25	8,500	1	424.147	<b>424.177 *</b>	<b>424.197</b>	<b>424.367 *</b>	<b>424.567</b>
	80 / 3 1/4	W 5/8 x 1   NC	25	8,500	1		<b>424.178</b>	424.198	424.368	
	100 / 4	22.2 / 7/8	30	8,500	1		<b>426.171</b>	426.191	426.361	426.561
<b>4</b>	100 / 4	M 14 x 2.0	30	8,500	1	426.147	<b>426.177 **</b>	<b>426.197</b>	<b>426.367 **</b>	<b>426.567</b>
	100 / 4	W 5/8 x 1   NC	30	8,500	1		<b>426.178 **</b>	<b>426.198</b>	426.368	426.568
	125 / 5	22.2 / 7/8	30	6,500	1		<b>427.171</b>			
	125 / 5	M 14 x 2.0	30	6,500	1		<b>427.177</b>	<b>427.297</b>	<b>427.367</b>	<b>427.567</b>
	125 / 5	W 5/8 x 1   NC	30	6,500	1		<b>427.178</b>	427.298		
	150 / 6	22.2 / 7/8	40	4,000	1		<b>429.171</b>	429.191		
	150 / 6	M 14 x 2.0	40	4,000	1		<b>429.177</b>	<b>429.197</b>	<b>429.367</b>	
	150 / 6	W 5/8 x 1   NC	40	4,000	1		<b>429.178</b>	<b>429.198</b>		

\* Packed 25 pieces per carton. / \*\* packed 20 pieces per carton.

## Cup Brushes

	D mm/inch	d mm/inch	H	RPM max.	Pack. 	brassed steel 0.30/0.012" Art. No.	abrasive nylon grit 80 Art. No.
<b>1</b>	60 / 2 3/8	M 14 x 2.0	20	12,000	1	<b>421.767</b>	<b>421.827</b>
	100 / 4	M 14 x 2.0	30	8,500	1	426.767	

### Cup Brushes

The cups are designed for best concentric running and a long life-time of the brushes, adapted to the latest requirements of the market.

### Cup brushes with crimped wire

are ideal for working on large surfaces. They can also be used for the removal of rust, paint, dirt or scale and for polishing. The cup brushes can be delivered with different filling materials according to your requirements.

### Adapters and Drive Arbors

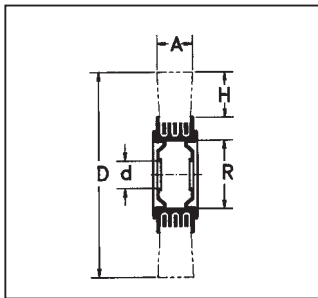
See page 23.

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 and side plates. We use wire with material number 1.4301. Material number 1.4401 can be used on demand.

## Wheel Brushes



### Wheel Brushes with Crimped Steel Wire

D	A	R	H	d	d	RPM	Pack.	steel crimped		
								Stand.	min. / max.	max.
mm / inch	mm / inch	mm / inch	mm / inch	mm / inch	mm / inch	mm / inch	mm / inch	Art. No.	Art. No.	Art. No.
80 / 3 1/4	18-20 / 7/8	20 / 3/4	20	10 / 3/8	10 / 3/8 - 20 / 3/4	10,000	1		<b>312.142</b>	<b>312.162</b>
80 / 3 1/4	25-27 / 1	20 / 3/4	20	10 / 3/8	10 / 3/8 - 20 / 3/4	10,000	1		312.143	<b>312.163</b>
100 / 4	20-22 / 7/8	30 / 1 1/4	23	Set 1	10 / 3/8 - 30 / 1 1/4	8,000	1	323.132	<b>323.142</b>	<b>323.162</b>
100 / 4	28-30 / 1 1/8	30 / 1 1/4	23	Set 1	10 / 3/8 - 30 / 1 1/4	8,000	1	323.133	<b>323.143</b>	<b>323.163</b>
125 / 5	21-23 / 7/8	40 / 1 3/8	27	Set 2	13 / 1/2 - 40 / 1 3/8	6,000	1	334.132	<b>334.142</b>	<b>334.162</b>
125 / 5	29-31 / 1 1/4	40 / 1 3/8	27	Set 2	13 / 1/2 - 40 / 1 3/8	6,000	1		334.143	<b>334.163</b>
150 / 6	22-24 / 1	40 / 1 3/8	33	Set 2	13 / 1/2 - 40 / 1 3/8	6,000	1	344.132	<b>344.142</b>	<b>344.172</b>
150 / 6	30-34 / 1 1/4	40 / 1 3/8	33	Set 2	13 / 1/2 - 40 / 1 3/8	6,000	1	344.133	<b>344.143</b>	<b>344.173</b>
150 / 6	23-25 / 1	50 / 2	33	Set 3	13 / 1/2 - 50 / 2	6,000	1	345.132	<b>345.142</b>	<b>345.162</b>
150 / 6	30-34 / 1 1/4	50 / 2	33	Set 3	13 / 1/2 - 50 / 2	6,000	1	345.133	<b>345.143</b>	<b>345.163</b>
178 / 7	23-26 / 1	50 / 2	37	Set 3	16 / 5/8 - 50 / 2	6,000	1		<b>355.142</b>	<b>355.162</b>
178 / 7	32-35 / 1 1/2	50 / 2	37	Set 3	16 / 5/8 - 50 / 2	6,000	1	355.133	<b>355.143</b>	<b>355.163</b>
200 / 8	24-27 / 1	50 / 2	48	Set 3	16 / 5/8 - 50 / 2	6,000	1	365.132	<b>365.142</b>	<b>365.172</b>
200 / 8	35-38 / 1 1/2	50 / 2	48	Set 3	16 / 5/8 - 50 / 2	6,000	1	365.133	<b>365.143</b>	<b>365.173</b>
200 / 8	28-32 / 1 1/4	80 / 3	38	Set 4	16 / 5/8 - 80 / 3	4,500	1		<b>366.142</b>	<b>366.162</b>
200 / 8	40-45 / 2	80 / 3	38	Set 4	16 / 5/8 - 80 / 3	4,500	1		366.143	<b>366.163</b>
250 / 10	30-35 / 1 1/4	80 / 3	50	Set 4	20 / 3/4 - 80 / 3	3,600	1		<b>376.142</b>	<b>376.162</b>
250 / 10	42-45 / 2	80 / 3	50	Set 4	20 / 3/4 - 80 / 3	3,600	1			<b>376.163</b>
250 / 10	32-37 / 1 1/4	100 / 4	50	Set 4	20 / 3/4 - 100 / 4	3,600	1		<b>377.142</b>	<b>377.162</b>
250 / 10	43-48 / 2	100 / 4	50	Set 4	20 / 3/4 - 100 / 4	3,600	1		377.143	<b>377.163</b>
300 / 12	35-40 / 1 1/2	100 / 4	60	Set 4	30 / 1 1/4 - 100 / 4	3,000	1		<b>387.142</b>	<b>387.162</b>
300 / 12	47-52 / 1 3/4	100 / 4	60	Set 4	30 / 1 1/4 - 100 / 4	3,000	1		387.143	<b>387.163</b>
350 / 14	35-40 / 1 1/2	100 / 4	85	Set 4	30 / 1 1/4 - 100 / 4	2,400	1		397.142	<b>397.172</b>
350 / 14	55-60 / 2 1/4	100 / 4	85	Set 4	30 / 1 1/4 - 100 / 4	2,400	1		397.143	<b>397.173</b>

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 5,00 / 11 - 25 pcs. EUR 3,00

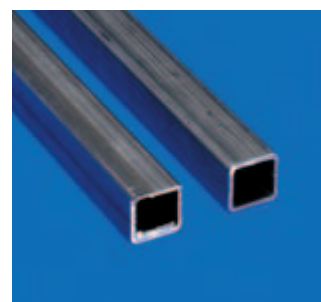
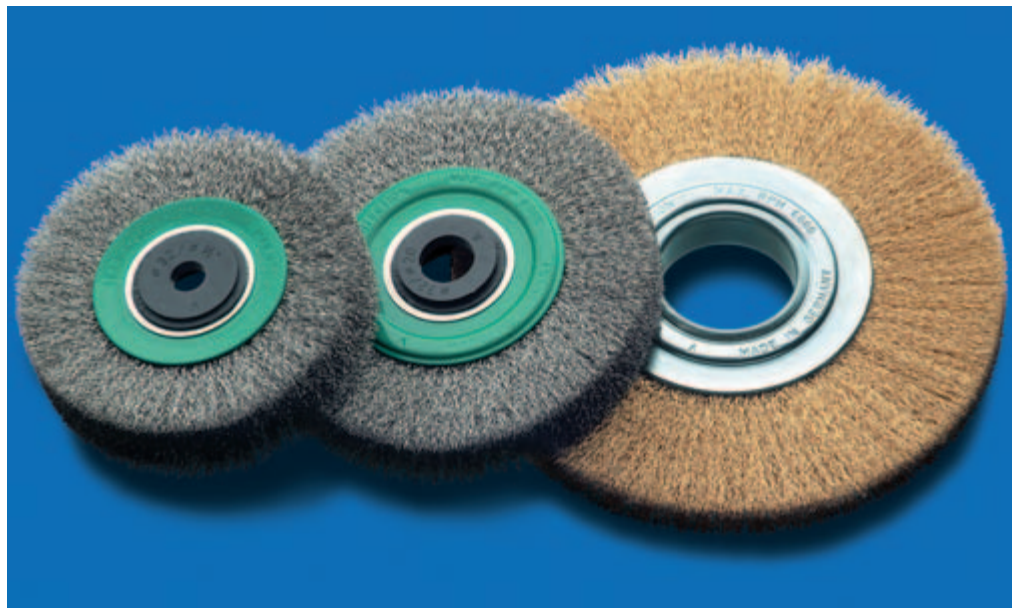
#### Wheel Brushes

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.


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. You will find additional equipment such as side plates and adapters on page 23. More technical instruction such as peripheral speed etc. see page 8/9.

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



## Wheel Brushes with Crimped Stainless Steel and Brass Wire

D	A	R	H	d	d	RPM	Pack.	stainless crimped		brass crimped	
								0.20/0.008"	0.30/0.012"	0.20/0.008"	0.30/0.012"
mm/inch	mm/inch	mm/inch		Stand. mm/inch	min. / max. mm/inch	max.		Art. No.	Art. No.	Art. No.	Art. No.
80 / 3 1/4	18-20 / 3/4	20 / 3/4	20	10 / 3/8	10 / 3/8 - 20 / 3/4	10,000	1	312.342	<b>312.362</b>	<b>312.542</b>	<b>312.562</b>
80 / 3 1/4	25-27 / 1	20 / 3/4	20	10 / 3/8	10 / 3/8 - 20 / 3/4	10,000	1		312.363		
100 / 4	20-22 / 3/4	30 / 1 1/4	23	Set 1	10 / 3/8 - 30 / 1 1/4	8,000	1	323.342	<b>323.362</b>	<b>323.542</b>	
100 / 4	28-30 / 1 1/8	30 / 1 1/4	23	Set 1	10 / 3/8 - 30 / 1 1/4	8,000	1	323.343	<b>323.363</b>	323.543	323.563
125 / 5	21-23 / 3/4	40 / 1 3/8	27	Set 2	13 / 1/2 - 40 / 1 3/8	6,000	1	334.342	<b>334.362</b>	<b>334.542</b>	334.562
125 / 5	29-31 / 1 1/4	40 / 1 3/8	27	Set 2	13 / 1/2 - 40 / 1 3/8	6,000	1		<b>334.363</b>	334.543	
150 / 6	22-24 / 1	40 / 1 3/8	33	Set 2	13 / 1/2 - 40 / 1 3/8	6,000	1	344.342	<b>344.362</b>	344.542	<b>344.562</b>
150 / 6	30-34 / 1 1/4	40 / 1 3/8	33	Set 2	13 / 1/2 - 40 / 1 3/8	6,000	1		<b>344.363</b>	344.543	<b>344.563</b>
150 / 6	23-25 / 1	50 / 2	33	Set 3	13 / 1/2 - 50 / 2	6,000	1	345.342	<b>345.362</b>	<b>345.542</b>	<b>345.562</b>
150 / 6	30-34 / 1 1/4	50 / 2	33	Set 3	13 / 1/2 - 50 / 2	6,000	1	345.343	<b>345.363</b>	345.543	<b>345.563</b>
178 / 7	23-26 / 1	50 / 2	37	Set 3	16 / 5/8 - 50 / 2	6,000	1	355.342	<b>355.362</b>	355.542	<b>355.562</b>
178 / 7	32-35 / 1 1/2	50 / 2	37	Set 3	16 / 5/8 - 50 / 2	6,000	1		<b>355.363</b>	355.543	<b>355.563</b>
200 / 8	24-27 / 1	50 / 2	48	Set 3	16 / 5/8 - 50 / 2	6,000	1	365.342	<b>365.362</b>	365.542	<b>365.562</b>
200 / 8	35-38 / 1 1/2	50 / 2	48	Set 3	16 / 5/8 - 50 / 2	6,000	1	365.343	<b>365.363</b>	365.543	<b>365.563</b>
200 / 8	28-32 / 1 1/4	80 / 3 1/4	38	Set 4	16 / 5/8 - 80 / 3 1/4	4,500	1	366.342	<b>366.362</b>	<b>366.542</b>	<b>366.562</b>
200 / 8	40-45 / 2	80 / 3 1/4	38	Set 4	16 / 5/8 - 80 / 3 1/4	4,500	1		<b>366.363</b>	366.543	<b>366.563</b>
250 / 10	30-35 / 1 1/4	80 / 3 1/4	50	Set 4	20 / 3/4 - 80 / 3 1/4	3,600	1	376.342	<b>376.362</b>	376.542	376.562
250 / 10	42-45 / 2	80 / 3 1/4	50	Set 4	20 / 3/4 - 80 / 3 1/4	3,600	1	376.343	<b>376.363</b>		
250 / 10	32-37 / 1 1/4	100 / 4	50	Set 4	20 / 3/4 - 100 / 4	3,600	1		<b>377.362</b>		<b>377.562</b>
250 / 10	43-48 / 2	100 / 4	50	Set 4	20 / 3/4 - 100 / 4	3,600	1		<b>377.363</b>		
300 / 12	35-40 / 1 1/2	100 / 4	60	Set 4	30 / 1 1/4 - 100 / 4	3,000	1	387.342	<b>387.362</b>		<b>387.562</b>
300 / 12	47-52 / 1 3/4	100 / 4	60	Set 4	30 / 1 1/4 - 100 / 4	3,000	1	387.343	387.363		
350 / 14	35-40 / 1 1/2	100 / 4	85	Set 4	30 / 1 1/4 - 100 / 4	2,400	1		397.362		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 5.00 / 11 - 25 pcs. EUR 3.00

### 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.

### Adapter Set

All brushes with tube 30-50 are supplied with adapters sets which makes it possible to mount the brushes on all popular grinding machines. The adapters have the following dimensions:

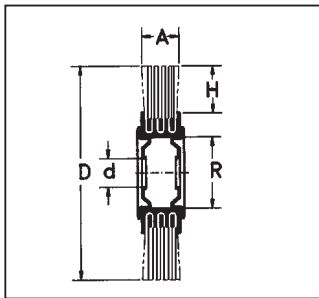
Set 1 / tube 30:  
30 / 1" / 22.2 / 20 / 16 / 1/2" / 12  
Set 2 / tube 40:  
40 / 32 / 1" / 22.2 / 20 / 16 / 1/2"  
Set 3 / tube 50:  
50 / 32 / 25.4 / 22.2 / 20 / 16 / 1/2"  
Set 4 / tube 80+100:  
with metal discs, bore 50.8 and

double key way 7x13; adapter to bore 30 + Set 1.

### Stainless Steel Brushes

LESSMANN-brushes with stainless steel have green side plates. We use wire with material number 1.4301. Material number 1.4401 can be used on demand.

# Deburring Brushes



## Deburring Brushes

D	A	R	H	d	d	RPM	①			②	③	
mm/inch	mm/inch	mm/inch		Stand.	min. max.	max.	special steel wire			steel brassed	stainless	
							0.20/0.008"	0.35/0.014"	0.50/0.020"	0.38/0.015"	0.20/0.008"	0.35/0.014"
							Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.
250 / 10	55 / 2 <sup>1</sup> / <sub>4</sub>	60 / 2 <sup>3</sup> / <sub>8</sub>	100 / 4	50	50.8/52.9/54.5	30-100	<b>377.051</b>	<b>377.053</b>	<b>377.054</b>	377.063	377.055	<b>377.057</b>
300 / 12	55 / 2 <sup>1</sup> / <sub>4</sub>	60 / 2 <sup>3</sup> / <sub>8</sub>	100 / 4	60	50.8/52.9/54.5	30-100	<b>387.053</b>					

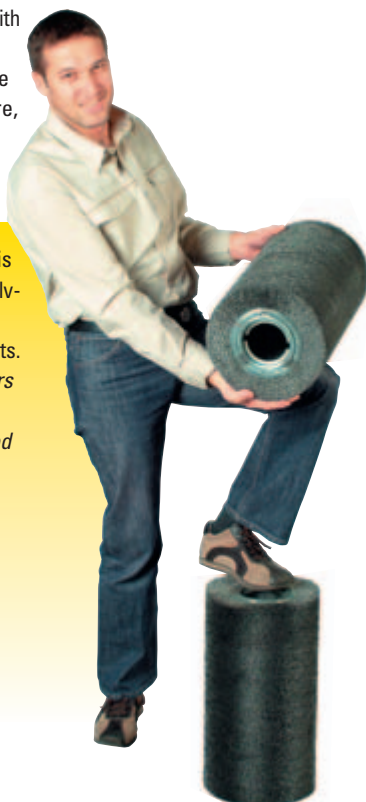
Metal bore with double keyset 13 x 7 / Bore must be indicated!

## Roller Brushes

D	A	R	H	d	RPM	special wire 0.35/0.014"
mm/inch	mm/inch	mm/inch			max.	Art. No.
250 / 10	500 / 19 <sup>5</sup> / <sub>8</sub>	100 / 4	50	Bore must be indicated, on request double keyset e. g. 13 x 7	3,600	377.053.50

All articles are single packed.

Deburring brushes are available with D = 250–400 and A = 55–700 mm. As filling material you can choose from steel and stainless steel wire, brass coated steel wire or cord wire.



» He has just built a house and he is father of two children. He likes solving brush problems of industrial customers with Lessmann products. "I always enjoy visiting customers and finding new brush solutions with Lessmann products. It's good to be capable of development."

**Franz Bosch**  
sales industrial customers

## 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.

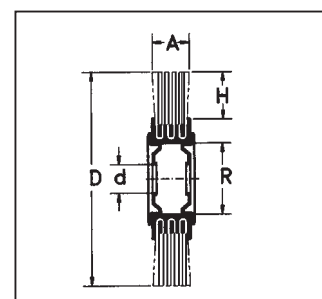
## Roller Brushes

The picture shows a roller brush used in deburring machines. These brushes are running balanced and have a dense filling, the wire used is a special wire with a higher tensile strength. When enquiring or ordering please be sure to state

the measurements D and A as well as the required wire diameter and bore.

**Recommendation:** For describing special sizes please see the table on page 56.

**Recommendation for users:** Cut edges are most often still treated manually with files or triangular scrapers. Many users are not aware that it is worth using wheel brushes in a bench grinder for less than 10 deburring processes per day. If you wish we can calculate an example for you! (Also for a sales representative to contact you!)



## 1 Band Saw Brushes

D mm/inch	A mm/inch	H	d mm/inch	RPM max.	Pack. 	steel crimped 0.35/0.014" Art. No.	brass coated steel 4 x 0.25/0.010" Art. No.	nylon 0.50/0.020" Art. No.
80 / 3 1/4	18-20 / 3/4	27	6 / 1/4	15,000	10		<b>310.702.06</b>	
100 / 4	13 / 1/2	21	13 / 1/2	6,000	10			<b>320.004</b>
100 / 4	13 / 1/2	20	12 / 1/2	6,000	10	<b>320.161.12</b>		

## 2 D.I.Y. Brushes

D mm/inch	A mm/inch	d mm/inch	RPM max.	Pack. 	steel crimped 0.35/0.014" Art. No.	steel crimped 0.35/0.014" Art. No.
75 / 3	10 / 3/8	1/2"	4,500	10	<b>300.102</b>	
100 / 4	10 / 3/8	1/2"	4,500	10	<b>320.102</b>	
150 / 6	10-12 / 1/2	16 / 5/8	4,500	10		<b>340.101</b>
150 / 6	12 / 1/2	13 / 1/2	4,500	10		<b>340.102</b>

## 3 Stripping Brushes

D mm/inch	A mm/inch	d mm/inch	0.10/0.004"	0.15/0.006"	0.20/0.008"	steel 0.25/0.010"	0.30/0.012"	0.35/0.014"	0.40/0.016"
20 / 3/4	20 / 3/4	5 / 1/4	301.211.10	301.211.15	301.211.20				
30 / 1 1/4	20 / 3/4	6 / 1/4	301.213.10	301.213.15	301.213.20		301.213.30		
35 / 1 1/2	20 / 3/4	6 / 1/4		301.214.15	301.214.20		301.214.30		
40 / 1 3/8	25 / 1	10 / 3/8		301.225.15	301.225.20	301.225.25	301.225.30		
80 / 3 1/4	30 / 1 1/4	16 / 5/8			301.236.20		301.236.30		
80 / 3 1/4	40 / 1 3/8	16 / 5/8			301.246.20		301.246.30	301.246.35	301.246.40

All articles on request, please mention quantities!

### Band Saw Brushes

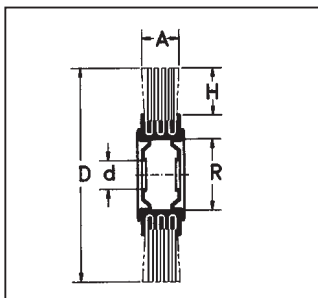
These brushes clean saw blades of band saws while the saw is running. The shown brushes fit all machines of the leading manufacturers.

### Do it yourself-Wheelbrushes

These brushes are an excellent alternative to the professional tools for occasional brush work. The brushes can be mounted on shanks or directly on machines.

### Stripping Brushes

For the removal of laquer and other insulations from cables and electric equipment. Specially dense and available with extremely thin wire. The **polished** surface and the concentric running enable soft removal of laquer from the wires.



## NEW Single Segment Wheel Brushes with Steel Wire, Stainless Steel Wire

D	A	H	d	d	RPM	Pack.	steel 0.20/0.008"	steel 0.30/0.012"	stainless 0.20/0.008"	stainless 0.30/0.012"
mm/inch	mm/inch		Stand.	min. / max.	max.		Art. No.	Art. No.	Art. No.	Art. No.
100 / 4	15-17 / 5/8	21	13	13-20	8,000	5	320.141	320.161	320.341	320.361
125 / 5	15-17 / 5/8	33	13	13-20	8,000	5	330.141	330.161	330.341	330.361
<b>150 / 6</b>	15-17 / 5/8	32	13	13-30	6,000	5	340.141	340.161	340.341	340.361
178 / 7	18-20 / 3/4	46	20	20-80	6,000	5	350.141	350.161	350.341	350.361
<b>200 / 8</b>	20-22 / 3/4	33	20	20-80	6,000	5	360.141	360.161	360.341	360.361
250 / 10	22-24 / 3/4	58	20	20-80	6,000	5	370.141	370.161	370.341	370.361

## NEW Single Segment Wheel Brushes with Abrasive Nylon

D	A	H	d	d	RPM	Pack.	abrasive nylon grit 120	abrasive nylon grit 180	abrasive nylon grit 320
mm/inch	mm/inch		Stand.	min. / max.	max.		Art. No.	Art. No.	Art. No.
<b>100 / 4</b>	15-20 / 5/8	21	13	10-20	8,000	5	320.841	320.851	320.871
125 / 5	15-20 / 5/8	30	13	10-20	8,000	5	330.841	330.851	330.871
150 / 6	15-20 / 5/8	34	13	10-30	6,000	5	340.841	340.851	340.871
178 / 7	15-20 / 5/8	44	20	20-80	6,000	5	350.841	350.851	350.871
200 / 8	15-20 / 5/8	39	20	20-80	6,000	5	360.841	360.851	360.871
250 / 10	15-20 / 5/8	40	20	20-80	6,000	5	370.841	370.851	370.871

### 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.

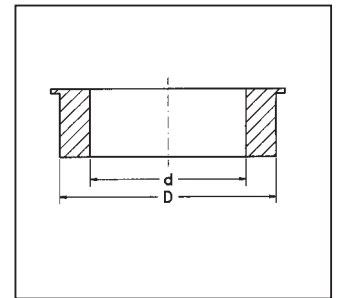
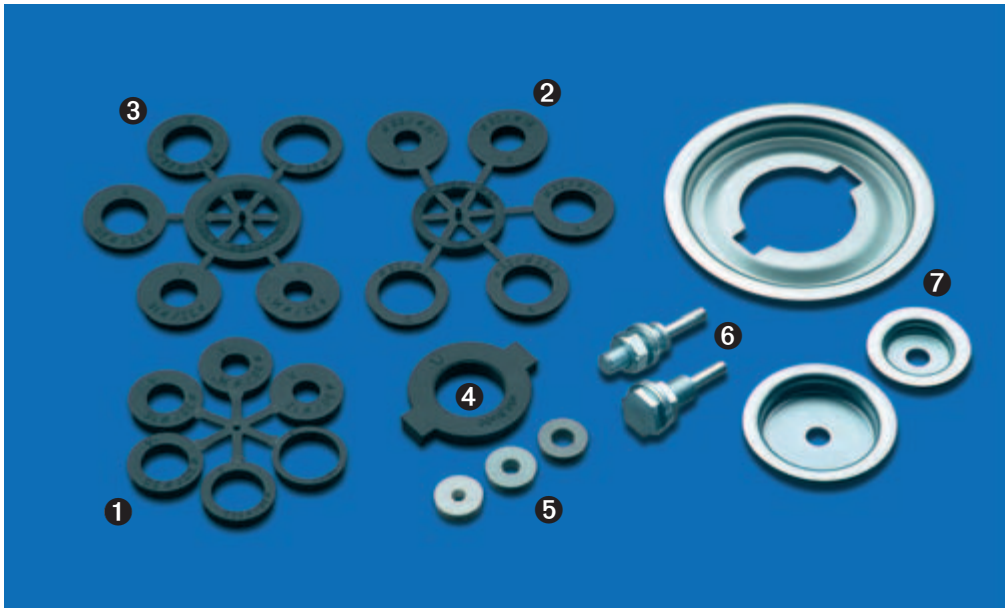
In contrast to steel wires the bristles also have grinding effect on the side, what makes them even more flexible to application possibilities.

For working in moist places the bristles are made of PA 6.12. Please mention in your enquiry/order if this is necessary.

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.

For further information regarding abrasive nylon bristles please see chapter MATERIALS on page 6.



**Plastic Adapter Sets**

1	Set 1	Tube 30	Art. No. <b>83.886.630</b>	30 - 1" - 22.2 - 20 - 16 - 1/2" - 12
2	Set 2	Tube 40	Art. No. <b>83.886.640</b>	40 - 32 - 1" - 22.2 - 20 - 16 - 1/2"
3	Set 3	Tube 50	Art. No. <b>83.886.650</b>	50 - 32 - 1" - 22.2 - 20 - 16 - 1/2"
4	Set 4	Tube 80/100	Art. No. <b>83.886.680</b>	50.8 - 30 (further adapters with Set 1)

**5 Plastic Adapters**

D mm/inch	d mm/inch	Art. No.	D mm/inch	d mm/inch	Art. No.	D mm/inch	d mm/inch	Art. No.
13 / 1/2	10 / 3/8	<b>000.823</b>	20 / 3/4	16 / 5/8	<b>000.806</b>	22.2 / 7/8	20 / 3/4	<b>000.812</b>
16 / 5/8	13 / 1/2	<b>000.801</b>	22.2 / 7/8	10 / 3/8	<b>000.808</b>	30 / 1 1/4	20 / 3/4	<b>000.813</b>
20 / 3/4	10 / 3/8	<b>000.802</b>	22.2 / 7/8	13 / 1/2	<b>000.809</b>	40 / 1 3/8	30 / 1 1/4	<b>000.819</b>
20 / 3/4	13 / 1/2	<b>000.804</b>	22.2 / 7/8	16 / 5/8	<b>000.811</b>			

**6 Drive Arbors**

D mm/inch	L mm/inch	Thread	Art. No.	D mm/inch	L mm/inch	Thread	Art. No.
6 / 1/4	60 / 2 5/8	M 10 x 1.5	<b>000.041</b>	6 / 1/4	40 / 1 3/8	M 10 left	<b>000.044 *</b>
10 / 3/8	60 / 2 5/8	M 10 x 1.5	<b>000.042</b>	6 / 1/4	50 / 2	M 12 left	<b>000.045 **</b>
10 / 3/8	75 / 3	M 14 x 2.0	<b>000.043</b>				

\* e.g. for wheel brush Art. No. 301.163 (see page 29) / \*\* e.g. for wheel brush Art. No. 300.705 (see page 29)

**7 Metal Discs as Spare Part**

	R 30	R 40	R 50	R 80	R 100 *
Art. No.	<b>000.631</b>	<b>000.641</b>	<b>000.651</b>	<b>000.661</b>	<b>000.671</b>

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

**Drive Arbors**

With these additional parts the wheel brushes and cup brushes can be adapted for use on drilling machines.

**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 / 25.4 / 22.2 / 20 / 16 / 1/2"  
 Set 4 / tube 80+100:  
 with metal discs, bore 50.8 and double key way 7x13; adapter to

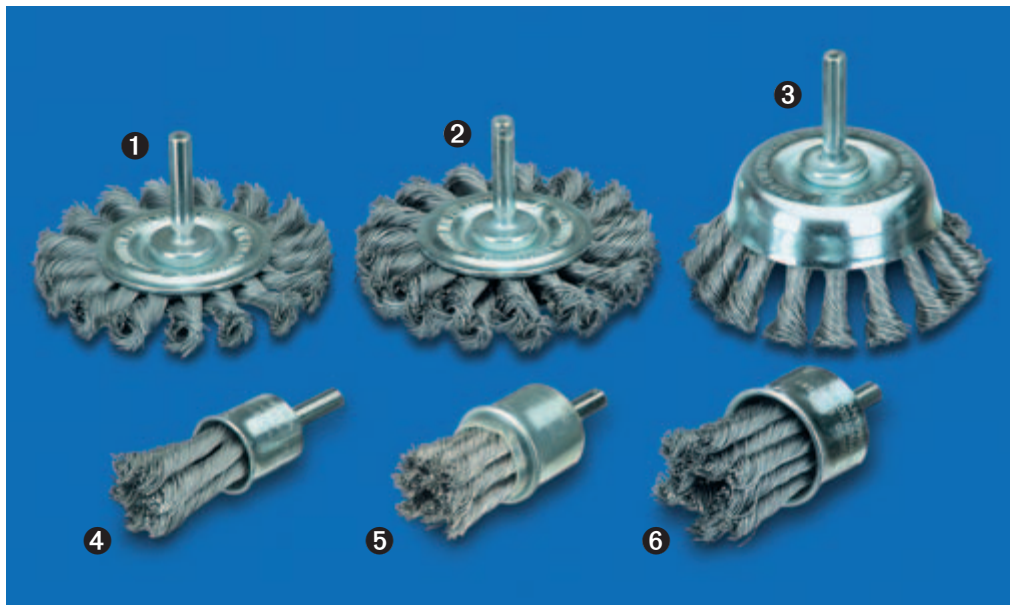
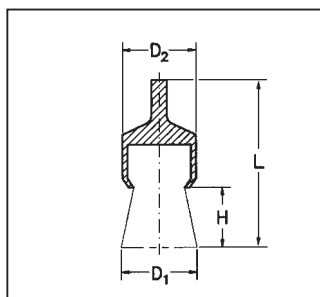
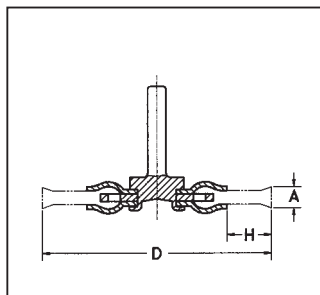
bore 30 + Set 1. A technical advice and safety information leaflet is included. The practical adapter sets can also be ordered separately. Please note that every brush requires two adapter sets.

**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 18 and 19. Please indicate the required bore size on your order and note that normally two metal plates are required for one brush.

## Knotted Shank Brushes



### Knotted Wheel Brushes with Shank 6 mm Ø

	D	A	H	Z	RPM	Pack.	steel 0.35/0.014"	steel 0.50/0.020"	stainl. 0.50/0.020"
	mm/inch	mm/inch			max.		Art. No.	Art. No.	Art. No.
	75 / 3	9 / 3/8	15	18	25,000	10		<b>417.198.11</b>	
❶	75 / 3	12 / 1/2	15	18	25,000	10	<b>417.168</b>	<b>417.198</b>	<b>417.398</b>
❷	75 / 3	16 / 5/8	15	36	25,000	10		<b>417.199</b>	<b>417.399</b>

### Knotted End Brushes with Shank 6 mm Ø

	D1/D2	L	H	Z	RPM	Pack.	steel 0.25/0.010"	steel 0.35/0.014"	steel 0.50/0.020"	stainl. 0.25/0.010"	stainl. 0.35/0.014"	stainl. 0.50/0.020"
	mm/inch	mm/inch			max.		Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.
❹	19 / 3/4	72 / 2 7/8	28	6	20,000	10	<b>453.258</b>	<b>453.278</b>	<b>453.298</b>	<b>453.358</b>	<b>453.378</b>	
❺	22 / 7/8	72 / 2 7/8	28	8	20,000	10	<b>454.258</b>	<b>454.278</b>	<b>454.298</b>	<b>454.358</b>	<b>454.378</b>	<b>454.398</b>
❻	29 / 1 1/8	72 / 2 7/8	28	12	20,000	10	<b>456.258</b>	<b>456.278</b>	<b>456.298</b>	<b>456.358</b>	<b>456.378</b>	<b>456.398</b>
❸	75 / 3	-	20	18	4,500	10			<b>483.230</b>			



#### 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.



#### 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.

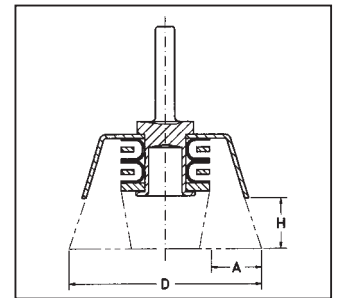
#### Knotted End Brushes with Shank

These models are known for the high-quality of the wire and have therefore a longer service life.

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.

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





## 1 Cup Brushes with Shank 6 mm Ø

D mm/inch	A mm/inch	H	RPM max.	Pack. 	steel 0.20/0.008" Art. No.	steel 0.30/0.012" Art. No.	stainless 0.30/0.012" Art. No.	brass 0.20/0.008" Art. No.
40 / 1 3/8	10 / 3/8	20	8,000	10	<b>434.142</b>	<b>434.162</b>	<b>434.362</b>	<b>434.542</b>
50 / 2	10 / 3/8	20	10,500	10	<b>435.142</b>	<b>435.162</b>	<b>435.362</b>	<b>435.542</b>
60 / 2 3/8	10 / 3/8	20	4,500	10		<b>436.162</b>	<b>436.362</b>	
70 / 2 3/4	15 / 5/8	25	4,500	10	<b>437.142</b>	<b>437.162</b>	<b>437.362</b>	<b>437.542</b>

## 2 Cup Brushes with Plastic Cup with Shank 6 mm Ø

D mm/inch	A mm/inch	H	RPM max.	Pack. 	stainless 0.20/0.008" Art. No.	stainless 0.25/0.010" Art. No.	stainless 0.30/0.012" Art. No.
40 / 1 3/8	20 / 3/4	23	15,000	10	<b>434.345</b>	<b>434.355</b>	<b>434.365</b>
50 / 2	25 / 1	28	10,500	10	<b>435.345</b>	<b>435.355</b>	<b>435.365</b>

## 3 Abrasive Nylon Cup Brushes with Shank 6 mm Ø

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

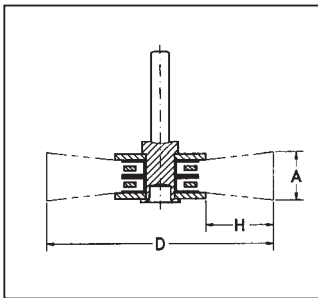
### Cup Brushes with Shank

Ideal for working on medium and large areas.

The executions with stainless steel 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 abrasive nylon can be used for deburring, polishing or structuring of stainless steel, aluminium and plastic surfaces.

# Brushes with Shank



## Wheel Brushes with Shank 6 mm Ø

	D	A	H	RPM	Pack.	steel 0.15/0.006"	steel 0.20/0.008"	steel 0.30/0.012"	steel 0.50/0.020"	brassed St. 0.25/0.010"
	mm/inch	mm/inch		max.		Art. No.	Art. No.	Art. No.	Art. No.	Art. No.
	20 / 3/4	4 / 1/4	3	20,000	10		<b>411.142</b>			
	30 / 1 1/4	6 / 1/4	6	20,000	10	<b>413.132</b>	<b>413.142</b>	<b>413.162</b>		
	30 / 1 1/4	9 / 3/8	6	20,000	10		<b>413.143</b>	<b>413.163</b>		
①	40 / 1 1/2	10 / 3/8	9	18,000	10	<b>414.132</b>	<b>414.142</b>	<b>414.162</b>	<b>414.192</b>	
	40 / 1 1/2	14-16 / 5/8	9	18,000	10	414.133	<b>414.143</b>	<b>414.163</b>		
	50 / 2	10-12 / 1/2	12	15,000	10	415.132	<b>415.142</b>	<b>415.162</b>	<b>415.192</b>	<b>415.752</b>
	50 / 2	14-16 / 5/8	12	15,000	10	<b>415.133</b>	<b>415.143</b>	<b>415.163</b>	415.193	
③	60 / 2 3/8	10-12 / 1/2	17	15,000	10	416.132	<b>416.142</b>	<b>416.162</b>		
	60 / 2 3/8	14-16 / 5/8	17	15,000	10	<b>416.133</b>	<b>416.143</b>	<b>416.163</b>	416.193	
②	70 / 2 3/4	12-14 / 1/2	19	15,000	10	417.132	<b>417.142</b>	<b>417.162</b>	<b>417.192</b>	<b>417.752</b>
	70 / 2 3/4	16-18 / 5/8	19	15,000	10	<b>417.133</b>	<b>417.143</b>	<b>417.163</b>		
	80 / 3 1/4	12-14 / 1/2	20	15,000	10		<b>418.142</b>	<b>418.162</b>		
	80 / 3 1/4	18-20 / 3/4	20	15,000	10		<b>418.143</b>	<b>418.163</b>		
	70 / 2 3/4	10 / 3/8	14	15,000	10				<b>417.196</b>	cambered plates

## Structuring Brushes with Shank 8 mm Ø

	D	A	H	RPM	Pack.	brassed steel 4 x 0.25/0.010"
	mm/inch	mm/inch		max.		Art. No.
④	80 / 3 1/4	35 / 1 3/8	28	4,000	1	<b>418.704</b>



### 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. Encapsulated brushes with shank please see page 29.

### Stainless Steel Brushes

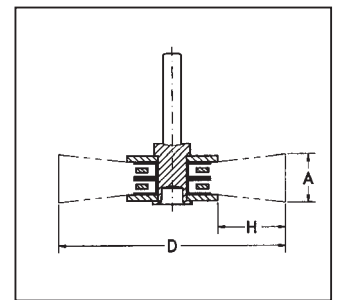
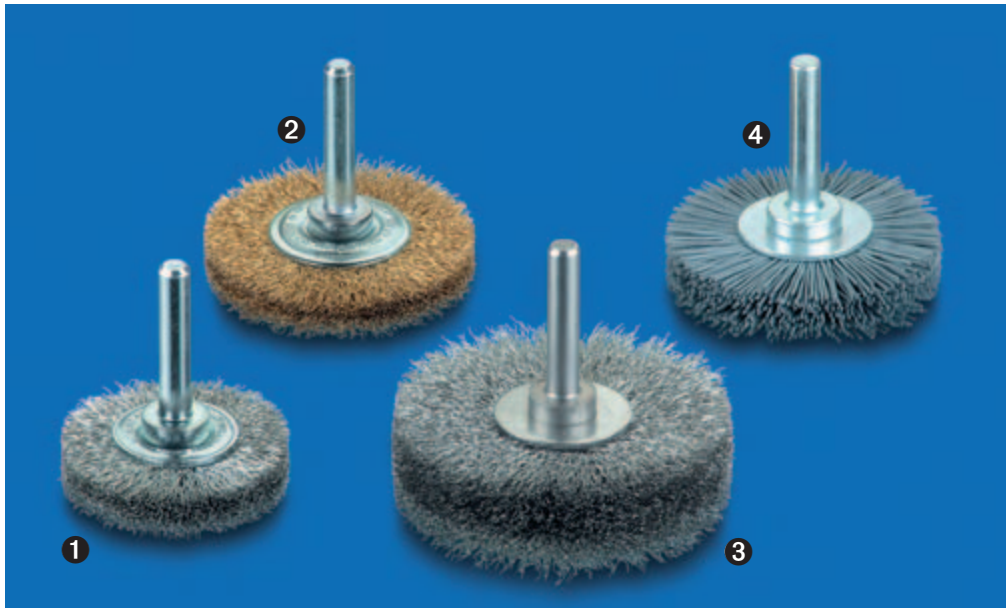
LESSMANN brushes with stainless steel wire have green side plates. We use wire with material number 1.4301. Material number 1.4401 can be used on request.

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

### Structuring Brushes with Shank

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

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



### 1 Wheel Brushes with Shank 6 mm Ø, Stainless Steel and 2 Brass Wire

D mm/ <i>inch</i>	A mm/ <i>inch</i>	H	RPM max.	Pack. 	stainless 0.20/0.008" Art. No.	stainless 0.30/0.012" Art. No.	brass 0.20/0.008" Art. No.
20 / 3/4	4 / 1/4	3	20,000	10	<b>411.342</b>		<b>411.542</b>
30 / 1 1/4	6 / 1/4	6	20,000	10	<b>413.342</b>	413.362	<b>413.542</b>
30 / 1 1/4	9 / 3/8	6	20,000	10	<b>413.343</b>	413.363	
40 / 1 1/2	10 / 3/8	9	18,000	10	<b>414.342</b>	<b>414.362</b>	<b>414.542</b>
40 / 1 1/2	16 / 5/8	9	18,000	10	<b>414.343</b>		414.543
50 / 2	10-12 / 1/2	12	15,000	10	<b>415.342</b>	<b>415.362</b>	<b>415.542</b>
50 / 2	14-16 / 5/8	12	15,000	10	<b>415.343</b>	<b>415.363</b>	<b>415.543</b>
60 / 2 3/8	10-12 / 1/2	17	15,000	10	<b>416.342</b>	<b>416.362</b>	<b>416.542</b>
60 / 2 3/8	16-18 / 3/4	17	15,000	10	<b>416.343</b>	<b>416.363</b>	<b>416.543</b>
70 / 2 3/4	12-14 / 1/2	19	15,000	10	<b>417.342</b>	<b>417.362</b>	<b>417.542</b>
70 / 2 3/4	16-18 / 3/4	19	15,000	10	<b>417.343</b>	<b>417.363</b>	<b>417.543</b>
80 / 3 1/4	12-14 / 1/2	20	15,000	10	<b>418.342</b>	<b>418.362</b>	<b>418.542</b>
80 / 3 1/4	18-20 / 3/4	20	15,000	10	<b>418.343</b>	<b>418.363</b>	<b>418.543</b>

### 3 Wheel Brushes with Shank 6 mm Ø, completely stainless

50 / 2	15-17 / 5/8	12	15,000	10	415.301	415.302
60 / 2 3/8	17-19 / 3/4	17	15,000	10	416.303	416.302
70 / 2 3/4	18-20 / 3/4	19	15,000	10	417.306	417.309

### 4 Wheel Brushes with Shank 6 mm Ø, Abrasive Nylon

D mm/ <i>inch</i>	A mm/ <i>inch</i>	H	RPM max.	Pack. 	abrasive nylon grit 120 Art. No.	abrasive nylon grit 320 Art. No.
50 / 2	10-12 / 1/2	12	15,000	10	<b>415.842</b>	<b>415.872</b>
70 / 2 3/4	12-14 / 1/2	20	15,000	10	<b>417.842</b>	<b>417.872</b>
80 / 3 1/4	12-14 / 1/2	22	15,000	10	<b>418.842</b>	<b>418.872</b>

#### 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

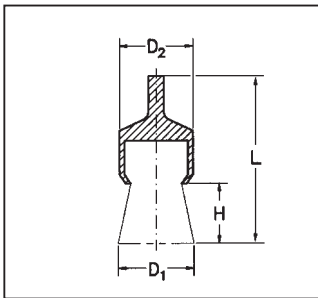
brushes are the perfect tool for working in very damp and difficult places.

#### Shank Brushes with Abrasive Nylon

The high quality abrasive nylon bristles with silitiumcarbide 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.

## Brushes with Shank



### End Brushes with Shank 6 mm Ø

	D1	D2	H	L	RPM	Pack.	steel 0.15/0.006"	steel 0.20/0.008"	steel 0.30/0.012"	steel 0.50/0.020"	brassed St. 0.25/0.010"
	mm/inch	mm/inch		mm/inch	max.		Art. No.	Art. No.	Art. No.	Art. No.	Art. No.
②	12 / 1/2	10 / 3/8	20	60 / 2 3/8	20,000	10	<b>451.131</b>	<b>451.141</b>	<b>451.161</b>	<b>451.191</b>	
	12 / 1/2	10 / 3/8	20	60 / 2 3/8	20,000	10			<b>451.162 *</b>	451.192 *	
③	12 / 1/2	10 / 3/8	20	120 / 4 3/4	15,000	10	<b>458.131</b>	<b>458.141</b>	<b>458.161</b>	<b>458.191</b>	
	17 / 5/8	16 / 5/8	22	65 / 2 1/2	20,000	10	452.131	<b>452.141</b>	<b>452.161</b>	<b>452.191</b>	
①	23 / 7/8	22 / 7/8	25	68 / 2 3/4	18,000	10	<b>453.131</b>	<b>453.141</b>	<b>453.161</b>	<b>453.191</b>	<b>453.751</b>
	30 / 1 1/4	29 / 1 1/8	25	68 / 2 3/4	18,000	10	<b>456.131</b>	<b>456.141</b>	<b>456.161</b>	<b>456.191</b>	
	50 / 2	22 / 7/8	18	68 / 2 3/4	18,000	10			<b>453.163 **</b>		
④	70 / 2 3/4	29 / 1 1/8	25	68 / 2 3/4	18,000	10			<b>456.163 **</b>		* pointed / ** spreaded

### End Brushes with Shank 6 mm Ø

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

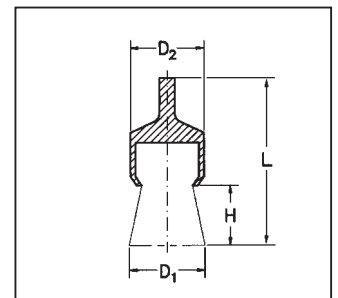
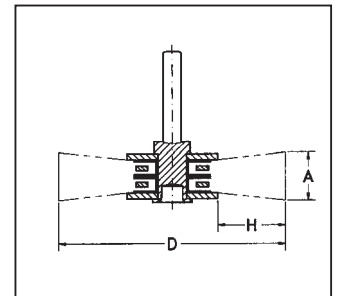
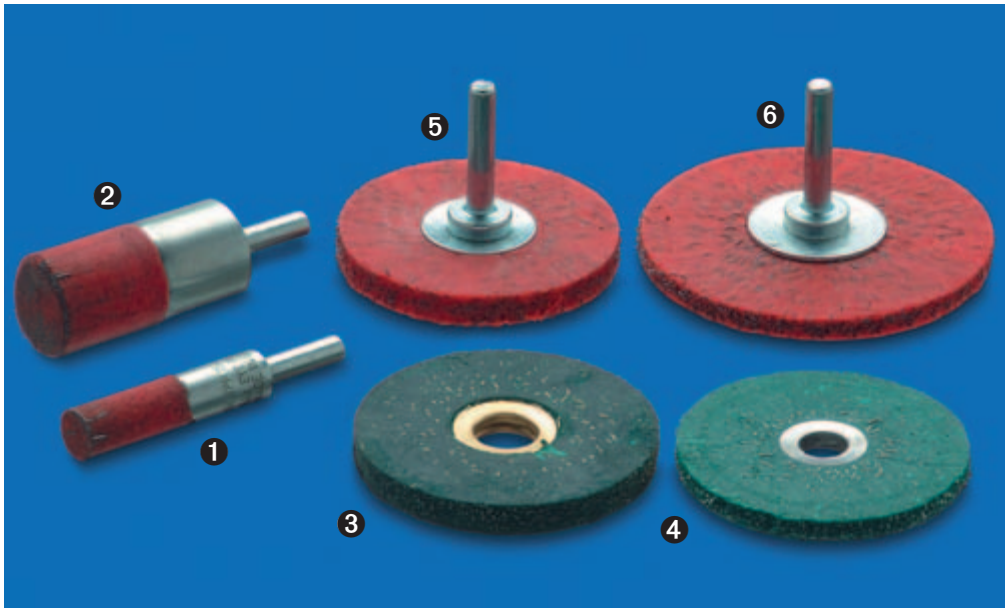
### End Brushes, Abrasive Nylon with Shank 6 mm Ø

	D1	D2	H	L	RPM	Pack.	abrasive nylon grit 180		abrasive nylon grit 320	
	mm/inch	mm/inch		mm/inch	max.		Art. No.		Art. No.	
	22 / 7/8		25	70 / 2 3/4	18,000	10	454.851		454.871	
⑤	28 / 1		30	75 / 3	15,000	10	456.851		456.871	

#### 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 recesses, and in the inside of the bores, etc.

End brushes are also available in other shapes, spreaded or pointed.



### End Brushes, Encapsulated with Shank 6 mm Ø

	D1 mm/inch	D2 mm/inch	H	L mm/inch	RPM max.	Pack. 	steel 0.30/0.012" Art. No.
<b>1</b>	10 / 3/8	10 / 3/8	20	60 / 2 3/8	20,000	10	<b>451.160</b>
	16 / 5/8	16 / 5/8	25	72 / 2 7/8	15,000	10	<b>452.160</b>
<b>2</b>	22 / 7/8	22 / 7/8	25	75 / 3	13,000	10	<b>453.160</b>
	28 / 1	28 / 1	30	75 / 3	13,000	10	<b>456.160</b>

### Wheel Brushes, Encapsulated with Shank 6 mm Ø

	D mm/inch	A mm/inch	H	d	RPM max.	Pack. 	steel 0.30/0.012" Art. No.
	50 / 2	8 / 5/16	13		15,000	10	<b>415.160</b>
<b>5</b>	60 / 2 3/8	8 / 5/16	18		15,000	10	<b>416.160</b>
<b>6</b>	76 / 3	8 / 5/16	23		12,000	10	<b>417.160</b>

### Wheel Brushes Encapsulated with Bore

	D mm/inch	A mm/inch	H	d mm/inch	RPM max.	Pack. 	steel 0.30/0.012" Art. No.	brassed steel 0.30/0.012" Art. No.
<b>4</b>	60 / 2 3/8	6 / 1/4	21	10 / 3/8	15,000	10	<b>301.163 *</b>	
<b>3</b>	63 / 2 1/2	8 / 5/16	21	13 / 1/2	15,000	10		<b>300.705 *</b>

\* Suitable drive arbors see page 23

#### Encapsulated Brushes

By embedding in tough plastic the brushes are long lasting and safe for perfect working.

#### Safety first

Because of this special feature these brushes are the perfect tool to be used in security relevant places. Their lifetime is much longer compared to other brushes which are not encapsulated. However, it must be stated that the plastic will leave marks on the working piece. Because of the lack of flexibility of the wires the brushing effect is much stronger.

#### Recommendation for users:

Switch cabinet constructors often use encapsulated brushes: Thus paint on contact surfaces for switches or compound-impregnated cables can be removed precisely.



Inexpensive brush presentation – brush on card.



## Wheel Brushes

	D mm/inch	A mm/inch	RPM max.	Pack. ☐	steel 0.20/0.008" 0.25/0.010"	steel 0.30/0.012" 0.35/0.014"	stainl. 0.20/0.008" Art. No.	stainl. 0.30/0.012" Art. No.	brass 0.25/0.010" Art. No.	abrasive nylon grit 80 Art. No.
	50 / 2	8-10 / 3/8	4,500	10	<b>410.122</b>	<b>410.123</b>				
❶	75 / 3	8-10 / 3/8	4,500	10	<b>410.132</b>	<b>410.133</b>	<b>410.134</b>	<b>410.135</b>	<b>410.136</b>	<b>410.138</b>
	75 / 3	14-16 / 5/8	4,500	10		<b>410.173</b>				
❷	100 / 4	8-10 / 3/8	4,500	10	<b>410.152</b>	<b>410.153</b>	<b>410.154</b>	<b>410.155</b>		<b>410.158</b>
	100 / 4	14-16 / 5/8	4,500	10		<b>410.183</b>	<b>410.185</b>			

## Cup Brushes

❸	50 / 2		4,500	10	<b>430.122</b>	<b>430.123</b>	<b>430.124</b>	<b>430.125</b>	<b>430.126</b>	<b>430.128</b>
❹	75 / 3		4,500	10	<b>430.132</b>	<b>430.133</b>	<b>430.134</b>	<b>430.135</b>	<b>430.136</b>	<b>430.138</b>

## End Brushes

❺	25 / 1		12,000	10		<b>455.161</b>				<b>453.821</b>
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## Cylinder Brushes

❻	28 / 1		1,500	10		<b>541.301</b>				
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## Brushes with Shank 6 mm Ø on Card

Technical data please see table above and on page 24

	D mm/inch	Pack. ☐	steel 0.30/0.012" 0.35/0.014"	brass 0.25/0.010" Art. No.	abrasive nylon grit 80 Art. No.	knotted steel 0.50/0.020" Art. No.
<b>Wheel Brushes</b>	50 / 2	10	<b>410.123.07</b>			
	75 / 3	10	<b>410.133.07</b>	<b>410.136.07</b>	<b>410.138.07</b>	<b>417.198.07</b>
	100 / 4	10	<b>410.153.07</b>		<b>410.158.07</b>	
<b>Cup Brushes</b>	50 / 2	10	<b>430.123.07</b>	<b>430.126.07</b>	<b>430.128.07</b>	
	75 / 3	10	<b>430.133.07</b>		<b>430.138.07</b>	
<b>End Brushes</b>	25 / 1	10	<b>455.161.07</b>		<b>453.821.07</b>	
<b>Cylinder Brushes</b>	28 / 1	10	<b>541.301.07</b>			

## 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.

## 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:

## Single packing

On cards with Europerforation, EAN-bar code and technical data.


Also available with blister packing. (See page 32)

## Displayboxes

The tools are loose in the display carton, ready to hand and easily visible. (see page 31)



## Tool Brushes

Model	Catalogue Page	Filling	D mm / inch	d mm / inch	RPM max.	Pack. 	Art. No.
<b>2</b> Knot Cup Brushes	14	steel 0.50/0.020"	65 / 2 1/2	M 14 x 2.0	12,500	20	<b>482.217.07</b>
<b>1</b> Knot Wheel Brushes	12	steel 0.50/0.020"	115 / 4 1/2	22.2 / 7/8	12,500	18	<b>472.211.07</b>
Knot Conical Brushes	16	steel 0.50/0.020"	100 / 4	M 14 x 2.0	12,500	12	<b>471.257.07</b>
Crimped Cup Brushes	17	steel 0.30/0.012"	60 / 2 3/8	M 14 x 2.0	12,000	20	<b>421.167.07</b>

## D.I.Y. Brush Assortments

Art. No.	Contents: 36 pieces assorted			
<b>3</b> <b>499.907</b>	6 Wheel Brushes Ø 75 mm / 3 inch, steel fine	410.132	6 Cup Brushes Ø 75 mm / 3 inch, steel coarse	430.133
	6 Wheel Brushes Ø 100 mm / 4 inch, steel coarse	410.153	6 End Brushes Ø 25 mm / 1 inch, steel coarse	455.161
	6 Cup Brushes Ø 50 mm / 2 inch, steel coarse	430.123	6 Cylinder Brushes Ø 28 mm / 1 inch, steel coarse	541.301
<b>499.921</b>	9 Wheel Brushes Ø 75 mm / 3 inch, steel fine	410.132	9 Cup Brushes Ø 50 mm / 2 inch, steel coarse	430.123
	9 Wheel Brushes Ø 100 mm / 4 inch, steel coarse	410.153	9 Cup Brushes Ø 75 mm / 3 inch, steel coarse	430.133

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.

A display carton with the best selling Do It Yourself Brushes, bulk packed, completes the offer. (see page 34).

The standard assortment contains:

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



## Brushes for Angle Grinders

Pack.

Knot Cup Brushes	Ø 65 mm / 2 1/2 inch	M14	steel 0.35/0.014"	10	Art.Nr. 482.117.09
Knot Cup Brushes	Ø 65 mm / 2 1/2 inch	M14	steel 0.50/0.020"	10	Art.Nr. 482.217.09
Knot Cup Brushes	Ø 65 mm / 2 1/2 inch	M10	steel 0.35/0.014"	10	Art.Nr. 482.214.09
Knot Cup Brushes	Ø 65 mm / 2 1/2 inch	M14	stainless steel 0.50/0.020"	10	Art.Nr. 482.817.09
Knot Wheel Brushes	Ø 115 mm / 4 1/2 inch	Bo. 22.2 mm / 7/8 inch	steel 0.50/0.020"	10	Art.Nr. 472.211.09
Knot Wheel Brushes	Ø 115 mm / 4 1/2 inch	M14	steel 0.50/0.020"	10	Art.Nr. 472.217.09
Knot Wheel Brushes	Ø 115 mm / 4 1/2 inch	Bo. 22.2 mm / 7/8 inch	stainless steel 0.50/0.020"	10	Art.Nr. 472.811.09
Knot Conical Brushes	Ø 100 mm / 4 inch	M14	steel 0.50/0.020"	10	Art.Nr. 471.257.09
Knot Conical Brushes	Ø 115 mm / 4 1/2 inch	M14	steel 0.50/0.020"	10	Art.Nr. 472.257.09
Knot Conical Brushes	Ø 115 mm / 4 1/2 inch	M14	stainless steel 0.50/0.020"	10	Art.Nr. 472.857.09
Conical Brushes	Ø 100 mm / 4 inch	M14	steel crimped 0.35/0.014"	10	Art.Nr. 422.177.09
Cup Brushes	Ø 60 mm / 2 3/8 inch	M14	steel crimped 0.35/0.014"	10	Art.Nr. 421.167.09
Cup Brushes	Ø 60 mm / 2 3/8 inch	M10	steel crimped 0.35/0.014"	10	Art.Nr. 421.164.09
Cup Brushes	Ø 60 mm / 2 3/8 inch	M14	stainless steel crimped 0.35/0.014"	10	Art.Nr. 421.367.09
Cup Brushes	Ø 75 mm / 3 inch	M14	steel crimped 0.35/0.014"	10	Art.Nr. 423.167.09



### Brushes with blister packing

Now available:  
All standard brushes for drilling machines and angle grinders are now 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.





Technical data on the front,  
details and bar code on the back.

## Brushes for Angle Grinders and Drilling Machines

Pack.

Knot Wheel Brushes	$\varnothing$ 75 mm / 3 inch	steel 0.50/0.020"	10	Art.Nr. 417.198.09
Knot End Brushes	$\varnothing$ 19 mm / 3/4 inch	steel 0.35/0.014", 6 knots	10	Art.Nr. 453.278.09
Knot End Brushes	$\varnothing$ 22 mm / 7/8 inch	steel 0.35/0.014", 6 knots	10	Art.Nr. 454.278.09
Knot End Brushes	$\varnothing$ 22 mm / 7/8 inch	stainless 0.35/0.014", 8 knots	10	Art.Nr. 454.378.09

## D.I.Y. Brushes for Drilling Machines with Shank 6 mm $\varnothing$

Pack.

Wheel Brushes	$\varnothing$ 50 mm / 2 inch	steel coarse	10	Art.Nr. 410.123.09
Wheel Brushes	$\varnothing$ 75 mm / 3 inch	steel coarse	10	Art.Nr. 410.133.09
Wheel Brushes	$\varnothing$ 75 mm / 3 inch	stainless	10	Art.Nr. 410.135.09
Wheel Brushes	$\varnothing$ 75 mm / 3 inch	brass	10	Art.Nr. 410.136.09
Wheel Brushes	$\varnothing$ 75 mm / 3 inch	abrasive nylon	10	Art.Nr. 410.138.09
Wheel Brushes	$\varnothing$ 100 mm / 4 inch	steel fine	10	Art.Nr. 410.152.09
Wheel Brushes	$\varnothing$ 100 mm / 4 inch	steel coarse	10	Art.Nr. 410.153.09
Wheel Brushes	$\varnothing$ 100 mm / 4 inch	abrasive nylon	10	Art.Nr. 410.158.09
Cup Brushes	$\varnothing$ 50 mm / 2 inch	steel fine	10	Art.Nr. 430.122.09
Cup Brushes	$\varnothing$ 50 mm / 2 inch	steel coarse	10	Art.Nr. 430.123.09
Cup Brushes	$\varnothing$ 50 mm / 2 inch	brass	10	Art.Nr. 430.126.09
Cup Brushes	$\varnothing$ 50 mm / 2 inch	abrasive nylon	10	Art.Nr. 430.128.09
Cup Brushes	$\varnothing$ 75 mm / 3 inch	steel fine	10	Art.Nr. 430.132.09
Cup Brushes	$\varnothing$ 75 mm / 3 inch	steel coarse	10	Art.Nr. 430.133.09
Cup Brushes	$\varnothing$ 75 mm / 3 inch	abrasive nylon	10	Art.Nr. 430.138.09
End Brushes	$\varnothing$ 25 mm / 1 inch	steel	10	Art.Nr. 455.161.09
End Brushes	$\varnothing$ 25 mm / 1 inch	abrasive nylon	10	Art.Nr. 453.821.09
Cylinder Brushes	$\varnothing$ 28 mm / 1 inch	steel	10	Art.Nr. 541.301.09

**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!



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

**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.

**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.

**Carton Packing**

All brushes for angle grinders in sales promoting single packing – stable and safe.

**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.

**Hand Brushes with EAN Code**

Only available at LESSMANN: All standard hand brushes (article no. 10x.xxx) with EAN code. Without extra charges for you!



*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.



He likes teamwork. In case of flood or other disasters he goes into action for the THW. Also at Lessmann he won't leave no customer out in the cold. "What really matters is to satisfy our customers and to fulfil our job by our reliable and great working atmosphere."

**Martin Laber**  
domestic sales



**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!

**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.

**Brush-Know-how Flyer**

The most important brush applications of our brush assortment in length DIN with technical information and hints!

**Display boxes for Shank Brushes**

Available as a standard for all shank wheel brushes, cup brushes and end brushes with shank.

**We will help you with the right choice of shelf**

On request we can arrange the right shelf solution for presenting your brushes!



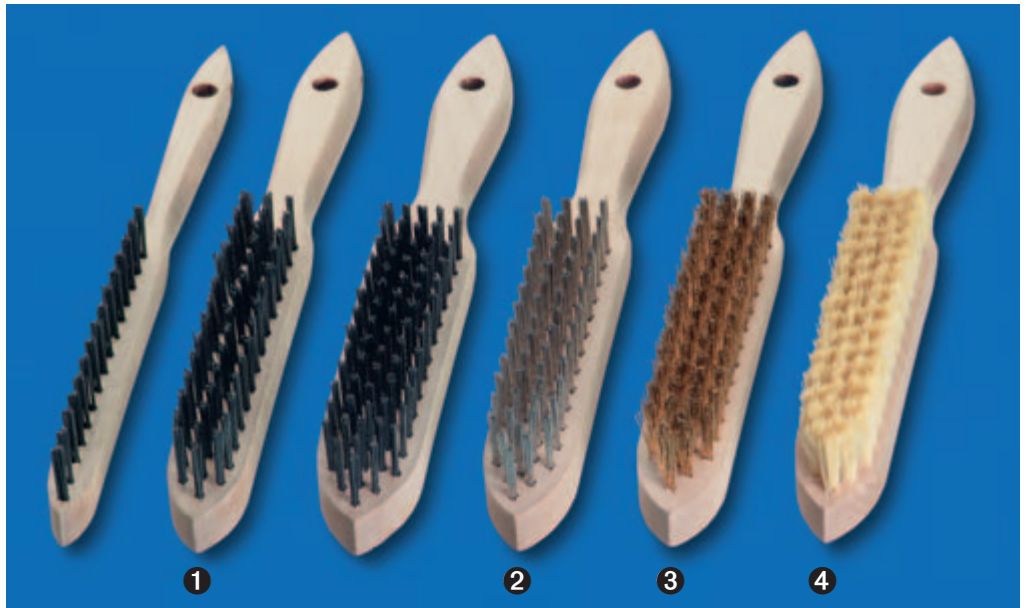
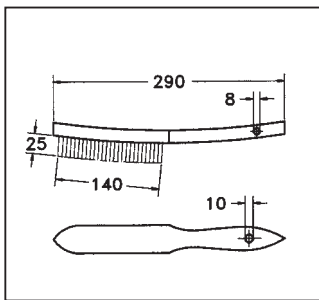
Private label: A good idea with different solution possibilities. Ask for your own brand!



Labels as help for orientation: They explain brushes and their applications. Available for 3 article groups: Hand brushes, brushes for drilling machines and angle grinders.

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

# Hand Brushes



## Hand Brushes

Filling	Rows	1	2	3	4	5	6
	Pack.	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.
<b>1</b> steel straight 0.35/0.014"	12	<b>100.011</b>	<b>100.021</b>	<b>100.031</b>	<b>100.041</b>	<b>100.051</b>	<b>100.061</b>
steel straight 0.35/0.014"	100		<b>100.020</b>	<b>100.030</b>	<b>100.040</b>	<b>100.050</b>	
brassed steel 0.30/0.012"	12		<b>105.421</b>	<b>105.431</b>	<b>105.441</b>	<b>105.451</b>	<b>105.461</b>
brassed steel 0.30/0.012"	100		<b>105.420</b>	<b>105.430</b>	<b>105.440</b>	<b>105.450</b>	
steel crimped 0.20/0.008"	12		<b>102.421</b>	<b>102.431</b>	<b>102.441</b>		
steel crimped 0.30/0.012"	12	<b>102.611</b>	<b>102.621</b>	<b>102.631</b>	<b>102.641</b>	<b>102.651</b>	<b>102.661</b>
steel crimped 0.30/0.012"	100		<b>102.620</b>	<b>102.630</b>			
stainless crimped 0.15/0.006"	12		<b>104.321</b>	<b>104.331</b>	<b>104.341</b>	<b>104.351</b>	
stainless crimped 0.20/0.008"	12		<b>104.421</b>	<b>104.431</b>	<b>104.441</b>	<b>104.451</b>	
stainless crimped 0.35/0.014"	12	<b>104.611</b>	<b>104.621</b>	<b>104.631</b>	<b>104.641</b>	<b>104.651</b>	<b>104.661</b>
stainless crimped 0.35/0.014"	100			<b>104.630</b>	<b>104.640</b>		
<b>2</b> stainless straight 0.35/0.014"	12	<b>103.711</b>	<b>103.721</b>	<b>103.731</b>	<b>103.741</b>	<b>103.751</b>	<b>103.761</b>
stainless straight 0.35/0.014"	100		<b>103.720</b>	<b>103.730</b>	<b>103.740</b>		
stainless straight 0.30/0.012"-V4A	12		<b>105.721</b>	<b>105.731</b>	<b>105.741</b>	<b>105.751</b>	
brass crimped 0.15/0.006"	12		<b>107.321</b>	<b>107.331</b>	<b>107.341</b>	<b>107.351</b>	
brass crimped 0.25/0.010"	12	<b>107.411</b>	<b>107.421</b>	<b>107.431</b>	<b>107.441</b>	<b>107.451</b>	<b>107.461</b>
brass crimped 0.25/0.010"	100		<b>107.420</b>		<b>107.440</b>		
<b>3</b> brass crimped 0.35/0.014"	12	<b>107.611</b>	<b>107.621</b>	<b>107.631</b>	<b>107.641</b>	<b>107.651</b>	<b>107.661</b>
brass crimped 0.35/0.014"	100			<b>107.630</b>	<b>107.640</b>		
brass straight 0.35/0.014"	12		<b>106.621</b>	<b>106.631</b>	<b>106.641</b>	<b>106.651</b>	
bronze crimped 0.20/0.008"	12			<b>108.331</b>	<b>108.341</b>	<b>108.351</b>	
nylon straight 0.40/0.016"	12		<b>109.421</b>	<b>109.431</b>	<b>109.441</b>	<b>109.451</b>	<b>109.461</b>
<b>4</b> fibre white	12			<b>109.731</b>	<b>109.741</b>		
horse hair	12					<b>109.851</b>	

Other filling material and trim length on request.

### 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

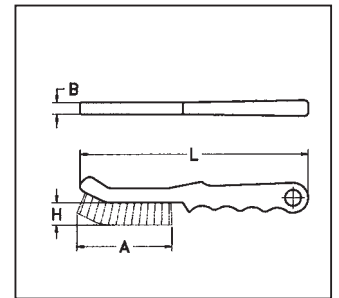
wire. The handles are made of beech wood with two hanging holes.

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 burning stamps or tampon printing at low cost. All above listed hand brushes have a bar code stamp.

### Environmental hint:

**LESSMANN hand brushes with a wooden body are certified in accordance with PEFC standards.**



## Special Hand Brushes

Filling	Rows	L	B	A	H	Pack.	Art. No.
		mm / inch	mm / inch	mm / inch	mm / inch		
<b>Brake Caliper Brushes</b>							
<b>1</b> steel straight 0.35/0.014"	2 x 13	225 / 9	12 / 1/2	90 / 3 1/2	22 / 7/8	10	<b>182.401</b>
steel crimped 0.30/0.012"	2 x 13	225 / 9	12 / 1/2	90 / 3 1/2	22 / 7/8	10	<b>182.411</b>
<b>2</b> stainless straight 0.35/0.014"	2 x 13	225 / 9	12 / 1/2	90 / 3 1/2	22 / 7/8	10	<b>182.421</b>
<b>3</b> brass crimped 0.25/0.010"	2 x 13	225 / 9	12 / 1/2	90 / 3 1/2	22 / 7/8	10	<b>182.451</b>
steel straight 0.35/0.014"	2 x 13	225 / 9	12 / 1/2	90 / 3 1/2	14 / 5/8 / 22 / 7/8*	10	<b>182.431</b>

\*Special hard brushes

## Hand Brushes with Plastic Handles

steel straight 0.35/0.014"	2	285 / 11 1/4	23 / 1	130 / 5 1/8	25 / 1	10	<b>185.121</b>
steel straight 0.35/0.014"	3	285 / 11 1/4	31 / 1 1/4	130 / 5 1/8	25 / 1	10	<b>185.131</b>
steel straight 0.35/0.014"	4	285 / 11 1/4	36 / 1 1/2	130 / 5 1/8	25 / 1	10	<b>185.141</b>
stainless crimped 0.35/0.014"	2	285 / 11 1/4	23 / 1	130 / 5 1/8	25 / 1	10	<b>185.421</b>
stainless crimped 0.35/0.014"	3	285 / 11 1/4	31 / 1 1/4	130 / 5 1/8	25 / 1	10	<b>185.431</b>
<b>5</b> stainless crimped 0.35/0.014"	4	285 / 11 1/4	36 / 1 1/2	130 / 5 1/8	25 / 1	10	<b>185.441</b>
brass straight 0.35/0.014"	2	285 / 11 1/4	23 / 1	130 / 5 1/8	25 / 1	10	<b>185.621</b>
brass straight 0.35/0.014"	3	285 / 11 1/4	31 / 1 1/4	130 / 5 1/8	25 / 1	10	<b>185.631</b>
brass straight 0.35/0.014"	4	285 / 11 1/4	36 / 1 1/2	130 / 5 1/8	25 / 1	10	<b>185.641</b>

## Hand Brushes with Two-Components Handles

<b>NEW 4</b> stainless crimped 0.35/0.014"	3	285 / 11 1/4	31 / 1 1/4	130 / 5 1/8	25 / 1	10	<b>186.431</b>
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### 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.

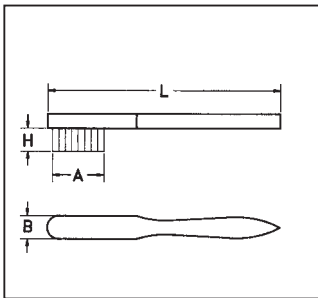
### Hand Brushes with Plastic Body

The remarkable feature of these hand brushes is their plastic body of PP (polypropylene) which makes them the perfect tool for the food industry.

### Hand Brushes with Two-Components Handles

apply to other requirements of modern high quality tools with best ergonomics.

# Special Hand Brushes



## Special Hand Brushes

Filling	Rows	L	B	A	H	Pack.	Art. No.
<b>1 Rivet Brushes</b>							
steel straight 0.35/0.014"	3 x 15	290 / 11 3/8	35 / 1 1/2	135 / 5 3/8	35 / 1 1/2	12	<b>120.801</b>
stainless straight 0.35/0.014"	3 x 15	290 / 11 3/8	35 / 1 1/2	135 / 5 3/8	35 / 1 1/2	12	<b>120.811</b>
stainless straight 0.30/0.012" - V4A	3 x 15	290 / 11 3/8	35 / 1 1/2	135 / 5 3/8	35 / 1 1/2	12	<b>120.831</b>
<b>2 Hand Brushes with Scraper</b>							
steel straight 0.35/0.014"	4 x 15	290 / 11 3/8	35 / 1 1/2	140 / 5 1/2	25 / 1	12	<b>120.401</b>
steel straight 0.35/0.014"	6 x 15	290 / 11 3/8	45 / 1 3/4	140 / 5 1/2	25 / 1	12	<b>120.601</b>
<b>3 Hand Brushes Heavy Duty</b>							
<b>NEW</b> steel straight 0.35/0.014"	2 x 16	310 / 12 1/4	30 / 1 1/4	150 / 6	32 / 1 1/4	12	<b>136.101</b>
steel straight 0.35/0.014"	3 x 16	310 / 12 1/4	35 / 1 1/2	150 / 6	32 / 1 1/4	12	<b>136.102</b>
steel straight 0.35/0.014"	4 x 16	310 / 12 1/4	40 / 1 3/8	150 / 6	32 / 1 1/4	12	<b>136.103</b>
<b>Hand Brushes Export Model</b>							
<b>4</b> steel straight 0.35/0.014"	4 x 17	300 / 12	30 / 1 1/4	130 / 5 1/8	25 / 1	12	<b>122.401</b>
<b>5</b> steel straight 0.35/0.014"	4 x 19	350 / 14	30 / 1 1/4	160 / 6 3/8	30 / 1 1/4	6	<b>122.801</b>
<b>6 Universal Wire Brushes</b>							
brassed steel 0.30/0.012"	1	260 / 10 1/4	10 / 3/8	135 / 5 3/8	28 / 1	24	<b>056.001</b>
steel crimped 0.35/0.014"	1	260 / 10 1/4	10 / 3/8	135 / 5 3/8	28 / 1	24	<b>056.301</b>
stainless crimped 0.30/0.012"	1	260 / 10 1/4	10 / 3/8	135 / 5 3/8	28 / 1	24	<b>056.501</b>
brass crimped 0.30/0.012"	1	260 / 10 1/4	10 / 3/8	135 / 5 3/8	28 / 1	24	<b>056.701</b>



Sectoral or special universal – LESSMANN is always conscious of being able to supply the correct brush for each individual area of application. For example, with these models of hand brushes, for special demands in different areas of application.

### 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

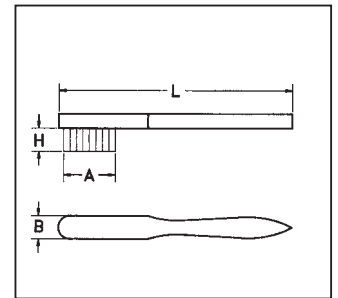
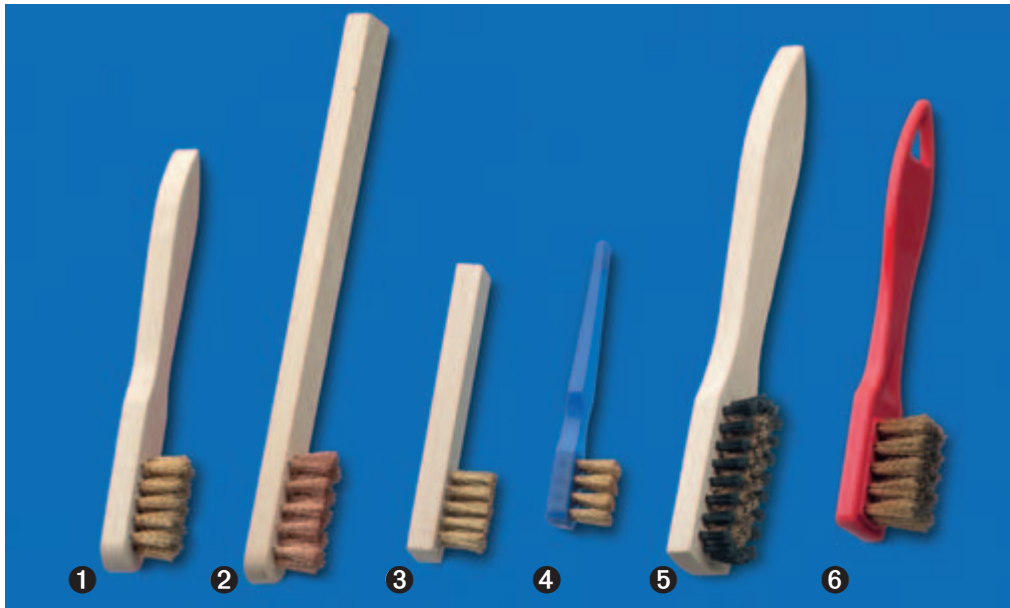
For painters and bricklayers in the construction industry. These brushes are ideal for scraping off dirt or cement splashes.

### 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.



## Standard Spark Plug Brushes

	Filling	Rows	L mm / inch	B mm / inch	A mm / inch	H mm / inch	Pack. 	Art. No.
<b>1</b>	brass crimped 0.15/0.006"	3 x 5/6	150 / 6	15 / 5/8	35 / 1 1/2	15 / 5/8	12	<b>125.211</b>
	steel crimped 0.15/0.006"	3 x 5/6	150 / 6	15 / 5/8	35 / 1 1/2	15 / 5/8	12	<b>125.201</b>
	stainless crimped 0.15/0.006"	3 x 5/6	150 / 6	15 / 5/8	35 / 1 1/2	15 / 5/8	12	<b>125.231</b>
	brass crimped 0.15/0.006" / PPN	3 x 5/6	150 / 6	15 / 5/8	35 / 1 1/2	15 / 5/8	12	<b>125.221</b>
	brass crimped 0.15/0.006"	3 x 5/6	150 / 6*	15 / 5/8	40 / 1 3/8	15 / 5/8	12	<b>125.311</b>
<b>2</b>	bronze crimped 0.15/0.006"	3 x 5/6	200 / 8	15 / 5/8	40 / 1 3/8	15 / 5/8	12	<b>132.801</b>
	stainless crimped 0.20/0.008"	3 x 5/6	150 / 6	15 / 5/8	30 / 1 1/4	15 / 5/8	12	<b>125.241</b>
	nylon straight 0.30/0.012"	3 x 5/6	150 / 6	15 / 5/8	30 / 1 1/4	15 / 5/8	12	<b>125.251</b>

\* Wooden body varnished

## Small Spark Plug Brushes

<b>3</b>	brass crimped 0.15/0.006"	2 x 5	100 / 4	15 / 5/8	25 / 1	15 / 5/8	50	<b>125.111</b>
<b>4</b>	brass crimped 0.15/0.006"	2 x 4	100 / 4*	12 / 1/2	22 / 7/8	12 / 1/2	50	<b>182.001</b>

\* Plastic body

## Large Spark Plug Brushes

	brass crimped 0.15/0.006"	5 x 8/10	190 / 7 1/2	24 / 1	55 / 2 1/4	18 / 3/4	12	<b>125.511</b>
<b>5</b>	brass crimped 0.15/0.006" / PPN	5 x 8/10	190 / 7 1/2	24 / 1	55 / 2 1/4	12 / 1/2	12	<b>125.521</b>
<b>6</b>	brass crimped 0.15/0.006"	4 x 6	155 / 6*	22 / 7/8	40 / 1 3/8	18 / 3/4	12	<b>182.331</b>

\* Plastic body

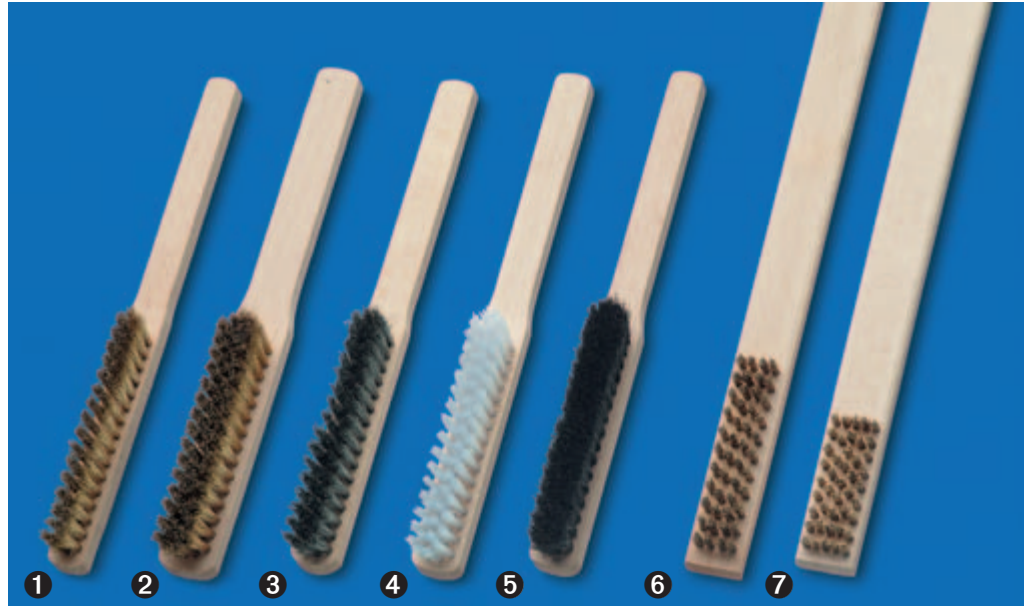
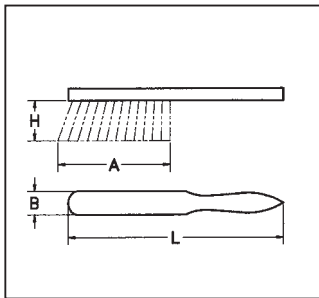
## Spark Plug Brushes

These small brushes are for all fine brushwork requiring thin wire.


They are available in different sizes and filling materials.

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.

## Fine Scratch Brushes



### Fine Brushes

Filling	Rows	L mm / inch	B mm / inch	A mm / inch	H mm / inch	Pack. 	Art. No.
<b>1</b> brass crimped 0.15/0.006"	3	225 / 9	16 / 5/8	110 / 4 3/8	20 / 3/4	12	<b>126.311</b>
brass crimped 0.15/0.006"	4	225 / 9	20 / 3/4	110 / 4 3/8	20 / 3/4	12	<b>126.411</b>
<b>2</b> brass crimped 0.15/0.006"	5	225 / 9	24 / 1	110 / 4 3/8	20 / 3/4	12	<b>126.511</b>
brass crimped 0.15/0.006"	6	225 / 9	28 / 1	110 / 4 3/8	20 / 3/4	12	<b>126.611</b>
brass crimped 0.15/0.006"	8	225 / 9	36 / 1 1/2	110 / 4 3/8	20 / 3/4	12	<b>126.811</b>
brass crimped 0.08/0.003"	4	225 / 9	20 / 3/4	110 / 4 3/8	20 / 3/4	12	<b>126.441</b>
brass crimped 0.10/0.004"	4	225 / 9	20 / 3/4	110 / 4 3/8	20 / 3/4	12	<b>126.431</b>
<b>3</b> steel crimped 0.15/0.006"	4	225 / 9	20 / 3/4	110 / 4 3/8	20 / 3/4	12	<b>126.401</b>
stainless crimped 0.15/0.006"	4	225 / 9	20 / 3/4	110 / 4 3/8	20 / 3/4	12	<b>126.481</b>
<b>4</b> nylon straight 0.30/0.012"	4	225 / 9	20 / 3/4	110 / 4 3/8	20 / 3/4	12	<b>126.451</b>
<b>5</b> horse hair	4	225 / 9	20 / 3/4	110 / 4 3/8	20 / 3/4	12	<b>126.472</b>

### Special Brushes

<b>6</b> brass crimped 0.35/0.014"	4 x 11/12	350 / 14	22 / 7/8	80 / 3	10 / 3/8	12	<b>137.701</b>
brass crimped 0.30/0.012"	4 x 11/12	450 / 17 3/4	22 / 7/8	80 / 3	8 / 5/16	12	<b>138.705</b>
<b>7</b> brass crimped 0.30/0.012"	5 x 9	700 / 27 1/2	25 / 1	54 / 2 1/4	6 / 1/4	12	<b>138.704</b>

### Gas Cooker Brushes

brass crimped 0.25/0.010"	2 x 10	200 / 8	15 / 5/8	80 / 3	19 / 3/4	12	<b>132.701</b>
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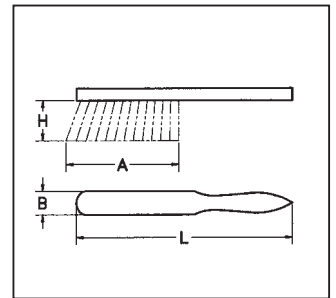
#### Fine Scratch Brushes

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

#### Gas Cooker Brushes and Special Brushes

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





## Dusters

Filling	Rows	L mm/inch	B mm/inch	A mm/inch	H mm/inch	Pack.	Art. No.
① steel straight 0.25/0.010"	4	320 / 12 1/2	35 / 1 1/2	150 / 6	60 / 2 3/8	12	<b>124.101</b>
② brass crimped 0.25/0.010"	4	320 / 12 1/2	35 / 1 1/2	150 / 6	40 / 1 3/8	12	<b>124.121</b>
③ coco	4	280 / 11	40 / 1 3/8	160 / 6 3/8	70 / 2 3/4	12	<b>124.201</b>
④ coco	4	430 / 17	40 / 1 3/8	160 / 6 3/8	70 / 2 3/4	12	<b>124.401</b>
⑤ horse hair	6	300 / 12*	43 / 1 3/4	165 / 6 1/2	60 / 2 3/8	20	<b>124.301</b>

\* Wooden body varnished

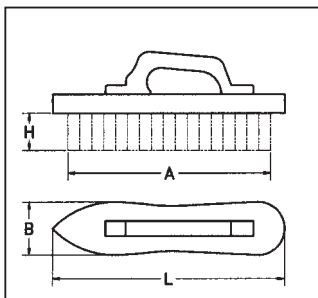
## Dusters

Used mainly in workshops. There are further models in special execution with different filling materials and trim length available.



» As a rallye-co-driver she knows what's what in Bavaria. In the export department she handles customers' orders and brush problems together with her colleagues. "What matters is to make the customers feel that they are in good hands."

**Gabi Frasch**  
Export



## Special Hand Brushes

Filling	Rows	L mm/ <i>inch</i>	B mm/ <i>inch</i>	A mm/ <i>inch</i>	H mm/ <i>inch</i>	Pack.	Art. No.
<b>Hand Brushes Rectangular and Violin</b>							
<b>1</b> steel straight 0.40/0.016"	6 x 19	185 / 7 1/4	57 / 2 1/4	175 / 7	30 / 1 1/4	12	<b>140.201</b>
steel straight 0.40/0.016"	6 x 19	185 / 7 1/4	57 / 2 1/4	175 / 7	45 / 1 3/4	12	<b>140.211</b>
<b>2</b> steel straight 0.40/0.016"	5	200 / 8	60 / 2 3/8	190 / 7 1/2	35 / 1 1/2	16	<b>141.231</b>
steel straight 0.40/0.016"	5	200 / 8	55 / 2 1/4	170 / 6 5/8	40 / 1 3/8	12	140.601
<b>3</b> brassed steel 0.35/0.014"	5	200 / 8	55 / 2 1/4	170 / 6 5/8	40 / 1 3/8	12	140.641
<b>Hand Brushes with Bracket</b>							
<b>4</b> steel straight 0.40/0.016"	5	225 / 9*	55 / 2 1/4	200 / 8	38 / 1 1/2	16	<b>140.901</b>
steel straight 0.40/0.016"	5	225 / 9*	55 / 2 1/4	200 / 8	38 / 1 1/2	75	<b>140.900</b>
<b>5</b> brassed steel 0.35/0.014"	5	225 / 9*	55 / 2 1/4	200 / 8	38 / 1 1/2	16	<b>140.811</b>
<b>Hand Brushes with Strap</b>							
<b>6</b> steel straight 0.50/0.020"	7	200 / 8	70 / 2 3/4	185 / 7 1/2	35 / 1 1/2	12	<b>141.421</b>

\* with adjustable board

### 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 models 140.900 and 140.901 have an adjustable stock board which enables an adjustment to brush firmness.

These special models are mainly ordered by our export customers.

### 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.

### 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

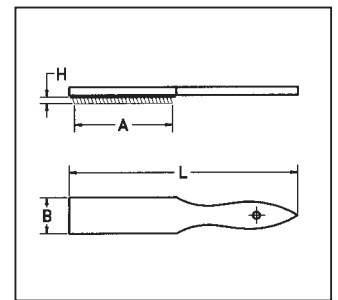
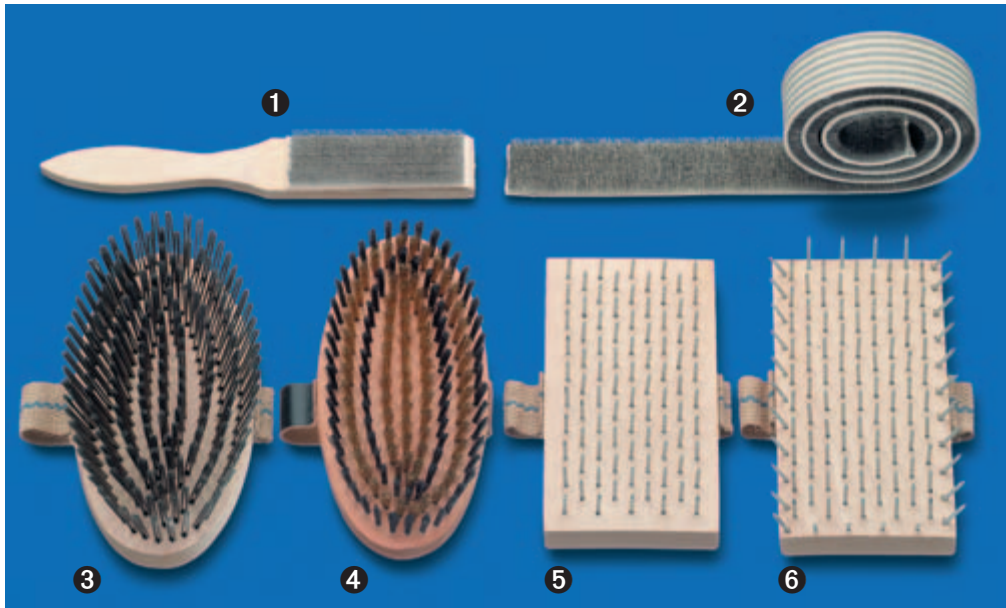
For pre and retreatment of brickwork for painters and bricklayers. All models have a jute or plastic strap.

### Plasterer's Brushes

These are for roughening and structuring of plaster. Body is made of beech wood, the steel pins are hardened. Model 061.111: the outer steel pins are obliquely arranged in order to reach into corners.

### Spiked Rollers

For use before the removal of wall-paper. 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.



## 1 File Cleaners

File Card	L mm/inch	B mm/inch	A mm/inch	Pack.	Art. No.
steel	210 / 8 1/4	25 / 1	100 / 4	12	<b>037.101</b>
steel	210 / 8 1/4	25 / 1	100 / 4	100	<b>037.100</b>
steel	250 / 10	40 / 1 3/8	115 / 4 1/2	12	<b>037.201</b>
steel	250 / 10	40 / 1 3/8	115 / 4 1/2	100	<b>037.200</b>
bronze wire	250 / 10	40 / 1 3/8	115 / 4 1/2	12	<b>037.211</b>
stainless	250 / 10	40 / 1 3/8	115 / 4 1/2	12	<b>037.221</b>

## 2 File Cards

Filling, without interval	steel width 25/1 Art. No.	steel width 38/1 1/2 Art. No.	steel width 51/2 Art. No.	stainless 38/1 1/2 Art. No.	bronze 38/1 1/2 Art. No.
	<b>000.311</b>	<b>000.321</b>	<b>000.331</b>	<b>000.323</b>	<b>000.326 *</b>

\* Price per meter. Please indicate length.

## Bricklayer's Brushes with Strap

Filling	Rows	L mm/inch	B mm/inch	A mm/inch	H mm/inch	Pack.	Art. No.
<b>3</b> steel 0.25/0.010"	9	210 / 8 1/4	100 / 4	200 / 8	35 / 1 1/2	12	<b>142.101</b>
<b>4</b> brass crimped 0.20/0.008" / PPN	9	210 / 8 1/4 *	95 / 3 3/4	200 / 8	20 / 3/4	12	<b>142.211</b>

\* Wooden body varnished

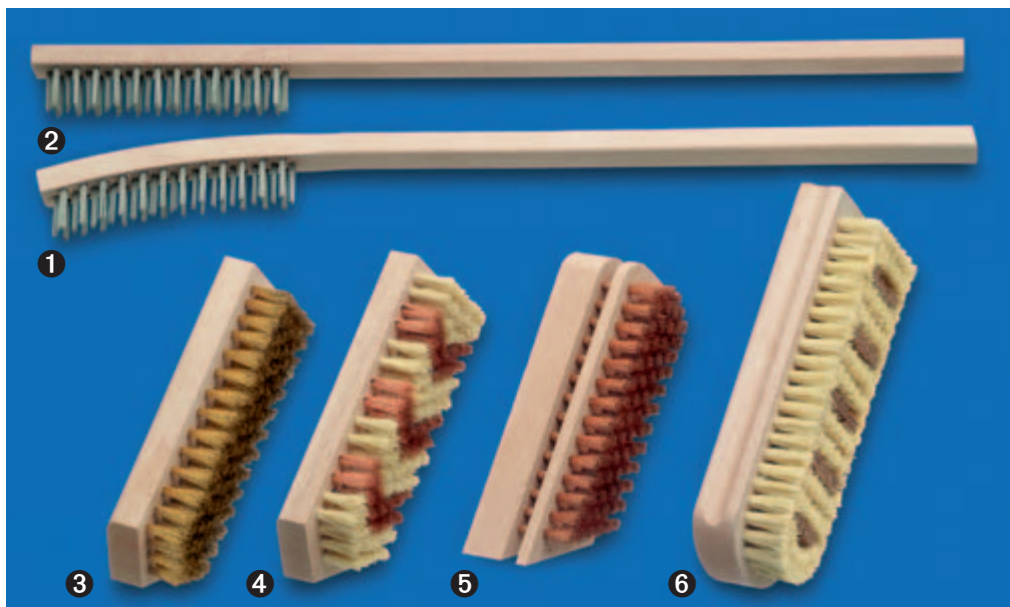
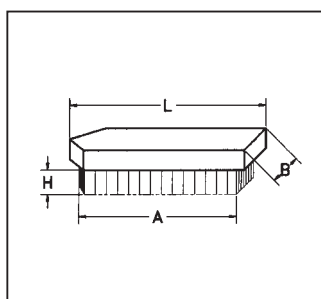
## Plasterer's Brushes

Filling	L mm/inch	B mm/inch	A mm/inch	H mm/inch	Pack.	Art. No.
<b>5</b> 86 steel Pins hardend	190 / 7 1/2	97 / 3 3/4	165 / 6 1/2	16 / 5/8	12	<b>061.101</b>
<b>6</b> 114 steel Pins hardend / outer row slanting	190 / 7 1/2	97 / 3 3/4	190 / 7 1/2	16 / 5/8	12	<b>061.111</b>

## 7 Spiked Rollers

Filling	Rows	L mm/inch	B 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	<b>064.050</b>

Please see page 42 for explanations!



### Radiator Brushes

Filling	Rows	L mm/inch	B mm/inch	A mm/inch	H mm/inch	Pack.	Art. No.
1 steel straight 0.25/0.010"	3 x 13	420 / 16 1/2 *	20 / 3/4	115 / 4 1/2	20 / 3/4	12	<b>121.111</b>
2 steel straight 0.25/0.010"	3 x 13	420 / 16 1/2 **	20 / 3/4	115 / 4 1/2	20 / 3/4	12	<b>121.211</b>

\* Wooden body curved / \*\* wooden body straight

### Staining Brushes

3 brass crimped 0.15/0.006"	7	150 / 6	50 / 2	140 / 5 1/2	20 / 3/4	12	<b>144.001</b>
bronze crimped 0.15/0.006"	7	150 / 6	50 / 2	140 / 5 1/2	20 / 3/4	12	<b>144.011</b>
4 bronze 0.15/0.006" + fibre	7	150 / 6	50 / 2	140 / 5 1/2	20 / 3/4	12	<b>144.021</b>
bronze crimped 0.15/0.006"	7	180 / 7	60 / 2 3/8	170 / 6 5/8	20 / 3/4	12	<b>144.111</b>
bronze 0.15/0.006" + fibre	7	180 / 7	60 / 2 3/8	170 / 6 5/8	20 / 3/4	12	<b>144.121</b>
5 bronze crimped 0.15/0.006"	6	150 / 6 *	50 / 2	130 / 5 1/8	20 / 3/4	12	<b>144.211</b>
bronze crimped 0.15/0.006"	6	150 / 6	50 / 2	130 / 5 1/8	15 / 5/8	12	<b>144.311</b>
bronze crimped 0.15/0.006"	6	180 / 7	60 / 2 3/8	160 / 6 3/8	15 / 5/8	12	<b>144.411</b>
6 leather + fibre	3/7	175 / 6 7/8	60 / 2 3/8	160 / 6 3/8	20 / 3/4	12	<b>144.701</b>
leather + fibre	4/9	203 / 8	72 / 2 7/8	190 / 7 1/2	20 / 3/4	12	<b>144.801</b>

\* with adjustable board

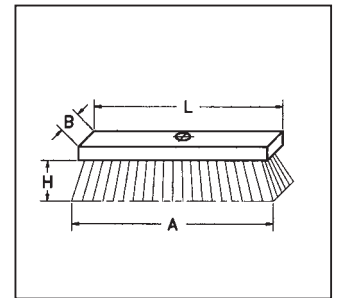
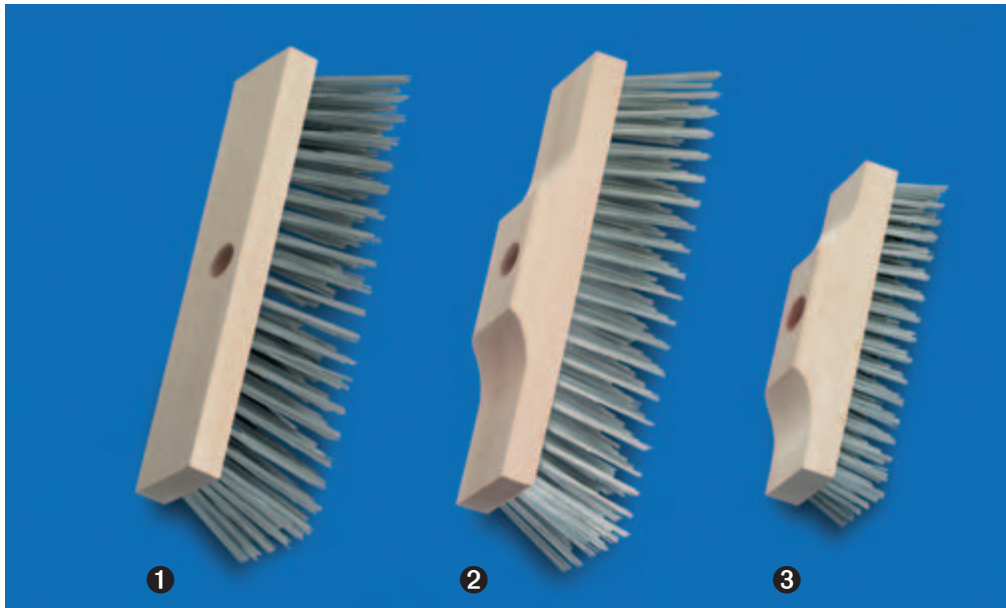
#### Radiator Brushes

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.



## 1 Brooms Flat Wooden Stock, with Handle Hole 23 Ø

Filling	Rows	L mm / inch	B mm / inch	A mm / inch	H mm / inch	Pack. 	Art. No.
steel straight 0.50/0.020"	5 x 16/17	250 / 10	60 / 2 3/8	270 / 10 5/8	70 / 2 3/4	12	<b>147.101</b>
steel straight 0.50/0.020"	5 x 20	300 / 12	60 / 2 3/8	330 / 13	70 / 2 3/4	12	<b>147.401</b>
steel straight 0.50/0.020"	6 x 20/21	300 / 12	70 / 2 3/4	330 / 13	70 / 2 3/4	12	<b>147.201</b>
steel straight 0.50/0.020"	6 x 20/21	300 / 12	70 / 2 3/4	330 / 13	70 / 2 3/4	42	<b>147.200</b>
stainless straight 0.50/0.020"	6 x 20	300 / 12	70 / 2 3/4	330 / 13	70 / 2 3/4	12	<b>147.261</b>
steel straight 0.50/0.020"	6 x 23	350 / 14	70 / 2 3/4	390 / 15 3/8	70 / 2 3/4	12	<b>147.301</b>

## 2 Brooms Raised Wooden Stock, with Handle Hole 23 Ø

steel straight 0.50/0.020"	5 x 16/17	250 / 10	60 / 2 3/8	270 / 10 5/8	70 / 2 3/4	12	<b>146.101</b>
steel straight 0.50/0.020"	6 x 20/21	300 / 12	70 / 2 3/4	330 / 13	70 / 2 3/4	12	<b>146.201</b>
flat wire 1.80 x 0.45	6 x 20/21	300 / 12	70 / 2 3/4	330 / 13	70 / 2 3/4	12	<b>146.241</b>
steel straight 0.50/0.020"	6 x 23/24	350 / 14	70 / 2 3/4	390 / 15 3/8	70 / 2 3/4	12	<b>146.301</b>
flat wire 1.80 x 0.45	6 x 23/24	350 / 14	70 / 2 3/4	390 / 15 3/8	70 / 2 3/4	12	<b>146.341</b>

## 3 Scrubs, with Handle Hole 23 Ø

steel straight 0.40/0.016"	6 x 16/17	220 / 8 5/8	60 / 2 3/8	225 / 9	35 / 1 1/2	12	<b>148.101</b>
stainless straight 0.35/0.014"	6 x 16/17	220 / 8 5/8	60 / 2 3/8	225 / 9	35 / 1 1/2	12	<b>148.161</b>
brass crimped 0.25/0.010"	6 x 16/17	220 / 8 5/8	60 / 2 3/8	225 / 9	25 / 1	12	<b>148.141</b>
steel 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	<b>148.201</b>
steel straight 0.40/0.016"	7 x 15/16	230 / 9*	65 / 2 1/2	220 / 8 5/8	35 / 1 1/2	12	<b>148.601</b>

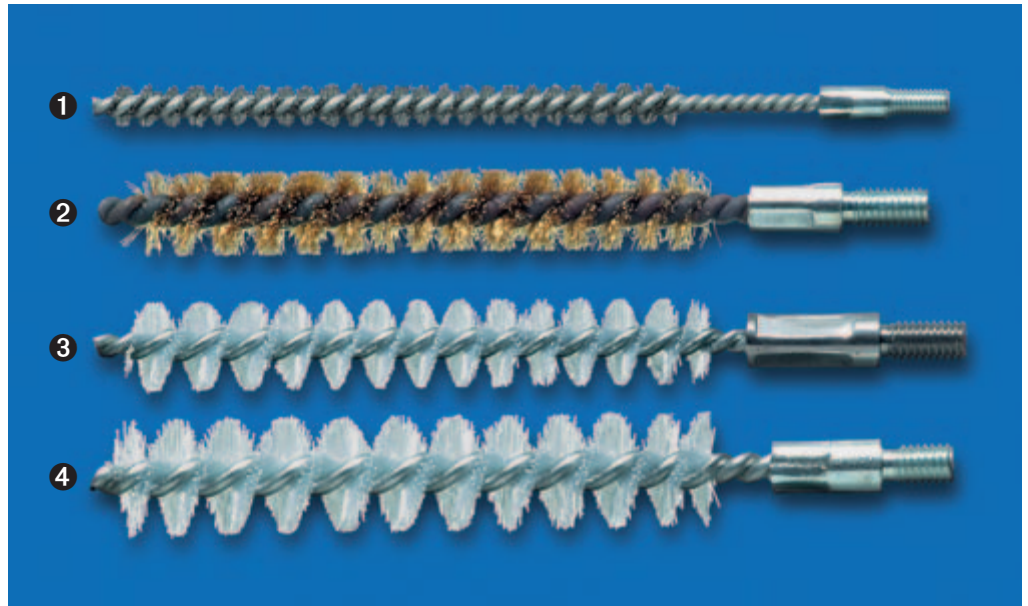
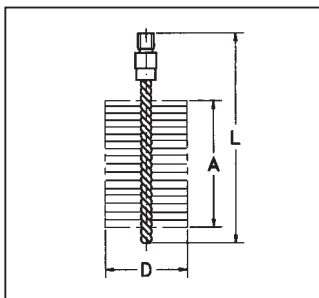
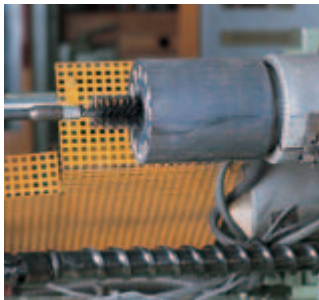
\* Wooden body curved

### Brooms and Scrubs

The shown brooms and scrubs are the best selling models. All models have a handle hole.

The tree-trunk scrubs 148.601 is half-rounded for use in the forestry and sawmill area.

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.



Tube Brushes with external Thread

D	L	A	Thread	Pack.	①	②	③ ④		Double Spirale steel Art. No.
					Single Spirale steel Art. No.	Single Spirale stainless Art. No.	Single Spirale brass Art. No.	Single Spirale nylon Art. No.	
6 / 1/4	115 / 4 1/2	80 / 3	M 4	10	<b>501.301</b>	<b>501.501</b>	<b>501.701</b>	<b>501.801</b>	
8 / 5/16	115 / 4 1/2	80 / 3	M 6	10	<b>500.308</b>	<b>500.508</b>	<b>500.708</b>	<b>500.808</b>	
10 / 3/8	115 / 4 1/2	80 / 3	M 6	10	<b>500.310</b>	<b>500.510</b>	<b>500.710</b>	<b>500.810</b>	
12 / 1/2	115 / 4 1/2	80 / 3	M 6	10	<b>500.312</b>	<b>500.512</b>	<b>500.712</b>	<b>500.812</b>	
13 / 1/2	115 / 4 1/2	80 / 3	M 6	10	<b>500.313</b>	<b>500.513</b>	<b>500.713</b>	<b>500.813</b>	
14 / 1/2	115 / 4 1/2	80 / 3	M 6	10	<b>500.314</b>	<b>500.514</b>	<b>500.714</b>	<b>500.814</b>	
15 / 5/8	115 / 4 1/2	80 / 3	M 6	10	<b>500.315</b>	<b>500.515</b>	<b>500.715</b>	<b>500.815</b>	
16 / 5/8	115 / 4 1/2	80 / 3	M 6	10	<b>500.316</b>	<b>500.516</b>	<b>500.716</b>	<b>500.816</b>	
18 / 5/8	115 / 4 1/2	80 / 3	M 6	10	<b>500.318</b>	<b>500.518</b>	<b>500.718</b>	<b>500.818</b>	
19 / 3/4	115 / 4 1/2	80 / 3	M 6	10	<b>500.319</b>	<b>500.519</b>	<b>500.719</b>	<b>500.819</b>	
20 / 3/4	115 / 4 1/2	80 / 3	M 6	10	<b>500.320</b>	<b>500.520</b>	<b>500.720</b>	<b>500.820</b>	
20 / 3/4	150 / 6	100 / 4	W 3/8	10	<b>502.120</b>	<b>502.420</b>	<b>502.720</b>	<b>502.820</b>	<b>522.120</b>
22 / 7/8	150 / 6	100 / 4	W 3/8	10	<b>502.122</b>	<b>502.422</b>	<b>502.722</b>	<b>502.822</b>	<b>522.122</b>
25 / 1	150 / 6	100 / 4	W 3/8	10	<b>502.125</b>	<b>502.425</b>	<b>502.725</b>	<b>502.825</b>	<b>522.125</b>
28 / 1	150 / 6	100 / 4	W 3/8	10	<b>502.128</b>	<b>502.428</b>	<b>502.728</b>		<b>522.128</b>

### 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 this page are shown standard brushes, single spiral having two drilling wires and the double spiral having four.

### Handles and Extension Pieces

See page 51.

All the shown tube brushes are available in every other diameter.

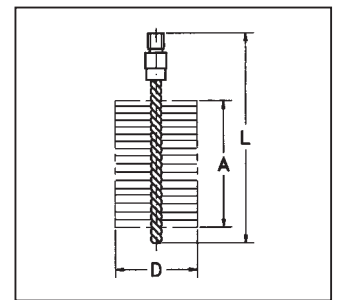
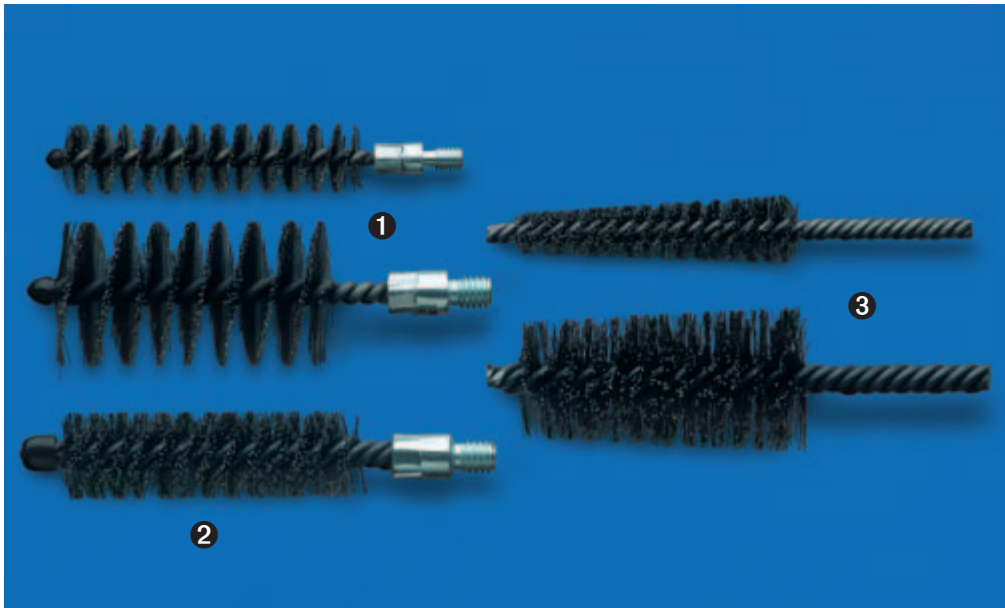
All tube and boiler brushes are delivered with other standard threads subject to production facilities.

### Sleeve Brushes (Page 47)

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.

### Recommendation for users:

When using twisted brushes on machines please use only in a clockwise running direction. Failure to do so may cause the brush wire to open up.



**Tube Brushes with external Thread**

D mm/ <i>inch</i>	L mm/ <i>inch</i>	A mm/ <i>inch</i>	Thread	Pack.	①		②		
					Single Spirale steel Art. No.	Single Spirale stainless Art. No.	Single Spirale brass Art. No.	Single Spirale nylon Art. No.	Double Spirale steel Art. No.
30 / 1 1/4	160 / 6 3/8	100 / 4	W 1/2	10	<b>506.130</b>	<b>506.430</b>	<b>506.730</b>	<b>506.830</b>	<b>526.130</b>
32 / 1 1/4	160 / 6 3/8	100 / 4	W 1/2	10	<b>506.132</b>	<b>506.432</b>	<b>506.732</b>	506.832	<b>526.132</b>
35 / 1 1/4	160 / 6 3/8	100 / 4	W 1/2	10	<b>506.135</b>	<b>506.435</b>	<b>506.735</b>	<b>506.835</b>	<b>526.135</b>
38 / 1 1/2	160 / 6 3/8	100 / 4	W 1/2	10	<b>506.138</b>	<b>506.438</b>	<b>506.738</b>	506.838	<b>526.138</b>
40 / 1 1/2	160 / 6 3/8	100 / 4	W 1/2	10	<b>506.140</b>	<b>506.440</b>	<b>506.740</b>	<b>506.840</b>	<b>526.140</b>
44 / 1 3/4	160 / 6 3/8	100 / 4	W 1/2	5	<b>506.144</b>	<b>506.444</b>	<b>506.744</b>	506.844	<b>526.144</b>
50 / 2	160 / 6 3/8	100 / 4	W 1/2	5	<b>506.150</b>	<b>506.450</b>	<b>506.750</b>	<b>506.850</b>	<b>526.150</b>
57 / 2 1/4	160 / 6 3/8	100 / 4	W 1/2	5	<b>506.157</b>	<b>506.457</b>	<b>506.757</b>	506.857	<b>526.157</b>
63 / 2 1/2	160 / 6 3/8	100 / 4	W 1/2	5	<b>506.163</b>	<b>506.463</b>	<b>506.763</b>	506.863	<b>526.163</b>
69 / 2 3/4	160 / 6 3/8	100 / 4	W 1/2	5	<b>506.169</b>	<b>506.469</b>	<b>506.769</b>	506.869	<b>526.169</b>
75 / 3	160 / 6 3/8	100 / 4	W 1/2	5	<b>506.175</b>	<b>506.475</b>	<b>506.775</b>	506.875	<b>526.175</b>
82 / 3 1/4	160 / 6 3/8	100 / 4	W 1/2	1	<b>506.182</b>	<b>506.482</b>	<b>506.782</b>		<b>526.182</b>
88 / 3 3/8	160 / 6 3/8	100 / 4	W 1/2	1	<b>506.188</b>	<b>506.488</b>	506.788		<b>526.188</b>
94 / 3 5/8	160 / 6 3/8	100 / 4	W 1/2	1	<b>506.194</b>	<b>506.494</b>	506.794		<b>526.194</b>
101 / 4	160 / 6 3/8	100 / 4	W 1/2	1	<b>506.101</b>	<b>506.401</b>	<b>506.701</b>	506.801	<b>526.101</b>
125 / 5	160 / 6 3/8	100 / 4	W 1/2	1	<b>506.106</b>				<b>526.106</b>
150 / 6	160 / 6 3/8	100 / 4	W 1/2	1	<b>506.211</b>				
200 / 8	160 / 6 3/8	100 / 4	W 1/2	1	<b>506.220</b>				

**Tube Brushes with internal Thread**

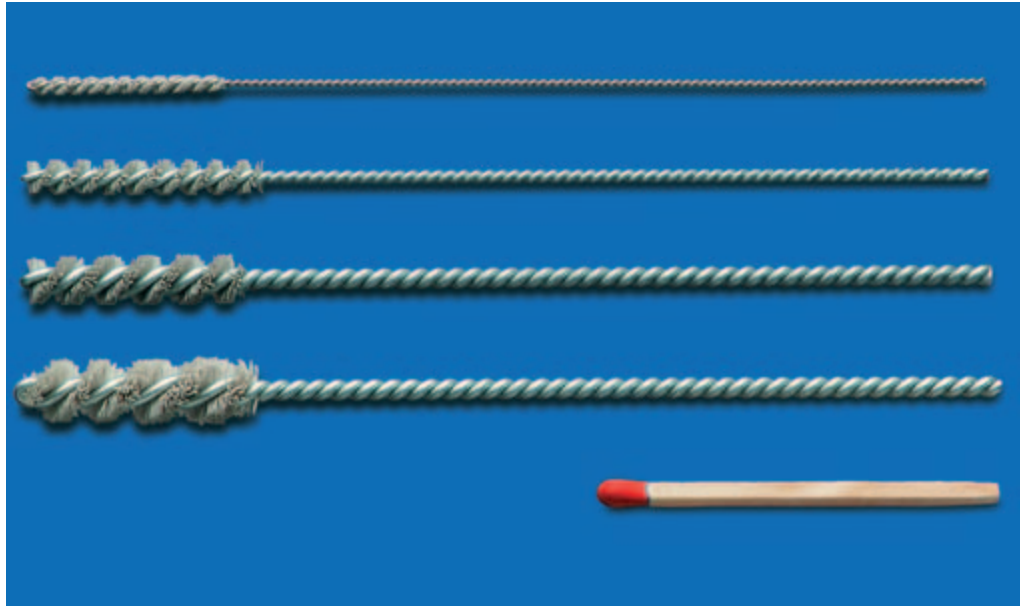
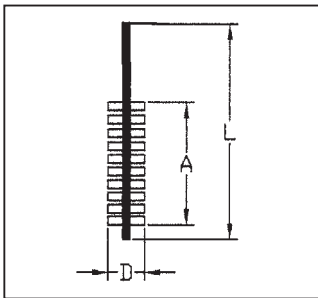
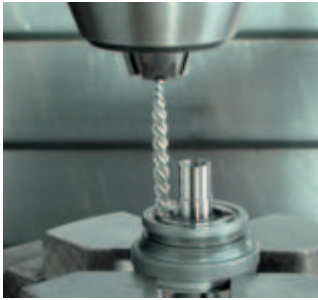
90 / 3 1/2	160 / 6 3/8	100 / 4	M 10	10	<b>507.190</b>				
120 / 4 3/4	160 / 6 3/8	100 / 4	M 10	10	<b>507.105</b>				<b>506.805.60</b>
20x30 / 3/4x1 1/4	140 / 5 1/2	80 / 3 1/4	M 10	10	<b>533.405</b>				

Suitable handles (568.501), see page 51


③ **Sleeves Brushes Conical, without Thread, Double Spiral**

D mm/ <i>inch</i>	L mm/ <i>inch</i>	A mm/ <i>inch</i>	Pack.	steel Art. No.	D mm/ <i>inch</i>	L mm/ <i>inch</i>	A mm/ <i>inch</i>	Pack.	steel Art. No.
10/20	3/8 / 3/4	170 / 6 5/8	10	<b>549.101</b>	32/42	1 1/4 / 1 5/8	170 / 6 5/8	5	<b>549.105</b>
15/25	5/8 / 1	170 / 6 5/8	10	<b>549.102</b>	40/50	1 3/8 / 2	170 / 6 5/8	5	<b>549.106</b>
20/30	3/4 / 1 1/4	170 / 6 5/8	10	<b>549.103</b>	38/70	1 1/2 / 2 3/4	170 / 6 5/8	5	<b>549.107</b>
25/35	1 / 1 3/8	170 / 6 5/8	10	<b>549.104</b>	60/95	2 3/8 / 3 3/4	170 / 6 5/8	1	<b>549.108</b>

## Interior Brushes



### NEW Microabrasive Interior Brushes

D	L	A	Shank Ø	Pack	aluminiumoxyd grit 600
mm/inch	mm/inch	mm/inch	mm/inch		Art. No.
3.2 / 1/8	125 / 5	25 / 1	2,2 / 1/12	10	<b>541.084</b>
4.2 / 5/32	125 / 5	25 / 1	2,2 / 1/12	10	<b>541.045</b>
4.8 / 3/16	125 / 5	25 / 1	2,2 / 1/12	10	<b>541.083</b>
5.5 / 7/32	125 / 5	25 / 1	2,2 / 1/12	10	<b>541.079</b>
6.6 / 1/4	125 / 5	25 / 1	2,5 / 1/10	10	<b>541.037</b>
8.2 / 5/16	125 / 5	25 / 1	3 / 1/8	10	<b>541.076</b>
9.8 / 3/8	125 / 5	25 / 1	3 / 1/8	10	<b>541.077</b>
11.5 / 7/16	125 / 5	25 / 1	3,7 / 1/7	10	<b>541.085</b>
13 / 1/2	125 / 5	25 / 1	3,7 / 1/7	10	<b>541.087</b>
16 / 5/8	125 / 5	25 / 1	4,6 / 1/6	10	<b>541.089</b>
20 / 3/4	125 / 5	25 / 1	4,6 / 1/6	10	<b>541.093</b>
25 / 1	125 / 5	25 / 1	6,6 / 1/4	10	<b>541.095</b>

Other diameters, filling materials and grit sizes on request.



His hobby is triathlon and therefore he knows a lot about mobilising strength and energies. At Lessmann he arranges production plans with the discipline and the balanced character of a real ironman. *"The planing of production must be made very carefully and you have to be flexible with possible changes and problems during production – sometimes that means a lot of action, but that's what I need."*

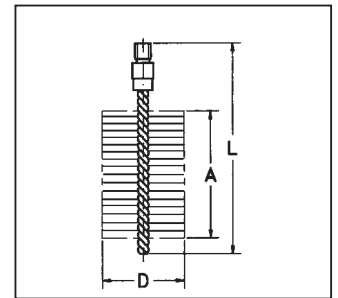
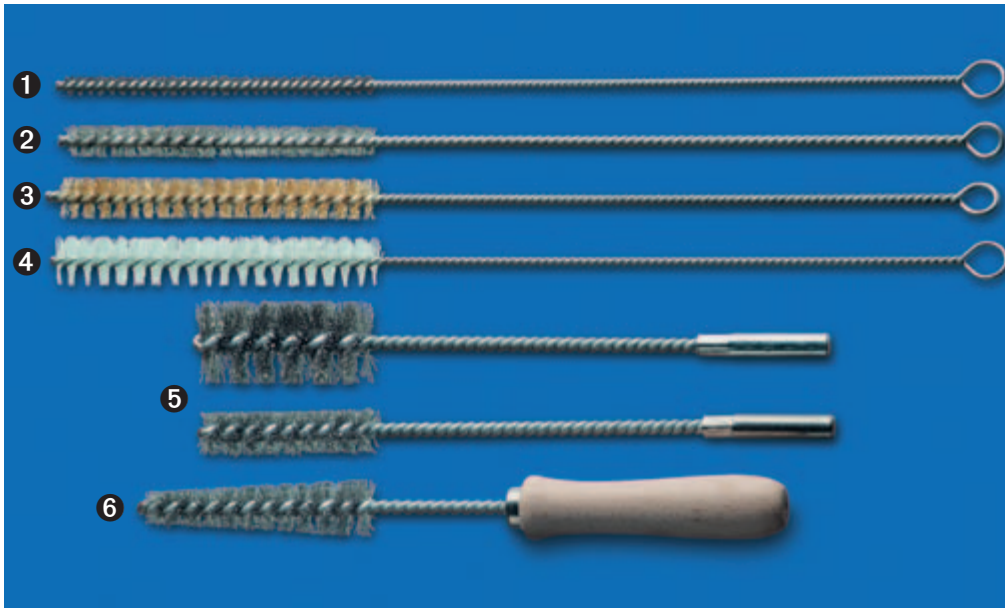
**Bernd Zitterbart**  
production planning



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

They are the perfect tool for deburring of bores, cross bores, o-ring recesses and for polishing and cleaning of small bores.





## Cylinder Brushes with Loop

D mm/ <i>inch</i>	L mm/ <i>inch</i>	A mm/ <i>inch</i>	Pack. 	①	②	③	④
				steel Art. No.	stainless Art. No.	brass Art. No.	nylon Art. No.
3 / 1/8	300 / 12	100 / 4	10	<b>542.381</b>	<b>542.541</b>	<b>542.741</b>	<b>542.881</b>
4 / 1/8	300 / 12	100 / 4	10	<b>542.351</b>	<b>542.508</b>	<b>542.740</b>	<b>542.823</b>
5 / 1/8	300 / 12	100 / 4	10	<b>542.347</b>		<b>542.739</b>	<b>542.822</b>
6 / 1/4	300 / 12	100 / 4	10	<b>542.301</b>	<b>542.501</b>	<b>542.701</b>	<b>542.801</b>
8 / 5/16	300 / 12	100 / 4	10	<b>542.302</b>	<b>542.502</b>	<b>542.702</b>	<b>542.802</b>
10 / 3/8	300 / 12	100 / 4	10	<b>542.303</b>	<b>542.503</b>	<b>542.703</b>	<b>542.803</b>
12 / 3/8	300 / 12	100 / 4	10	<b>542.304</b>	<b>542.504</b>	<b>542.704</b>	<b>542.804</b>
13 / 1/2	300 / 12	100 / 4	10	<b>542.305</b>		<b>542.705</b>	
14 / 1/2	300 / 12	100 / 4	10	<b>542.306</b>		<b>542.706</b>	<b>542.812</b>
15 / 5/8	300 / 12	100 / 4	10	<b>542.307</b>	<b>542.507</b>	<b>542.707</b>	<b>542.807</b>
18 / 5/8	300 / 12	100 / 4	10	<b>542.309</b>		<b>542.709</b>	
20 / 3/4	300 / 12	100 / 4	10	<b>542.311</b>	<b>542.511</b>	<b>542.711</b>	<b>542.811</b>
25 / 1	300 / 12	100 / 4	10	<b>542.313</b>	<b>542.513</b>	<b>542.713</b>	<b>542.813</b>
30 / 1	300 / 12	100 / 4	10	<b>542.315</b>	<b>542.515</b>	<b>542.715</b>	<b>542.815</b>
40 / 1 3/8	300 / 12	100 / 4	10	<b>542.319</b>		<b>542.719</b>	<b>542.819</b>
50 / 2	300 / 12	100 / 4	10	542.320		<b>542.720</b>	<b>542.820</b>
25 x 5 / 1 x 1/8	450 / 17 3/4	80 / 3	10	<b>551.718 *</b>			

\* flat filling

## ⑤ Cylinder Brushes with Shank 8 mm Ø

D mm/ <i>inch</i>	L mm/ <i>inch</i>	A mm/ <i>inch</i>	Pack. 	steel Art. No.	D mm/ <i>inch</i>	L mm/ <i>inch</i>	A mm/ <i>inch</i>	Pack. 	steel Art. No.
13 / 1/2	200 / 7 7/8	55 / 2 1/4	10	<b>503.311</b>	32 / 1 1/4	200 / 7 7/8	55 / 2 1/4	10	<b>503.316</b>
20 / 3/4	200 / 7 7/8	55 / 2 1/4	10	<b>503.313</b>	38 / 1 1/2	200 / 7 7/8	55 / 2 1/4	10	<b>503.318</b>
26 / 1	200 / 7 7/8	55 / 2 1/4	10	<b>503.314</b>					

## Hole cleaning Brushes with Wooden Handle

D mm/ <i>inch</i>	L mm/ <i>inch</i>	A mm/ <i>inch</i>	Pack. 	steel Art. No.	stainless Art. No.	brass Art. No.
10 / 3/8	300 / 12	100 / 4	10	<b>560.310</b>	<b>560.510</b>	<b>560.710</b>
15 / 5/8	300 / 12	100 / 4	10	<b>560.315</b>	<b>560.515</b>	<b>560.715</b>
20 / 3/4	300 / 12	100 / 4	10	<b>560.320</b>	<b>560.520</b>	<b>560.720</b>
25 / 1	300 / 12	100 / 4	10	<b>560.325</b>	<b>560.525</b>	<b>560.725</b>
30 / 1 1/4	300 / 12	100 / 4	10	<b>560.330</b>	<b>560.530</b>	<b>560.730</b>

⑥ 10/18 / 3/8 / 3/4 200 / 7 7/8 70 / 2 3/4 10 **561.304 \***

\* conical filling



## Interior Fitting Brushes

D mm/inch	Lmm/inch	Amm/inch	Filling Material	Pack.	Art. No.	D mm/inch	Lmm/inch	Amm/inch	Filling Material	Pack.	Art. No.
8 / 5/16	150 / 6	12 / 1/2	stainl. 0.10/0.004"	10	<b>562.508</b>	18 / 3/4	150 / 6	20 / 3/4	stainl. 0.15/0.006"	10	<b>562.518</b>
10 / 3/8	150 / 6	12 / 1/2	stainl. 0.10/0.004"	10	<b>562.510</b>	22 / 7/8	150 / 6	25 / 1	stainl. 0.20/0.008"	10	<b>562.522</b>
12 / 1/2	150 / 6	15 / 5/8	stainl. 0.10/0.004"	10	<b>562.512</b>	28 / 1 1/8	150 / 6	25 / 1	stainl. 0.20/0.008"	10	<b>562.528</b>
15 / 5/8	150 / 6	20 / 3/4	stainl. 0.15/0.006"	10	<b>562.515</b>	35 / 1 3/8	150 / 6	25 / 1	stainl. 0.20/0.008"	10	<b>562.535</b>

## 4 Exterior Fitting Brushes

D mm/inch	d mm/inch	Marking	Pack.	Art. No.	D mm/inch	d mm/inch	Marking	Pack.	Art. No.
39 / 1 3/8	10 / 3/8	1/4"	6	<b>037.921</b>	48 / 1 7/8	18 / 3/4	5/8"	6	<b>037.924</b>
39 / 1 3/8	12 / 1/2	3/8"	6	<b>037.922</b>	48 / 1 7/8	22 / 7/8	3/4"	6	<b>037.925</b>
42 / 1 5/8	15 / 5/8	1/2"	6	<b>037.923</b>	55 / 2 1/4	28 / 1 1/8	1"	6	<b>037.927</b>

## Fitting Brush Set 8 Pieces

	Art. No.
4 interior and exterior brushes each dia 1/2 / 5/8 / 3/4 / 7/8 in a plastic bag	<b>599.908</b>



### Fitting Brushes Now with new 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. Fitting brushes for exterior cleaning contain a card from steel wire.

### Fitting Brush Set

A case of artificial leather that contains the most frequently needed interior and exterior brushes.

**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.

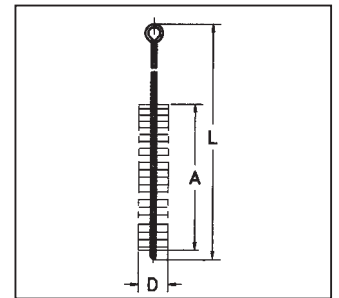
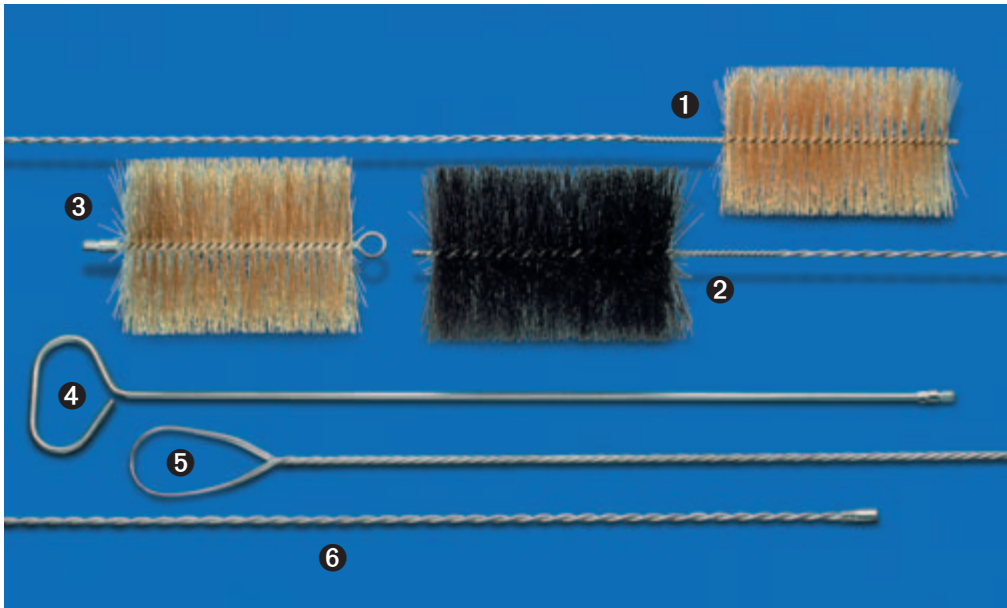
See Page 49:

### 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.

### Hole Cleaning Brushes

These brushes have a wooden handle. The model 561.304 has the filling material conically cut.



## Stove Pipe Brushes with Twisted Handle

Wire	D mm/inch	L mm/inch	A mm/inch	Pack.	Art. No.
1 steel wire brassed	130 / 5 1/8	2,000 / 78 3/4	200 / 8	10	546.302
steel wire brassed	130 / 5 1/8	3,000 / 118	200 / 8	10	546.304
steel wire brassed	150 / 6	2,000 / 78 3/4	200 / 8	10	546.306
steel wire brassed	180 / 7	2,000 / 78 3/4	200 / 8	10	546.314
steel wire brassed	200 / 8	2,000 / 78 3/4	200 / 8	10	546.318
2 bassine black	150 / 6	2,000 / 78 3/4	200 / 8	10	546.906
bassine black	150 / 6	3,000 / 118	200 / 8	10	546.908

## 3 Stove Pipe Brushes with separate Handle, steel wire brassed

Wire	D mm/inch	L mm/inch	A mm/inch	Thread	Art. No.	Wire	D mm/inch	L mm/inch	A mm/inch	Thread	Art. No.
	80 / 3	240 / 9 1/2	200 / 8	M 10	507.307		160 / 6 3/8	240 / 9 1/2	200 / 8	M 10	507.303
	100 / 4	240 / 9 1/2	200 / 8	M 10	507.308		180 / 7	240 / 9 1/2	200 / 8	M 10	507.304
	130 / 5 1/8	240 / 9 1/2	200 / 8	M 10	507.301		200 / 8	240 / 9 1/2	200 / 8	M 10	507.305
	150 / 6	240 / 9 1/2	200 / 8	M 10	507.302						

## Handle with Eye

L mm/inch	Art. No.
4 800 / 31 1/2 external thread M 10	568.501 *
5 1,000 / 39 3/8 internal thread M 4	566.603
1,000 / 39 3/8 internal thread M 6	566.601
1,000 / 39 3/8 internal thread M 10	566.602
1,000 / 39 3/8 external thread M 12	567.201 **
1,000 / 39 3/8 internal thread W 3/8	567.603
1,000 / 39 3/8 internal thread W 1/2	567.601

## Extension

L mm/inch	Art. No.
1,000 / 39 3/8 internal thread M 4	566.703
1,000 / 39 3/8 internal thread M 6	566.701
1,000 / 39 3/8 internal thread M 10	566.702
1,000 / 39 3/8 external thread M 12	567.731 **
1,000 / 39 3/8 internal thread W 3/8	567.703
1,000 / 39 3/8 internal thread W 1/2	567.701

\* Suitable handle for Art. No. 506.805.60 / 507.105 / 507.190 / 533.405, see page 47

\*\* Suitable handle/extension for chimney brushes, see page 52

## Stove Pipe Brushes

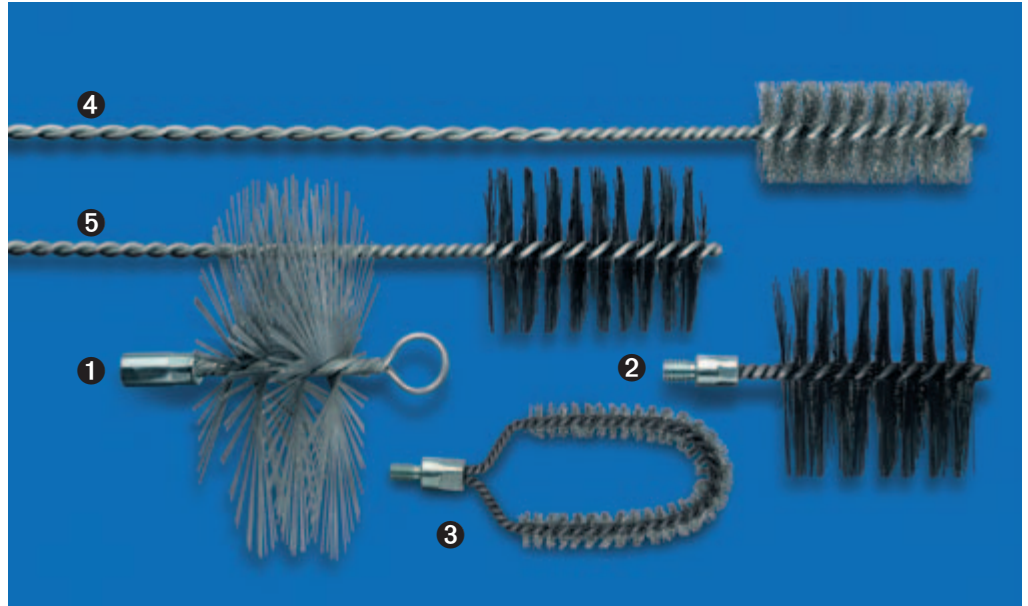
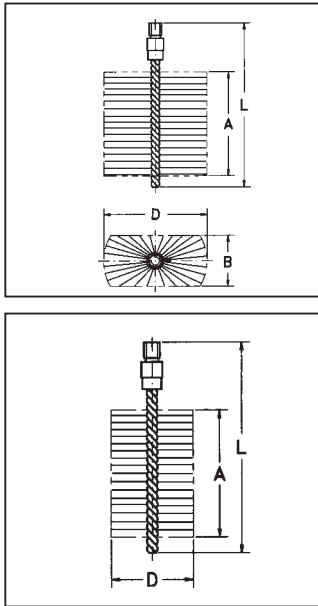
The stove pipe brushes are available in two different executions: with twisted handle (brush and handle one part) or with thread nipple, for screwing and lengthing by using a separate handle.

## Handles and Extension Pieces

For tube brushes, boiler brushes and stove pipe brushes, see pages 46, 51–52. The twisted handles have an internal thread and a grip loop, the extension pieces have both an internal thread and an external thread.



# Boiler Brushes



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

D mm/inch	L mm/inch	A mm/inch	Internal Thread	Art. No.	D mm/inch	L mm/inch	A mm/inch	Internal Thread	Art. No.
125 / 5	160 / 6 3/8	55 / 2 1/4	M 12	<b>507.007</b>	250 / 10	160 / 6 3/8	55 / 2 1/4	M 12	<b>507.004</b>
150 / 6	160 / 6 3/8	55 / 2 1/4	M 12	<b>507.001</b>	300 / 12	160 / 6 3/8	55 / 2 1/4	M 12	<b>507.005</b>
175 / 6 7/8	160 / 6 3/8	55 / 2 1/4	M 12	<b>507.002</b>	350 / 14	160 / 6 3/8	55 / 2 1/4	M 12	<b>507.006</b>
200 / 8	160 / 6 3/8	55 / 2 1/4	M 12	<b>507.003</b>					

Suitable handle/extension see page 51

## Boiler Brushes with external Thread, Steel

B mm/inch	D mm/inch	Model	L mm/inch	A mm/inch	Thread	steel Art. No.
30 / 1 1/4	80 / 3	rectangular	160 / 6 3/8	100 / 4	W 1/2	<b>532.211</b>
40 / 1 3/8	80 / 3	rectangular	160 / 6 3/8	100 / 4	W 1/2	<b>532.202</b>
2 50 / 2	100 / 4	rectangular	160 / 6 3/8	100 / 4	W 1/2	<b>532.203</b>
3 50 / 2	120 / 4 3/4	rectangular	160 / 6 3/8	100 / 4	W 1/2	<b>532.205</b>
4 18 / 3/4	70 / 2 3/4	curved	160 / 6 3/8	100 / 4	W 3/8	<b>529.301</b>
5 30 / 1 1/4	80 / 3	curved	175 / 6 7/8	120 / 4 3/4	W 1/2	<b>529.302</b>

## Boiler Brushes with Handle

B mm/inch	D mm/inch	Filling Material	L mm/inch	A mm/inch	Pack.	Art. No.
12 / 1/2	14 / 1/2	nylon	600 / 23 5/8	150 / 6	10	<b>554.903</b>
	20 / 3/4	nylon	600 / 23 5/8	100 / 4	10	<b>544.804</b>
4 50 / 2	50 / 2	steel crimped	700 / 27 1/2	100 / 4	10	<b>544.301</b>
	90 / 3 1/2	steel crimped	600 / 23 5/8	100 / 4	10	<b>544.302</b>
40 / 1 3/8	50 / 2	steel crimped	1,000 / 39 3/8	80 / 3	10	<b>553.711</b>
40 / 1 3/8	80 / 3	steel straight	1,000 / 39 3/8 *	100 / 4	10	<b>552.404</b>
40 / 1 3/8	90 / 3 1/2	steel crimped	1,000 / 39 3/8	80 / 3	10	<b>564.301</b>
5 50 / 2	100 / 4	steel straight	1,000 / 39 3/8	100 / 4	10	<b>552.403</b>

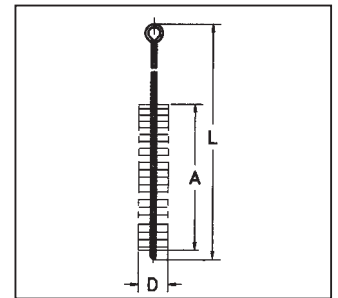
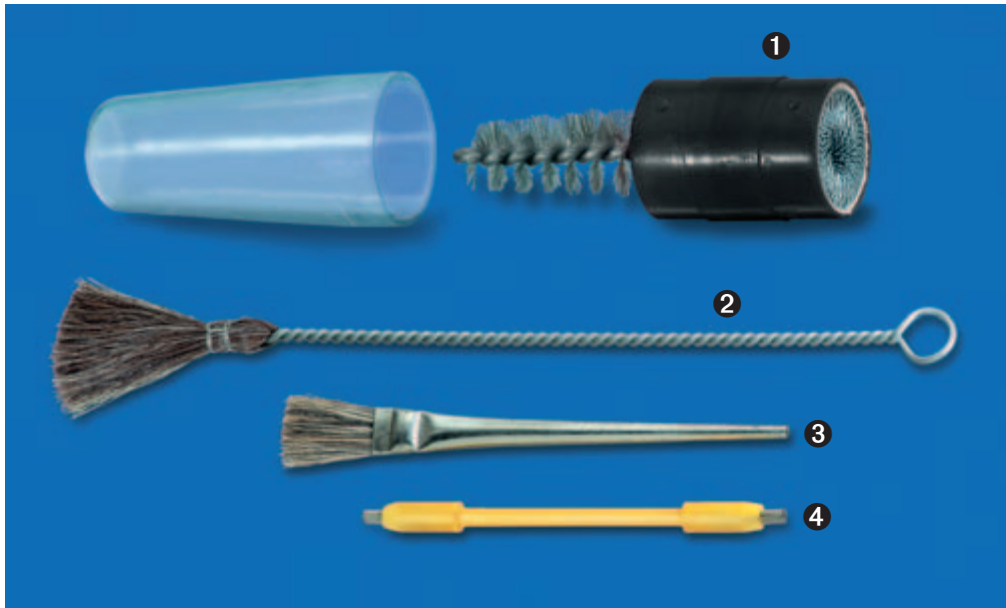
\* Rod made from spring steel Ø 5

### 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.



### 1 Battery Terminal Brushes

Filling material	D mm / inch	L mm / inch	A mm / inch	Pack.	Art. No.
steel crimped	17/24 5/8 / 1	120/180 4 3/4 / 7	60 / 2 3/8	12	<b>563.301 *</b>

\* conical filling

### 2 Soluble Oil Brushes

Filling material	Ø Bundle mm / inch	L mm / inch	H mm / inch	Pack.	Art. No.
mixed hair	7 / 1/4	150 / 6	40 / 1 3/8	100	<b>570.907</b>
mixed hair	10 / 3/8	240 / 9 1/2	55 / 2 1/4	100	<b>570.910</b>
mixed hair	18 / 3/4	300 / 12	70 / 2 3/4	100	<b>570.918</b>

### 3 Soldering Fluid Brushes

Filling material	D mm / inch	L mm / inch	H mm / inch	Pack.	Art. No.
bristles	10 / 3/8	123 / 4 7/8	20 / 3/4	100	<b>045.910</b>
bristles	15 / 5/8	140 / 5 1/2	25 / 1	100	<b>045.915</b>

### 4 Rust Scratcher

Filling material	D mm / inch	L mm / inch	H mm / inch	Art. No.
steel straight 0.23/0.009"	5/8 1/4 / 5/16	100 / 4	6 / 1/4	184.101
steel straight 0.23/0.009"+ PP 0.15/0.006"	5/8 1/4 / 5/16	100 / 4	6/15 1/4 / 5/8	184.104

PP = Polypropylene

#### Soluble Oil Brushes

With twisted wire handle for workshop use.

#### Soldering Fluid Brushes

The handle is made of tinned metal.

#### 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 ring-shaped filled cards stuck in the handle.

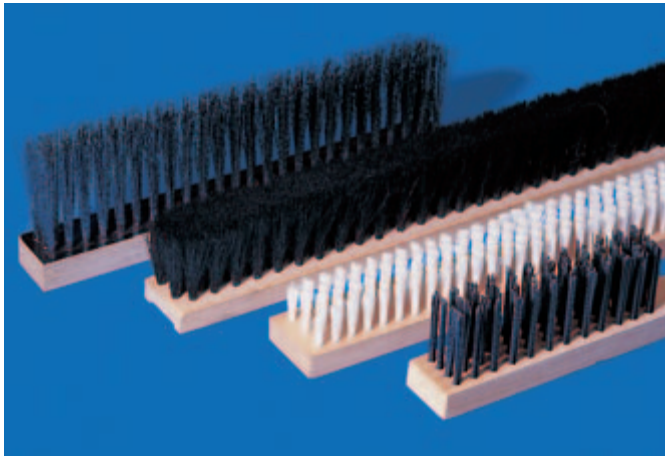
Miniature Brushes – on request available



## Punched Brushes

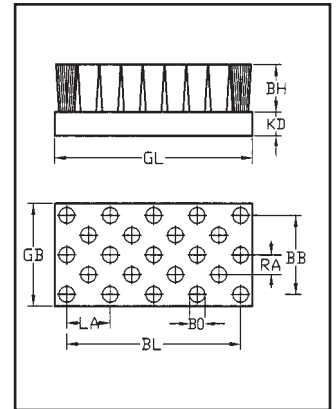
The filling material is anchored in bundles to the brush body. By combining the brush geometry, the body and the filling material there are many possibilities to find the perfect tool for each individual demand.

The pictures on this page are examples of our programme for the industry.



### Lath Brushes

They work in machines and are used for clearing, cleaning, insulating and discharging electric charges etc. Various body materials are possible: including wood, metal and plastic. The materials for the bristles can be from the finest horsehair to the firmest steel wire (see page 6). The density of the filling material can be varied by the diameter and the distance of and from the hole.



### Required measures and details

GL total length, GB total width, KD thickness of body, BH filling height, BL filling length, BB filled width, RA distance of rows, LA distance of holes, BO bundle bores

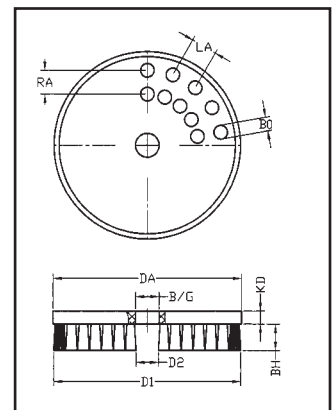
**Filling material** Steel, steel brass coated, brass, stainless steel, nylon, abrasive nylon (SiC), fibre, horsehair

**Body material** Plastic, PP, PE, PA, wood, steel, aluminium



### Circular Discs

These brushes are especially used for cleaning, polishing or deburring. Their applications are best suited to the treatment of metal, for the cleaning of large surfaces, as used in the construction industry. The body is made of either plastic, wood or metal. The filling material may be chosen according to the task requirements. The density of the filling material can be varied by the diameter and the distance of and from the hole.

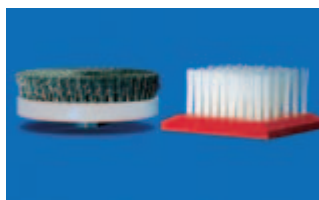


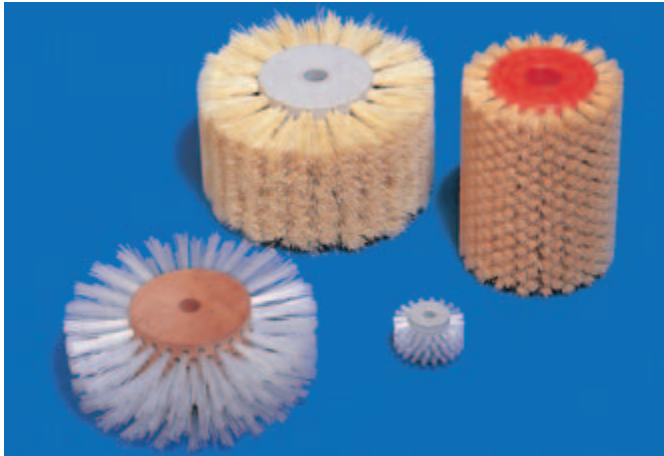
### Required measures and details

DA Outer diameter, B/G bore/ thread, DK body thickness, BH filling height, D1 outer diameter of filling, D2 Interior diameter of filling, RA distance of rows, LA distance of holes, BO bundle bore

**Filling material** Steel, steel brass coated, brass, stainless steel, nylon, abrasive nylon (SiC), fibre, horsehair

**Body material** Plastic, PP, PE, PA, wood, steel, aluminium

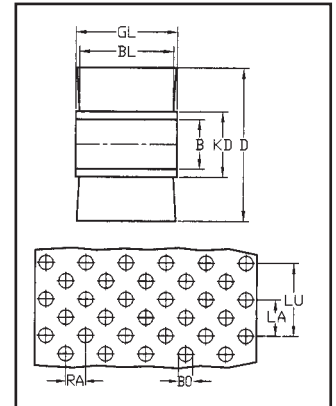




## Wheel Brushes and Wide Face Brushes

For work without a mechanical load on the brushes: e.g. moistening, cleaning, transporting or grading. 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. The density of the filling material can be varied by the diameter and the distance of and from the hole.



## Required measures and details

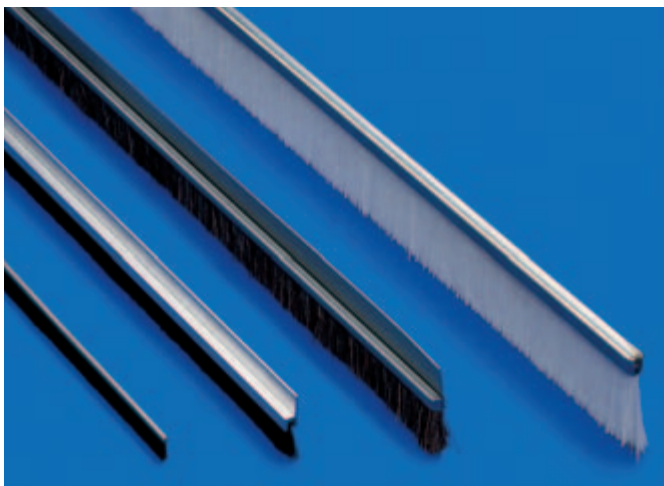
GL total length, BL filling length, B bore, DK diameter of body, D total diameter, RA distance of rows, LU number of hole/row, LA distance of holes,

BO bundle bores

**Filling material** Steel, steel brass coated, brass, stainless steel, nylon, abrasive nylon (SiC), fibre, horsehair

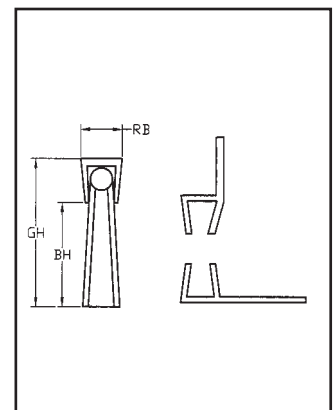
**Body material** Plastic, PP, PE, PA, wood, steel, aluminium

## 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 (see page 6).



## Required measures and details

GH total height, BH filling height, RB body width, KD thickness of body

## Filling material

Steel, steel brass coated, brass, stainless steel, nylon, fibre, horsehair

## Material of body

Plastic, aluminium

**Do you have any questions? If so, please do not hesitate to contact us by phone, fax or email. We will be very pleased to help you. On request, our technicians can advise you personally.**

# Enquiry for Special Punched Brushes or Strip Brushes

drawing/description of application

Grid area for drawing/description of application.

**Brush Application**

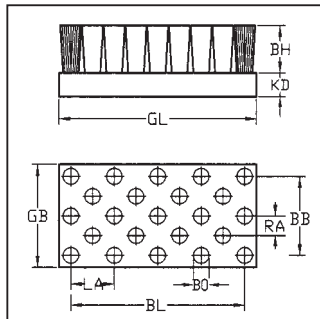
- derusting
- removing paint
- deburring
- cleaning
- roughening/structuring
- working on welds
- insulation
- others

**Material**

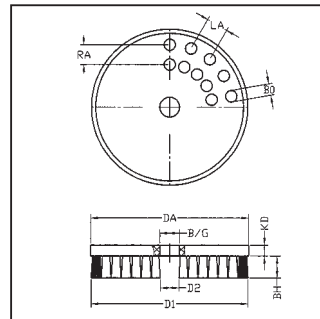
- steel
- aluminium
- wood
- stainless steel
- plastic
- others

**Possible Brush Type**

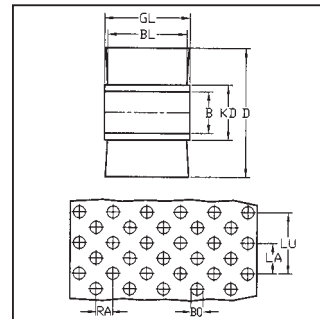
Lath Brushes



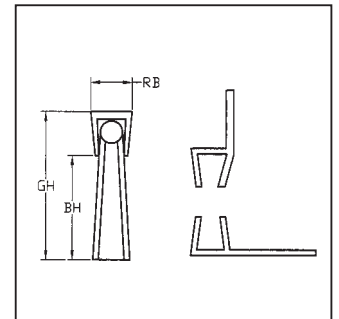
Circular Discs



Wheel-and Wide Face Brushes



Strip Brushes



Please mention measurement acc. to drawing

**Filling material**

- steel
- brass coated steel
- brass
- stainless steel

**Filling material**

- nylon
- abrasive nylon
- fibre
- horsehair

**Body**

- plastic
- PP
- PE
- PA
- wood
- steel
- aluminium

sender: company, contact person

**More information required?**

e-mail: [info@lessmann.com](mailto:info@lessmann.com)

Please fax this form to: +49 (0) 90 82/7 07 - 78





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## General Conditions of Sale and Delivery

Dear customer, you can find the full version of our general conditions under [www.lessmann.com/english/pdf/allgemein/GenCond.pdf](http://www.lessmann.com/english/pdf/allgemein/GenCond.pdf)

The most important conditions are:

### 1. Scope

Our general conditions of sale apply exclusively; we do not acknowledge any conditions of the customer which are contrary to or deviate from our general conditions of sale, unless we explicitly consented in writing to their validity.

All agreements reached between us and the customer for the purpose of carrying out this contract must be made in writing. This applies also to offers and orders which were agreed with our sales representatives.

Our general conditions of sale shall apply only to commercial businesses, not to private consumers.

### 2. Offer

All prices contained in an offer are subject to alterations. The prices are valid as fixed prices for 6 months, only after acknowledgement of the order. We reserve rights of ownership and copyrights on diagrams, drawings, design worksheets and other docu-

ments; they must not be made accessible to third parties.

### 3. Prices – Terms of Payment

All prices are in € (EURO), ex works Oettingen, exclusive costs of packaging. Our prices do not include Value-Added Tax. Unless stated otherwise in the acknowledgement of the order we grant 2% cash discount on payments in cash made within 10 days after the date of the invoice, payments shall be made within 30 days from the date of the invoice. In case of a delayed payment, we are entitled to demand interest at a rate of 4% p.a. above the actual basis rate of the EZB.

### 6. Reservation of Ownership

The customer shall obtain ownership of the delivered products only after we have received all payments from the business relationship with the customer.

In the event of seizures or other actions by third parties, the customer shall inform us thereof immediately in writing. As far as the third party is not able to reimburse our total costs of legal action in accordance with paragraph 771 of the German Code of Civil Procedure, the customer shall reimburse us the loss.

The customer is entitled to sell the

products. The customer shall assign all rights and titles arising from the further sale to us regardless of whether the products have been processed or not. The customer remains entitled to collect the payments from the sales. We shall not collect any payments except the customer is behind with payments and/or has gone bankrupt and/or has stopped payments. Any processing, marking or other changes of the products by the customer shall be done on our behalf.

If we have to take back the products, the customer shall give us the name and address of the customer who wished the products to be processed, marked or changed.

We shall, at the request of customer, release our rights and titles up to the amount which exceeds 20% of the value of our payment claim to be protected. The selection of the rights and titles to be released shall be at our discretion.

### 7. Place of Jurisdiction – Place of Performance – Law

Place of jurisdiction shall be the place of our office. We also may take proceedings against the customer at the place of its office. Our office is the place of performance, unless our

acknowledgement of the order stated something different. The laws of the Federal Republic of Germany shall apply. The United Nations Convention on Contracts for the International Sale of Goods (CISG) shall not apply.

### 8. Miscellaneous

Special designs can not be taken back. Our deliveries may deviate from the agreed volume by +/- 15%. The minimum order value, as well as extra payments for small volume purchases, are fixed in the actual price list.

Quantities deviating from the standard packet will be increased or decreased to the corresponding standard packet, otherwise extra payments per incomplete packet will be charged in accordance with the actual price list.

### Minimum order value:

For stock articles (bold printed articles): net € 100,00

For special production and light printed articles: net € 250,00 / article

Extra payment for incomplete packets: net € 2,50

We reserve the right to change the construction and design of the brushes in the course of further technical developments. Information to measurements are approximate and not binding. All measurements are in mm.

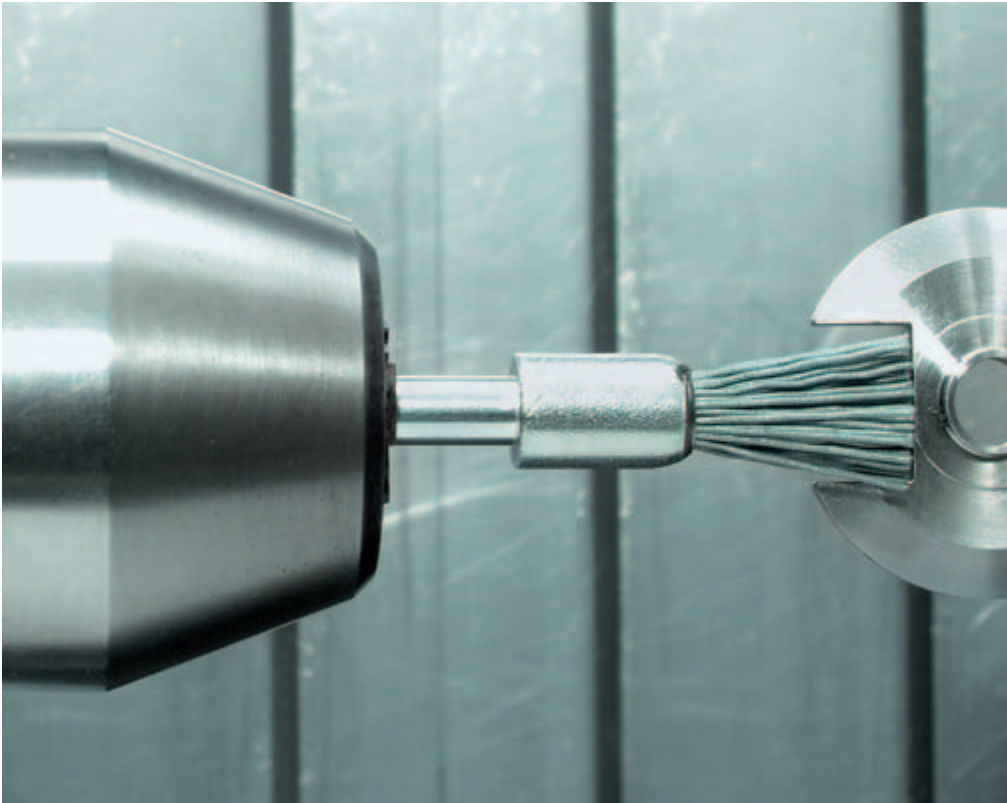
**Examples of brush applications**  
Hardly any other tool can be used in such many areas as technical brushes. Following please find some examples of typical brush applications:

Deburring of an anchor plate for an electric motor with an end brush with abrasive nylon filling. This picture was taken during tests for the optimal graduation.

On the left down: Working on welds with knot wheel brushes. This picture was taken on a pipeline construction site in Bavaria.

Deburring of a threading die with an interior brush with abrasive nylon. This picture was taken during tests for finding the right brush and the right grit size.

Cleaning of welds on a stainless steel cylinder and removing of temper colour with shank wheel brushes.



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