

# M-BRAD®

Abrasive filament power brushes

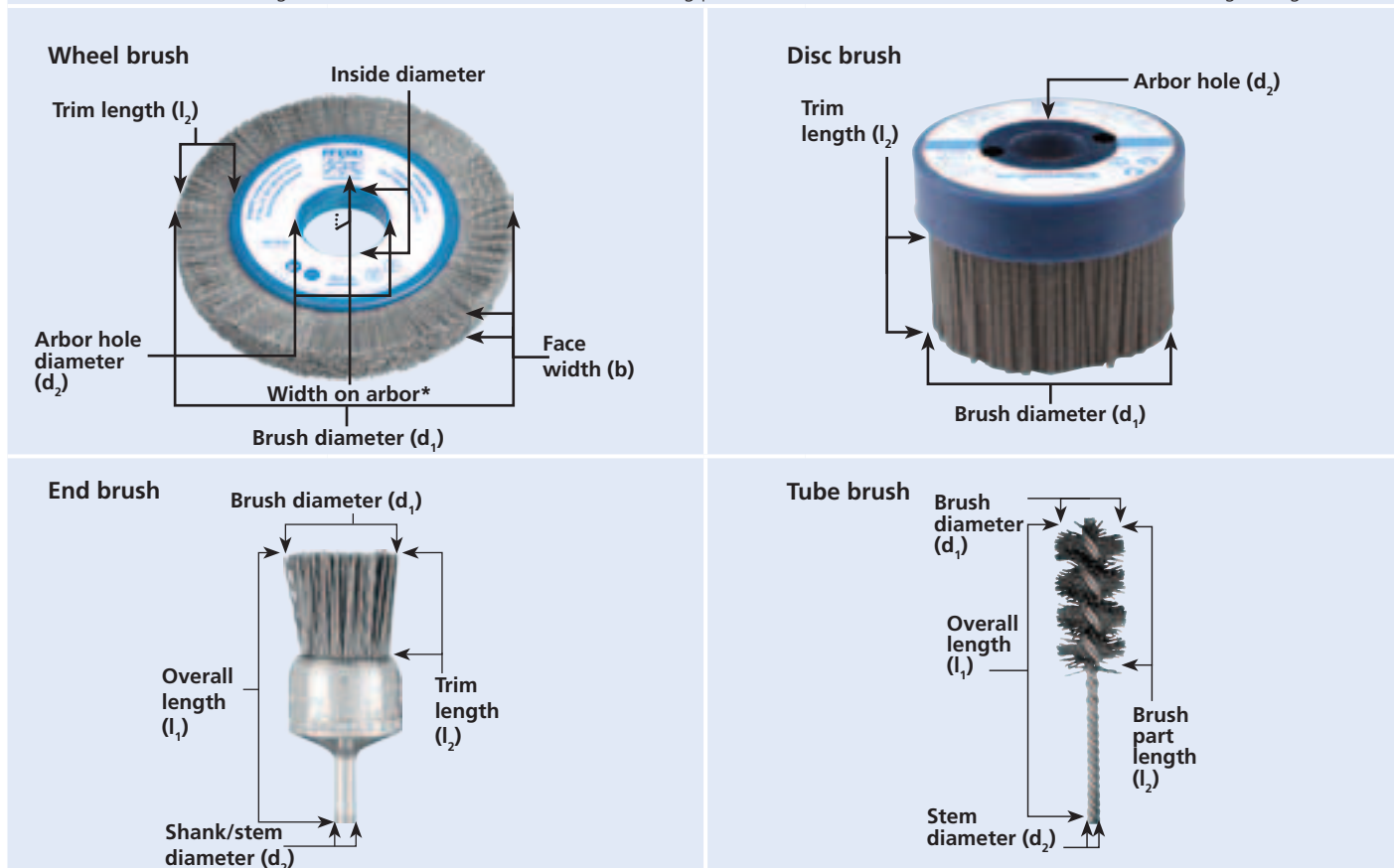


**TRUST BLUE**

- Longer brush life
- Conforms to irregular shapes
- Ideal for deburring and surface conditioning
- More consistent finish

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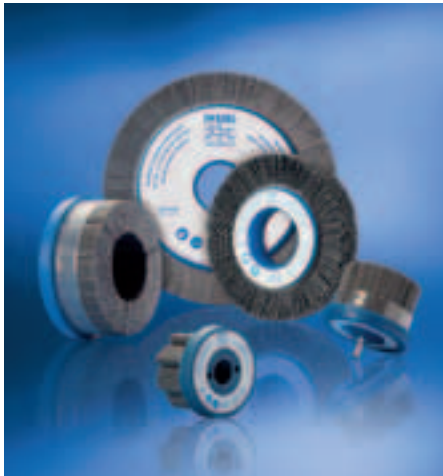
**Dimensions** These diagrams demonstrate the method for measuring power brushes and can be used as a reference for selecting the right tool.



**\*Wheel brush note:** "Width on arbor" is not the width at the arbor hole. It is a measurement at the widest point of the faceplates. This is used to calculate the number of brushes that can be gang-mounted on a given length of arbor or shaft.

# M-BRAD® abrasive filament power brushes

## M-BRAD® filament composition and construction



### Unique M-BRAD® filaments

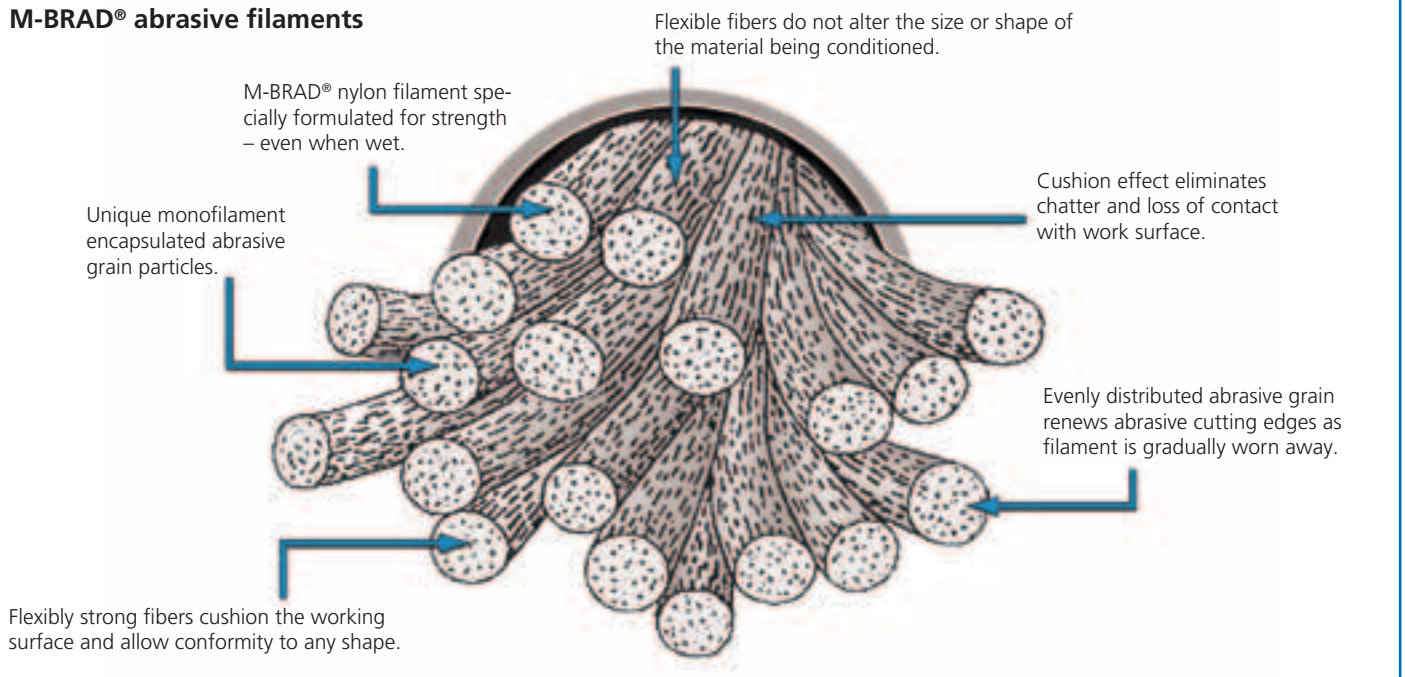
M-BRAD® is a 6.12 nylon monofilament that evenly encapsulates various abrasive grit particles on the surface as well as throughout the nylon filament. The flexibility of strands flowing over, around and into contours makes it uniquely effective when deburring complex parts.

Consistent, gradual cutting action allows precise control, from cosmetic surface preparation on brass or soft aluminum to edge-blending on materials as tough as titanium and carbide.

M-BRAD® brushes are ideal for surface conditioning applications on all materials including wood, glass, steel and nickel alloys.



### M-BRAD® abrasive filaments



### Features and benefits

- PFERD offers a full line of high fill density Composite disc and wheel brushes for more aggressive brushing
- M-BRAD® filled brushes yield longer tool life than non-woven synthetic abrasive products
- Ceramic oxide grain (CO) for very aggressive brushing
- This unique M-BRAD® filament is suitable for both wet and dry applications, although the use of coolant is recommended
- M-BRAD® won't degrade the dimensions of the workpiece, which reduces scrap and fill welding



For information on processing aluminum workpieces with M-BRAD® abrasive filament brushes, please see our Aluminum PRAXIS.



# M-BRAD® abrasive filament power brushes

## General information



### Power non-wire brushes

PFERD's non-wire power brush offerings include a broad range of M-BRAD® abrasive filament brushes, as well as tampico and nylon wheel brushes. Please consult page 55 of PFERD's TM22 tool manual for very important information regarding power non-wire brushes.

The filament materials are colour-coded for easy recognition.

<b>M-BRAD® abrasive filament</b>	– red
<b>Nylon/natural bristle</b>	– brown

Your quick product selection guide on pages 8-9 of PFERD's TM22 tool manual will help you to find the right brush for your application.

### Unique M-BRAD® filaments

M-BRAD® is a 6.12 nylon monofilament that evenly encapsulates various abrasive grit particles on the surface as well as throughout the nylon filament. The flexibility of strands flowing over, around and into contours makes it uniquely effective when deburring complex parts.

Consistent, gradual cutting action allows precise control from cosmetic surface preparation on brass or soft aluminum to edge-blending on materials as tough as titanium and carbide.

M-BRAD® brushes are ideal for surface conditioning applications on all materials including wood, glass, steel and nickel alloys.

### Nylon/natural bristle

Nylon and tampico wheel brushes are a good choice for cleaning and polishing applications with or without compounds.

These brushes are non abrasive and can be used effectively for light deburring applications on plastic and other delicate parts and can be used with or without coolant.

### M-BRAD® abrasive grain types

M-BRAD® is a 6.12 nylon monofilament that evenly encapsulates abrasive grit particles. M-BRAD® won't degrade the dimensions of the workpiece, which reduces scrap.

<b>Silicon carbide (SiC)</b>		Has a jagged crystal structure and is easily friable. It is the most common grain used on light to heavy deburring applications on ferrous and non-ferrous alloys.
<b>Aluminum oxide (AO)</b>		More rounded crystal structure. It is more commonly used for wood applications. Due to the flexible nylon filament carrier in most cases it is not as aggressive as silicon carbide brushes.
<b>Ceramic oxide (CO)</b>		Ceramic oxide is a more aggressive grain than silicon carbide. It is ideal for heavy deburring as well as for surface finishing applications where reduced cycle time is critical. During controlled testing, ceramic grain filled brushes outperformed silicon carbide filled brushes by 200-300%. It is highly effective on ferrous workpieces.

### M-BRAD® filament geometries – power non-wire brushes

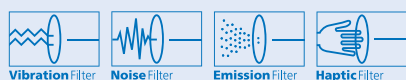
<b>Round filament</b>		Round filaments create point contact on the workpiece. They are the most popular filaments for general deburring and surface finishing applications.
<b>Rectangular filament</b>		Rectangular filaments create line contact with the workpiece. Due to the larger cross section, these filaments are used in deburring applications where larger burrs need attention.

### PFERDVALUE® – Your added value with PFERD

Results from the PFERD test laboratories as well as from the product tests by independent testing institutes prove: PFERD products offer measurable added value.

Discover **PFERDERGONOMICS®** and **PFERDEFFICIENCY®**

As part of **PFERDERGONOMICS®**, PFERD offers ergonomically optimized products and power tools that contribute to greater safety and working comfort, and thus to health protection.



As part of **PFERDEFFICIENCY®**, PFERD offers innovative, high-performance product solutions and power tools with outstanding added value.



#### PFERDMEDIA

For more information, a complete brochure is available. Please visit [pferdusa.com/pferdvalue](http://pferdusa.com/pferdvalue) to request a free copy or to download a pdf version.



#### PFERDMEDIA

For more information, visit [pferdusa.com/mbrad](http://pferdusa.com/mbrad)



### PFERD PRAXIS

PFERD PRAXIS brochures contain valuable information on material properties, and technical tips on the use of PFERD products. Visit [pferdusa.com/info](http://pferdusa.com/info) to request a free copy or to download a pdf version.

### Brushing equipment considerations

#### Brush size

- Select a brush that can safely fit your specific equipment.

#### Brush adapters

- Please do not insert the entire stem of a brush into the chuck. Per ANSI B165.1-2013, 6.7: The shank shall be inserted into the chuck or collet as far as possible on the uniform diameter of the shank with minimum possible overhang of the brush.
- Various adapters and drive arbors are available to help secure brushes safely to machines (pages 16-17). Spindle extensions for stem mounted brushes are also available, see our "Power tools" catalogue (section 209).

### Application parameters

#### Brush speed

- As a good starting point have the brush run at about 3,000 SFPM (consult SFPM table on page 16 of PFERD's TM22 tool manual).
- At higher speeds, the filaments of disc brushes tend to flare, reducing the overall height of the brush therefore decreasing penetration depth and creating a less aggressive brushing action. It is recommended that the penetration depth be set while the brush is running at the intended operating speed.

#### Brush penetration into workpiece

- Due to the even distribution of abrasive grain throughout the filament a greater degree of interference is recommended when using M-BRAD® brushes.
- A recommended starting depth or interference between brush and workpiece should be .060".

#### Direction of brush rotation

- On parts with complex features it is recommended the brush be run in both clockwise and counterclockwise directions.
- The brush filament should approach the workpiece as perpendicularly as possible.
- For deburring applications, the initial pass with the brush rotation should be opposite to the direction of the cutting tool rotation that created the burr.

#### Use of coolant


- The use of coolant is strongly recommended in cases where the workpiece is thin (less than 1/4"), where excessive brush penetration is used (more than 1/8"), and in cases where poor thermal conducting materials are processed.
- The use of coolant will generate a better surface finish.
- Under certain application conditions M-BRAD® brush filaments will begin to melt and create nylon "smear" (gray film on workpiece).
- If nylon smear occurs, apply coolant immediately and continue running the brush normally. The cooler running brush will remove the smear.

### Abrasive grain and filament selection

#### Grain type

- For demanding deburring applications on steel, choose coarse, ceramic filled M-BRAD® brushes.
- For processing workpieces used in the nuclear or aerospace industries choose ceramic filled brushes.
- For deburring applications on aluminum parts, silicon carbide filled brushes are recommended.
- For deburring and surface conditioning applications on plastic parts the best choice is nylon filled brushes.

### Operating speeds for wet and dry M-BRAD® applications



Wheel dia.	Maximum speed [RPM]	
	Dry application	Wet application
3	3,000	5,500
4	2,000	2,400
6	1,200	1,440
8	1,000	1,200
10	900	1,080
12	800	960
14	700	840



Disc brush dia.	Maximum speed [RPM]	
	Dry application	Wet application
3	2,500	3,000
4	2,000	2,400
5	1,600	2,000
6	1,400	1,600
8	1,000	1,200
9	800	1,000
10	300	800

### Problems and solutions

Problem	Solution
Inadequate brushing action	<ul style="list-style-type: none"> <li>■ Increase brush RPM or use larger brush diameter at same RPM</li> <li>■ Use brush with shorter trim</li> <li>■ Select a brush with larger filament size</li> <li>■ Select a brush with larger abrasive grain size</li> <li>■ Change the orientation of the brush to the workpiece (brushing action should be perpendicular to the workpiece edge)</li> <li>■ Increase interference between brush and workpiece</li> <li>■ Decrease coolant pressure onto brush/workpiece</li> <li>■ Decrease feed rate between brush and workpiece</li> <li>■ Select a brush with ceramic vs silicon carbide filled grain</li> </ul>
Excessively strong brushing action	<ul style="list-style-type: none"> <li>■ Reduce brush RPM, or use a smaller brush diameter at same RPM</li> <li>■ Reduce contact pressure</li> <li>■ Use brush with longer trim length</li> <li>■ Use brush with finer abrasive grain size</li> <li>■ Select a brush with thinner filament</li> <li>■ Change the orientation of the brush to the workpiece (make less perpendicular)</li> </ul>
Change in workpiece colour (due to heat or nylon smear)	<ul style="list-style-type: none"> <li>■ Reduce brush RPM</li> <li>■ Use longer trim length brush running at the same speed</li> <li>■ Use coolant</li> <li>■ Use lighter density brush</li> <li>■ Decrease brush penetration into workpiece</li> </ul>
Irregular/coarse surface finish	<ul style="list-style-type: none"> <li>■ Use brush with wider brush face</li> <li>■ Increase brush penetration</li> <li>■ Use larger disc brush diameter</li> <li>■ Use brush with smaller filament size</li> <li>■ Use brush with smaller abrasive grain size</li> <li>■ Make sure that workpiece is completely covered by brush</li> <li>■ Use brush with longer trim</li> </ul>
Surface is too smooth	<ul style="list-style-type: none"> <li>■ Select brush with thicker filament</li> <li>■ Use brush with shorter trim</li> <li>■ Use brush with larger abrasive grain size</li> <li>■ Reduce RPM</li> </ul>

# M-BRAD® abrasive filament power brushes

## M-BRAD® abrasive filament wheel brushes



### Composite wheels



EDP 84165

PFERD's composite wheels are for deburring, honing, edge radiusing, light cleaning, and polishing. Available with silicon carbide or ceramic oxide grain.

#### Ordering note

Please refer to pages 16-17 for drive arbor adapters.

Made in the USA.



Diameter d <sub>1</sub> [Inches]	Arbor hole d <sub>2</sub> [Inches]	Trim length l <sub>2</sub> [Inches]	Face width b [Inches]	Filament dimensions, grit size and EDP number					Recom. speed [RPM]	MSFS max. [RPM]	Adapter style	
				Rectangular .045 x .090 80 grit	Round crimped .040 dia. 80 grit	Round crimped .040 dia. 120 grit	Round crimped .022 dia. 120 grit	Round crimped .022 dia. 320 grit				

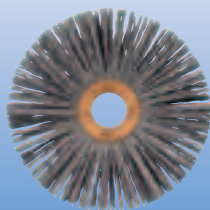
#### Silicon carbide grain (SiC)

6	2	1-1/4	1	83721	83720	83722	-	83723	900 - 1,500	3,600	C	1
8	2	1-1/4	1	83727	83726	83728	-	83729	900 - 1,500	3,600	C	1
8	2	2-1/4	1	83733	83732	83734	-	83735	900 - 1,500	3,600	C	1
10	2	1-1/2	1	83739	83738	83740	83742	83741	900 - 1,500	3,600	C	1
10	2	3-1/4	1	83745	83744	83746	-	83747	900 - 1,500	3,600	C	1
12	4-1/4	1-1/2	1	83751	83750	83752	-	83753	500 - 800	1,800	G	1
12	4-1/4	3	1	83757	83756	83758	-	83759	500 - 800	1,800	G	1
14	5-1/4	1-1/2	1	83763	83762	83764	-	83765	500 - 800	1,800	G	1
14	5-1/4	3-1/2	1	83769	83768	83770	-	83771	500 - 800	1,800	G	1

#### Ceramic oxide grain (CO)

6	2	1-1/4	1	-	84165	-	-	-	900 - 1,500	3,600	C	1
8	2	1-1/4	1	-	84169	-	-	-	900 - 1,500	3,600	C	1
10	2	1-1/2	1	-	84173	-	-	-	500 - 800	3,600	C	1
12	4-1/4	1-1/2	1	-	84177	-	-	-	500 - 800	1,800	G	1
14	5-1/4	1-1/2	1	-	84181	-	-	-	500 - 800	1,800	G	1

### Small diameter copper centre



EDP 83794

These brushes can be used on straight grinders for general surface conditioning applications.

#### Ordering note

See pages 16-17 for information on drive arbors.

Made in the USA.



Diameter d <sub>1</sub> [Inches]	Arbor hole d <sub>2</sub> [Inches]	Trim length l <sub>2</sub> [Inches]	Face width b [Inches]	Incl. adapter [Inches]	Filament dimensions, grit size and EDP number			Recom. speed [RPM]	MSFS max. [RPM]	Adapter style	
					.040 dia. 120 grit	.035 dia. 180 grit	.022 dia. 320 grit				

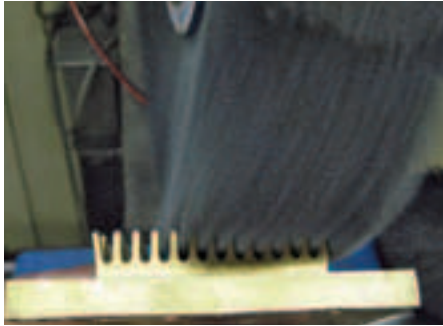
#### Silicon carbide grain (SiC)

1-1/2	1/2	7/16	3/8	3/8	-	83782	-	4,000 - 6,000	10,000	F	10
2	1/2	1	5/8	3/8	83784	-	83785	2,600 - 4,500	10,000	F	10
2-1/2	5/8	11/16	5/8	-	-	-	83792	3,000 - 5,000	10,000	F	10
3	1/2	15/16	5/8	3/8	83793	83794	83795	3,000 - 5,000	10,000	F	10



# M-BRAD® abrasive filament power brushes

## M-BRAD® abrasive filament wheel brushes



PFERD's composite wheels are for deburring, honing, edge radiusing, light cleaning, and polishing. Available with silicon carbide or ceramic oxide grain.

### Ordering note

Please refer to [pages 16-17](#) for drive arbor adapters.

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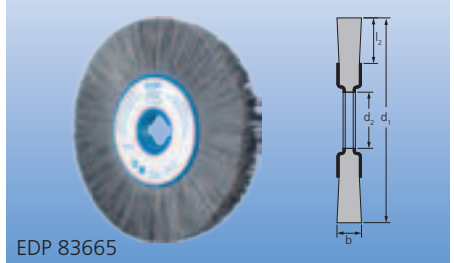
PFERDERGONOMICS®



PFERDEFFICIENCY®



### Composite wheels, double keyway



EDP 83665

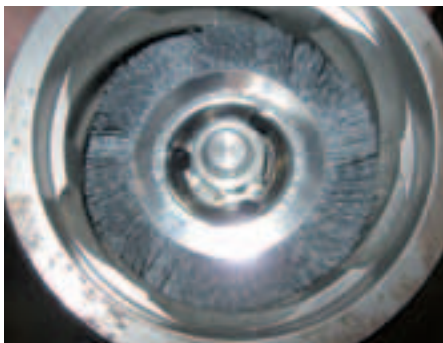
Diameter $d_1$ [Inches]	Arbor hole $d_2$ [Inches]	Trim length $l_2$ [Inches]	Face width $b$ [Inches]	Keyway dimensions [Inches]	Filament dimensions, grit size and EDP number			Recom. speed [RPM]	MSFS max. [RPM]	Adapter style	
					.040 dia. 80 grit	Round crimped .040 dia. 120 grit	.035 dia. 180 grit				

### Silicon carbide grain (SiC)

10	2	3-1/4	1	1/2 x 1/4	-	-	83657	900 - 1,500	3,600	C	1
12	2	2-3/8	1	1/2 x 1/4	83659	83660	83661	500 - 800	1,800	C	1
14	2	3-1/2	1	1/2 x 1/4	83663	-	83665	500 - 800	1,800	C	1

### Ceramic oxide grain (CO)

12	2	2-3/8	1	1/2 x 1/4	84189	84190	-	500 - 800	1,800	C	1
14	2	3-1/2	1	1/2 x 1/4	84193	84194	-	500 - 800	1,800	C	1



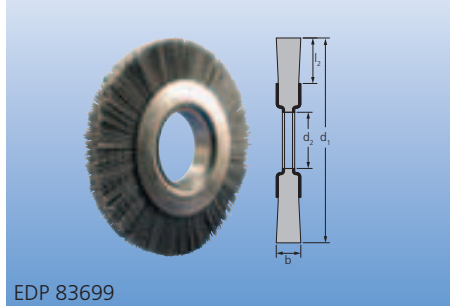
Wide face M-BRAD® wheels contain more fill material than narrow face version, providing faster cycle times and more aggressive deburring.

### Ordering note

6" and 8" wide face M-BRAD® wheel brushes are supplied with metal adapters that reduce the 2" AH to 1-1/4". In addition, a selection of metric and imperial plastic reducing adapters are also included in every box. Please refer to ANSI minimum shaft size standards [page 15](#) for appropriate adapters. See [pages 16-17](#) for listing of adapters.

Made in the USA.

### Wide face



EDP 83699

Diameter $d_1$ [Inches]	Arbor hole $d_2$ [Inches]	Trim length $l_2$ [Inches]	Face width $b$ [Inches]	Included adapter [Inches]	Filament dimensions, grit size and EDP number					Recom. speed [RPM]	MSFS max. [RPM]	Adapter style	
					.040 dia. 80 grit	.040 dia. 120 grit	.035 dia. 180 grit	.022 dia. 120 grit	.022 dia. 320 grit				

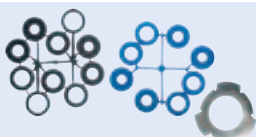
### Silicon carbide grain (SiC)

3	5/8	5/8	7/8	1/2	83689	83690	83691	-	83692	1,500 - 2,000	20,000	D	1
4	5/8	7/8	3/4	1/2	83693	83694	83695	-	83696	3,000 - 5,000	12,000	D	1
6	2	1-1/8	7/8	-	83699	83700	83701	-	83702	1,500 - 2,500	6,000	C	1
8	2	1-1/2	1	-	83703	83704	83705	-	83706	1,200 - 2,000	4,500	C	1

### Ceramic oxide grain (CO)

4	5/8	7/8	3/4	1/2	84210	84211	-	84213	-	3,000 - 5,000	12,000	D	1
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### Included adapters



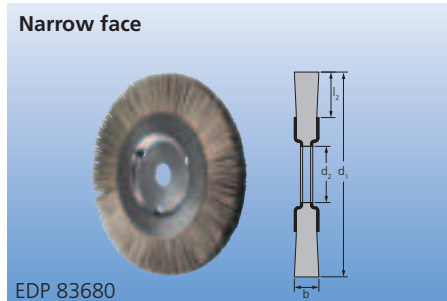
6" and 8" wide face wheel brushes include the following adapter sizes:

1-1/4", 1", 7/8", 3/4", 5/8", 1/2", 20 mm, 18 mm, 14 mm, 12 mm



# M-BRAD® abrasive filament power brushes

## M-BRAD® abrasive filament wheel brushes



Narrow face M-BRAD® wheels are used for deburring, edge radiusing, light cleaning, and polishing.

### Ordering note

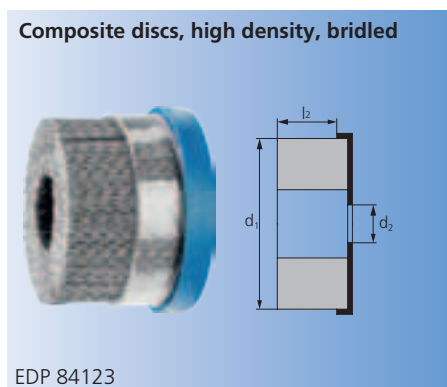
See pages 14-15 for listing of adapters.

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Diameter d <sub>1</sub> [Inches]	Arbor hole d <sub>2</sub> [Inches]	Trim length l <sub>2</sub> [Inches]	Face width b [Inches]	Included adapter [Inches]	Filament dimensions, grit size and EDP number				Recom. speed [RPM]	MSFS max. [RPM]	Adapter style	
					.040 dia. 80 grit	.040 dia. 120 grit	.035 dia. 180 grit	.022 dia. 320 grit				
Silicon carbide grain (SiC)												
3	1/2	1/2	1/2	3/8	83670	-	83671	83672	3,000 - 5,000	20,000	D	10
4	5/8	3/4	3/4	1/2	83680	83681	83682	83683	3,000 - 5,000	12,500	D	10

## M-BRAD® abrasive filament disc brushes



M-BRAD® composite disc brushes are designed for aggressive deburring in CNC and robotic machines.

Bridle reduces filament flare during use. The bridle increases brush aggressiveness for applications where larger burrs need attention.

For deburring, honing, edge radiusing, light cleaning, and polishing.

### Ordering note

For information on drive arbors, see pages 14-15.

Made in the USA.



Diameter d <sub>1</sub> [Inches]	Arbor hole d <sub>2</sub> [Inches]	Trim length l <sub>2</sub> [Inches]	Filament dimensions, grit size and EDP number					Recom. speed [RPM]	MSFS max. [RPM]	
			Rectangular .045 x .090 80 Grit	Round crimped						
				.040 dia. 80 Grit	.040 dia. 120 Grit	.022 dia. 120 Grit	.022 dia. 320 Grit			
Silicon carbide grain (SiC) – bridled										
3	7/8	1-1/2	84121	84120	84122	84123	84125	1,200 - 2,000	4,500	1
4	7/8	1-1/2	84129	84128	84130	-	84131	1,400 - 2,300	3,500	1
5	7/8	1-1/2	84135	84134	84136	-	84137	1,200 - 2,000	3,000	1
6	7/8	1-1/2	84141	84140	84142	-	84143	1,000 - 1,600	2,500	1
8	7/8	1-1/2	84147	84146	84148	-	84149	500 - 800	1,800	1
9	7/8	1-1/2	83917	-	-	-	-	400 - 700	1,500	1
Ceramic oxide grain (CO) – bridled										
3	7/8	1-1/2	-	84231	84232	-	-	1,200 - 2,000	4,500	1
4	7/8	1-1/2	-	84236	84237	84238	-	1,400 - 2,300	3,500	1
5	7/8	1-1/2	-	84241	-	-	-	1,200 - 2,000	3,000	1
6	7/8	1-1/2	-	84246	-	-	-	1,000 - 1,600	2,500	1





# M-BRAD® abrasive filament power brushes

## M-BRAD® abrasive filament disc brushes



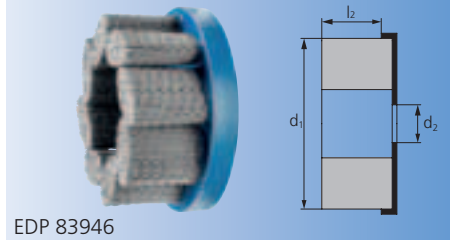
M-BRAD® composite disc brushes are ideal for automatic deburring applications where magnetic conveyors are used. Standard density style provides better air and coolant flow.

Rectangular filament M-BRAD® composite disc brushes offer a more aggressive deburring action than round filament brushes.


Made in the USA.



### Composite discs, standard density, round filament



EDP 83946

Diameter  d <sub>1</sub> [Inches]	Arbor hole d <sub>2</sub> [Inches]	Trim length l <sub>2</sub> [Inches]	Filament dimensions, grit size and EDP number						Recom. speed [RPM]	MSFS max. [RPM]	
			Rectangular		Round crimped						
			.045 x .090 80 grit	.045 x .090 120 grit	.040 dia. 80 grit	.040 dia. 120 grit	.035 Dia. 180 grit	.022 dia. 320 grit			

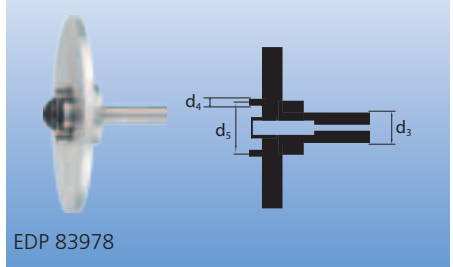
### Silicon carbide grain (SiC)

3	7/8	1-1/2	83966	83967	83941	83942	83943	83944	1,200 - 2,000	4,500	1
4	7/8	1-1/2	83968	83969	83945	83946	83947	83948	1,400 - 2,300	3,500	1
6	7/8	1-1/2	83970	83971	83949	83950	83951	83952	1,000 - 1,600	2,500	1
8	7/8	1-1/2	83972	83973	83953	83954	83955	83956	500 - 800	1,800	1
10	7/8	1-1/2	83974	83975	83957	83958	83959	83960	350 - 600	1,340	1



These drive arbors are designed for mounting composite disc brushes on automatic deburring equipment.

### Drive arbors



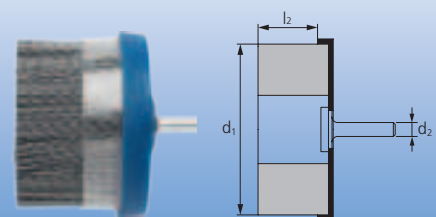
EDP 83978

Suitable for brush diameter [Inches]	Shank diameter $d_3$ [Inches]	No. of drive pins	Drive pin dia. $d_4$ [Inches]	Bolt circle dia. $d_5$ [Inches]	EDP number	
3-4	3/4	2	1/4	1-1/4	83982	1
5-6	3/4	2	1/4	1-1/4	83983	1
7-8	3/4	3	1/4	3	83984	1
9-10	3/4	3	1/4	3	83985	1
3-4	1	2	1/4	1-1/4	83978	1
5-6	1	2	1/4	1-1/4	83979	1
7-8	1	3	1/4	3	83980	1
9-10	1	3	1/4	3	83981	1

# M-BRAD® abrasive filament power brushes

## M-BRAD® abrasive filament disc brushes

### Composite mounted discs, bridled



EDP 84264

These M-BRAD® composite mounted discs are ideal for flat surfaces with holes and low projections. Especially effective on aluminum, cast iron, brass, copper and hardened steels. Bridle reduces filament flare during use. The bridle increases brush aggressiveness for applications where larger burrs need attention.

The ceramic oxide grain brushes are recommended for larger burrs on steel parts.

#### Recommendation for use

Recommended for CNC and robotic machines.

Made in the USA.

PFERDERGONOMICS®




Vibration Filter

PFERDEFFICIENCY®



Time Saving



Diameter $d_1$ [Inches]	Stem dia. $d_2$ [Inches]	Trim length $l_2$ [Inches]	Filament dimensions, grit size and EDP number					Recom. speed [RPM]	MSFS max. [RPM]	
			Rectangular .045 x .090 80 grit	Round crimped .040 dia. 80 grit	.040 dia. 120 grit	.022 dia. 120 grit	.022 dia. 320 grit			

#### Silicon carbide grain (SiC) – bridled

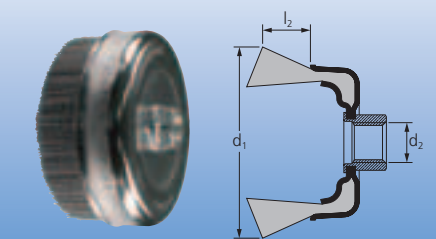
2	1/4	1-1/2	84250	84251	84252	84253	84254	1,500 - 3,500	5,000	1
2-1/2	1/4	1-1/2	84255	84256	84257	-	84259	1,500 - 3,500	5,000	1
3	1/4	1-1/2	84260	84261	84262	-	84264	1,500 - 3,500	5,000	1

#### Ceramic oxide grain (CO) – bridled

2	1/4	1-1/2	-	84270	84271	-	-	1,500 - 3,500	5,000	1
2-1/2	1/4	1-1/2	-	84275	-	84279	-	1,500 - 3,500	5,000	1
3	1/4	1-1/2	-	84280	84281	-	-	1,500 - 3,500	5,000	1

## M-BRAD® abrasive filament cup brushes

### External nut



EDP 83821


Designed for use on hand-held right-angle tools or stationary machine spindles. Ideal for flat surfaces with numerous holes and low projections. Cup brushes are especially effective on aluminum, cast iron, brass, copper and hardened steels.

#### Recommendation for use

Suitable tool drives: stationary machines, variable speed angle grinders.

Made in the USA.



Diameter $d_1$ [Inches]	Thread size $d_2$	Trim length $l_2$ [Inches]	Filament dimensions, grit size and EDP number				Recom. speed [RPM]	MSFS max. [RPM]	
			.040 dia. 80 grit	.040 dia. 120 grit	.035 Dia. 180 grit	.022 dia. 320 grit			

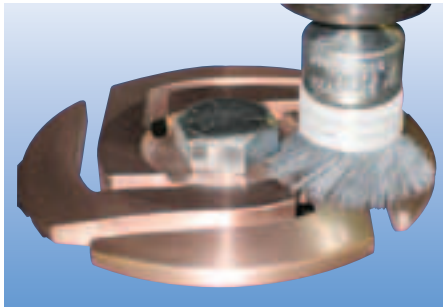
#### Silicon carbide grain (SiC)

3-1/2	5/8-11	7/8	-	83810	83811	-	3,000 - 5,000	12,000	1
4	5/8-11	1	83813	83814	83815	83817	1,500 - 2,500	6,000	1
6	5/8-11	1-1/4	83821	83822	83823	83825	1,500 - 2,000	5,000	1



# M-BRAD® abrasive filament power brushes

## M-BRAD® abrasive filament stem mounted end brushes



M-BRAD® end brushes are used for cleaning and deburring bottoms and insides of mold cavities, bore holes and irregular small areas. Plastic bridles reduce trim length, increasing aggressiveness and reducing flare.

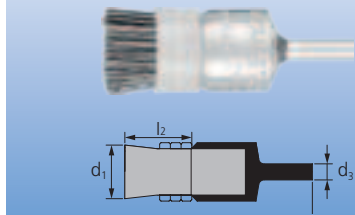
Trim length is 1/2" with bridle, 1" without bridle.

### Recommendation for use


If desired, bridles may be removed to achieve more filament flaring, resulting in a wider brushing surface.

Made in the USA.

### End brushes, bridled



EDP 83990

Diameter  d <sub>1</sub> [Inches]	Shank dia. d <sub>3</sub> [Inches]	Trim length l <sub>2</sub> [Inches]	Filament dimensions, grit size and EDP number					Recom. speed [RPM]	MSFS max. [RPM]	
			.040 dia. 80 grit	.040 dia. 120 grit	.035 dia. 180 grit	.022 dia. 120 grit	.022 dia. 320 grit			
Silicon carbide grain (SiC)										
1/2	1/4	1/2, 1	-	83996	-	-	83988	5,200 - 9,000	20,000	10
3/4	1/4	1/2, 1	-	84000	83990	-	83991	5,200 - 9,000	20,000	10
1	1/4	1/2, 1	-	84004	84005	-	83994	5,200 - 9,000	20,000	10
Ceramic oxide grain (CO)										
1	1/4	1/2, 1	84310	84311	-	84313	-	5,200 - 9,000	20,000	10

## M-BRAD® abrasive filament tube brushes



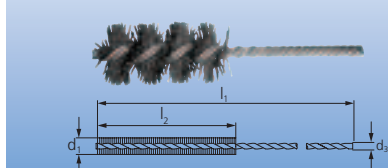
PFERD's M-BRAD® tube brushes have a non-destructive cutting action, are non-destructive to the part, and will not alter bore dimensions.

### Recommendation for use

Recommended for conditioning internal bore holes or tubes as well as cleaning threads and burrs at cross-holes. Side action removes sharp edges and corners, as well as burrs produced when drilling cross-holes.

Made in the USA.

### Double stem, single spiral



EDP 84040

Diameter d <sub>1</sub> [Inches]	Stem dia. d <sub>3</sub> [Inches]	Brush part length l <sub>2</sub> [Inches]	Overall length l <sub>1</sub> [Inches]	Filament dimensions, grit size and EDP number			
				.040 dia. 80 grit	.040 dia. 120 grit	.022 dia. 320 grit	
Silicon carbide grain (SiC)							
1/4	5/32	2	5	-	-	84011	10
5/16	5/32	2	5	-	-	84012	10
3/8	5/32	2	5	-	-	84013	10
7/16	5/32	2	5	-	-	84014	10
1/2	3/16	2	5	-	-	84018	10
5/8	7/32	2	5	-	-	84022	10
3/4	1/4	2-1/2	5-1/2	84024	84025	84027	10
7/8	1/4	2-1/2	5-1/2	84032	-	-	10
1	1/4	2-1/2	5-1/2	84040	84041	84043	10
1-1/4	1/4	2-1/2	5-1/2	-	84050	-	10
1-1/2	1/4	2-1/2	5-1/2	-	84055	84057	10
1-3/4	1/4	2-1/2	5-1/2	84059	84060	84062	10
2	1/4	2-1/2	5-1/2	-	84064	84066	10

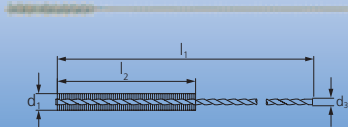


# M-BRAD® abrasive filament power brushes

## M-BRAD® abrasive filament tube brushes



### Microabrasive




EDP 84077

Microabrasive tube brushes are effective in removing sharp cross-hole burrs, metal sliver residues and sharp corners that result from drilling close-tolerance hard metallic and non-metallic parts. Cleaning and very light deburring will not alter critical dimensions or hole geometry.

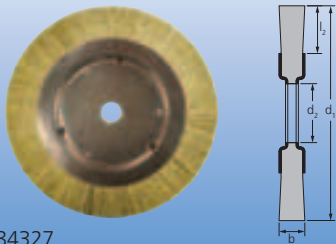
Made in the USA.



Diameter d <sub>1</sub> [Inches]	Stem dia. d <sub>3</sub> [Inches]	Brush part length l <sub>2</sub> [Inches]	Overall length l <sub>1</sub> [Inches]	For hole diameters			EDP number	
				[Inches]	[Decimal]	[mm]		
2,000 grit aluminum silicate .008" filament								
.030	.015	1/2	4	1/32	0.029	0.787	84071	10
.050	.022	1/2	4	3/64	0.047	1.191	84072	10
.075	.033	3/4	4	1/16	0.063	1.588	84073	10
.090	.041	3/4	4	5/64	0.078	1.984	84074	10
.105	.041	1	4	3/32	0.094	2.381	84075	10
.125	.064	1	4	7/64	0.109	2.778	84076	10
.135	.075	1	4	1/8	0.125	3.175	84077	10
600 grit aluminum oxide .012" filament								
.165	.087	1	5	5/32	0.156	3.962	84078	10
.190	.087	1	5	3/16	0.188	4.763	84079	10
.260	.115	1	5	1/4	0.250	6.350	84080	10
.325	.115	1	5	5/16	0.313	7.938	84081	10
.385	.147	1	5	3/8	0.375	9.525	84082	10
.515	.168	1	5	1/2	0.500	12.700	84083	10
.640	.168	1	5	5/8	0.625	15.870	84084	10

## Tampico wheel brushes

### Tampico wheels, untreated



EDP 84327

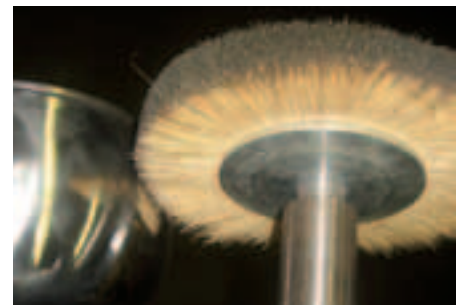
Tampico natural fibre provides highly effective dry or wet cleaning without compounds.


It is also highly effective for cleaning, finishing, burr and tool mark removal when used with buffing/polishing compound.

#### Ordering note

For drive arbors and adapters, please refer to pages 14-15.

Made in the USA.



Diameter d <sub>1</sub> [Inches]	Arbor hole d <sub>2</sub> [Inches]	Trim length l <sub>2</sub> [Inches]	Face width b [Inches]	Width on arbor [Inches]	Keyway dimensions [Inches]	EDP number	Recom. speed [RPM]	MSFS max. [RPM]	Adapter style	
						Untreated tampico filament				
Narrow face										
6	1-1/4	1-1/2	5/8	7/16	1/4 x 1/8	84324	1,500 - 2,500	6,000	A	1
8	1-1/4	1-5/8	5/8	5/8	1/4 x 1/8	84327	1,200 - 2,000	4,500	A	1
12	1-1/4	3-3/8	1	11/16	1/4 x 1/8	84332	900 - 1,500	3,600	A	1



Type 6.6 nylon filament for scrubbing and brushing contaminants from surfaces and low-abrasion cleaning. Excellent for light cleaning action with solution-dependent applications. These brushes may be used individually or gang-mounted to any desired width.

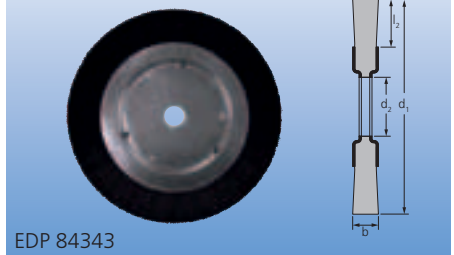
Highly abrasion resistant, highly chemical resistant, also heat stabilized.

### Ordering note


For drive arbors and adapters, please refer to pages 14-15.

Made in the USA.

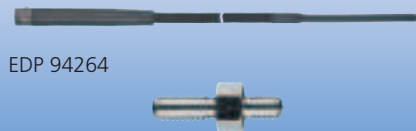
### Nylon filament wheels



EDP 84343

Diameter $d_1$ [Inches]	Arbor hole $d_2$ [Inches]	Trim length $l_2$ [Inches]	Face width $b$ [Inches]	Width on arbor [Inches]	Keyway dimensions [Inches]	Filament dia. and EDP number		Recom. speed [RPM]	MSFS max. [RPM]	Adapter style	
						.014 Nylon	.016 Nylon				
Small diameter copper centre											
2	1/2	1/2	3/8	7/32	-	84340	-	5,200 - 9,000	20,000	-	10
3	1/2	1	3/8	5/16	-	-	84343	5,200 - 9,000	20,000	F	10
Narrow face											
6	1-1/4	1-1/2	3/4	7/16	1/4 x 1/8	-	84344	1,500 - 2,500	6,000	A	2
8	1-1/4	1-7/8	3/4	5/8	1/4 x 1/8	-	84345	1,200 - 2,000	4,800	A	2

### Flexible shaft and threaded adapter (see "Power tools" catalogue (section 209))



EDP 94264

EDP 95810

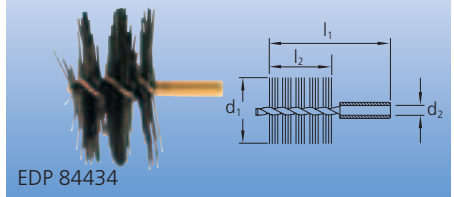
Threaded nylon tube brushes are designed for working the inside surfaces of tubes, pipes and pipe bends.

Recommended for removing sand casting residue and other debris from inside surfaces, and light cleaning of stainless steel pipe ID for pharmaceutical and food industry.


For more information on flexible shafts and adapters, see our "Power tools" catalogue (section 209).

Made in the USA.

### Nylon threaded tube brush for use with flexible shafts



EDP 84434

Brush diameter $d_1$		Brush length $l_2$	Overall length $l_1$	Thread size $d_2$	For pipe I.D.	Filament dia. and EDP number	Recom. speed	For use with flexible shaft EDP	Use with threaded adapter EDP	
[Inches]	[mm]	[Inches]	[Inches]		[Inches]	.018 Nylon	[RPM]			
1	25	1/2	1-5/16	8-32	3/4	84430	750 - 2,000	94264, 94274	95810, 95811	10
1-1/4	32	1/2	1-5/16	8-32	1	84432	750 - 2,000	94264, 94274	95810, 95811	10
1-3/4	44	1/2	1-5/16	8-32	1-1/2	84434	750 - 2,000	94264, 94274	95810, 95811	10
2-1/4	57	1/2	1-5/16	8-32	2	84436	750 - 2,000	94264, 94274	95810, 95811	10
2-3/4	69	1/2	1-5/16	8-32	2-1/2	84438	750 - 2,000	94264, 94274	95810, 95811	10
3-1/4	82	1/2	1-5/16	8-32	3	84440	750 - 2,000	94264, 94274	95810, 95811	10

# M-BRAD® abrasive filament power brushes

## Drive arbors and adapters



Brush adapters	Style	Brush type	Fits brush arbor hole [Inches]	Brush keyways	Adapter I.D. [Inches]	Keyways in adapter	EDP number	
	<b>A</b>	Crimped narrow face Narrow face M-BRAD®	1-1/4	1/4 x 1/8 (2)	1/2	1/8 x 3/32 (2)	84605	1 pr.
			1-1/4	1/4 x 1/8 (2)	5/8	3/16 x 1/8 (2)	84606	1 pr.
			1-1/4	1/4 x 1/8 (2)	3/4	3/16 x 1/8 (2)	84607	1 pr.
			1-1/4	1/4 x 1/8 (2)	7/8	3/16 x 1/8 (2)	84608	1 pr.
			1-1/4	1/4 x 1/8 (2)	1	1/4 x 5/32 (2)	84609	1 pr.
	<b>C</b>	Crimped medium face	2	None	1/2	None	84628	1 pr.
			2	None	5/8	None	84629	1 pr.
			2	None	3/4	None	84630	1 pr.
		Crimped wide face M-BRAD® composite wheels	2	None	7/8	None	84631	1 pr.
			2	None	1	None	84632	1 pr.
			2	None	1-1/4	None	84633	1 pr.
			2	None	1-1/2	None	84634	1 pr.
	<b>D</b>	3 - 6" wheel brushes (3/32" thickness)	3/8	None	1/4	None	84600	10 pcs.
			1/2	None	1/4	None	84601	10 pcs.
			1/2	None	3/8	None	84602	10 pcs.
			5/8	None	1/2	None	84603	10 pcs.
	<b>E</b>	EZmount®	2	None	1, 3/4, 5/8, 1/2	None	84615	1 pcs.
	<b>F</b>	Small diameter copper centre wheels (5/32" thickness)	5/8	None	1/2	None	84636	10 pcs.
			5/8	None	3/8	None	84637	10 pcs.
			5/8	None	1/4	None	84638	10 pcs.
			1/2	None	3/8	None	84639	10 pcs.
			1/2	None	1/4	None	84640	10 pcs.
			3/8	None	1/4	None	84641	10 pcs.
	<b>G</b>	Composite wheel brush (3/8 thickness)	4-1/4	None	2	1/2 x 1/4 (2)	84670	1 pair
			5-1/4	None	2	1/2 x 1/4 (2)	84671	1 pair
	<b>H</b>	Knot wheel brushes (7/32 thickness)	1-1/4	1/4 x 1/8 (2)	3/4	3/16 x 1/8 (2)	84612	1 pr.
			1-1/4	1/4 x 1/8 (2)	7/8	3/16 x 1/8 (2)	84613	1 pr.
			1-1/4	1/4 x 1/8 (2)	1	3/16 x 1/8 (2)	84614	1 pr.
	<b>K</b>	Medium and wide face brushes	2	None	1-1/4, 1, 7/8, 3/4, 5/8, 1/2	None	84665	1 pcs.
			2	None	1-1/4, 20 mm, 18 mm, 14 mm, 12 mm	None	84666	1 pcs.



For mounting wheel brushes up to 4" in diameter.

### Chuck type

Countersunk head tightening-screw fits into a recessed flange washer for locking power. Allows brushes to reach edges without interference from arbor overhang. Change brush without removing arbor from collet. Unthreaded shoulder.

### Flat head type

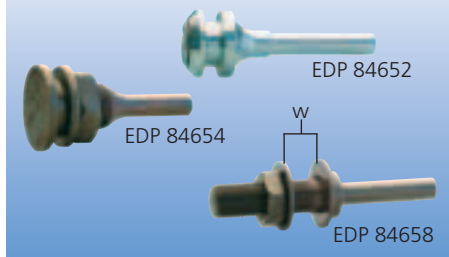
Brush mounts between a single washer and the flat head. Locked in place with a reverse-threaded nut. Allows the brush to be close to the workpiece. Threaded shoulder.


### Nut type

Nut can be removed to replace worn brush while arbor stem remains in chuck.

For spindle extensions for stem mounted brushes, see our "Power tools" catalogue (section 209).

### Drive arbors for wheel brushes

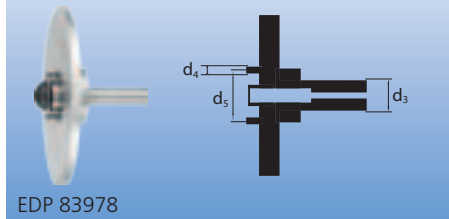



Fits brush ID [Inches]	Clamping width w [Inches]	Shank dia. [Inches]	Head/flange dia. [Inches]	Overall length [Inches]	EDP number	
<b>Chuck type</b>						
1/4	3/16 to 3/8	1/4	9/16	2-1/8	84650	5
3/8	3/16 to 3/8	1/4	11/16	2-1/8	84651	5
1/2	3/16 to 3/8	1/4	3/4	2-1/8	84652	5
<b>Flat head type</b>						
3/8	0 to 1/2	1/4	3/4	1-5/8	84654	5
1/2	0 to 1/2	1/4	15/16	1-7/8	84655	5
1/2, 5/8	1/8 to 1/2	1/4	15/16	1-7/8	84656	5
<b>Nut type</b>						
1/4	Up to 7/8	1/4	5/8	2-1/2	84657	5
3/8	Up to 7/8	1/4	3/4	2-1/2	84658	5
1/2	Up to 1/4	1/4	7/8	1-3/4	84659	5





These drive arbors are designed for mounting composite disc brushes on automatic deburring equipment.

### Drive arbors for M-BRAD® disc brushes



Suitable for brush diameter [Inches]	Shank diameter d <sub>3</sub> [Inches]	No. of drive pins	Drive pin dia. d <sub>4</sub> [Inches]	Bolt circle dia. d <sub>5</sub> [Inches]	EDP number	
3-4	3/4	2	1/4	1-1/4	83982	1
5-6	3/4	2	1/4	1-1/4	83983	1
7-8	3/4	3	1/4	3	83984	1
9-10	3/4	3	1/4	3	83985	1
3-4	1	2	1/4	1-1/4	83978	1
5-6	1	2	1/4	1-1/4	83979	1
7-8	1	3	1/4	3	83980	1
9-10	1	3	1/4	3	83981	1

Minigrinder adapter insert	Fits brush thread	Fits tool spindle thread	EDP number	
 EDP 84646	5/8-11	M10x1.25	84645 P	5/5
	5/8-11	M10x1.50	84646 P	5/5
	5/8-11	3/8-24	84647 P	5/5

