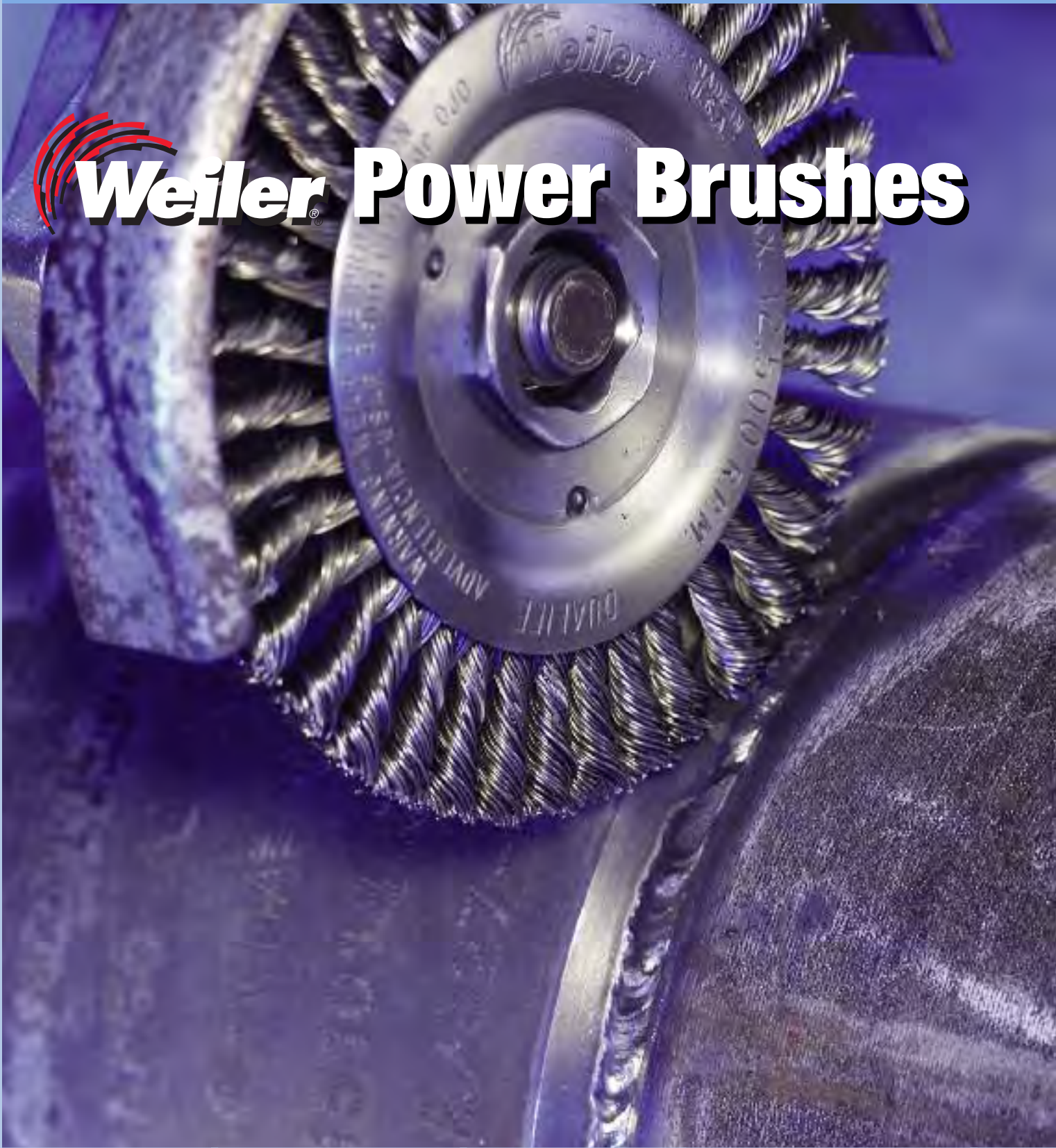




Weiler® Power Brushes



Power Brushes





- Knot Wire Wheels

New!

- Weld Cleaning Brushes

Dually® Line of Flip 'N Fast Wheels!

- Crimped Wire Wheels

- Nylon and Tampico Wheels

- Cup Brushes

New!

- Small Angle Grinder Brushes

*Roughneck® Jr. 4-1/2" Stringer Bead
& 2-3/4" Hurricane Twist Cups!*

- End Brushes

- Miniature Brushes

- Crosshole Deburring Brushes

*Exclusive Bore-Rx™ Internal Deburring
Tools for Automated Use!*

- Power and Hand Tube Brushes

- Non-Sparking Brushes

- Strip Brushes

- Wide Face Brushes

**Knowledgeable and Responsive
Customer Service Team:**

800-835-9999

**Application Engineering Support:
888-299-APPS (2777)**

Interactive Website: www.weilercorp.com



Solutions Showcase

Tube End Deburring

Problem: Structural tubing is fabricated into an abundance of different forms. In order to facilitate safer handling and proper fit, the ends of the tubing must frequently be deburred.

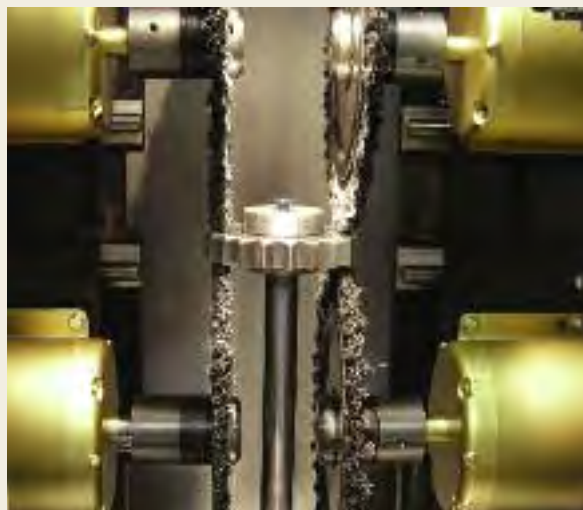
Solution: Wide face crimped wire wheel brushes are an extremely effective solution for tube end deburring. Brushes can deburr the OD and ID of tubing at an extremely high rate and produce a media-cost-per-part of considerably less than \$0.01 per part.



Gear Deburring

Problem: Power transmission components like gears cannot function properly when burrs prevent correct engagement. Further, burrs which become detached from gears can become lodged in critical transmission components causing premature wear and potential failure.

Solution: Knot wire wheel brushes with surface speed in excess of 6000 SFPM are an excellent solution for deburring gears prior to heat treatment. The high energy filament tips are able to separate burrs from base material and produce a uniform edge break, which protects the edge of the gear.



Photos courtesy of On-Line Services.

Removal of Mill Scale

Problem: Mill processing of steel often involves heat treating and oil quenching operations that produce an adherent scale which must be removed prior to joining or finishing operations.

Solution: Wire brushes are capable of quickly cleaning material to white metal and producing varying degrees of surface roughening to promote adhesion. Brushing operations are often preferred over blasting and chemical processes which generate an expensive waste stream and can be costly to operate and maintain.



Solutions Showcase

Inter-Pass Pipeline Weld Cleaning



Before



After

Problem: To prevent voids and inclusions when welding multi-pass joints, the surface of each bead must be completely cleaned of slag and other residuals. Performing inter-pass weld cleaning as quickly and as thoroughly as possible is critical to avoiding costly repair work and delays.

Solution: Weiler's Roughneck® and Dually® stringer bead wheels have been engineered to maximize efficiency and minimize costs and are the preferred choice of welders' helpers on the pipeline. From hot pass to cap pass, these premium weld cleaning brushes excel at quickly and thoroughly removing slag, spatter, and oxidation without damaging the filler material.

Cleaning Threaded Connections



Before



After

Problem: The box ends of drill string and other oilfield tubular goods are examples of connections that must be periodically cleaned without altering the geometry of the threads. Abrasive products all remove base material to some extent, and are capable of damaging threads, resulting in unreliable connections and the risk of potential failures.

Solution: The conformability and impact action of small diameter crimped wire wheels make them ideal tools for cleaning threads without fear of damage. When used on a high-speed die grinder, these radial wheel brushes quickly remove residual dope as well as rust, corrosion and scale from male or female thread ends.

Removal of Excess Molded Rubber



Before



After

Problem: Mechanical rubber components such as motor mounts are produced through a process that commonly leaves flash and excess rubber on critical surfaces. In order for the component to function properly, this unwanted material must be removed.

Solution: The non-loading nature of wire brushes makes them the best available solution in the marketplace for removal of rubber from targeted surfaces. This solution can be implemented off-hand or using automated equipment.

Power Brush Technical Information

Operational Advantages of Power Brushes

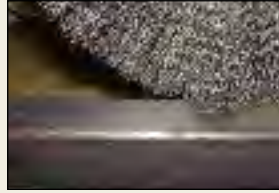
Power Brushes Do Not Remove Base Material

Unlike bonded and coated abrasive products, power brushes have the ability to clean hard surfaces without removing base material. The impact action of the sharp, hardened wire tips of a rotating brush behave in the same manner as the media in a blasting operation and they have the same ability to separate surface contaminants without damaging the substrate.

Grinding Wheel



Wire Wheel



Due to its compliant nature, a power brush focuses more of this mechanical energy on edges. This makes it an ideal tool for removing burrs and blending sharp edges without changing overall part dimensions after sawing, cutting, grinding and machining operations.

Power Brushes Do Not Load

Unlike bonded, coated and non-woven abrasive products, power brushes will not load when used on softer materials or when removing paint or similar coatings from a harder surface. Because a power brush consists of a collection of individual wire filaments, there is no place for debris to accumulate and prevent the sharp wire tips from striking the work.

Resin Fiber Disc

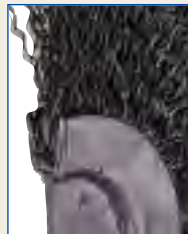


Cup Brush



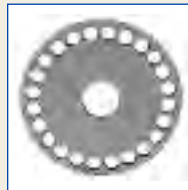
As a power brush is used, the wire tips will naturally tend to wear to a point due to contact with the working surface. It is possible to take advantage of this self-sharpening action by periodically switching the mounting position of wheel brushes to maintain their speed and effectiveness.

Construction Advantages of Weiler Power Brushes



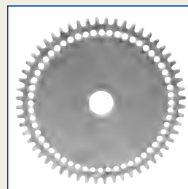
Weiler's Solid Ring Construction

Our crimped wire brushes are constructed using solid rings to retain the fill material and our manufacturing process results in an even, consistent distribution of wire strands around the entire brush diameter. This ensures that our crimped wire products run smoother and last longer than the competition – even in the toughest applications.



Weiler's Individual Knot Hole Construction

Weiler's knot wheels are constructed with an internal steel plate that has equally spaced individual holes around the perimeter. Wire is inserted through each hole and twisted into a knot. Each hole has precisely the same wire count, thereby assuring perfect balance. This eliminates vibration, reduces operator fatigue and increases brush life.



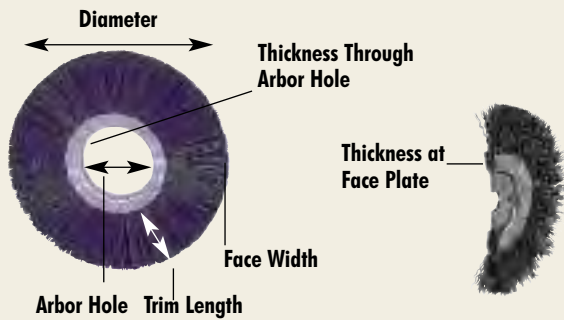
Weiler's Roughneck® Weld Cleaning Brushes Construction

Each knot is twisted through its own hole and locked into an individual sprocket tooth. This prevents the knots from moving, providing a stronger striking action on the work surface, longer brush life and less operator fatigue. This results in the most aggressive weld cleaning in the market with the lowest cost-per-piece brushed.

Power Brush Technical Information

Product Attributes

Wheel Brush



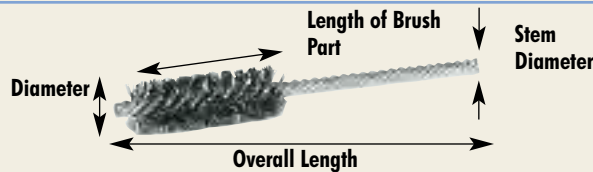
Cup Brush



Stem-Mounted End Brush



Tube Brush



Fill Materials

Steel Wire - Carbon steel wire is typically the most durable power brush fill material for metalworking and heavy-duty cleaning applications. **Weiler industrial grade brushes** utilize heat treated, high tensile steel wire that has been drawn to the most exacting industry standards for superior fatigue resistance and aggressive brushing action. **Vortec Pro® professional grade brushes** utilize more cost-effective grades of steel wire to deliver reliable performance in less demanding applications.

Stainless Steel Wire - Stainless steel wire is only recommended when brushing corrosion-resistant or non-ferrous metals such as stainless or aluminum or when the brush is being used in a wet environment. Stainless steel wire is not any more durable or aggressive than the highest grades of steel wire. All Weiler stainless steel brushes are manufactured with Type 302 stainless wire, but select items are also available with Type 316 wire by special order.

Non-Ferrous Wire - Brass, bronze and aluminum wire are available in assorted Weiler industrial grade power brush items. These non-ferrous materials will not generate a spark in use, but they lack the durability of carbon steel and stainless steel wire. Due to their soft brushing action, these materials may also be used in special applications such as decorative finishing.

Animal Hair - Natural hair bristle is used primarily in miniature power brushes for scratch-free cleaning and polishing. Depending on the animal species and type of hair, this fill material can range from relatively stiff to relatively soft, making it suitable for a variety of applications from removing dust from optical lenses to buffing precious metals using abrasive compounds.

Vegetable Fiber - Tampico, a natural fiber produced from the Mexican agave plant, is a common natural fill material used in wet scrubbing and cleaning applications as well as buffing and polishing metals. It is heat, alkali and acid resistant. Its natural color is off-white but it may be dyed or bleached.

Synthetic - Nylon is typically the most durable synthetic bristle material for use in power brushes and can be used in a variety of applications due to its flexibility, high fatigue strength and resistance to abrasion, heat, acids and alkalis. Polypropylene is less durable and used primarily in strip brushes.

Special Information On Stainless Steel Brushes

As noted above, Weiler's complete offering of stainless steel wire brushes is manufactured using wire drawn from Type 302 stainless steel. Although 302 stainless is typically a non-magnetic material, it is important to remember that the amount of cold-working that it experiences during the wire-drawing process causes it to become magnetic. For this reason, proper storage and handling of stainless steel brushes is critical to prevent cross-contamination and "after rust" issues.

Type 302 is widely used in the manufacture of power brushes for its relative durability and aggressive action as well as for its austenitic properties which insure the corrosion resistance of the materials on which it is applied. The use of a different grade of stainless steel wire is typically required in critical weld preparation and cleaning applications, but it will not address "after rust" and other cross-contamination issues. To insure the corrosion resistance of any stainless steel surface after brushing, passivating it with a 10-20% solution of nitric acid is recommended.

Power Brush Technical Information

Product Selection

Weiler Industrial Grade Products

Engineered and manufactured to maximize performance and minimize operating costs in the most demanding surface conditioning applications. The use of superior construction, the highest quality materials and the most stringent manufacturing processes deliver the lowest cost-of-use and most consistent performance in heavy production environments.

Weiler Vortec Pro® Professional Grade Products

Manufactured using similar product construction and to the same exacting standards as other Weiler power brushes, but engineered to provide cost-effective use in less demanding environments. Vortec Pro brushes are an economical choice for the construction trades, low volume production shops and light duty industrial MRO use.

Crimped vs. Knot Wire Brushes

Crimped Wire Brushes:

- Made with wire that is crimped to allow individual filaments to support each other.
- Provide flexibility for light to medium duty brushing action.
- Use on parts that could be damaged by the impact of a knot brush.
- Use for a broad range of applications.

Knot Wire Brushes:

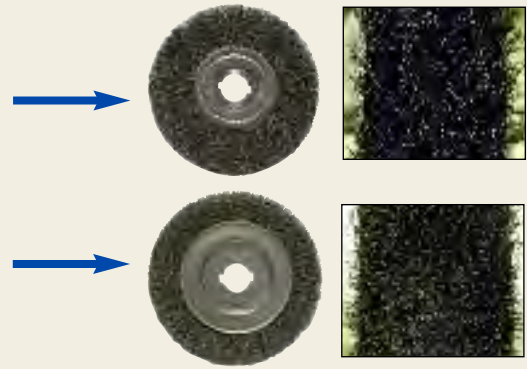
- Made with straight wire filaments that are twisted as a single unit like a piece of cable or wire rope.
- Provide less flexibility and more aggressive brushing action in heavy-duty applications.
- Use on parts requiring high-impact action.
- Use to remove large burrs and heavy contamination, such as multiple layers of rust, scale, paint or oxides.

Trim Length and Fill Density

Longer trim, lower density brushes offer a greater degree of flexibility that is ideal for applications such as cleaning surfaces which are somewhat irregular. However, the lower fill density can result in shorter brush life and less consistent performance in production environments.

Shorter trim, higher density brushes are less flexible and work with a faster action which requires less applied pressure or engagement with the brush face. This produces more consistent performance and longer life in applications such as edge deburring.

To maximize brush life and reduce costs, always use the shortest trim, highest density brush that will adequately conform to the surface or part edges.



Knot Configurations



Standard Twist: A slight tuft at the end of the wire knot provides some flexibility for use on irregular surfaces.



Cable Twist: The wire is tightly twisted to the end of the knot, providing very aggressive brushing action.



Stringer Bead Twist: The wire is very tightly twisted to the end of the knot, creating a narrow face with high-impact action, primarily used for weld cleaning.



Hurricane Twist: A flattened, dull knot end allows the brush to last longer and provide smoother operation but sacrifices much of the cutting action of the other knot types.



Power Brush Technical Information

Wire Size

Wire	Coarse		Medium to Coarse		Medium		Fine		Very Fine	
Gauge #	20	24	25	30	33	34	35	38	43	47
Dia. in Inches	.035	.023	.020	.014	.0118	.0104	.0095	.008	.006	.005
Dia. in Millimeters	0,89	0,58	0,51	0,36	0,30	0,26	0,24	0,20	0,15	0,13

Wire sizes in decimals of an inch are shown in all tables throughout this catalog. American Steel Wire Equivalent Gauge (Formerly Washburn & Moen)

Larger diameter wire produces a more aggressive brushing action due to its stiffness, but it also fatigues and breaks much more quickly.

Smaller diameter wire can resist fatigue and breakage longer, but it produces a less aggressive and more flexible brushing action.

To maximize brush life and reduce costs, always use the finest wire that will accomplish the job without requiring excessive applied pressure or engagement with the brush face.

Polyflex® Encapsulated Brushes are suitable for extremely demanding applications which do not require a high degree of conformability. They are especially well-suited for users with the following types of requirements:

- **Extreme brushing pressure** - Encapsulation protects wires from over-flexing and extends brush life relative to conventional knot and crimped wire brushes.
- **Severe cleaning operations** - Encapsulation holds the wire tips rigidly in place and creates the most aggressive brushing action that can be achieved with a wire brush.

In order to optimize the performance of encapsulated brushes, selection of the correct elastomer is critical. The following is a description of the three types of elastomers and their performance attributes.

Burgundy (Standard)

General purpose elastomer; suitable for most manufacturing applications.



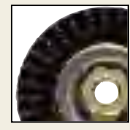
Orange (Heavy-Duty)

A more heavy-duty elastomer than burgundy; used for more demanding applications.



Black (Extra Heavy-Duty)

A heat stabilized elastomer that does not wear easily; used primarily for cleaning welds.



Product Selection Chart:

	Cleaning Surface Prep Roughening Weld Cleaning Remove Oxides & Rust	Surface Finishing (Functional, Aesthetic, Decorative, Satin)	Heavy Deburring	Light Deburring & Edge Blending	Deflashing
Crimped Wheels	● ● ●	● ●		● ● ●	
Knot Wheels	● ● ●		● ● ●		● ● ●
Crimped Cups	●	●		●	
Knot Cups	●		●		
Crimped Stem-Mounted	● ●			● ●	
Knot Stem-Mounted	● ●		● ●		● ●
Encapsulated	● ● ● ● ●		● ● ● ● ●		● ● ● ● ●
Power & Hand Tube	●	●		●	
Miniature	●	●		●	

Product & Application Key



Power Brush Technical Information

Power Brush Operating Information

Brushing Speeds

- Power brushes, like cutting tools, operate most effectively when the speed and pressure of the operation are properly matched to the demands of the application. In most operations, the highest speed and lightest pressure will ensure the fastest brushing action and longest brush life.
- Increasing brush speed increases the face hardness and brushing action; therefore, a fine wire brush rotating at a higher speed will often produce the same results as a coarser wire brush rotating at a slower speed. Finer wire operating at a higher speed is generally preferred and will provide a longer brush life.

- MSFS - Maximum Safe Free Speed (RPM) is the maximum speed at which the brushes may be used safely but is not necessarily the optimum speed for a given application. Operating speed should be determined by the application. When running a wire brush, a rule of thumb is to run it a "mile a minute" or a minimum of 5,000 Surface Feet Per Minute (SFPM). However, never exceed the Maximum Safe Free Speed of the brush.
- Make sure spindle size and motor of machine are large enough to accommodate the diameter of brush to be used (see table on pg. 20).

Recommended Surface Speeds For Brushing Applications

$$SFPM = \frac{\pi \text{ Dia. (Inches)} \times RPM}{12}$$

Surface Feet Per Minute (SFPM)

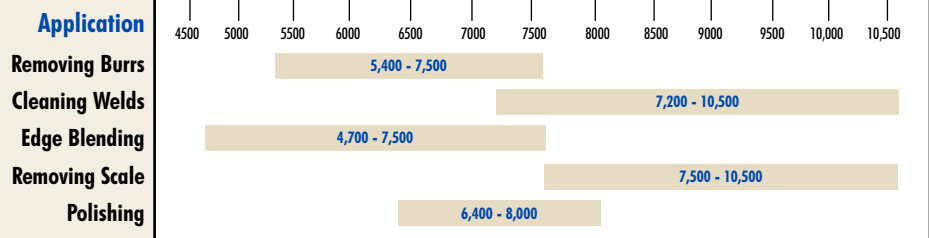


Table of Surface Speeds (Peripheral Speed in Ft./Min.)

RPM	Diameter (Inches)							
	2	3	4	6	8	10	12	15
1000	525	785	1,050	1,575	2,100	2,625	3,150	3,925
1500	785	1,175	1,575	2,350	3,150	3,925	4,725	5,900
1750	915	1,375	1,850	2,750	3,650	4,550	5,500	6,800
2500	1,300	1,950	2,625	3,925	5,250	6,550	7,850	9,825
3000	1,575	2,350	3,125	4,725	6,275	7,850	9,425	11,775
3450	1,800	2,700	3,600	5,400	7,200	9,000	11,000	13,500
4000	2,100	3,150	4,175	6,275	8,375	10,475	-	-
6000	3,125	4,700	6,275	9,425	-	-	-	-
10,000	5,250	7,850	10,500	-	-	-	-	-
15,000	7,850	11,775	15,750	-	-	-	-	-
20,000	10,450	15,700	20,950	-	-	-	-	-

Example: A 6" diameter wheel running at 3,450 RPM has a surface speed of 5,400 SFPM.

Brushing Pressure

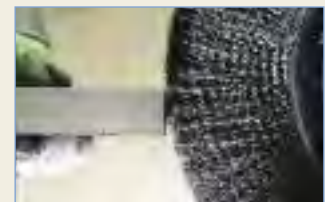
Avoid excessive pressure when using a wire brush. Excessive pressure causes over-bending of the filaments and heat build-up resulting in filament breakage, rapid dulling and reduced brush life.

Instead of greater pressure, try the following:

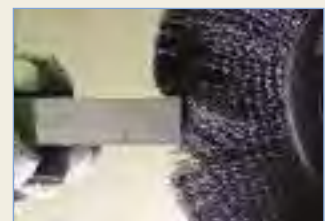
1. A brush with more aggressive action (increase filament diameter, decrease trim length, different brush type, i.e., knot type instead of crimped type)
2. Higher surface speed (increase RPM or brush diameter)

Important Note: Never exceed the recommended Maximum Safe Free Speed or RPM rating of the brush.

Correct
Wire Tips Doing the Work



Incorrect
Excessive Pressure Causes Wire Breakage



Power Brush Technical Information

Power Brush Operating Information

Minimum Recommended Spindle Diameter (from ANSI Standard B165.1)

Outside Dia. of Wheel Brush	Maximum Face Width of Wheel Brush	Minimum Outside Dia. of Spindle (Shaft)
2"	1/4"	1/4"
3"	3/4"	1/4"
3" (heavy-duty)	1"	3/8"
4"	1"	3/8"
6"	1-1/4"	1/2"
8"	1-1/4"	5/8"
10"	2"	3/4"
12"	3"	1"
14"	3"	1-1/4"
15"	3"	1-1/4"
16"	3"	2"

Note: These diameters are based on the wheel brush being mounted next to the supported end of the shaft rather than the unsupported end in order to minimize overhang.

Recommended Motor Sizes

Brush Diameter	Motor Size	RPM
4"	1/4 HP	3,450
6"	1/2 HP	3,450
8"	3/4 HP	3,450
10"	1 HP	1,750
12"	1 HP	1,750
15"	1-1/2 HP	1,750

Note: This chart is based on 1" brush face.

Arbor Hole Variation Table - For Weiler Industrial Grade Wheels

If an arbor hole size other than the size listed in the product table is required, change the last digit of the Item Number as indicated in the Table.

Arbor Hole Diameter	Change Last Digit of Item Number to:	Arbor Hole Features
1/2"-3/8"	4	Plastic Snap-Out Adapter
5/8"-1/2"	5	Plastic Snap-Out Adapter
5/8"-11 UNC	6	Threaded Nut (6", 7" & 8" Wheels Only)
5/8"	7	3", 4" & 6" Wheels Only
3/4"	8	—
7/8"	0 - 11	—
1"	0 - 12	1/4"*x 1/8"+ double keyway
1-1/4"	9	5/16"*x 5/32"+ double keyway
1-1/2"	0 - 13	3/8"*x 3/16"+ double keyway
1-3/4"	0 - 16	3/8"*x 3/16"+ double keyway
2"	0 - 14	1/2"*x 1/4"+ double keyway
2-1/4"	0 - 17	3/4"*x 3/8"+ double keyway
2-1/2"	0 - 15	1/2"*x 1/4"+ double keyway

* Width of keyway + Depth of keyway

Example: Item Number 01228 has a listed, standard size arbor hole of 3/4". If an 1-1/4" arbor hole is desired, drop the 8 from 01228 and add 9. The Item Number becomes 01229. If a 2" arbor hole is desired, drop the 8 from 01228 and add 0-14. The Item Number becomes 01220-14.

Self-Sharpening of Wire Wheel Brushes

When using wire wheel brushes without nuts, periodically reverse the direction of rotation to take advantage of the self-sharpening action that will result. Remove the brush from the spindle, flip the wire brush 180° and remount the brush securely.



Remove



Flip 180°



Remount Securely

Power Brush Technical Information

Power Brush Troubleshooting Guide

There are many variables in power brush applications. If the power brush you are using does not accomplish the desired results, select a solution from the suggestions below for your specific application or call Weiler's **Application Engineering Hotline at 888-299-2777**.

Problem	Recommended Solutions
Brush works too fast	<ul style="list-style-type: none"> • Select a brush with longer filaments and/or lower fill density • Select a brush with a smaller diameter wire • Select a brush with a narrower face and/or lower fill density • Select a brush with a smaller outside diameter • Operate the brush at a slower RPM
Brush works too slowly	<ul style="list-style-type: none"> • Select a brush with shorter filaments and/or higher fill density • Select a brush with a larger diameter wire • Select a brush with a wider face and/or higher fill density • Select a brush with a larger outside diameter • Operate the brush at a faster RPM
Brushing action rolls or peens the burr over instead of removing burr	<ul style="list-style-type: none"> • Select a brush with a larger diameter wire • Select a brush with shorter filaments and/or higher fill density • Operate the brush at a faster RPM • Replace the crimped wire brush with a knot wire brush
Finer final finish required	<ul style="list-style-type: none"> • Select a brush with longer filaments • Select a brush with a smaller diameter wire • Operate the brush at a higher RPM • Replace the wire brush with a nylon abrasive brush (Nylox®)
Coarser final finish required	<ul style="list-style-type: none"> • Select a brush with shorter filaments • Select a brush with a larger diameter wire • Operate the brush at a slower RPM
Non-uniform brushing action	<ul style="list-style-type: none"> • Select a brush with longer filaments • Select a brush with a larger diameter wire • Automate the operation to reduce human variables
Filaments break off	<ul style="list-style-type: none"> • Reduce applied pressure or engagement • Select a brush with a smaller diameter wire • Select a brush with a lower fill density
Short brush life	<ul style="list-style-type: none"> • Reduce applied pressure or engagement • Select a brush with a smaller diameter wire • Select a brush with a higher fill density



Call our Application Engineering Hotline at 888-299-APPS (2777). If the problem is too complex to be solved over the phone, we will determine if an evaluation should be conducted at our in-house lab or your facility. Either way, Weiler will provide the most cost-effective solution for your specific application.

Knot Wire Wheels with Arbor Hole

Knot Wire Wheels with Arbor Hole - Knot wire wheels with an arbor hole are intended for use on straight grinders and stationary machines such as bench or pedestal grinders and buffing lathes. Featuring Weiler's individual knot construction, these radial brushes are available in heat-treated steel, Type 302 stainless steel, and bronze wire for use in a wide variety of applications.

Applications

- Removing rust, scale and heavy corrosion
- Surface roughening and preparation
- Coating removal
- Removing excess molded rubber or plastic
- Heavy deburring

Standard Twist Wheels - Provide heavy-duty brushing action with some flexibility; Ideal for demanding cleaning applications on somewhat irregular surfaces.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
										Steel	Stainless
3"	.0118	1/2"-3/8"	20	3/8"	5/8"	1/2"	7/16"	25,000	10	08004	08254
	.014									08014 ■	08264
	.020									08024*	08274
4"	.0118	1/2"-3/8"	24	1/2"	7/8"	1/2"	7/16"	20,000	10	08034	08284
	.014									08044 ■	08294
	.020									08064	08314
4"	.014	5/8"-1/2"	24	1/2"	7/8"	7/8"	7/16"	20,000	10	08045	-
6"	.0118	5/8"-1/2"	24	1/2"	1-3/8"	1-1/4"	9/16"	9,000	10	08075	08325
	.014									08085 ■	-
	.016									08095	08345
	.023									08105	-
6"	.016	5/8"-1/2"	30	5/8"	1-1/4"	1-1/4"	5/8"	9,000	5	08975	-
7"	.014	5/8"	24	5/8"	1-7/8"	1-1/4"	9/16"	9,000	2	08835	-
8"	.0118	5/8"	38	5/8"	1-5/8"	2"	1/2"	6,000	2	08125	08375
	.014									08135	-
	.016									08145	08395
	.023									08155	-
8"	.014	3/4"	38	5/8"	1-5/8"	2"	1/2"	6,000	2	08138	-
10"	.014	3/4"	52	3/4"	1-3/4"	2-1/2"	3/4"	4,500	2	08178	-
10"	.0118	1-1/4"★	52	3/4"	1-3/4"	2-1/2"	3/4"	4,500	2	08169	-
	.014									08179	-
	.016									08189	-
12"	.0118	1-1/4"★	52	3/4"	2-3/4"	2-1/2"	11/16"	3,600	1	08199	-
	.014									08209	-
	.016									08219	-
12"	.014	2"◆	52	3/4"	2-3/4"	2-1/2"	11/16"	3,600	1	08200-14	-
12"	.020	1-1/4"★	56	5/8"	2-3/4"	3"	13/16"	4,500	2	09719	-
12"	.023	2"◆	66	3/4"	2-1/4"	3"	13/16"	5,000	2	09870	-
15"	.016	1-1/4"★	52	7/8"	4-1/4"	2-1/2"	3/4"	3,600	2	08249	-

★ 5/16" x 5/32" Double Keyway ◆ 1/2" x 1/4" Double Keyway

* Available in non-sparking bronze wire, see page 57 for details.

■ Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 170 for details.

Vortec Pro® Standard Twist Wheels - Provide an aggressive brushing action for general-purpose surface cleaning applications.



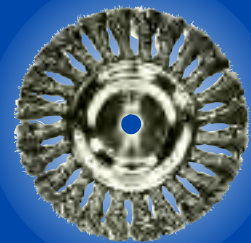
Dia.	Wire Size	Wire Type	Arbor Hole	Face Width	Max. RPM	Display Pack Item No.	Boxed Qty. Item No.
3"	.014" Fine	Carbon	1/2"-3/8"	Wide	25,000	-	36290
	.014" Fine					-	36291
4"	.014" Fine	Carbon	1/2"-3/8"	Wide	20,000	36026	36226
	.014" Fine					-	36293
	.020" Coarse					-	36294
6"	.014" Fine	Carbon	5/8"-1/2"	Wide	9,000	36027	36227
	.023" Coarse					-	36278
8"	.014" Fine	Carbon	5/8"	Wide	6,000	36028	36228
	.023" Coarse					-	36279



Removing rubber coating from a hydraulic hose.



08014



08085



08189



36228



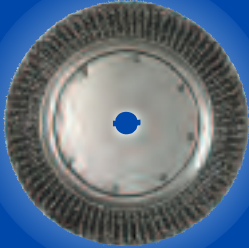
If a different arbor hole is required (than listed in the tables) refer to Arbor Hole Table shown on Pg. 20.

Knot Wire Wheels with Arbor Hole

Knot Wire Wheels with Arbor Hole

Standard Twist Wheels - High Density & Extra High Density - Engineered for maximum performance in production applications; for use on automated equipment such as dedicated gear deburring machines.

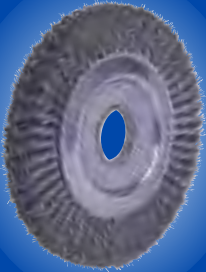
Automotive gear deburring using heavy-duty knot wheel brushes.



08339



09020



09480



94000

Knot Wire Wheels with Arbor Hole

Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Standard Pack	Item No. Steel
80 Knots								
14"	.0118	1-1/4"★	3/4"	2-1/2"	5/8"	5,000	2	08309
	.0118	2"◆						08300
	.014	1-1/4"★						08319
	.014	2"◆						08310
	.020	1-1/4"★						08339
	.020	2"◆						08330
15"	.0118	1-1/4"★	3/4"	3"	5/8"	5,000	2	09969
	.0118	2"◆						09960
	.014	1-1/4"★						09989
	.014	2"◆						09980
	.020	1-1/4"★						09999
	.020	2"◆						09990
90 Knots								
14"	.014	2"◆	3/4"	1-1/2"	5/8"	5,000	2	09020*
	.014	1-1/4"★						09029*
	.016	2"◆						09790
	.016	1-1/4"★						09799
	.020	2"◆						09800
	.020	1-1/4"★						09809
	.020	2"◆						09040*
	.020	1-1/4"★						09049*
15"	.020	2"◆	3/4"	2"	5/8"	5,000	2	09840
	.020	2"◆						09080*
	.020	2"◆						09089*
	.020	1-1/4"★						09089*

★ 5/16" x 5/32" Double Keyway

◆ 1/2" x 1/4" Double Keyway

* Economy

Standard Twist Wheels - Two Section - Provide heavy-duty brushing action with some flexibility; feature a double row of knotted wire for a wider brush face.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Standard Pack	Item No. Steel
3"	.0118	1/2"-3/8"	40	3/4"	5/8"	3/4"	22,000	5	09104
4"	.0118	1/2"-3/8"	48	3/4"	7/8"	3/4"	20,000	5	09134
6"	.0118	2"	60	7/8"	1-3/8"	7/8"	8,000	5	09160
	.016								09180
8"	.0118	2"	76	1"	1-5/8"	1"	6,000	1	09410
	.016								09430
	.023								09440
10"	.0118	2"	104	1-1/4"	1-3/4"	1-1/4"	4,500	1	09460
	.016								09480
	.023								09490
12"	.0118	2"	104	1-1/4"	2-3/4"	1-1/4"	3,600	1	09510
	.016								09530
	.023								09540

See Metal Adapters on page 31 for brushes with 2" arbor holes.

Standard Twist Wheels - Four Section - Featuring four rows of knotted wire; for use in automated cleaning processes such as removing light mill scale from metal rod and wire.

Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Standard Pack	Item Number Steel
12"	.0118	2"	208	2"	2-3/4"	1-3/4"	3,600	4	94098
	.014								94000

See Metal Adapters on page 31 for brushes with 2" arbor holes.

Knot Wire Wheels with Arbor Hole

Cable Twist Wheels - Provide maximum brushing action with minimal flexibility; ideal for demanding cleaning and coating removal applications on relatively smooth surfaces.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
										Steel	Stainless
4"	.020	1/2"-3/8"	24	1/4"	7/8"	1/2"	7/16"	20,000	10	08534	—
6"	.023	5/8"-1/2"	24	3/8"	1-3/8"	1-1/4"	9/16"	9,000	10	08565	08695*
8"	.023	5/8"	38	1/2"	1-5/8"	2"	1/2"	6,000	2	08615	—
10"	.023	3/4" 1-1/4"★	52	1/2"	1-3/4"	2-1/2"	3/4"	4,500	2	08878 08879	—
12"	.023	1-1/4"★	52	7/16"	2-3/4"	3"	3/4"	3,600	2	09379	—

If a different arbor hole is required (than listed) refer to the Arbor Hole Table on page 20.

★ 5/16" x 5/32" Double Keyway *Standard Pack 2

Joint & Crack Cleaning Wheels - Featuring heavy-duty construction and an extra long trim length for cleaning expansion joints and cracks in concrete and asphalt; for use on walk-behind machines.

Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number
									Steel
10"	.035	1" with two drive holes*	38	3/8"	2-5/8"	1/2"	5,000	2	94199
12"	.035	1" with two drive holes*	38	3/8"	3-5/8"	1/2"	5,000	2	94224
12"	.035	1" with two drive holes*	52	3/8"	2-3/4"	3/4"	5,000	2	94026

* Drive holes are 3/8" diameter with 1/4" x 1/8" double keyway.

Adapter - For mounting Joint & Crack Cleaning Wheels onto a 20mm arbor.

For Brush Arbor Hole Size	Adapted Arbor Hole Size	Standard Pack	Item Number
1"	20mm	10	04455

Cable Twist Wheel - Four Section - Featuring four rows of tightly knotted wire; for use in demanding automated applications such as cleaning the OD of drill pipe and other oilfield tubular goods.

Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number
										Steel
10"	.023	2"	208	1-3/4"	1-3/4"	2"	1-7/8"	4,500	1	94008



In addition to the products featured in this catalog, Weiler can custom-design brushes to meet your specific needs.



Cleaning a crack on an airport runway prior to filling.



08534



94224



04455



94008

Knot Wire Wheels with Arbor Hole

Knot Wire Wheels with Nut



Prepping a machine guard for on-site welding and repair.

Knot Wire Wheels with Nut - Knot wire wheels with a threaded nut are intended for use primarily on small and large right angle grinders. Featuring Weiler's individual knot hole construction, these radial brushes are available in heat-treated steel, Type 302 stainless steel and bronze wire for use in a wide variety of applications.

Applications

- Removing powder-coating, epoxy-based paints, and rubberized coatings
- Weld preparation and cleaning
- Cleaning scale and heavy corrosion
- Removing heavy burrs from large pieces after cutting

Standard Twist Wheels - Provide heavy-duty brushing action with some flexibility; ideal for deburring and demanding cleaning applications on somewhat irregular surfaces.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
										Steel	Stainless
3"	.014	M10 x 1.25	20	3/8"	5/8"	-	7/16"	25,000	5	13201	13208
4"	.014	M10 x 1.25	24	1/2"	7/8"	-	7/16"	20,000	5	13100	13107
		M10 x 1.50								13101	13108
		M14 x 2.0								13102	13109
		3/8"-24 UNF								13103	13110
		1/2"-13 UNC								13105	-
5/8"-11 UNC	13106 ■	13113 ■									
4"	.020	M10 x 1.25	24	1/2"	7/8"	-	7/16"	20,000	5	13114	-
		M10 x 1.50								13115	-
		M14 x 2.0								13116	-
		3/8"-24 UNF								13117	-
		1/2"-13 UNC								13119	-
		5/8"-11 UNC								13120*	-
6"	.016 .023	5/8"-11 UNC	24	1/2"	1-3/8"	-	9/16"	9,000	2 5	-	08346
										08106	-

- Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 170 for details.
- * Available in non-sparking bronze wire, see page 57 for details.

Vortec Pro® Standard Twist Wheels - Provide an aggressive brushing action for general purpose deburring, cleaning, and surface preparation applications.



Dia.	Wire Size	Wire Type	Arbor Hole	Face Width	Max. RPM	Display Pack Item No.	Boxed Qty. Item No.
4"	.014" Coarse	Carbon	5/8"-11	Wide	20,000	36012	36212
		Stainless	5/8"-11			36013	36213
		Carbon	M10 x 1.25	36015		36215	
		Carbon	M10 x 1.50	36016		36216	
		Carbon	M14 x 2.0	36017		36217	
6"	.025" Extra Coarse	Carbon	5/8"-11	Wide	11,000	36024	36224

Cable Twist Wheels - Provide maximum brushing action with minimal flexibility; ideal for demanding cleaning and surface preparation applications on relatively smooth surfaces.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
										Steel	Stainless
4"	.020	M10 x 1.25	24	1/4"	7/8"	1/2"	7/16"	20,000	5	13261	-
		M10 x 1.50								-	13272
		5/8"-11 UNC								13266 ■	13276

- Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 170 for details.

Vortec Pro® Cable Twist Wheels - Provide the most aggressive brushing action for general purpose cleaning and surface preparation applications.



Dia.	Wire Size	Wire Type	Arbor Hole	Face Width	Max. RPM	Display Pack Item No.	Boxed Qty. Item No.
4"	.020" Coarse	Carbon	5/8"-11	Medium	20,000	36055	36255
			M10 x 1.50			36057	36257
			M10 x 1.25			36058	36258

Knot Wire Wheels with Nut



13106



13266



36055

Knot Wire Wheels with Nut or Stem

Standard Twist Bevel Brushes - Saucer-shaped radial wheels which provide a heavy-duty brushing action with some flexibility; ideal for cleaning fillet welds and into corners.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Max. RPM	Std. Pack	Item Number	
								Steel	Stainless
4"	.014	M10 x 1.25	20	3/8"	3/4"	12,500	1	13401	-
		M10 x 1.50						13402	13412
		5/8"-11 UNC						13406	13416
4"	.020	M14 x 2.0	20	3/8"	3/4"	12,500	1	13423	-
		5/8"-11 UNC						13426	13436
4-1/2"	.014	5/8"-11 UNC	20	3/8"	1"	12,500	1	13456	13466
4-1/2"	.020	5/8"-11 UNC	20	3/8"	1"	12,500	1	13476	13486

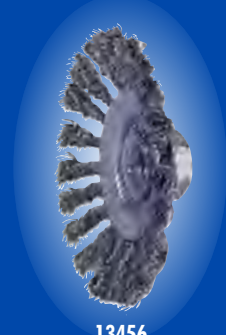


Cleaning a corner weld with a bevel brush.

Knot Wire Wheels with Stem - Knot wire wheels with a permanently attached 1/4" stem or shank are primarily intended for use on high-speed die grinders. Although they can also be mounted onto a drill, the speed and power of that tool will limit the effectiveness of the brush. Featuring Weiler's individual knot hole construction, these radial wheels are available in heat-treated steel and Type 302 stainless steel wire.

Applications

- Removing powder-coating, epoxy-based paints, and rubberized coatings
- Weld preparation and cleaning
- Cleaning scale and heavy corrosion
- Removing heavy burrs from large pieces after cutting



13456

Standard Twist Wheels - Permanently mounted on a 1/4" stem to provide heavy-duty brushing action with some flexibility; ideal for deburring and demanding cleaning applications on somewhat irregular surfaces.



Dia.	Wire Size	No. of Knots	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number	
							Steel	Stainless
3-1/4"	.0118	20	3/8"	5/8"	25,000	5	17680	-
	.014						17681	17684
	.020						17682	-
4"	.0118	24	1/2"	7/8"	20,000	5	17686	-
	.014						17687	17691
	.020						17689	-



17681



In a year, we use 240,000 miles of our most popular wire sizes. The circumference of the Earth is 24,901 miles, so you can circle the Earth 9.6 times. Or, you can go to the moon but not make it back. The distance to the moon is 238,857 miles.

Knot Wire Wheels with Nut or Stem

Weld Cleaning Brushes

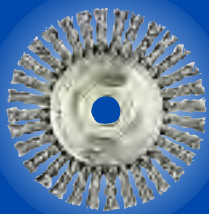
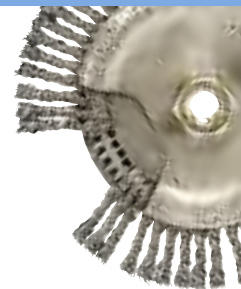
Made in the U.S.A., the performance-engineered construction of Weiler's stringer bead wheels makes them the most effective weld cleaning tools for the most demanding users.

Identifiable by their gold nuts, our premium weld cleaning brushes are designed and manufactured to the most stringent quality standards in the industry. Weiler stringer bead wheels utilize the highest quality wire available and feature a twist that puts all of the sharp tips at the very end of the knots, making them the fastest, most aggressive weld cleaning tools on the market.

For example, the construction of Weiler's original Roughneck® brush virtually eliminates knot movement resulting in the most effective cleaning action, smoothest operation, and longest wheel life. Offered in a variety of widths for efficient use in inter-pass weld cleaning operations, our entire line of cleaning brushes excel at removing slag, spatter, and oxidation without damaging the filler material. They are engineered to maximize your efficiency and minimize your costs.

Roughneck® Stringer Bead Wheels - The standard for high-performance weld cleaning brushes. Narrow face brushes are suitable for cleaning root and hot passes and reaching into corners; wider face wheels can be used for cleaning filler and cap passes as well as for other surface prep and cleaning applications.

Removing weld slag before the next weld pass.

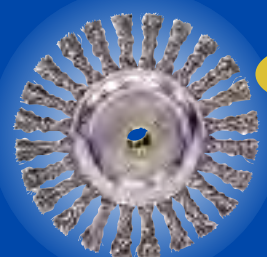


13131



09000

New!



08776

New!



35800

Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
									Steel	Stainless
Root Pass Brushes										
4"	.020	1/2"-3/8" M10 x 1.25 M10 x 1.50 M14 x 2.0 3/8"-24 UNF 1/2"-13 UNC 5/8"-11 UNC	32	3/16"	7/8"	7/16"	20,000	5	13124 13125 ■ 13126 13127 13128 13130 13131 ■	08954* 13132 13133 13134 13135 13137 13138 ■
4-1/2"	.020	5/8"-11 UNC M14 x 2.0 7/8"	38	3/16"	13/16"	3/8"	12,500	5	13232 13233 13234	13238 13239 13249
5"	.020	5/8"-11 UNC	38	3/16"	7/8"	3/8"	12,500	5	08756	08806
	.020	7/8"	38	3/16"		08750			-	
6"	.020	5/8"-11 UNC	48	3/16"	1-1/8"	3/8"	12,500	10	08766†	-
	.020	5/8"-11 UNC	38	3/16"	1-3/8"	3/8"			-	08786† •
	.020	5/8"-11 UNC	56	3/16"	1-1/8"	7/16"			09400 ■	09500
6-7/8"	.020	5/8"-11 UNC	56	3/16"	1-1/8"	7/16"	9,000	10	09000 ■	09200
			76						09100	-
Filler Pass Brushes										
5"	.023	5/8"-11 UNC	24	1/2"	7/8"	3/8"	12,500	5	09856	09866
6"	.023	5/8"-1/2"	24	1/2"	1-3/8"	9/16"	12,500	10	08775	-
	.023	5/8"-11 UNC	24	1/2"	1-3/8"	9/16"	12,500	10	08776 ■	08796 •
	.023	5/8"-11 UNC	30	1/2"	1-1/4"	5/8"	12,500	10	08916	08926 •
	.023	5/8"-11 UNC	30	5/16"	1-3/8"	1/2"	12,500	10	09386	09396 •

† Light Duty • Standard Pack 5 * Standard Pack 10

■ Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 170 for details.

Polyflex™ Encapsulated Stringer Bead Wheels - Black Elastomer* - Feature a heat-stabilized encapsulation that gradually wears away to expose a consistent short trim for higher aggression, controlled brushing action, and longer life; suitable for cleaning hot welds.

Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Standard Pack	Item Number
									Steel
4"	.020	5/8"-11 UNC	32	3/16"	7/8"	7/16"	20,000	5	35800
6"	.014	5/8"-11 UNC	-	3/16"	1-7/16"	3/8"	9,000	5	35206 ▲
6-7/8"	.020	5/8"-11 UNC	56	3/16"	1-1/8"	7/16"	9,000	10	35600
7"	.014	5/8"-11 UNC	-	3/16"	1-15/16"	3/8"	9,000	5	35216 ▲

* See Elastomer Color Code Chart on page 18 for more information.

▲ Crimped wire

Weld Cleaning Brushes

Featuring a new patent-pending design, the Dually line of cleaning brushes is the choice for the most demanding inter-pass welding applications such as pipeline construction, boiler and pressure vessel fabrication, and shipbuilding.

Welders' assistants on the pipeline were among the first to realize the value in periodically switching the mounting position of a wheel in order to maintain cleaning speed and effectiveness. The Dually utilizes a nut design that features a hex on each side of the wheel which is high enough to insure adequate tool clearance in either mounting position. Now all users can realize the benefits of the "Flip" without compromising safety by removing the guard from their grinder.



CHECK OUT THE VIDEO



New! **Dually® Stringer Bead Wheels** - Feature a dual-hex nut design* that simplifies periodic flipping of the wheel for maximum cleaning action, long life, and safer use.

Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
									Steel	Stainless
Root Pass Brushes										
4-1/2"	.020	5/8"-11 UNC	38	3/16"	13/16"	3/8"	12,500	5	79801	79811
5"	.020	5/8"-11 UNC	38	3/16"	7/8"	3/8"	12,500	5	79802	79812
6"	.020	5/8"-11 UNC	56	3/16"	1-1/8"	7/16"	12,500	5	79805	79815
7"	.020	5/8"-11 UNC	56	3/16"	1-1/8"	7/16"	9,000	5	79800	79810
Filler Pass Brushes										
5"	.023	5/8"-11 UNC	24	1/2"	7/8"	3/8"	12,500	5	79803	79813
6"	.023	5/8"-11 UNC	30	1/2"	1-1/4"	5/8"	12,500	5	79804	79814

New! **HFR™ Stringer Bead Wheels** - Feature a patent-pending film coating to minimize wire loss when used within recommended operating guidelines for hot-pass weld cleaning in FME areas of nuclear power plants. Weiler HFR Brushes have been engineered and tested to meet the requirements for a High Filament Retention power brush as defined by the Electrical Power Research Institute.

Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
									Steel	Stainless
4"	.020	5/8"-11 UNC	32	3/16"	7/8"	7/16"	13,500	1	13381	13388

Vortec Pro® Stringer Bead Wheels - Manufactured using similar product construction and to the same exacting standards as other Weiler weld cleaning brushes; they have been engineered for cost-effective use in less demanding applications.

Dia.	Wire Size	Wire Type	Arbor Hole	Face Width	Max. RPM	Display Pack Item No.	Boxed Qty. Item No.
4"	.020" Coarse	Carbon	5/8"-11	Narrow	20,000	36018	36218
		Carbon	5/8"-11			-	36308*
		Stainless	5/8"-11			36019	36219
		Carbon	M10 x 1.25			36021	36221
		Carbon	M10 x 1.50			36022	36222
5"	.020" Coarse	Carbon	5/8"-11	Narrow	12,500	-	36295
		Stainless	5/8"-11			-	36296
		Carbon	5/8"-11			36025	36225
6"	.020" Coarse	Carbon	5/8"-11	Narrow	12,500	-	36307*
		Carbon	5/8"-11			-	36297
6-7/8"	.020" Coarse	Carbon	5/8"-11	Narrow	9,000	-	36298
		Stainless	5/8"-11			-	36298

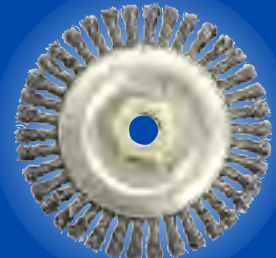
*Light Duty



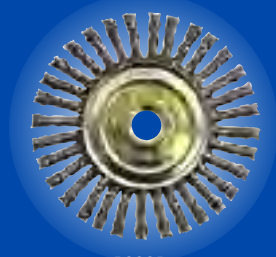
Weiler's Cable Twist Wheels were used by NASA on its booster rockets.



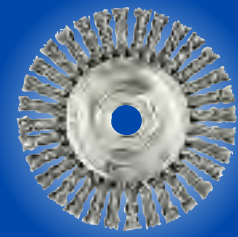
Removing slag and spatter before the cap pass.



79802



13381



36218

Weld Cleaning Brushes

Crimped Wire Wheels with Arbor Hole



Removing heat discoloration from a stainless steel canister.

Crimped Wire Wheels with Arbor Hole - Are intended for use on straight grinders and stationary machines such as bench or pedestal grinders and buffing lathes. Featuring Weiler's solid ring construction, these radial brushes are available in heat-treated steel, Type 302 stainless steel and brass wire for use in a wide variety of applications.

Applications

- Removing rust and light corrosion
- Removing heat discoloration
- Paint removal and surface cleaning
- Light deburring
- Decorative finishing

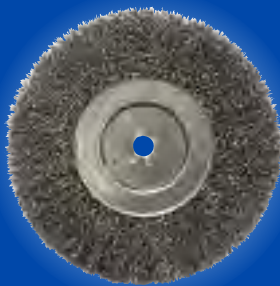
Crimped Wire Wheels - Provide a flexible brushing action and consistent performance for demanding light-duty cleaning and deburring applications.



Crimped Wire Wheels with Arbor Hole



00184



01238



If a different arbor hole is required (than listed in the tables) refer to Arbor Hole Table shown on Pg. 20.

Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number		
									Steel	Stainless	
3"	.006	1/2"-3/8"	7/16"	1/2"	3/4"	7/16"	12,500	2	00204	00244	
	.008								-		
	.0118								00234	00264	
	.014								00274	-	
4"	.006	1/2"-3/8"	1/2"	7/8"	3/4"	7/16"	12,500	2	00104	00154	
	.008								-		
	.0095	5/8"-1/2"	-								
	.0118	1/2"-3/8"	-								
	.0134	-	00184								
	.0135	-	-								
	.014	5/8"-1/2"	-								
6"	.006	5/8"-1/2"	3/4"	1-7/16"	1-1/4"	7/16"	6,000	10	01035 ▲	01675*	
	.008								-		
	.008	1-1/4"★	-								
	.0104	5/8"-1/2"	-								
	.0118	-	01055	01695*							
.014	-	01065 ▲	01705*								
6"	.0118	3/4"	3/4"	1-7/16"	1-1/4"	7/16"	6,000	10	01068	-	
	.006	5/8"	3/4"	2-1/16"	1-1/4"	1/2"	6,000	2	01135	01775	
									.008	-	
									.0104	01145	-
									.0118	01155	01795
	.014	-	01165	01805							
	.014	-	-	-	-	-	-	-	-	-	
		.006	3/4"	3/4"	2-1/16"	1-1/4"	1/2"	6,000	2	01175 ■	-
		.008	-	-	-	-	-	-	-	-	
		.0104	-	-	-	-	-	-	-	-	
.0118		-	-	-	-	-	-	-	-		
.014		-	-	-	-	-	-	-	-		
8"	.0118	1-1/4"★	3/4"	2-1/16"	1-1/4"	1/2"	6,000	2	-	01809	
	.014	-	-	-	-	-	-	-	01179	-	
10"	.006	3/4"	3/4"	2-1/2"	2"	5/8"	4,000	2	01228	-	
	.0104	-	-	-	-	-	-	-	01238	-	
	.0118	-	-	-	-	-	-	-	01248	-	
	.014	-	-	-	-	-	-	-	01258	01898	
	.014	1" •	-	-	-	-	-	-	01250-12	-	
10"	.014	1-1/4"★	3/4"	2-1/2"	2"	5/8"	4,000	2	01259	-	
12"	.006	1-1/4"★	3/4"	2-15/16"	2-1/2"	1/2"	3,000	2	01299	01939	
	.0104								-		
	.0118								01309	01949	
	.014								01319	-	
12"	.014	2"◆	3/4"	2-15/16"	2-1/2"	1/2"	3,000	2	01329	-	
	-	-	-	-	-	-	-	-	01320-14	-	
15"	.0118	1-1/4"★	3/4"	4-7/16"	2-1/2"	1/2"	3,000	2	01339	-	
	.014								01349	-	

- ◆ 1/2" x 1/4" Double Keyway
- ★ 5/16" x 5/32" Double Keyway
- 1/4" x 1/8" Double Keyway
- ▲ Available in non-sparking bronze wire, see page 57 for details.
- * Standard Pack 2
- Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 170 for details.



Crimped wire narrow face wheels can be made with nylon or abrasive nylon fill, up to 20" in diameter.

Crimped Wire Wheels with Arbor Hole

Vortec Pro® Crimped Wire Wheels - Provide a flexible brushing action and cost-effective performance in general purpose cleaning and deburring applications.



Dia.	Wire Size	Wire Type	Arbor Hole	Face Width	Max. RPM	Display Pack Item No.	Boxed Qty. Item No.
4"	.014" Coarse	Carbon	1/2"-3/8"	Narrow	6,000	36062	36262
6"	.008" Fine	Carbon	5/8"-1/2"	Narrow	6,000	36002	36202
	.014" Coarse	Carbon		Narrow		36000	36200
	.014" Coarse	Stainless		Narrow		36001	36201
8"	.014" Coarse	Carbon	5/8"	Narrow	6,000	36005	36205

Polyflex™ Encapsulated Crimped Wire Wheels - Burgundy Elastomer* - Feature an encapsulation that gradually wears away to expose a consistent short trim for higher aggression, controlled brushing action, and longer life.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
									Steel	
4"	.0095	1/2"-3/8"	3/8"	7/8"	3/4"	7/16"	6,000	2	35084	
6"	.0104	5/8"-1/2"	1/2"	1-7/16"	1-1/4"	7/16"	6,000	2	35105	
	.014								35117	
8"	.014	5/8"	1/2"	2-1/16"	1-1/2"	1/2"	6,000	2	35135	
Orange Elastomer* - Heavy-Duty										
6"	.0104	5/8"-1/2"	1/2"	1-7/16"	1-1/4"	7/16"	6,000	2	35520	

* See Elastomer Color Code chart on page 18 for more information.

Bench Grinder Wheels - Feature a shorter trim length, narrower face width, and the same durable construction as other Weiler crimped wire wheels; designed specifically for use on small bench grinders for reduced flaring and long life in a broad range of applications.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
									Steel	
6"	.006	5/8"-1/2"	1/2"	1-1/16"	1-1/4"	7/16"	6,000	10	01085	
	.008								01095	
	.0118								01115	
	.014								01125	

Crimped Wire Wheels - High Density - Feature an increased fill density for greater brushing action, more consistent performance, and longer life in the most demanding applications requiring the flexibility of a crimped wire wheel.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
									Steel	Stainless
4-1/4"	.0118	5/8"-1/2"	3/4"	5/8"	3/4"	9/16"	6,000	1	01501	
	.014								01502	
6"	.008	5/8"-1/2"	3/4"	1-1/8"	1"	9/16"	6,000	1	01503	
	.0118								01504	
	.014								01505	
	.020								01506	
									01508	
7"	.014	5/8"	7/8"	1-5/8"	1"	9/16"	6,000	1	01511	
8"	.006	5/8"	7/8"	1-1/2"	1-1/4"	11/16"	4,500	1	01512	
	.0104								01513	
	.0118								01514	
	.014								01515	
									01517	
10"	.0118	3/4"	1"	2-1/2"	1-1/4"	11/16"	4,500	2	01518	
	.014								01521	
12"	.014	1-1/4"★	1-1/8"	3-1/8"	2"	3/4"	3,000	1	01521	

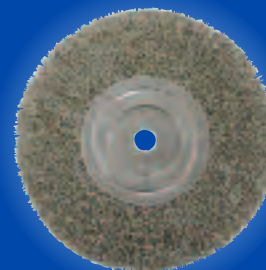
★5/16" x 5/32" Double Keyway



If a different arbor hole is required (than listed in the tables) refer to Arbor Hole Table shown on Pg. 20.



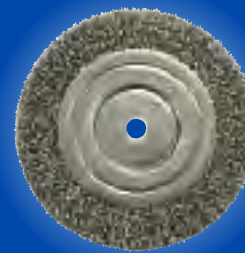
Removing heavy break-off burrs from saw-cut tube.



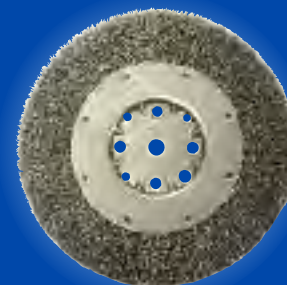
36205



35105



01115



01515

Crimped Wire Wheels with Arbor Hole

Crimped Wire Wheels with Arbor Hole

Crimped Wire Wheels - Medium Face - Provide a flexible brushing action and consistent performance for demanding light-duty cleaning and deburring applications; feature a wider face width to cover more area.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
								Steel	Stainless
4-1/2"	.0118	2"	15/16"	3/4"	7/8"	6,000	1	06020	-
6"	.006	2"	1"	1-1/8"	15/16"	6,000	1	06040	-
	.008							06050	-
	.0104							06060	06440
	.0118							06070	06450
	.014							06080	-
8"	.006	2"	1"	1-3/8"	1"	4,500	1	06090	-
	.0104							06100	-
	.0118							06110	06490
	.014							06120	-
	.020							06620	-
10"	.0118	2"◆	1-1/8"	2"	1"	3,600	1	06150	06530
	.014							06160	-
	.020							06170	-
12"	.0118	2"◆	1-1/4"	3"	1"	3,600	1	06180	-
	.014							06190	-
	.020							06200	-

◆ 1/2" x 1/4" Double Keyway

For arbor hole reducing adapters, see Metal Adapter Table below.

Cleaning an exhaust manifold for a small gasoline engine.



06080



06150



02325



03809

Vortec Pro® Crimped Wire Wheels - Medium Face - Provide a flexible brushing action and cost-effective performance in general purpose cleaning and deburring applications; feature a wider face width to cover more area.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Display Pack Item No.	Boxed Qty. Item No.
6"	.014 Coarse	5/8"-1/2"	5/8"	1-1/16"	1/2"	6,000	-	02325
			3/4"	1-7/16"	7/16"			36003
7"	.014 Coarse	5/8"	3/4"	1-9/16"	1/2"	6,000	-	02335

Metal Adapters - For Medium & Wide Face Brushes. Used in pairs & priced per pair.

For Brush Arbor Hole Size	Adapted Arbor Hole Size	Item Number
2"	1/2"	03809
	5/8"	03810
	3/4"	03811
	7/8"	03824
	1"	03812
	1-1/4"	03813
	1-1/2"	03814

Crimped Wire Wheels with Arbor Hole

Crimped Wire Wheels - Wide Face - Provide a flexible brushing action and consistent performance for demanding light-duty cleaning and deburring applications; feature a wider face width to cover more area.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
								Steel	Stainless
4-1/2"	.006	2"	1-1/4"	3/4"	7/8"	6,000	1	03000	-
	.0118							03010	-
	.014							03020	-
6"	.006	2"	1-1/4"	1-1/8"	1"	6,000	1	03030	03480
	.008							03040	-
	.0104							03050	-
	.0118							03060	03510
	.014							03070	03520
7"	.0118	2"	1-1/4"	1-5/8"	1"	6,000	1	03090	-
	.014							03100	-
8"	.006	2"	1-1/2"	1-3/8"	1-3/8"	4,500	1	03110	-
	.0095							03130	-
	.0118							03140	03590
	.014							03150	-
	.020							03160	-
10"	.0104	2"	2"	1-7/8"	1-5/8"	4,000	1	03180	-
	.0118							03190	-
	.014							03200	-
	.020							03210	-
12"	.0118	2"	2"	2-7/8"	1-9/16"	3,000	1	03220	-
	.014							03230	03680
	.020							03240	-

For arbor hole reducing adapters, see Metal Adapter Table on page 31.

Vortec Pro® Crimped Wire Wheels - Wide Face - Provide a flexible brushing action and cost-effective performance in general purpose cleaning and deburring applications; feature a wider face width to cover more area.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Display Pack Item No.	Boxed Qty. Item No.
6"	.014" Coarse	5/8"-1/2"	7/8"	1-1/8"	7/8"	6,000	- 36004	06645 36204
7"	.014" Coarse	5/8"	7/8"	1-5/8"	7/8"	6,000	-	06655
8"	.014" Coarse	5/8"	1"	1-3/8"	1"	4,000	36006	36206
10"	.014" Coarse	3/4"	1-1/8"	2"	1"	3,600	36065	36265

Polyflex™ Encapsulated Crimped Wire Wheel - Wide Face - Burgundy Elastomer* - Feature an encapsulation that gradually wears away to expose a consistent short trim for higher aggression, controlled brushing action, and longer life. Wider face width covers more area.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number
								Steel
6"	.0118	2"	1"	1-1/8"	1"	6,000	1	35160

* See Elastomer Color Code Chart on page 18 for more information.

For arbor hole reducing adapters, see Metal Adapter Table on page 31.

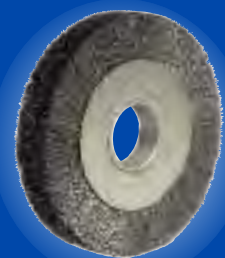
Crimped Wire Wheels - Extra High Density - Engineered for maximum performance in production processes requiring the flexibility of a crimped wire wheel; for use on automated equipment for applications such as gear deburring, flash removal, and rubber buffing.

Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number
								Steel
12"	.006 .0118	2"◆	1-1/8"	1-5/8"	3/4"	3,000	1	01531 01532

◆ 1/2" x 1/4" Double Keyway



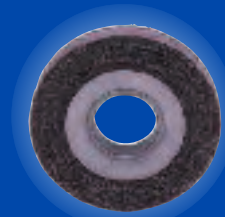
Removing carbon build-up from an automotive valve.



03110



06655



35160



01533

Crimped Wire Wheels with Arbor Hole

Crimped Wire Wheels with Arbor Hole



Producing an antique finish on a brass door knob rose.

Plater's Wire Wheels - Feature a longer trim length and very small diameter fill material for producing fine satin and antique finishes on non-ferrous and precious metals.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Number of Rows	Max. RPM	Std. Pack	Item Number	
								Brass*	
3"	.003	1/4"	1/2"	1"	2	6,000	12	22021	
4"	.004	1/4"	1"	1-1/4"	4	4,000	5	22061	
6"	.005	1/4"	1"	1-7/8"	4	3,600	1	22241	

* Also available in carbon steel, stainless steel and nickel silver wire.

Small Diameter Crimped Wire Wheels - Identifiable by their copper center, Weiler's small diameter crimped wire wheels feature a plain arbor hole for use on a variety of portable tools and stationary machines. Featuring Weiler's solid ring construction for high-speed use, these radial brushes are available in heat-treated steel, Type 302 stainless steel, and brass wire.

Applications

- Cleaning threads
- Removing rust and light corrosion
- Cleaning and finishing ID's and recessed areas
- Wire stripping
- Light deburring
- Cleaning boiler tubes and internal passages
- Removing carbon build-up and deposits

Small Diameter Wheels - Provide a flexible brushing action and consistent performance for light-duty cleaning and deburring applications requiring a small wheel.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number					
							Steel	Stainless				
1"	.003	1/4"	3/16"	1/4"	20,000	10	-	16461				
	.005						-	16471				
	.006						15071	-				
1-1/4"	.003	1/4"	1/4"	3/8"	20,000	10	15101	-				
	.006						15111	16511				
	.008						-	16521				
	.008						15732	-				
1-3/8"	.006	1/4"	1/4"	3/8"	20,000	10	15131	-				
	.008	1/4"					15141	-				
	.008	3/8"					15272	-				
	.0104	1/4"					15151	-				
	.0104	1/4"					15151	-				
1-1/2"	.006	3/8"	1/4"	7/16"	20,000	10	15302 ▲	16702				
	.008	3/8"		7/16"			15312	16712				
	.008	1/2"		1/4"			15753	-				
	.0104	3/8"		7/16"			15322	-				
	.0118	3/8"		7/16"			15332	-				
	.0118	3/8"		7/16"			15762	-				
	.014	3/8"		7/16"			15762	-				
2"	.003	1/4"	3/8"	3/4"	20,000	10	99307	-				
	.003	1/2"					1/2"	15863	15973			
	.005	1/2"		-			16833	-				
	.006	1/2"		15433 ▲			-					
	.008	1/2"		15443			16843					
	.0104	1/2"		15453			16853					
	.0118	1/2"-3/8"		15463 ▲			16863					
	.0118	9/16"		15770			-					
	.014	1/2"-3/8"		15473			16873					
	2-1/2"	.0118		1/2"-3/8"			1/2"	3/4"	20,000	10	15513	16913
		.014									15523	-
3"	.003	1/2"	5/8"	1"	20,000	10	99551	-				
	.006	1/2"-3/8"		1"			15533	16933				
	.006	5/8"		15/16"			15637	-				
	.008	1/2"-3/8"		1"			15543	16943				
	.008	5/8"		15/16"			15647	-				
	.0104	1/2"		1"			15553	-				
	.0118	1/2"-3/8"		1"			15563	16963				
	.0118	5/8"		15/16"			15667	-				
	.014	1/2"-3/8"		1"			15573 ▲	16973				
	.014	5/8"		15/16"			15677	17077				
	4"	.006		1/2"			1/2"	1-1/2"	20,000	10	99553	-

▲ Available in non-sparking brass wire, see page 57 for details.

Crimped Wire Wheels with Arbor Hole



22241



15433



15563

Crimped Wire Wheels with Arbor Hole

Polyflex™ Encapsulated Small Diameter Wheels - Burgundy Elastomer* - Feature an encapsulation that gradually wears away to expose a consistent short trim for higher aggression, controlled brushing action, and longer life.



Removing casting flash from ductile-iron housing with an encapsulated brush.

Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number
							Steel
1-1/4"	.008	3/8"	3/16"	5/16"	20,000	10	35293
	.014						35294
2"	.0104	1/2"	1/4"	1/2"	20,000	10	35240
	.014						35070
3"	.008	1/2"	1/4"	1"	20,000	10	35808
	.0118						35250
	.014						35260

* See Elastomer Color Code chart on page 18 for more information.

Wire Stripping Brushes

Used for removing insulation from electrical wire. These brushes are made to order according to the specifications needed for the specific application.

When ordering, please specify:

- Brush diameter
- Brush face width
- Arbor hole size
- Wire size

For application assistance, call our Application Engineering Hotline toll-free at: 888-299-APPS (2777)



- The adapters and drive arbors listed on this page are for use with small diameter wheel brushes only; do not attempt to use them with cutting or grinding wheels, buffing wheels, or any type of abrasive wheel or disc.
- Do not adapt a wheel brush for use on a shaft diameter less than that specified by ANSI B165.1 (see page 20) or exceed the maximum wheel diameter specified for a drive arbor.
- Never mount a drive arbor onto a tool which operates above the maximum RPM rating of either the arbor or the brush (whichever may be lower) and be sure that the stem of the arbor is properly secured in the collet or chuck before use.

Drive Arbors - For mounting small diameter wheels into a collet or chuck.



Arbor Dia.	Stem Dia.	Stem Length	Length of Shaft	For Brushes with Max. Dia. of	Max. RPM	Standard Pack	Item Number
Unthreaded Shaft							
1/4"	1/4"	1-1/8"	3/16"	2"	20,000	5	07723
3/8"	1/4"	1-1/8"	3/16"	4"	20,000	5	07722
Threaded Shaft							
1/2"	1/4"	3/4"	3/4"	3"	25,000	5	07724
3/8"	1/4"	3/4"	3/4"	3"	25,000	5	07727
5/8"	1/4"	3/4"	3/4"	3"	25,000	5	07729
1/2"	1/4"	7/8"	3/4"	3"	20,000	5	07721
1/4"	1/4"	1-1/16"	1-1/8"	2"	20,000	5	07725
3/8"	1/4"	1"	1-1/8"	3"	20,000	5	07726

Plastic Adapters - For mounting small diameter wheels onto various arbor sizes.

Fixed Arbor Hole Size	Adapted Arbor Hole Size	Standard Pack	Item Number
1/2"	1/4"	10	04400
1/2"	3/8"	10	04401
5/8"	1/2"	10	04402
3/8"	1/4"	10	04403



35070

DID YOU KNOW?

Small diameter wheels can be manufactured with different diameters than what appears in this catalog.



07723



07722



07727



07724



07721



07729



07726



04401, 04402

Crimped Wire Wheels with Arbor Hole

Crimped Wire Wheels with Nut or Stem



Removing flash from a sand-cast iron engine block.

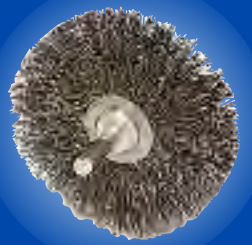
Crimped Wire Wheels with Nut or Stem



13085



13095



17616



35310

Crimped Wire Wheels with Nut - Crimped wire wheels with a threaded nut are intended for use primarily on small angle grinders. Featuring Weiler's solid ring construction, these radial brushes are available in heat-treated steel and Type 302 stainless steel wire.

Applications

- Removing rust and light corrosion
- Removing heat discoloration and welding residuals
- Surface prep prior to welding

Crimped Wire Wheels - Provide a flexible brushing action and consistent performance for demanding light-duty cleaning and deburring applications.

Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
								Steel	Stainless
4"	.006	5/8"-11 UNC	1/2"	7/8"	7/16"	14,000	5	-	00156
4"	.014	M10 x 1.50 M14 x 2.0 3/8"-24 UNF 5/8"-11 UNC	1/2"	7/8"	7/16"	14,000	5	13076	-
								13077	-
								13078	-
								13081	13085
4"	.014	5/8"-11 UNC	1/2"	7/8"	7/16"	14,000	5	35416*	-

* Polyflex™ encapsulated - Burgundy elastomer. See Elastomer Color Code Chart on page 18 for more information.

Vortec Pro® Crimped Wire Wheel Brushes - Provide a flexible brushing action and cost-effective performance in general purpose cleaning and deburring applications.

Dia.	Wire Size	Wire Type	Arbor Hole	Face Width	Max. RPM	Display Pack Item No.	Boxed Qty. Item No.
4"	.014" Coarse	Carbon	5/8"-11	Narrow	14,000	36007	36207

Crimped Wire Bevel Brushes - Saucer-shaped radial wheels which provide a flexible brushing action for cleaning fillet welds and into corners.

Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number	
							Steel	Stainless
3-3/8"	.0118	M10 x 1.25 5/8"-11 UNC	1/2"	1/2"	12,500	1	13091	13095

Crimped Wire Wheels with Stem - Crimped wire wheels with a permanently attached 1/4" stem or shank are primarily intended for use on high-speed die grinders. Although they can also be mounted onto a drill, the speed and power of that tool will limit the effectiveness of the brush. Featuring Weiler's solid ring construction, these radial wheels are available in heat-treated steel, Type 302 stainless steel, and brass wire.

Applications

- Cleaning threads
- Cleaning and finishing ID's and recessed areas
- Paint removal and surface cleaning
- Light deburring

Conflex Brushes - Small diameter copper center wheels permanently mounted onto a 1/4" stem to provide a very flexible brushing action.

Dia.	Wire Size	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number		
						Steel	Stainless	Brass
2"	.006	3/8"	1/2"	20,000	10	17609	-	-
	.0118					17610	17611	-
2-1/2"	.006	3/8"	3/4"	20,000	10	17612	-	-
	.014					17614	-	-
3"	.008	1/2"	1"	20,000	10	17615	-	-
	.0118					17616	-	17641
	.014					17617	17618	-

■ Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 171 for details.

Polyflex® Encapsulated Conflex Brushes - Burgundy Elastomer* - Feature an encapsulation that gradually wears away to expose a consistent short trim for higher aggression, controlled brushing action, and longer life. 1/4" Stem.

Dia.	Wire Size	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number	
						Steel	Stainless
2"	.0118	1/4"	1/2"	20,000	10	35305	-
3"	.008	1/4"	1"	20,000	10	35310	-
	.0118					35315	-

* See Elastomer Color Code Chart on page 18 for more information.

Crimped Wire Wheels with Stem

Conflex Brushes - Wide Face - Provide a flexible brushing action and consistent performance for demanding light-duty cleaning and deburring applications; feature a wider face width to cover more area. 1/4" Stem.



Dia.	Wire Size	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number	
						Steel	Stainless
1-1/4"	.006	1/2"	3/8"	20,000	10	17600	-
	.008					17601	-
1-1/2"	.006	1/2"	1/2"	20,000	10	17602	-
	.008					17603	-
	.0118					17604	-
1-3/4"	.006	1/2"	5/8"	20,000	10	17605	-
	.008					-	17608
2"	.0118	3/4"	7/16"	20,000	10	17619	-
2-1/2"	.014	3/4"	11/16"	20,000	10	17620	-
3"	.008	1"	15/16"	20,000	10	17621	17637
	.0118					17622	-
	.014					17623	-

Crimped Wire Radial Wheels - Feature side plates for a shorter trim length and more controlled brushing action in a stem-mounted crimped wire wheel. 1/4" Stem



Dia.	Wire Size	Trim Length	Max. RPM	Standard Pack	Item Number	
					Steel	Stainless
1-1/2"	.006	3/8"	20,000	10	17950	17971
	.008				17951	17972
	.0118				17952	17973
	.014				17953	-
2"	.006	7/16"	20,000	10	17954	-
	.008				17955	17974
	.0118				17956	-
	.014				17957	17975
	.020				17958	-
2-1/2"	.008	9/16"	20,000	10	17959	17976
	.0118				17961	-
	.014				17962	17977
	.020				17963	-
3"	.008	13/16"	20,000	10	17964	17978
	.0118				17965	-
	.014				17966	17979
	.020				17967	-
4"	.008	1-5/16"	15,000	10	17968	17981
	.014				17969	17982

Vortec Pro® Crimped Wire Radial Wheels - Designed to be a flexible and economic small diameter brushing tool for a broad range of general purpose applications. 1/4" Stem.



Dia.	Wire Size	Wire Type	Trim Length	Max. RPM	Display Pack Item #	Boxed Qty. Item #
1-1/2"	.0118" Coarse	Carbon	3/8"	20,000	36008	36208
2"	.014" Coarse	Carbon	7/16"	20,000	36009	36209
3"	.008" Fine	Carbon	13/16"	20,000	36059	36259
	.014 Coarse	Carbon			36011	36211

Concave Brushes - Saucer-shaped radial wheels permanently mounted on a 1/4" stem to provide flexible brushing action for addressing corners and hard-to-reach areas.



Dia.	Wire Size	Trim Length	Max. RPM	Standard Pack	Item Number	
					Steel	Stainless
1-1/2"	.006	3/8"	20,000	10	17901	17930
	.008				17902	-
	.0118				17903	17931
2"	.008	1/2"	20,000	10	17906	-
	.014				17907	17933
2-1/2"	.006	5/8"	20,000	10	17909	-
	.014				17912	17935
3"	.006	15/16"	20,000	10	17914	17936
	.008				17915	-
	.014				17917	17937
4"	.008	1-1/4"	20,000	10	17922	-
	.014				17923	-



Removing carbon build-up from an engine.



17603



17971



36211



17907

Crimped Wire Wheels with Stem

Nylon and Tampico Wheels



Deburring a plastic part using a nylon brush.



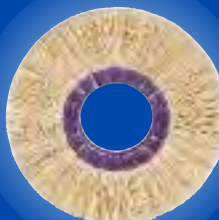
17233



20490



17453



20180



03809

Nylon and Tampico Wheels

Nylon Wheels - Wheel brushes filled with non-metallic filaments are primarily intended for light-duty surface cleaning and scrubbing applications as well as scratch-free finishing and polishing. Synthetic filaments such as nylon are durable and provide a very flexible brushing action in applications requiring less aggression than a wire brush. The softer fill material allows them to be used on materials that a wire brush would scratch or gouge.

Applications

- Wet or dry cleaning and scrubbing
- Sweeping loose chips and debris
- Removing burrs and die flash from plastic parts

Nylon Wheels - Feature a chemical-resistant synthetic fill material with excellent bend recovery for use in applications requiring a soft, durable fill material.



Dia.	Fill Dia.	Arbor Hole	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number
1-1/2"	.010	3/8"	1/4"	7/16"	20,000	10	29025
2"	.010 .014	1/2"	3/8"	1/2"	20,000	10	17223 17233
2-1/2"	.022	5/8"	3/8"	11/16"	20,000	10	99346
3"	.010 .016	1/2"	3/8"	1"	20,000	10	29070 17263
6"	.016	2"	3/4"	1-1/2"	6,000	2	20490
8"	.020	2"	3/4"	2-1/2"	5,000	2	20510

For arbor hole reducing adapters, see Metal Adapter Table below and plastic adapters on page 34.

Tampico Wheels - Wheel brushes filled with non-metallic filaments are primarily intended for light-duty surface cleaning and scrubbing applications as well as scratch-free finishing and polishing. Natural vegetable fibers such as Tampico hold abrasive compounds well and can be used for deburring, edge blending, and polishing applications.

Applications

- Wet or dry cleaning and scrubbing
- Removing burrs and blending edges with abrasive compounds
- Buffing and polishing non-ferrous and precious metals

Tampico Wheels - Feature a durable vegetable fiber fill material that is chemical and heat resistant and also holds abrasive compounds well.



Dia.	Arbor Hole	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number
2-1/2"	1/2"	1/2"	3/4"	20,000	10	17443
3"	1/2"	1/2"	1"	20,000	10	17453
6"	2"	5/8"	1-1/2"	6,000	10	20180
8"	2"	5/8"	2-1/2"	5,000	5	20190

For arbor hole reducing adapters, see Metal Adapter Table below and plastic adapters on page 34.

Metal Adapters - For 6" & 8" Brushes. Used in pairs & priced per pair.

For Brush Arbor Hole Size	Adapted Arbor Hole Size	Item Number
2"	1/2"	03809
	5/8"	03810
	3/4"	03811
	7/8"	03824
	1"	03812
	1-1/4"	03813
	1-1/2"	03814

Knot Wire Cup Brushes

Wire Cup Brushes - Wire cup brushes are intended primarily for use on portable power tools for addressing larger surface areas more efficiently than a wheel brush. Cup brushes featuring a threaded nut are designed for smooth, efficient operation on angle grinders to make quick work of large jobs. Utility cup brushes featuring a permanently-attached 1/4" stem are more suitable for smaller jobs and are recommended for use on high-speed air tools for the most effective brushing action and longest life.

Cup brushes are available in a variety of knot wire and crimped wire configurations for use in a broad range of surface cleaning applications, and they are manufactured with individual knot hole and solid ring construction for high performance and long life. Weiler's cup brushes are available in heat-treated steel, Type 302 stainless steel, and bronze or brass wire.

Applications

- Removing paint and coatings
- Cleaning rust, scale, and corrosion
- Deburring
- Weld prep and cleaning
- Removal of slag from the edges of plasma-cut or flame-cut plates

Knot Wire Cup Brushes - Single Row - Provide heavy-duty brushing action with some flexibility; ideal for demanding cleaning applications on relatively flat surfaces.



Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Standard Pack	Item Number		
						Steel	Stainless	Bronze
2-3/4"	.014	M10 x 1.25	1"	14,000	1	13015	-	-
		M10 x 1.50				13016	-	-
		M14 x 2.0				13020	-	-
		3/8"-24 UNF				13021	-	-
		5/8"-11 UNC				13025 ■	-	-
2-3/4"	.020	M10 x 1.25	1"	14,000	1	13281 ■	13253	-
		M10 x 1.50				13282	13254	-
		M14 x 2.0				13283	13255	-
		3/8"-24 UNF				13284	13256	-
		1/2"-13 UNC				13285	13257	-
		5/8"-11 UNC				13286 ■	13258	13299
3-1/2"	.023	M10 x 1.25	7/8"	13,000	1	13150	-	-
		M10 x 1.50				13151	-	-
		M14 x 2.0				13152	13159	-
		3/8"-24 UNF				13153	13160	-
		1/2"-13 UNC				13155	-	-
		5/8"-11 UNC				13156 ■	13163	-
3-1/2"	.014 .020	5/8"-11 UNC	1-1/4"	9,000	1	12736	-	-
						12746	-	-
4"	.014 .020 .023 .035	5/8"-11 UNC	1-1/4"	10,200	1	12306	12406	-
						-	-	12776
						12316 ■	12416	-
						12326	-	-
4"	.023	5/8"-11 UNC	1-1/4"	10,200	1	12206 ❖	-	-
4"	.023	5/8"-11 UNC	1-1/4"	10,200	1	12826*	-	-
5"	.014 .023	5/8"-11 UNC	1-3/8"	9,000	1	12256*	-	-
						12276 ■*	-	-
6"	.014 .023 .035	5/8"-11 UNC	1-3/8"	6,600	1	12356	12456	-
						12376 ■	12476	-
						12396	-	-
6"	.023	5/8"-11 UNC	1-3/8"	6,600	1	12816*	-	-
6"	.014 .023 .035	5/8"-11 UNC	1-5/8"	6,000	1	12846	-	-
						12856	12886	-
						12866	-	-

* With internal nut ❖ Cable Twist

■ Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 171 for details.



Most Weiler wire brushes are 100% recyclable.



Removing slag from a flame-cut steel plate.



13016



13156



12276

Knot Wire Cup Brushes

Knot Wire Cup Brushes

Vortec Pro® Knot Wire Cup Brushes - Single Row - Provide an aggressive brushing action for general-purpose surface cleaning applications.



Dia.	Wire Size	Wire Type	Arbor Hole	Max. RPM	Display Pack Item No.	Boxed Qty. Item No.
3"	.020" Coarse	Carbon	5/8"-11	14,000	36038	36238
		Stainless	5/8"-11		36039	36239
		Carbon	M10 x 1.25		36041	36241
		Carbon	M10 x 1.50		36042	36242
		Carbon	M14 x 2.0		36043	36243
3-1/2"	.020" Coarse	Carbon	5/8"-11	13,000	36066	-
4"	.025" Coarse	Carbon	5/8"-11	10,200	36044	36244
5"	.023" Coarse	Carbon	5/8"-11	7,000	36070	-
6"	.025" Coarse	Carbon	5/8"-11	6,600	36045	36245

Cleaning a weld joint and removing surrounding spatter with a banded knot wire cup brush.

Knot Wire Cup Brushes - Banded - Single Row - Feature a removable metal band around fill material to reduce the exposed trim length and limit brush flaring at operating speed to provide a very aggressive, controlled brushing action.



Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Standard Pack	Item Number	
						Steel	Stainless
2-3/4"	.014	5/8"-11 UNC	5/8"	12,500	1	13300	-
	.020					13301	13302
4"	.023	5/8"-11 UNC	7/8"	10,200	1	12301	-
5"	.023	5/8"-11 UNC	7/8"	6,600	1	12120	-

Knot Wire Cup Brush - 1-1/2 Rows - Features an internal nut for use on dedicated equipment such as line traveling machines that clean and prep OD of pipe prior to coating.

Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Std. Pack	Item Number - Steel
4"	.023	5/8"-11 UNC	1-1/4"	7,000	1	94012

Knot Wire Cup Brushes - Double Row - Provide very aggressive brushing while still maintaining some flexibility; ideal for severe cleaning applications.



Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Standard Pack	Item Number	
						Steel	Stainless
4"	.014	5/8"-11 UNC	1-1/4"	9,000	1	12756	-
	.020					12766	12726
6"	.014	5/8"-11 UNC	1-3/8"	6,600	1	12536	-
	.023					12556	12636
	.035					12576	-
6"	.014	5/8"-11 UNC	1-1/2"	6,000	1	12906	-
	.023					12916	-
	.035					12926	-

Knot Wire Cup Brushes - Banded - Double Row - Feature a removable metal band around fill material to reduce the exposed trim length and limit brush flaring to provide an extremely aggressive, controlled brushing action for the most severe applications.



Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Std. Pack	Item Number - Steel
4"	.020	5/8"-11 UNC	7/8"	9,000	1	12796
6"	.023	5/8"-11 UNC	7/8"	6,600	1	12676
	.035					12686

Polyflex™ Encapsulated Crimped Wire Cup Brushes - Feature fill material that has been encapsulated in an elastomer which gradually wears away to keep only the wire tips exposed; ideal for applications on flat surfaces that require maximum aggression but no flexibility in the brushing action.



Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Std. Pack	Item Number - Steel
3-1/2"	.014	5/8"-11 UNC	7/8"	12,000	1	35406
4"	.020	5/8"-11 UNC	1-1/8"	9,000	1	35186
6"	.020	5/8"-11 UNC	1-1/4"	6,000	1	35006
Orange Elastomer* - Heavy-Duty						
6"	.020	5/8"-11 UNC	1-1/4"	6,000	1	35530
Black Elastomer* - Extra Heavy-Duty						
6"	.020	5/8"-11 UNC	1-1/4"	6,000	1	35760

* See Elastomer Color Code Chart on page 18 for more information.

Knot Wire Cup Brushes



36244



13301



12556



12676



35406

Crimped Wire Cup Brushes

Crimped Wire Cup Brushes - Very flexible brushing action and the most consistent performance for demanding light-duty cleaning applications; feature a threaded nut for use on angle grinders.



Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Standard Pack	Item Number	
						Steel	Stainless
3"	.014	M10 x 1.25	1"	14,000	1	13240 ■▲	-
		M10 x 1.50				13241	-
		M14 x 2.0				13242	-
		3/8"-24 UNF				13243	-
		1/2"-13 UNC				13244	-
		5/8"-11 UNC				13245 ■	-
3-1/2"	.014	M10 x 1.25	7/8"	12,000	1	13175	13182
		M10 x 1.50				13176	13183
		M14 x 2.0				13177	13184
		3/8"-24 UNF				13178	13185
		1/2"-13 UNC				-	13187
		5/8"-11 UNC				13181	13188
4"	.0118 .014 .020	5/8"-11 UNC	1-3/8"	10,200	1	14016	-
						14026	-
						14036 ■▲	14126
5"	.014 .020	5/8"-11 UNC	1-1/4"	9,000	1	14206 ▲	-
						14216	14256
6"	.014 .020	5/8"-11 UNC	1-1/4"	6,600	1	14066 ▲*	-
						14076 ■*	14166*

* With internal nut

▲ Available in non-sparking brass & bronze wire, see page 57 for details.

■ Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 170 for details.

Vortec Pro® Crimped Wire Cup Brushes - Provide flexible brushing action and cost-effective performance in general purpose cleaning applications.



Dia.	Wire Size	Wire Type	Arbor Hole	Max. RPM	Display Pack Item No.	Boxed Qty. Item No.
3"	.014" Coarse	Carbon	5/8"-11	14,000	36031	36231
			1/2"-13		36032	36232
			M10 x 1.25		36033	36233
			M10 x 1.50		36034	36234
			M14 x 2.0		36035	36235
3-1/2"	.014" Coarse	Carbon	5/8"-11	12,000	36068	-
4"	.020" Coarse	Carbon	5/8"-11	9,000	36036	36236
5"	.020" Coarse	Carbon	5/8"-11	9,000	36061	36261
6"	.020" Coarse	Carbon	5/8"-11	6,600	36037	36237

Cup Brushes with Stem - Designed primarily for use on high speed die grinders, cup brushes with permanently attached stems can also be used on drills.

Utility Crimped Wire Cup Brushes - Smaller diameter cup brushes which provide flexible brushing action and consistent performance for more demanding light-duty cleaning applications; featuring a 1/4" stem for use on air tools.



Dia.	Wire Size	Trim Length	Max. RPM	Standard Pack	Item Number		
					Steel	Stainless	Brass
1-3/4"	.006	3/4"	13,000	10	14300	14303	14310
	.0118				14301	14304	14314
2"	.008	5/8"	13,000	10	14313	14318	-
	.0118				14306	14319	-
2-1/2"	.008	7/8"	13,000	10	14315	14320	-
	.014				14317	14321	-
2-3/4"	.0118	7/8"	6,000	1	14302	-	14311

Vortec Pro® Utility Crimped Wire Cup Brushes - Designed to be a flexible and economic small diameter brushing tool for a broad range of general purpose applications using air tools or drills. 1/4" Stem.



Dia.	Wire Size	Wire Type	Trim Length	Max. RPM	Display Pack Item #	Boxed Qty. Item #
2"	.008" Fine	Carbon	5/8"	13,000	36060	36260
	.014" Coarse	Carbon			36029	36229
3"	.014" Coarse	Carbon	7/8"	13,000	36030	36230



Removing paint from a steel surface with a crimped wire cup brush.



13245



14301



36230

Crimped Wire Cup Brushes

Small Angle Grinder Brushes



Cleaning a weld with a stringer bead wheel brush.

Small Angle Grinder Brushes - These industrial grade brushes are specifically designed to provide the smoothest, most efficient brushing action on 4" and 4-1/2" mini-grinders. Featuring Weiler's individual knot hole and solid ring product construction, these perfectly balanced brushes produce minimal vibration in use, reducing operator fatigue and providing longer life.

Weiler's wide selection of thread sizes and assortment of threaded adapters permit these high performance brushes to be used on all popular brands of mini-grinders. See the Small Angle Grinder Reference Chart on page 44 for help in selecting the right product for use on your specific grinder.

Applications

- Removing paint and coatings
- Cleaning rust, scale and corrosion
- Light deburring
- Weld prep and cleaning
- Removal of slag from the edges of plasma-cut or flame-cut plates

CHECK OUT THE VIDEO



Knot Wire Wheels - Standard Twist - Provide heavy-duty brushing action with some flexibility; ideal for demanding cleaning applications on somewhat irregular surfaces.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
									Steel	Stainless
3"	.014	3/8"-24 UNF	20	3/8"	5/8"	7/16"	25,000	5	13201	13208
4"	.014	M10 x 1.25	24	1/2"	7/8"	7/16"	20,000	5	13100	13107
		M10 x 1.50							13101	13108
		M14 x 2.0							13102	13109
		3/8"-24 UNF							13103	13110
		1/2"-13 UNC							13105	-
		5/8"-11 UNC							13106 ■	13113 ■
4"	.020	M10 x 1.25	24	1/2"	7/8"	7/16"	20,000	5	13114	-
		M10 x 1.50							13115	-
		M14 x 2.0							13116	-
		3/8"-24 UNF							13117	-
		1/2"-13 UNC							13119	-
		5/8"-11 UNC							13120	-

■ Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 170 for details.

Knot Wire Wheels - Cable Twist - Provide maximum brushing action with minimal flexibility; ideal for demanding cleaning and coating removal applications on relatively smooth surfaces.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
									Steel	Stainless
4"	.020	M10 x 1.25 M10 x 1.50 5/8"-11 UNC	24	1/4"	7/8"	7/16"	20,000	5	13261	-
									-	13272
									13266 ■	13276

■ Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 170 for details.

Knot Wire Wheels - Stringer Bead Twist - Provide maximum impact action for fast removal of slag, spatter, and oxidation. The 4" Mini Roughneck and the 4-1/2" Roughneck Jr. feature a narrow face width suitable for cleaning welds and reaching into corners

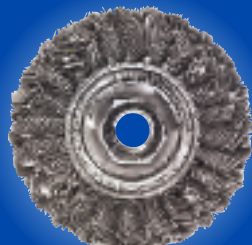


Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
									Steel	Stainless
4"	.020	1/2"-3/8" M10 x 1.25 M10 x 1.50 M14 x 2.0 3/8"-24 UNF 1/2"-13 UNC 5/8"-11 UNC	32	3/16"	7/8"	7/16"	20,000	5	13124	08954*
									13125 ■	13132
									13126	13133
									13127	13134
									13128	13135
									13130	13137
									13131 ■	13138 ■
									4-1/2"	.020
13233	13239									
13234	13249									

■ Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 170 for details.

*Standard Pack 10

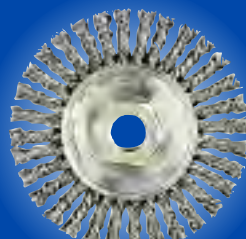
13106



13266



13138



Small Angle Grinder Brushes

Polyflex™ Encapsulated Knot Wire Wheels - Stringer Bead Twist. Black Elastomer* - Feature a heat-stabilized encapsulation that gradually wears away to keep only the wire tips exposed for maximum aggression; suitable for cleaning hot welds.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
									Steel	
4"	.020	5/8"-11 UNC	32	3/16"	7/8"	7/16"	20,000	5	35800	

* See Elastomer Color Code Chart on page 18 for more information.

Crimped Wire Wheels - Provide flexible brushing action and consistent performance for demanding light-duty cleaning and deburring applications.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
								Steel	Stainless
4"	.014	M10 x 1.50 M14 x 2.0 3/8"-24 UNF 5/8"-11 UNC	1/2"	7/8"	7/16"	14,000	5	13076	-
								13077	-
								13078	-
								13081	13085

Polyflex™ Encapsulated Crimped Wire Wheel - Burgundy Elastomer* - Feature fill material that has been encapsulated in an elastomer which gradually wears away to keep only the wire tips exposed; ideal for applications that require maximum aggression but no flexibility to the brushing action.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Thickness at Face Plate	Max. RPM	Std. Pack	Item Number	
								Steel	
4"	.014	5/8"-11 UNC	1/2"	7/8"	7/16"	14,000	5	35416	

* See Elastomer Color Code Chart on page 18 for more information.

Knot Wire Bevel Brushes - Saucer-shaped radial wheels which provide a heavy-duty brushing action with some flexibility; ideal for cleaning fillet welds and into corners.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Max. RPM	Std. Pack	Item Number	
								Steel	Stainless
4"	.014	M10 x 1.25 M10 x 1.50 5/8"-11 UNC	20	3/8"	3/4"	12,500	1	13401	-
								13402	13412
								13406	13416
4"	.020	M14 x 2.0 5/8"-11 UNC	20	3/8"	3/4"	12,500	1	13423	-
								13426	13436
4-1/2"	.014 .020	5/8"-11 UNC	20	3/8"	1"	12,500	1	13456	13466
								13476	13486

Crimped Wire Bevel Brushes - Saucer-shaped radial wheels which provide a more flexible brushing action for cleaning fillet welds and into corners.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number	
							Steel	
3-3/8"	.0118	M10 x 1.25 5/8"-11 UNC	1/2"	1/2"	12,500	1	13091	13095

Threaded Adapters - For mounting brushes with a 5/8"-11 UNC nut to other threaded spindles.

Fixed Thread Size	Adapted Thread Size	Standard Pack	Item Number
5/8" - 11 UNC	M10 x 1.25	10	07771 ■
5/8" - 11 UNC	M10 x 1.50	10	07772 ■
5/8" - 11 UNC	3/8" - 16 UNC	10	07769
5/8" - 11 UNC	3/8" - 24 UNF	10	07746

■ Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 170 for details.



Prepping the bevel end of a stainless pipe for welding.



35800



13085



35416



13456



13095



07771

Small Angle Grinder Brushes

Small Angle Grinder Brushes



Removing paint from a metal surface with a crimped wire cup brush.



13016

Knot Wire Cup Brushes - Provide heavy-duty brushing action with some flexibility; ideal for demanding cleaning applications on relatively flat surfaces.



Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Standard Pack	Item Number	
						Steel	Stainless
2-3/4"	.014	M10 x 1.25	1"	14,000	1	13015	-
		M10 x 1.50				13016	-
		M14 x 2.0				13020	-
		3/8"-24 UNF				13021	-
		5/8"-11 UNC				13025 ■	-
2-3/4"	.020	M10 x 1.25	1"	14,000	1	13281 ■	13253
		M10 x 1.50				13282	13254
		M14 x 2.0				13283	13255
		3/8"-24 UNF				13284	13256
		1/2"-13 UNC				13285	13257
		5/8"-11 UNC				13286 ■	13258
3-1/2"	.023	M10 x 1.25	7/8"	13,000	1	13150	-
		M10 x 1.50				13151	-
		M14 x 2.0				13152	13159
		3/8"-24 UNF				13153	13160
		1/2"-13 UNC				13155	-
		5/8"-11 UNC				13156 ■	13163

■ Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 171 for details.

Knot Wire Cup Brushes - Hurricane Twist - Provide very smooth brushing action and extended life with reduced cleaning action.



13711

Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Std. Pack	Item Number	
						Steel	Stainless
2-3/4"	.014	M10 x 1.25	3/4"	14,000	1	13715	-
		M10 x 1.50				13716	-
		M14 x 2.0				13717	-
		5/8"-11 UNC				13718	-
2-3/4"	.020	M10 x 1.25	3/4"	14,000	1	13709	13719
		M10 x 1.50				13710	13720
		M14 x 2.0				13711	13721
		5/8"-11 UNC				13712	13722

Crimped Wire Cup Brushes - Provide very flexible brushing action and the most consistent performance for lighter-duty cleaning applications on somewhat irregular surfaces.

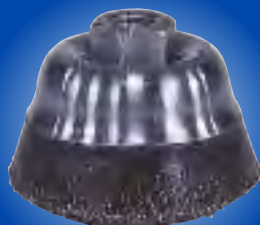


13245

Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Std. Pack	Item Number	
						Steel	Stainless
3"	.014	M10 x 1.25	1"	14,000	1	13240 ■	-
		M10 x 1.50				13241	-
		M14 x 2.0				13242	-
		3/8"-24 UNF				13243	-
		1/2"-13 UNC				13244	-
		5/8"-11 UNC				13245 ■	-
3-1/2"	.014	M10 x 1.25	7/8"	12,000	1	13175	13182
		M10 x 1.50				13176	13183
		M14 x 2.0				13177	13184
		3/8"-24 UNF				13178	13185
		1/2"-13 UNC				-	13187
		5/8"-11 UNC				13181	13188

■ Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 170 for details.

Polyflex® Encapsulated Crimped Wire Cup Brush - Burgundy Elastomer* - Features fill material that has been encapsulated in an elastomer which gradually wears away to keep only the wire tips exposed; ideal for applications on flat surfaces that require maximum aggression but no flexibility to the brushing action.



35406

Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Standard Pack	Item Number
						Steel
3-1/2"	.014	5/8"-11 UNC	7/8"	12,000	1	35406

*See Elastomer Color Code Chart on page 18 for more information.

Small Angle Grinder Brushes

Small Angle Grinder Brushes

Small Angle Grinder Reference Chart - Lists the thread size of popular mini-grinders to help you select the appropriate Weiler brush for your tool.

Manufacturer	Model Numbers	Male Thread Size	Grinder Size	Max. RPM
AEG	WS601	5/8-11	4-1/2"	10,000
Black & Decker	6246	M10 x 1.50	4"	10,000
	2750/2750G	5/8-11	4-1/2"	10,000
	4252	5/8-11	5"	10,000
	7750	5/8-11	4-1/2"	10,000
	G750/G850	5/8-11	4-1/2"	10,000
	FS6500AG	5/8-11	4-1/2"	10,000
	G950	5/8-11	4-1/2"	10,000
Bosch	1347A	5/8-11	4-1/2"	11,000
	1375/1375A	5/8-11	4-1/2"	11,000
	1700/1710D	5/8-11	4-1/2"	11,000
	1800/1810PS	5/8-11	4-1/2"	11,000
	1701/1711D	5/8-11	5"	11,000
	1703EVS	5/8-11	5"	11,000
	1711/1801	5/8-11	5"	11,000
	1811PS	5/8-11	5"	11,000
	1803EVS	5/8-11	5"	11,000
	1347	M14 x 2.0	4-1/2"	11,000
	1348/1348E	M14 x 2.0	5"	11,000
	1347A/1348AE	5/8-11	5"	11,000
	7352-111 Air	M14 x 2.0	5"	12,000
	DeWalt	DW831	5/8-11	5"
DW802G		5/8-11	4-1/2"	10,000
D28110		5/8-11	4-1/2"	11,000
D28402/D28112		5/8-11	4-1/2"	11,000
D28114		5/8-11	4-1/2" / 5"	11,000
D28131		5/8-11	4-1/2" / 5"	11,000
DW402/DW400		5/8-11	4-1/2"	10,000
Hilti		AG 125-SE	M14	5"
	AG 125-S	M14	5"	11,000
	DEG 500-D	5/8-11	5"	11,000
	HG 500-D	5/8-11	5"	11,000
	DC 500-S	5/8-11	5"	11,000
	DAG 450-S	5/8-11	4-1/2"	11,000
	DAG 451-S	5/8-11	4-1/2"	11,000
	HG450	5/8-11	4-1/2"	11,000
	HG500/DC500	5/8-11	5"	11,000
	Hitachi	G10SR2	M10 X 1.25	4"
G12SA3/G12SE2		5/8-11	4-1/2"	10,000
G12SR2		M10 X 1.25	4-1/2"	11,000
G13SC2		5/8-11	5"	10,000
G10SD1		M10 x 1.50	4"	11,000
G12SA		5/8-11	4-1/2"	10,000
G12S1		5/8-11	4-1/2"	11,000
G13SC		5/8-11	5"	11,000
Ingersoll-Rand		AG230P64	3/8-24	4"
	AG230P1045	5/8-11	4-1/2"	12,000
	AG230P105	5/8-11	5"	12,000
	3445	5/8-11	4-1/2"	12,000
	TA120RP64	3/8-24	4"	12,000
	HA120RP64	3/8-24	4"	12,000
	HA120RP1045	5/8-11	4-1/2"	12,000
IR344	3/8 - 24	4"	13,500	
Jepson	4601	M10 X 1.25	4"	11,000
	4205	5/8-11	5"	10,000
	4105N	M14	5"	10,000
	4045	5/8-11	4-1/2"	11,000
	4050	M14	5"	11,000
Jet	JSM-619	3/8-24	4"	11,000
	JSM-6195B	5/8-11	5"	11,000
	JEG-400HD	3/8-16	4"	11,500
	JEG-450	5/8-11	4-1/2"	11,500
	JEG-500	5/8-11	5"	9,800

Manufacturer	Model Numbers	Male Thread Size	Grinder Size	Max. RPM
Makita	9553NB	M10 X 1.25	4"	11,000
	9564	5/8-11	4-1/2"	10,500
	9527PB/9557PB	5/8-11	4-1/2"	10,000
	9557NB	5/8-11	4-1/2"	11,000
	9554NB	5/8-11	4-1/2"	10,000
	9558NB	5/8-11	5"	11,000
	9565	5/8-11	5"	10,500
	9015A/9558PB	5/8-11	5"	10,000
	9005B	5/8-11	5"	10,000
	9514B	M10 x 1.25	4"	11,000
	9501BZ	M10 x 1.25	4"	10,000
	9501BKW	M10 x 1.25	4"	10,000
	9526PB	M10 x 1.50	4"	10,000
	9503BHZ	5/8-11	4-1/2"	10,000
	9527PB	5/8-11	4-1/2"	10,000
	9505BHZ/9528PB	5/8-11	5"	10,000
	Metabo	W 7-115	5/8-11	4-1/2"
W 7-125		5/8-11	5"	9,000
WE 9-125		5/8-11	5"	10,000
W 10-125		5/8-11	5"	10,000
WE 14-125		5/8-11	5"	10,500
W14-125		5/8-11	5"	10,000
7010		M14 x 2.0	4-1/2"	10,000
6014/7015		5/8-11	4-1/2"	10,000
EWE9125S		5/8-11	4-1/2"	1,750-8,000
11025		5/8-11	4-1/2"/5"	10,000
7026/10125		5/8-11	5"	8,500
9023	5/8-11	5"	10,000	
9025	5/8-11	5"	10,000	
11050	5/8-11	6"	8,500	
7016	5/8-11	4-1/2"	1,700-8,500	
Milwaukee Electric Tool	6140-6	5/8-11	4-1/2"	10,000
	6145	1/2-13	4-1/2"	10,000
	6148-6	5/8-11	4-1/2"	10,000
	6141	5/8-11	5"	10,000
	6149-20	5/8-11	5"	10,000
	6151	5/8-11	4-1/2"	10,000
	6153-20	5/8-11	4-1/2"	11,000
	6154-20	5/8-11	4-1/2"	11,000
	6155-20	5/8-11	5"	11,000
	6156-20	5/8-11	5"	11,000
	6140/6142	5/8-11	4-1/2"	10,000
6145	1/2-13	4-1/2"	10,000	
6146	1/2-13	5"	10,000	
Porter Cable	749/8749	M14 x 2.0	4-1/2"	12,000
	7406	5/8-11	4-1/2"	10,000
	7405	5/8-11	5"	10,000
Ryobi	AG401	5/8-11	4"	11,000
	AG450	5/8-11	4-1/2"	11,000
	SG-1000K	3/8-16	4"	11,000
	G-1155-C	5/8-11	4-1/2"	11,000
	G-1125-C	5/8-11	5"	10,000
Sioux	1240	M10 x 1.50	4-1/2"	11,000
	1240A	M10 x 1.25	4-1/2"	11,000
	1245	5/8-11	5"	10,000
Skil	9290-01	5/8-11	4-1/2"	11,500
	9330-01	5/8-11	4-1/2"	11,000
	9325-01	5/8-11	4-1/2"	11,000
	9410/(9410:02)	M10 x 1.50	4-1/2"	12,000
	9310/9415	5/8-11	4-1/2"	11,000
	9611/(9611:02)	5/8-11	4-1/2"	12,000
HD9611	5/8-11	4-1/2"	12,000	

Small Angle Grinder Brushes

Knot Wire End Brushes



Cleaning hard-to-reach fillet welds on a gusseted base plate.



10026



36251



11141



Stem-Mounted End Brushes - Wire end brushes are intended primarily for use on high-speed portable power tools for addressing smaller surfaces and recessed areas. End brushes feature an integral 1/4" steel stem for safe operation at high speed and quick mounting into the collet or chuck of either electric or pneumatic die grinders.

End brushes are available in a variety of knot wire and crimped wire configurations for use in a broad range of applications, and they are manufactured with the highest quality construction for smooth, efficient performance and long life. Weiler's end brushes are available in heat-treated steel, Type 302 stainless steel, and bronze or brass wire.

Applications

- Cleaning ID's, internal passages and recessed areas
- Deburring internal edges and crosshole intersections
- Removal of die flash and excess molded material
- Spot facing

Knot Wire End Brushes - Feature a hollow end and heavy-duty brushing action with some flexibility; ideal for more demanding cleaning applications in recessed areas.



Dia.	Wire Size	Trim Length	Max. RPM	Standard Pack	Item Number		
					Steel	Stainless	Bronze
1/2"	.006	1-1/8"	20,000	10	-	10215	-
	.0104				10208	10216	
	.014				10217	10218	
3/4"	.006	1-1/8"	20,000	10	-	10220	-
	.0104	7/8"			10210	10211	-
	.014		10025 ■	10029	-		
	.014		-	10387 ♦	-		
	.020		10026 ■	10030	-		
	.020	-	10388 ♦	-			
1-1/8"	.006	1"	20,000	10	10141	10142 •	-
	.0104	1-1/8"			10212	10213	-
	.0118	7/8"	22,000	10187	-	-	
	.014			10027 ■	10031	-	
	.014			-	10392 ♦	-	
	.020			10028 ■	10032	10067	
	.020	-	-	10393 ♦	-		

♦ Nickel-plated Cup compliant with DOD MIL STD 2041D(SH)

• Coated Cup

■ Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 171 for details.

Vortex Pro® Knot Wire End Brushes - Feature similar hollow-end construction and heavy-duty brushing action, but they have been engineered to provide cost-effective use for less demanding applications.



Dia.	Wire Size	Wire Type	Trim Length	Max. RPM	Display Pack Item No.	Boxed Qty. Item No.
3/4"	.014" Fine	Carbon	7/8"	22,000	-	36286
	.014" Fine	Stainless			-	36287
	.020" Coarse	Carbon			36050	36250
1"	.014" Fine	Carbon	7/8"	22,000	-	36288
	.014" Fine	Stainless			-	36289
	.020" Coarse	Carbon			36051	36251

Knot Wire End Brushes - Banded - Feature a pair of bands around the fill to reduce the exposed trim length and limit brush flaring at operating speed to provide a very aggressive, controlled brushing action.



Dia.	Wire Size	Trim * Length	Max. RPM	Standard Pack	Item Number
					Steel
1-1/8"	.014	3/8"	18,000	10	11140
	.020				11141

* Trim length from bands



Mount End Brushes Safely - When mounting end brushes, the amount of overhang from the tool should be minimized by clamping on as much of the straight portion of the stem as possible. However, the collet or chuck should NOT clamp on the radius at the base of the stem to insure a secure hold before use. See photo on left for the correct brush orientation.

Knot Wire End Brushes

Crimped Wire End Brushes

Crimped Wire End Brushes - Feature a solid end construction and very flexible brushing action ideal for more demanding light-duty cleaning applications in corners and hard-to-reach areas.



Cleaning the exhaust port of a gasoline engine.

Dia.	Wire Size	Trim Length	Max. RPM	Standard Pack	Item Number						
					Steel	Brass	Stainless				
3/8"	.006	7/8"	20,000	10	10186	-	-				
	.0118				10188	-	-				
1/2"	.005	7/8"	25,000	10	-	10158	-				
	.006				-	10013					
	.006				-	11010 •					
	.006				-	10370 ♦					
	.0104				-	10014					
	.0104				-	11011 •					
	.0104				-	10371 ♦					
	.014				-	10015					
	.014				-	10372 ♦					
	.020				-	10016					
	.020				-	10373 ♦					
	3/4"				.006	7/8"	22,000	10	10005	-	10017
.006		11003 •	-	11013 •							
.006		-	-	10374 ♦							
.0104		10006	-	10018							
.0104		11004 •	-	11014 •							
.0104		-	-	10375 ♦							
.014		10007	-	10019							
.014		-	-	10376 ♦							
.020		10008	-	10020							
.020		-	-	10377 ♦							
1"		.005	7/8"	20,000	10				-	10128	-
		.006	1"						22,000	10009	-
	.006	7/8"	22,000			11006 •	-	11016 •			
	.006	1"	-			-	-	10378 ♦			
	.0104	-	-			10010	-	10022			
	.0104	-	-			11007 •	-	11017 •			
	.0104	-	-			-	-	10379 ♦			
	.0118	7/8"	20,000			-	10091	-	-		
	.014	1"	22,000			10011	-	10023			
	.014	-	-			-	-	10380 ♦			
	.020	1-1/8"	-			10012 ■	-	10024			
	.020	-	-			-	-	10381 ♦			

♦ Nickel-plated Cup compliant with DOD MIL STD 2041D(SH)

• Coated Cup

■ Available in Display Packaging. Add "P" to end of Item Number when placing order. See page 171 for details.

Vortec Pro® Crimped Wire End Brushes - Feature similar solid end construction and flexible brushing action, but they have been engineered to provide cost-effective use for less demanding applications.



Dia.	Wire Size	Wire Type	Trim Length	Max. RPM	Display Pack Item #	Boxed Qty. Item #
1/2"	.006" Fine	Carbon	7/8"	25,000	-	36280
	.006" Fine	Stainless			-	36281
	.0104" Medium	Carbon			-	36282
3/4"	.006" Fine	Stainless	7/8"	22,000	-	36283
	.0104" Medium	Carbon			36047	36247
	.014" Coarse	Carbon			36046	36246
1"	.006" Fine	Carbon	7/8"	22,000	-	36284
	.006" Fine	Stainless			-	36285
	.0104" Medium	Carbon			36049	36249
	.014" Coarse	Carbon			36048	36248



11013



10009



36247

Crimped Wire End Brushes



1. Insert Brush



2. Apply Power



3. Shut-Off Power



4. Remove Brush

When brushing a recessed area or the inside diameter of a tube, use an End Brush in the following manner: Insert the brush, start the brush rotating. Turn off the power before removing the brush. This will prevent the brush from flaring out and enable it to fit into the recessed area again.

Crimped Wire End Brushes

Crimped Wire End Brushes - Banded - Feature a pair of bands around the fill to reduce the exposed trim length and limit brush flaring at operating speed to provide an aggressive, controlled brushing action.



Dia.	Wire Size	Trim * Length	Max. RPM	Standard Pack	Item Number		
					Steel	Stainless	Aluminum
1/2"	.006	9/16"	20,000	10	11100	11110	-
	.0104		11101		-	-	
3/4"	.006	7/16"	20,000	10	11102	11112	-
	.0104	3/8"			11103	11113	-
		1"			3/8"	-	11114
1"	.0104	3/8"	10,000	10	11105	11115	-
1"	.008	3/4"	20,000	10	-	-	10160

* Trim length from bands

***Controlled Flare End Brushes** - Feature uniquely trimmed crimped wire fill for more effective brushing action and greatly enhanced durability when cleaning corners and fillet welds.



Dia.	Wire Size	Trim Length	Max. RPM	Standard Pack	Item Number	
					Steel	Stainless
1/2"	.0104	7/8"	25,000	10	10301	10313
	.014				10302	10314
	.020				10303	10315
	3/4"				.0104	7/8"
3/4"	.014	7/8"	22,000	10	10306	-
	.020				10307	10319
	1"				.0104	1"
1"	.014	1-1/8"	22,000	10	10310	10322
	.020				10311	10323

*Patent #8,186,000 B2

The unique trim of a controlled flare end brush is designed specifically to address hard-to-reach areas, reducing filament fatigue and breakage typically associated with a standard end brush when cleaning corners and fillet welds.



Standard Crimped Wire End Brush Controlled Flare End Brush

Pilot Bonding Brushes - Banded to expose a short 3/8" trim length of crimped stainless wire and feature a pilot in the center of their solid end. They were originally designed to clean around rivet holes in aluminum aircraft panels but may be used in other similar applications.



Dia.	Wire Size	Pilot Dia.	Max. RPM	Standard Pack	Item Number
					Stainless
1/2"	.005	3/32"	20,000	10	10056
		1/8"			10057
		5/32"			10058
		3/16"			10059

Polyflex® Encapsulated Crimped Wire End Brushes - Burgundy Elastomer* - Feature fill material that has been encapsulated in an elastomer which gradually wears away to keep only the wire tips exposed; ideal for applications such as spot facing which may require maximum aggression and no flaring.



Dia.	Wire Size	Trim Length	Max. RPM	Standard Pack	Item Number	
					Steel	Stainless
1/2"	.0104	7/8"	18,000	10	35340	35500
3/4"	.0104	7/8"	16,000	10	35345	35505
1"	.0104	7/8"	14,000	10	35350	-
Orange Elastomer* - Heavy-Duty						
1/2"	.0104	7/8"	18,000	10	35535	-
3/4"	.0104	7/8"	16,000	10	35540	-
1"	.0104	7/8"	14,000	10	35545	-

* See Elastomer Color Code Chart on page 18 for more information.

Cleaning a fillet weld on aluminum using a controlled flare end brush.



11112



10310



10059



35350

Crimped Wire End Brushes

Crimped Wire End & Square Brushes

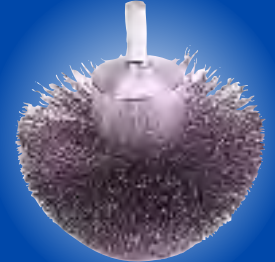
Circular Flared End Brushes - Feature crimped wire fill which has been "pre-flared" to match the working angle of the brush at operating speed; suited for addressing broad and slightly contoured surfaces.



Dia.	Wire Size	Max. RPM	Standard Pack	Item Number	
				Steel	Stainless
1"	.006	25,000	1	10033	10042
	.008			10034	10043
	.020			10099	-
1-1/4"	.006	20,000	1	10076	-
	.008			10035	-
	.020			-	-
1-1/2"	.006	20,000	1	10044	10045
	.008			10037	10046
	.020			10038	10047
2"	.014	25,000	2	11142	-
	.008			10039	10048
2-3/4"	.008	16,000	2	10040	-
	.020			-	-
	.014			10150	10151
3"	.006	16,000	2	10041	10050
	.008			-	-
	.014			10134	-
	.020			10073	10074
4"	.008	15,000	1	-	96705



Cleaning the sides and bottom of a deep drawn part using a square brush.



10041

Polyflex® Encapsulated Circular Flared End Brushes - Black Elastomer* - Crimped wire fill that has been encapsulated in a heavy-duty elastomer which gradually wears away to keep only the wire tips exposed. Their saucer-shape, narrow face, and aggressive brushing action make them suitable for addressing edges, corners, and confined areas.



O.D. Dia.	Wire Size	Cup Size	Max. RPM	Standard Pack	Item Number	
					Steel	Stainless
1-3/4"	.006	3/4"	25,000	2	35222	-
	.0104				35223	35226
	.020				35224	-
2"	.0104	3/4"	20,000	2	35233	-
	.020				35234	-
	.006				35296	-
2-3/4"	.0104	1"	16,000	2	35297	35299
	.020				35298	-
	.020				-	-

* See Elastomer Color Code Chart on page 18 for more information.



35297

Pencil End Brushes - Contains straight wire fill material retained in a small diameter steel tube. They provide a light-duty brushing actions suitable for very small recessed areas.



Tube Dia.	Wire Size	Trim Length	Overall Length	Max. RPM	Standard Pack	Item Number	
						Steel	Stainless
1/4"	.0104	3/4"	3-3/4"	8,000	10	99825	99823

Square Brushes - Wire-filled square brushes are designed to simultaneously clean the side and bottom of blind bores or circular recesses. Square brushes feature an integral 1/4" steel stem for safe operation and quick mounting into the chuck of a drill or drill press.

Applications

- Removing light rust and carbon build-up from ID's
- Deburring internal edges and crosshole intersections

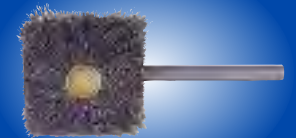
Square Brushes - Feature crimped wire construction for a very flexible brushing action for light-duty cleaning and deburring of ID's and passages.



Sq. Dia.	Wire Size	Overall Length	Max. RPM	Standard Pack	Item Number
					Steel
1"	.006	3-5/8"	4,500	10	33000
1-1/16"	.006	3-11/16"	4,500	10	33002
1-1/2"	.006	3-7/8"	4,500	10	33005
1-7/8"	.006	4-1/16"	4,500	10	33009



99825



33009

Crimped Wire End & Square Brushes

Crosshole Deburring Brushes



Deburring intersecting oil passages in an engine block.

Bore-Rx™ Brushes - Weiler's crimped wire Bore-Rx brushes are designed for automated use in CNC machining centers and dedicated equipment. They are densely filled for high aggression and long tool life and feature a 3/8" diameter steel stem with a flat for use in a collet or end-mill holder.

Bore-Rx brushes are ideal tools for removing burrs from internal edges. Since they can eliminate manual deburring operations, these internal brushing tools help to improve part-to-part consistency and reduce direct labor costs. Bore-Rx brushes are available in sizes ranging from 3/4" to 4" in diameter, and they are designed to be interpolated within bore sizes that are larger than the brush diameter.

Bore-Rx Brushing Tools - Wire Fill - Feature dense crimped wire fill for aggressive deburring action on ductile metals and other hard-to-deburr materials.

Dia.	Wire Size	Face Width	Overall Length	Max. RPM	Standard Pack	Item Number
3/4"	.005	3/8"	4-3/8"	8,000	1	17202
		3/4"	4-3/4"			17203
7/8"	.006	3/4"	4-3/4"	8,000	1	17205
1"	.006	3/4"	5"	8,000	1	17207
1-1/4"	.006	3/4"	4-3/4"	8,000	1	17209
1-1/2"	.006	1"	5"	8,000	1	17211
2"	.006	1"	4-1/4"	6,000	1	17214
2-1/2"	.008	1"	4-3/4"	6,000	1	17216
3"	.008	1"	5-1/4"	6,000	1	17218
4"	.0118	1"	6-1/4"	6,000	1	17219

* Stainless Steel fill is available by special order.

Note: All Bore-Rx brush stems have a 2" long flat for use in end mill holders. Alternatively, they can be mounted in 3/8" collets. Bore-Rx extension holder is available. Contact Application Engineering at 888-299-APPS (2777).

Replacement Bore-Rx Brush Heads and Reusable Bore-Rx Arbors

In high production applications, reusable arbors reduce manufacturing costs by allowing the use of inexpensive brush head replacements. Brush heads are made-to-order in diameters ranging from 3/4" to 1-1/2" with face widths of 1/4" to 1". They are available on 3/16" and 1/4" pins. The pin diameter is based on the application and determines brush density. Contact Application Engineering at 888-299-APPS (2777) for more information.



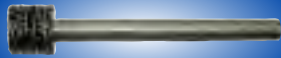
Operating Parameters For Wire Bore-Rx Brushes

Brush Diameter	Recommended RPM	Recommended Feed Rate
5/8" - 7/8"	8,000	20"/min
1" - 1-1/2"	8,000	20"/min
2" - 2-1/2"	6,000	20"/min
3" - 4"	3,000	20"/min

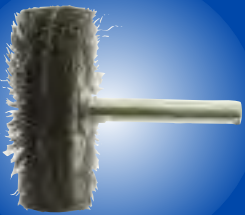
Tool Paths for Crosshole Deburring

An effective tool path for most crosshole deburring jobs is circular interpolation using the following guidelines to determine diameter of interpolation. The interpolation should be performed at a depth where the center of the brush face is at the center of the intersecting hole.

■ Diameter of Interpolation = Hole Diameter - Brush Diameter



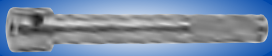
17205



17218



Replacement Head



Reusable Arbor

Power and Hand Tube Brushes

Power and Hand Tube Brushes - Weiler offers a comprehensive line of power and hand tube brushes for internal cleaning and deburring applications in tubing, pipe, drilled-and-tapped holes, and machined bores and passages. Due to their twisted-in-wire construction, the use of power tube brushes is limited to low-speed power tools such as drills and drill presses and to CNC and manual machine tools in which the RPM can be precisely programmed or set. In addition, they should not be used in reverse rotation to prevent unraveling of the stem wire. Available in a wide variety of brush configurations and fill materials, Weiler can supply a tube brush for any application. If you do not see what you need in this catalog, see the Special Tube Brush Design Specification Sheet on page 54, or call our toll-free Application Engineering Hotline at 888-299-APPS(2777) for assistance.

Applications

- Deburring and cleaning drilled-and-tapped holes and other internal threads
- Cleaning and finishing the ID of tubing and pipe
- Crosshole deburring
- Removing burrs and chips from internal keyways, slots, and grooves
- Removing paint, coatings, and build-up other foreign material from the surfaces of bores and passages

Double Stem, Double Spiral - Feature four stem wires and a double spiral of straight wire fill material to provide aggressive cleaning and deburring action.



Dia.	Wire Size	Brush Part	Stem Dia.	Overall Length	Standard Pack	Item Number		
						Steel	Stainless	Brass
3/8"	.003	1-1/2"	1/8"	4"	10	21342	-	-
	.006	2-1/8"		6"		21232	-	-
1/2"	.004	2"	5/32"	5"	10	21106	21116	-
	.006					21107	21117	21178
	.0104					21252	-	-
5/8"	.005	2"	7/32"	5"	10	21108	21118	-
	.008					21109	21119	21219
	.0104					21184	-	-
3/4"	.006	2-1/2"	1/4"	5-1/2"	10	21110	21120	21179
	.008					21247	-	-
	.0104					21111	21121	-
7/8"	.006	2-1/2"	1/4"	5-1/2"	10	21112	21122	-
	.0104					21113	21123	-
1"	.006	2-1/2"	1/4"	5-1/2"	10	21114	21124	21218
	.0104					21115	21125	-
1-1/4"	.006	2-1/2"	1/4"	5-1/2"	10	21164	21245	-
	.0104					21167	21236	-
1-1/2"	.014	2-1/2"	1/4"	5-1/2"	10	-	21413	-

Tube Brush Operating Recommendations



The stems in power tube brushes are not as strong as the stems in most other brushes. Therefore, it is very important to avoid any load conditions and brush speeds that can cause excessive stem deflections and destructive bending.

A suggested guideline to avoid this unsafe condition is minimizing the overhang of the stem to under an inch, and running the brush at speeds below 2,000 RPM.

Increasing overhang could decrease the safe speed at which the brush can operate. To reach into deeper holes, use drill extension rods instead of increasing stem overhang.

Before Starting the Brush:

- Secure brush in chuck
- Ensure clockwise brush rotation (running the brush counter-clockwise could cause the brush to fall apart.)
- Clamp work securely.
- Position all guards in place.
- Align brush with the work so the brush rotates on its true centerline to prevent any stem deflections.
- Guide the brush into the hole before starting the brush rotation.
- Always wear eye protection.



Removing zinc coating from holes in a brake bracket.

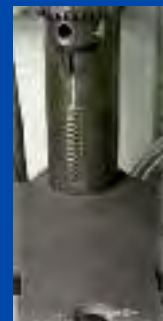


21178

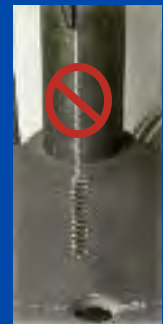


21110

Correct Mounting in Chuck



Incorrect Mounting in Chuck



Power and Hand Tube Brushes

Polyflex® Encapsulated Double Stem, Double Spiral - Burgundy Elastomer* -
Encapsulated with an elastomer that leaves only the sharp wire tips exposed for maximum aggression and a very rigid brushing action.



Dia.	Wire Size	Brush Part	Stem Dia.	Overall Length	Standard Pack	Item Number	
						Steel	Brass
1/2"	.006	2"	5/32"	5"	10	35821	
5/8"	.0104	2"	7/32"	5"	10	35822	
3/4"	.0104	2-1/2"	1/4"	5-1/2"	10	35823	
1"	.0104	2-1/2"	1/4"	5-1/2"	10	35825	

* See Elastomer Color Chart on page 20 for more information.






Round - Feature a single continuous length of stainless steel stem wire and a single spiral of crimped wire fill for a more flexible brushing action; for use on smooth or threaded blind holes.



Dia.	Wire Size	Brush Part	Stem Dia.	Overall Length	Standard Pack	Item Number		
						Steel	Stainless	Brass
1/4"	.004	1"	1/8"	3-1/2"	10	21072	21081	21332
5/16"	.005	1"	1/8"	3-1/2"	10	21175	-	-
3/8"	.004	1"	1/8"	3-1/2"	10	21073	21082	-
	.006					-	-	
	.008					-	-	
						21264	21240	-
7/16"	.005	1"	1/8"	3-1/2"	10	21142	21181	-
1/2"	.005	1"	3/16"	3-1/2"	10	21074	21083	21182
9/16"	.005	1"	3/16"	3-1/2"	10	21143	-	-
	.0104					-	21404	-
5/8"	.005	1"	3/16"	3-1/2"	10	21075	21084	-
	.008					-	-	
11/16"	.005	1"	3/16"	3-1/2"	10	21144	-	-
3/4"	.006	1"	7/32"	3-1/2"	10	21076	21085	-
	.008					-	-	
13/16"	.005	1"	7/32"	3-1/2"	10	21146	-	-
7/8"	.006	1"	7/32"	3-1/2"	10	21077	21086	-
	.008					-	-	
15/16"	.005	1"	7/32"	3-1/2"	10	21148	-	-
1"	.005	1"	1/4"	3-1/2"	10	21149	21340	-
	.008					21078	21087	-
1-1/8"	.005	1"	1/4"	3-1/2"	10	21150	-	-
	.008					21079	21088	-
1-1/4"	.008	1"	1/4"	3-1/2"	10	21080	21089	-
1-1/2"	.008	1"	1/4"	3-1/2"	10	21203	-	21152
	.0104					-	-	
2-1/4"	.008	1"	1/4"	3-1/2"	10	21322	-	-



Power and Hand Tube Brush Selection Tips

- A flat burrite style tube brush is most effectively used with a holder on blind, threaded holes. 
- A round tube brush is most effectively used fully chucked on smooth or threaded blind holes. 
- A single stem, single spiral tube brush is most effectively used for manual or hand cleaning applications. 
- A double stem, double spiral tube brush is most effectively used with power tools for heavy-duty cleaning and deburring. 
- A polyflex encapsulated double stem, double spiral tube brush is most effectively used on power tools for very aggressive cleaning and deburring applications. 

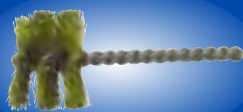
Cleaning the threads on the I.D. of a mortar shell.



35825



21074



21152

DID YOU KNOW?

Weiler manufactures more "special" power & hand tube brushes than the standard products in this catalog.

Power and Hand Tube Brushes

Burrite Type - Feature a single continuous length of stainless steel stem wire and filled with a tuft of crimped wire to provide an aggressive flat side action; ideal for cleaning and deburring internal threads.



Dia.	Wire Size	Brush Part	Stem Dia.	Overall Length	Standard Pack	Item Number	
						Steel	Stainless
1/4"	.003	9/16"	3/32"	2-1/8"	10	21000	-
	.005					21001	21050
5/16"	.003	9/16"	3/32"	2-1/8"	10	21004	-
	.005					21005	-
3/8"	.003	9/16"	3/32"	2-1/8"	10	21008	-
	.005					21009	21051
	.005					21023	-
7/16"	.003	9/16"	3/32"	2-1/8"	10	21014	-
	.005					21015	-
	.005					21020	-
1/2"	.003	9/16"	3/32"	2-1/8"	10	21021	21053
	.005					21025	-
	.005					21027	-
9/16"	.003	5/8"	1/8"	2-1/4"	10	21028	-
	.005					21030	-
5/8"	.003	5/8"	1/8"	2-1/4"	10	21031	21055
	.005					21034	21056
3/4"	.005	5/8"	1/8"	2-1/4"	10	21035	-
	.008					21036	21057
7/8"	.005	5/8"	1/8"	2-1/4"	10	21040	21058
	.005					21041	-
1"	.005	5/8"	1/8"	2-1/4"	10	21044	-
	.008					-	-
1-1/8"	.005	5/8"	1/8"	2-1/4"	10	-	-

Burrite Type Holders - Feature a 1/4" stem for convenient mounting into the chuck of a drill or the collet of a machine tool and allow the brush to be used in either direction of rotation. They allow the brush to be used in a standard tapping cycle for deburring threaded holes in CNC machining centers.



For Brush Stem Dia.	Holder Dia.	Overall Length	Standard Pack	Item Number
3/32"	1/4"	3-1/8"	5	95202
1/8"	3/8"	3-3/8"	5	95203

Single Stem, Single Spiral - Feature a single continuous length of galvanized steel stem wire with a formed eye loop for convenient hand use. The single spiral of straight wire fill allows for easy manual insertion into the ID.

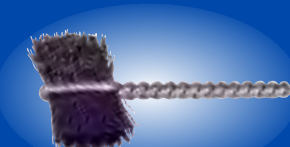
Dia.	Wire Size	Brush Part	Stem Dia.	Overall Length	Standard Pack	Item Number		
						Steel	Stainless	Brass
1/8"	.003	1"	3/32"	6"	10	21246	21249	-
3/16"	.003	1-1/2"	3/32"	7"	10	21090	21098	21221
	.005					21091	21099	-
1/4"	.003	1-1/2"	3/32"	7"	10	21092	21100	21270
	.005					21093	21101	21139
	.006					21161	-	-
	.006					21094	21414	21191
3/8"	.004	2"	1/8"	8"	10	21095	21103	-
	.006					21096	21104	21165
1/2"	.004	2"	1/8"	8"	10	21097	21105	-
	.006					21162	-	-
	.008					-	-	-
9/16"	.005	2-1/2"	5/32"	9"	10	21233	-	-



Deburring the threads of a tapped hole using a burrite brush in a holder.



21014



21040



95203



21095

Power and Hand Tube Brushes

Power and Hand Tube Brushes

Nylon Hand Tube Brushes - Feature a single continuous length of galvanized steel stem wire with a formed eye loop for convenient hand use. The single spiral of straight nylon fill allows for easy manual insertion and scratch-free cleaning of the ID.

Dia.	Fill Dia.	Brush Part	Stem Dia.	Overall Length	Standard Pack	Item Number Nylon
1/4"	.005	2"	3/32"	6-1/4"	36	44110
3/8"	.005	2"	3/32"	6-1/4"	36	44213
1/2"	.010	3"	1/8"	8-1/2"	36	44111
3/4"	.012	3"	1/8"	8-1/2"	36	44112
1"	.014	4"	5/32"	12-1/4"	36	44113
1-1/4"	.014	4"	5/32"	13"	36	44114
2"	.014	5"	3/16"	16-3/4"	36	44115

Percolator Brush - Features single stem, single spiral construction with an eye loop and straight white nylon fill. Intended for cleaning the internal passages in coffee percolators, this brush can be also be used in other similar manual cleaning applications.

Dia.	Fill Dia.	Brush Part	Stem Dia.	Overall Length	Standard Pack	Item Number Nylon
7/16"	.010	3-1/2"	5/32"	11-1/2"	10	44316

Valve Guide Brushes - Are made with single stem, single spiral construction and have a permanently-attached long steel handle for convenient hand use or for mounting into a chuck. Intended for removing heavy deposits from valve guides in gas and diesel engines, these brushes can also be used in a range of other similar applications.



Dia.	Fill Dia./Material	Brush Part	Overall Length	Standard Pack	Item Number
1/4"	.0104 Steel	2"	10"	10	95563
5/16"					95027
11/32"					95566
3/8"					95028
7/16"					95665
1/2"	95029				
11/32"	.008 Nylon	2-1/2"	10"	10	95660
3/8"	.012 Nylon				95567

Gun Cleaning Brushes - Rifle Brushes

Constructed using a continuous piece of stem wire and fine bronze wire fill for a scratch-free cleaning action in gun barrels, these flexible tube brushes are designed to be attached to extension rods using the 8-32 male coupling.

Caliber	Brush Part	Overall Length	Coupling Size	Standard Pack	Item Number Bronze
22	2-1/4"	3-1/4"	8-32	10	95301
30	2-1/4"	3-1/4"	8-32	10	99786
35	2-1/4"	3-1/4"	8-32	10	99788
45	2-1/4"	3-1/4"	8-32	10	99791

Gun Cleaning Brushes - Shotgun Brushes

Constructed using a continuous piece of stem wire and fine bronze wire fill for a scratch-free cleaning action in gun barrels, these flexible tube brushes are designed to be attached to extension rods using the 5/16"-27 male coupling.

Gauge	Brush Part	Overall Length	Coupling Size	Standard Pack	Item Number Bronze
12	1-5/8"	2-7/8"	5/16-27	10	99714
16	1-5/8"	2-7/8"	5/16-27	10	99694
20	1-5/8"	2-7/8"	5/16-27	10	95084
410	1-5/8"	2-7/8"	5/16-27	10	95129

Removing flash from the I.D. of an aluminum casting.



44113



44316



95567



95301



99714

Power and Hand Tube Brushes

Special Brush Designs - Design a power tube brush for your specific application.

Special Tube Brush Specification Sheet:

(Use the illustration on this page as a guide)

1. Brush diameter _____
2. Length of brush part _____
3. Overall brush length _____
4. Special stem diameter (if required) _____
5. Stem material:
 Galvanized Steel Stainless Other
6. Application _____
7. Brush fill material:
 Steel wire Stainless wire
 Nylon Abrasive Filament (Nylox®)
 Brass wire Other _____
8. Fill material diameter _____
9. Special tip style (if required) _____
10. Single stem Double stem
11. Order Quantity _____

*** Special tube brushes are not returnable, as they are manufactured to order.**

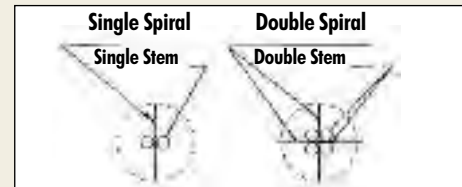
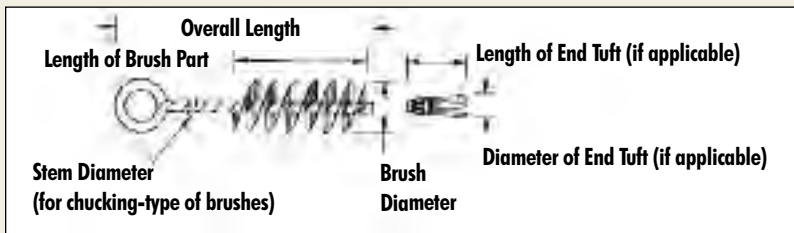
Name: _____
 Company Name: _____
 Address: _____
 Phone: (_____) _____
 Fax: (_____) _____
 E-mail: _____

End-User Name: _____
 City: _____
 State: _____ Zip: _____

For additional information call:
 Weiler's Application Engineering
 Hotline toll free at:
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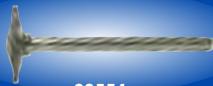


Power and Hand Tube Brushes

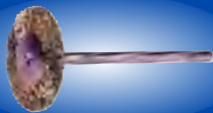
Miniature Brushes



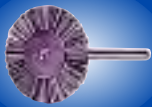
Removing galled spots from a metal forming die.



99554



26144



26041



26074



26095

Miniature Brushes

Miniature Brushes - The Weiler family began producing miniature brushes for the jewelry industry in 1898, and their tradition of providing the highest quality, most cost-effective products continues to this day.

Weiler's line of miniature brushes are designed for precision cleaning, light deburring, and finishing applications in variety of crafts, trades, and industries. In addition to use in jewelry production and in dental and optical labs, miniature brushes have many applications in modern industries such as electronics and instrumentation production, aerospace and aircraft manufacture, and precision tool and die shops. They are permanently mounted on 1/8" or 3/32" stems for quick mounting and efficient use on high-speed electric rotary tools and air-powered pencil die grinders.

Applications

- Decorative finishing
- Buffing and polishing of small parts
- Light deburring and edge blending
- Light-duty cleaning

Wire Wheel Brushes -

Fine crimped wire fill for light-duty cleaning and deburring.



Dia.	Wire Size	Trim Length	Stem Size	Max. RPM	Standard Pack	Item Number		
						Steel	Stainless	Brass
5/8"	.005	1/8"	1/8"	37,000	144	-	99554	-
3/4"	.003 .005	3/16"	1/8"	37,000	144	26000	-	26001
						26003	26005	26004
3/4"	.003 .005	3/16"	3/32"	37,000	144	26140	-	26141
						26143	-	26144
1"	.003 .005 .005	5/16"	1/8"	37,000	144	26012	26014	-
						26015	26017	26016
						26155	-	-
1-1/4"	.005	3/8"	1/8"	37,000	144	26021	-	-
1-1/2"	.005	1/2"	1/8"	25,000	144	26296	26294	-

Bristle Wheel Brushes - Natural hair fill for scratch-free cleaning of small parts or for buffing and polishing of features such as slots and grooves using abrasive compounds.



Dia.	Fill Type	Trim Length	Stem Size	Max. RPM	Standard Pack	Item Number
3/4"	Stiff Hair	3/16"	3/32"	37,000	144	26041
	Soft Hair					26042
	Stiff Hair*					26043
	Stiff Hair					26059
			1/8"			

* Double thick

Wire Cup Brushes -

Fine crimped wire fill for light-duty cleaning or deburring in confined areas.



Dia.	Wire Size	Trim Length	Stem Size	Max. RPM	Standard Pack	Item Number		
						Steel	Stainless	Brass
5/8"	.003 .005	1/4"	1/8"	37,000	144	26071	-	26072
						26074	26076	26075

Bristle Cup Brushes - Natural hair fill for scratch-free cleaning of confined areas or for buffing and polishing of small recessed surfaces using abrasive compounds.



Dia.	Fill Type	Trim Length	Stem Size	Max. RPM	Standard Pack	Item Number
1/2"	Stiff Hair	7/32"	3/32"	37,000	144	26091
9/16"	Stiff Hair	1/4"	1/8"	37,000	144	26093
	Soft Hair					26094
1"	Stiff Hair	7/16"	1/8"	25,000	144	26095
	Soft Hair					26096

Miniature Brushes

Wire End Brushes - Fine crimped wire fill for light-duty cleaning or deburring in very small recessed areas or ID's.



Dia.	Wire Size	Trim Length	Stem Size	Max. RPM	Standard Pack	Item Number		
						Steel	Stainless	Brass
3/16"	.003	1/4"	1/8"	37,000	144	-	-	26097
			3/32"			26098	26099	-
			-			26101	-	-
1/4"	.005	7/16"	1/8"	37,000	144	-	-	26106
-	-	-	-	-	-	26107	26108	-
5/16"	.005	9/16"	1/8"	25,000	144	26113	26114	-

Bristle End Brushes - Natural hair fill for scratch-free cleaning or for buffing and polishing of very small recesses using abrasive compounds.



Dia.	Fill Type	Trim Length	Stem Size	Max. RPM	Standard Pack	Item Number
3/16"	Stiff Hair	1/4"	1/8"	37,000	144	26115
	Soft Hair		3/32"			26122
	Stiff Hair		26116			
1/4"	Stiff Hair	3/8"	1/8"	37,000	144	26119
5/16"	Stiff Hair	9/16"	1/8"	25,000	144	26121

Bristle End Brushes - Plastic Ferrule
Feature a plastic ferrule or cup to protect internal surfaces during use.



Dia.	Fill Type	Trim Length	Stem Size	Max. RPM	Standard Pack	Item Number
3/16"	Stiff Hair	1/4"	1/8"	37,000	144	26128
1/4"	Stiff Hair	3/8"	1/8"	37,000	144	26131
5/16"	Stiff Hair	9/16"	1/8"	25,000	144	26133

Abrasive Nylon End Brushes - Plastic Ferrule
Nylox® abrasive nylon fill for buffing and polishing without compounds. They can also be used in automated applications for precision deburring and finishing of small part features.

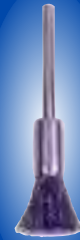


Dia.	Filament Dia./Grit	Trim Length	Stem Size	Max. RPM	Standard Pack	Item Number
3/16"	.018/500	1/4"	1/8"	37,000	144	26136
1/4"	.018/500	3/8"	1/8"	37,000	144	26138
5/16"	.018/500	9/16"	1/8"	25,000	144	26146

DID YOU KNOW? Weiler Corporation is the largest manufacturer of miniature brushes in the world.



Deburring the I.D. of a small machined part.



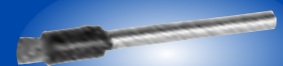
26114



26121



26133



26136

Miniature Brushes

Non-Sparking Brushes



Creating an antique finish on a brass plate.



13121



01475



29078



17641



13299

Non-Sparking Brushes

Non-Sparking Brushes - Weiler offers an assortment of wire power brushes featuring high-quality bronze or brass wire which offer a very soft brushing action in comparison to steel and stainless steel and which will not generate a spark when used on metal surfaces. They are frequently used for cleaning molds and dies in the injection-molding and extrusion of plastics, and in maintenance activities in areas where flammable or potentially explosive materials are present, such as refineries and petrochemical plants.

Non-sparking brushes are available in a variety of knot wire and crimped wire configurations for use in a broad range of surface cleaning applications, and they are manufactured with individual knot hole and solid ring construction for high performance and long life. Weiler's non-sparking power brushes are available with plain arbor holes, nuts, and permanently-attached stems for use on a variety of tools.

Applications

- Light to medium duty cleaning of surfaces, recesses, and ID's
- Deburring component parts machined from soft, non-ferrous metals

Standard Twist Wheels - Provide a heavy-duty brushing action with some flexibility; ideal for more demanding cleaning applications.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number Bronze
3"	.020	1/2" - 3/8"	20	3/8"	5/8"	1/2"	7/16"	25,000	10	08271
4"	.020	5/8" - 11	24	1/2"	7/8"	-	7/16"	20,000	5	13121

Crimped Wire Wheels - Provide a flexible brushing action and consistent performance for light-duty cleaning and deburring applications.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Std. Pack	Item No. Brass
6"	.005 .0118	5/8"-1/2"	1/2"	1-7/16"	1-1/4"	7/16"	6,000	2	01415 01475

For other available arbor holes, see Arbor Hole Table pg 20.

Small Diameter Crimped Wire Wheels - Provide a flexible brushing action and consistent performance for light-duty cleaning and deburring applications requiring a small wheel.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Max. RPM	Std. Pack	Item Number Brass
1-1/2"	.005	3/8"	1/4"	7/16"	20,000	10	29178
2"	.005 .0118	1/2"	3/8"	1/2"	20,000	10	29059 29086
3"	.014	1/2"	5/8"	1"	20,000	10	29078

Conflex Brush - Small diameter copper-center wheels permanently mounted onto a 1/4" stem to provide a very flexible brushing action.



Dia.	Wire Size	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number Brass
3"	.0118	1/2"	1"	20,000	10	17641

Knot Wire Cup Brushes - Provide heavy-duty brushing action with some flexibility for more demanding cleaning applications on relatively flat surfaces.



Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Standard Pack	Item Number Bronze
2-3/4"	.020	5/8"-11 UNC	1"	14,000	1	13299
4"	.020	5/8"-11 UNC	1-1/4"	10,200	1	12776

Non-Sparking Brushes

Crimped Wire Cup Brushes - Provide a very flexible brushing action for light-duty cleaning applications on somewhat irregular surfaces.



Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Standard Pack	Item Number	
						Bronze	Brass
3"	.020	5/8"-11 UNC	7/8"	14,000	1	13231	—
4"	.020	5/8"-11 UNC	1-3/8"	10,200	1	14616	—
5"	.014	5/8"-11 UNC	1-1/4"	8,000	1	—	14606
6"	.020	5/8"-11 UNC	1-1/4"	6,600	1	14316*	—

* With internal nut

Utility Crimped Wire Cup Brushes - Smaller diameter cup brushes which provide a flexible brushing action for light-duty cleaning applications.



Dia.	Wire Size	Trim Length	Stem Diameter	Max. RPM	Standard Pack	Item Number
						Brass
1-3/4"	.006	3/4"	1/4"	13,000	10	14310
	.0118					14314
2-3/4"	.0118	7/8"	1/4"	6,000	1	14311

Knot Wire End Brushes - Feature a hollow end and heavy-duty brushing action with some flexibility; ideal for more demanding cleaning applications in recessed areas.



Dia.	Wire Size	Trim Length	Stem Diameter	Max. RPM	Standard Pack	Item Number
1-1/8"	.020	7/8"	1/4"	22,000	10	10067

Crimped Wire End Brushes - Feature a solid end and very flexible brushing action ideal for light-duty cleaning applications in corners and hard-to-reach areas.



Dia.	Wire Size	Trim Length	Stem Diameter	Max. RPM	Standard Pack	Item Number
						Brass
1/2"	.005	7/8"	1/4"	25,000	10	10158
1"	.005	7/8"	1/4"	20,000	10	10128
1"	.0118	1"	1/4"	22,000	10	10091

Double Stem, Double Spiral Power Tube Brushes - Constructed with four stem wires and a double spiral of straight wire fill material to provide a more aggressive internal cleaning action.



Dia.	Wire Size	Brush Part	Stem Dia.	Overall Length	Standard Pack	Item Number
						Brass
1/2"	.006	2"	5/32"	5"	10	21178
5/8"	.008	2"	7/32"	5"	10	21219
3/4"	.006	2-1/2"	1/4"	5-1/2"	10	21179
1"	.006	2-1/2"	1/4"	5-1/2"	10	21218

Round Power Tube Brushes - Feature a single continuous length of stainless steel stem wire and a single spiral of crimped wire fill for a more flexible brushing action; suitable for use on smooth or threaded blind holes.



Dia.	Wire Size	Brush Part	Stem Dia.	Overall Length	Standard Pack	Item Number
						Brass
1/4"	.004	1"	1/8"	3-1/2"	10	21332
1/2"	.005	1"	3/16"	3-1/2"	10	21182
1-1/2"	.008	1"	1/4"	3-1/2"	10	21152

Single Stem, Single Spiral Hand Tube Brushes - Constructed using a single continuous length of galvanized steel stem wire and feature a formed eye loop for convenient hand use. The single spiral of straight wire fill allows for easy manual insertion into the ID.

Dia.	Wire Size	Brush Part	Stem Dia.	Overall Length	Standard Pack	Item Number
						Brass
3/16"	.003	1-1/2"	3/32"	7"	10	21221
1/4"	.003	1-1/2"	3/32"	7"	10	21270
	.005					21139
3/8"	.004	2"	1/8"	8"	10	21191
1/2"	.004	2"	1/8"	8"	10	21165



Removing labels from a compressed-gas storage cylinder.



14316



14314



10067



10158



21178



21332



21191

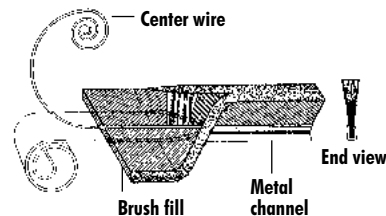
Non-Sparking Brushes

Strip Brushes



Straight strip brush used as a guard to prevent chips from flying.

Metal Channel Strip Brushes - Consist of natural, synthetic or wire bristles, held securely in place by a U-shaped metal channel and center wire, as illustrated. All Weiler brushes are first manufactured into a straight strip brush. The strip can then be coiled into cylinder brushes, or other shapes such as discs and cups. There is a variety of brush fill and virtually an infinite number of brush specifications within each metal channel size. All strip brushes are manufactured to our customers' individual requirements. This provides the proper filament stiffness, and allows for customers' unique modification of length and trim, enabling us to provide the ideal brush for the application.



Applications

- Spreading powdered materials
- Lag brushes
- Dusting tires, tile, paper, etc.
- Eliminating static electricity
- Splash guard on grinders and machine tools
- Curtains to prevent chips from flying
- Conveyor belt cleaning - assembled on hubs to form rotary brushes



DID YOU KNOW?

Weiler Strip Brushes are used to apply wax to apples.

General Fiber Characteristics

	6.6 Nylon	6.12 Nylon	Polypropylene	Horse Hair	Tampico
Heat Distortion (° F)	300	250	225	370	283
Melting Point	500	405	330	-	-
Bend Recovery (%)	90	90	70-80	excellent	poor
Shelf Life	excellent	excellent	good	poor	fair
Abrasion Resistance	excellent	excellent	good	good	poor
Specific Gravity (G/CC)	1.13-4	1.04-5	.90-1	1.3	.6
Tensile Strength (PSI)	60-70M	50-60M	50-80M	-	-

Chemical and Environmental Resistance

	6.6 Nylon	6.12 Nylon	Polypropylene	Horse Hair	Tampico
Dilute Alkalis	excellent	excellent	excellent	poor	good
Dilute Acids	good	good	excellent	poor	good
Strong Acids	fair	good	good	good-poor	good-poor
Alcohols	good	good	excellent	poor	good
Petroleum Distillates	excellent	excellent	good	poor	good
Hot Water	good	good	fair	poor	good
Alcohols, Vegetable Oils	good	good	excellent	poor	good

Strip Brushes - Straight

Strip Brushes - Straight

Can be mounted on metal or wood back-up plates or on rotary hubs with machine or wood screws.

Fill Materials

- Hair (horse, goat, etc.)
- Carbon steel
- Type 302 stainless steel
- Non-ferrous metals (brass, bronze, etc.)
- Nylon abrasive filament (Nylox®)
- Natural fibers (tampico)
- Synthetics (nylon, polypropylene)



Strip Brushes - Straight

Metal Channel Size	Before Forming	After Forming (width x height)	Channel Materials			Max. OAH	Max. Bristle Dia. (nylon)	Max. Bristle Dia. (wire)
			Galv. Steel	Stainless Steel				
				400 Series	300 Series			
#2.5	5/16" x .025	1/8 (.125) x 1/8" (.125)	XXX	XXX	-	1-1/2"	.012	.006*
#3	3/8" x .025	5/32" (.156) x 5/32" (.156)	XXX	XXX	-	3-1/2"***	.014	.006*
#4	1/2" x .030	3/16" (.187) x 3/16" (.187)	XXX	XXX	XXX	4"	.025	.010
#5	5/8" X .040	7/32" (.218) X 1/4" (.250)	XXX	XXX	-	4-1/2"	.030	.014
#7	7/8" X .040	5/16" (.312) X 5/16" (.312)	XXX	XXX	XXX	6"	.050	.020
#10	1-1/4" X .050	7/16" (.437) X 7/16" (.437)	XXX	XXX	-	6"	.060	.020

Straight Strip Brushes Specification Sheet - Use illustration as guide

* Available in brass or bronze only.
** Max. wire OAH 1-1/2".

1. Overall brush height _____
2. Overall brush length _____
3. Channel size:
 - #2.5 #3 #4
 - #5 #7 #10
4. Channel material:
 - Galvanized Steel Stainless Steel
5. Brush fill material:
 - Horsehair Nylon
 - Carbon Steel Bronze
 - Polypropylene Brass
 - 302 Stainless Tampico
 - Nylon Abrasive Filament (Nylox)
 - Other _____
6. Fill material:
 - Crimped Straight
 - Diameter _____
 - Color (if applicable) _____
7. Application: Wet Dry
Operating Temp. _____ °F
8. Quantity required _____

*** Straight strip brushes are not returnable, as they are manufactured to order.**

Name: _____

Company Name: _____

Address: _____

Phone: (____) _____

Fax: (____) _____

E-mail: _____

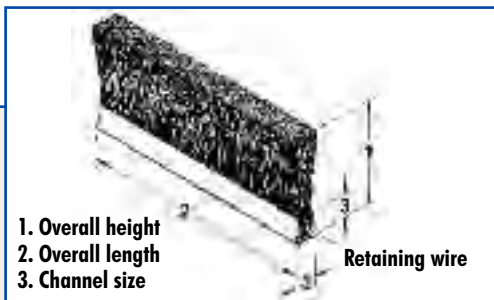
End-User Name: _____

City _____ State _____ Zip _____

For additional information call: Weiler's Application Engineering Hotline toll free at: **888-299-APPS (2777)**

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Weiler Corporation
One Weiler Drive
Cresco, PA 18326-0149
Fax: **800-635-3615**

Or visit our website: www.weilercorp.com
E-mail: info@weilercorp.com



1. Overall height
2. Overall length
3. Channel size

Retaining wire

Strip Brushes - Discs, Cups & Holders

Strip Brushes - Coil Wound - Can be supplied as an unmounted refill coil, mounted on disposable tubing or wound on a customer's shaft.

Fill Materials

- Hair (horse, goat, etc.)
- Carbon steel
- Type 302 stainless steel
- Non-ferrous metals (brass, bronze, etc.)
- Nylon abrasive filament (Nyxox®)
- Natural fibers (tampico)
- Synthetics (nylon, polypropylene)

Alligator Clips - Use on #7 channel only. Coil Wound Strip Brushes can be supplied with Alligator Clips that have tabs at each end to be attached to customers' mandrel.



L.H. Tang



Straight Tang



R.H. Tang

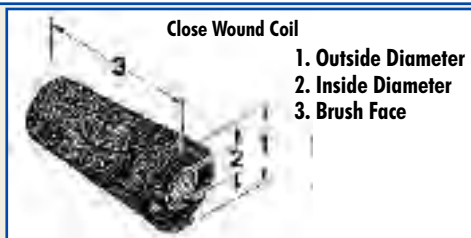
Strip Brushes - Coil Wound

Metal Channel Size	Before Forming	After Forming (width x height)	Channel Materials			Min. I.D.	Max. O.D.	Max. Bristle Dia. (nylon)	Max. Bristle Dia. (wire)
			Galv. Steel	Stainless Steel					
				400 Series	300 Series				
#2.5	5/16" x .025	1/8 (.125) x 1/8" (.125)	XXX	XXX	-	3/8"	3-3/8"	.012	.006*
#3	3/8" x .025	5/32" (.156) x 5/32" (.156)	XXX	XXX	-	3/8"	7"	.014	.006*
#4	1/2" x .030	3/16" (.187) x 3/16" (.187)	XXX	XXX	XXX	1/2"	7"	.025	.008
#7	7/8" X .040	5/16" (.312) X 5/16" (.312)	XXX	XXX	XXX	1"	11"	.050	.020

* Available in brass or bronze only.

Coil Wound Strip Brushes Specification Sheet - Use illustrations as guide

<p>1. Outside diameter size _____</p> <p>2. Inside diameter size _____</p> <p>3. Brush face _____</p> <p>4. Channel size: <input type="checkbox"/> #2.5 <input type="checkbox"/> #3 <input type="checkbox"/> #4 <input type="checkbox"/> #7</p> <p>5. Channel material: <input type="checkbox"/> Galvanized Steel <input type="checkbox"/> Stainless Steel</p> <p>6. Brush fill material: <input type="checkbox"/> Horsehair <input type="checkbox"/> Nylon <input type="checkbox"/> Carbon Steel <input type="checkbox"/> Bronze <input type="checkbox"/> Polypropylene <input type="checkbox"/> 302 Stainless <input type="checkbox"/> Tampico <input type="checkbox"/> Brass <input type="checkbox"/> Nylon Abrasive Filament (Nyxox) <input type="checkbox"/> Other _____</p> <p>7. Fill material: <input type="checkbox"/> Crimped <input type="checkbox"/> Straight Diameter _____ Color (if applicable) _____</p> <p>8. <input type="checkbox"/> Close wound <input type="checkbox"/> Open wound Specify pitch between spirals _____</p> <p>9. Mounting Clips: <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>10. Application: <input type="checkbox"/> Wet <input type="checkbox"/> Dry Operating Temperature _____ °F</p>	<p>11. Quantity required _____</p> <p>* Coil wound strip brushes are not returnable, as they are manufactured to order.</p> <p>Name: _____</p> <p>Company Name: _____</p> <p>Address: _____</p> <p>Phone: (_____) _____</p> <p>Fax: (_____) _____</p> <p>E-mail: _____</p> <p>End-User Name: _____</p> <p>City: _____ State: _____</p> <p>Zip: _____</p> <p>For additional information call: Weiler's Application Engineering Hotline toll free at: 888-299-APPS (2777)</p> <p>Mail or fax specification sheet to: Application Engineering Weiler Corporation One Weiler Drive Cresco, PA 18326-0149 Fax: 800-635-3615</p> <p>Or visit our website: www.weilercorp.com E-mail: info@weilercorp.com</p>
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Strip Brushes - Discs, Cups & Holders



Strip Brushes - Disc Brushes

Outside Disc: A circular single loop brush with the bristles facing OUTWARD, and the metal channel on the inside.

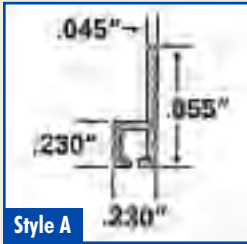
Inside Disc: A circular single loop brush with the bristles facing INWARD, and the metal channel on the outside.



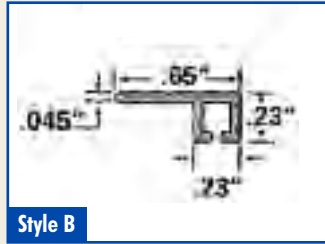
Strip Brushes - Formed Cups

These strip brushes are formed into a circle with the bristles facing down, commonly found in vacuum cleaning applications.

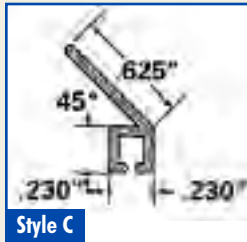
Holders for Metal Channel Size #2.5 - Max. length 12'



Style A

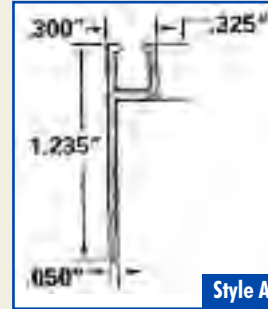


Style B

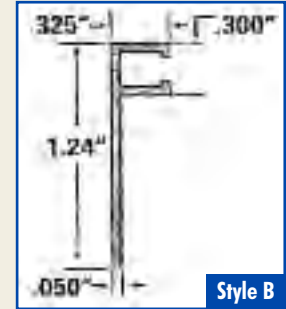


Style C

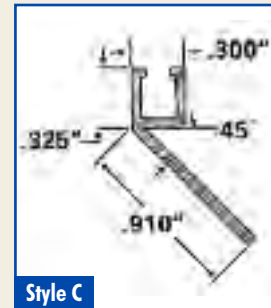
Holders for Metal Channel Size #4 - Max. length 12'



Style A

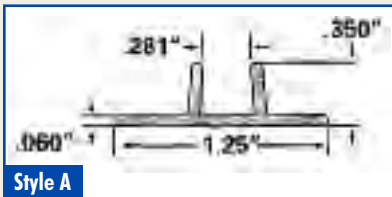


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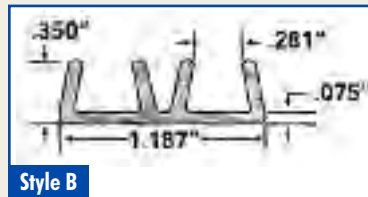


Style C

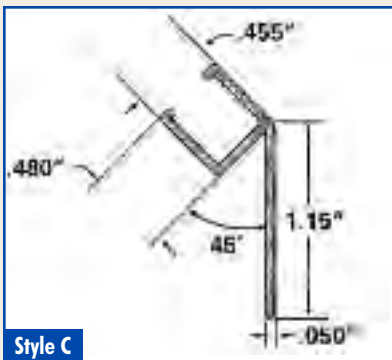
Holders for Metal Channel Size #7 - Max. length 12'



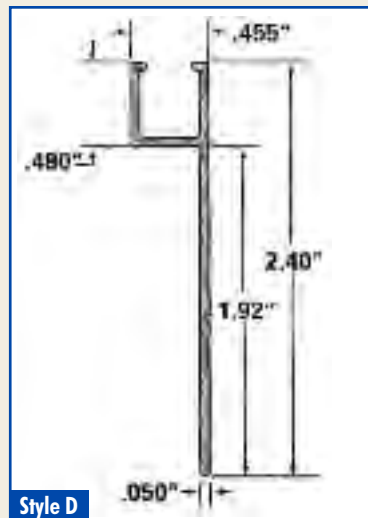
Style A



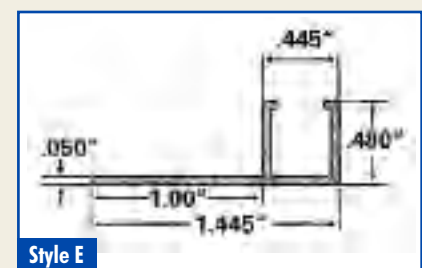
Style B



Style C



Style D



Style E

Wide Face Brushes



Removing light corrosion and mill scale from coiled steel.

Wide Face Brushes - Cylindrical brush assemblies have proven to be reliable and economical tools for a wide variety of industrial surface conditioning applications. In addition to gang-mounting a series of individual wheel brushes onto a shaft or reusable arbor, one-piece wide face brush units can be manufactured to cover broad surfaces or provide maximum brushing action in a minimum amount of space.

Cylindrical brushes can be manufactured using several different styles of construction, and the characteristics of each style of construction can significantly affect brush performance. Weiler will custom-design a wide face brush in the most appropriate type of construction for your specific application. Please call our Application Engineering Team at 888-299-APPS (2777) to discuss your requirements.

Applications

- Scrubbing debris from the surface of material during processing
- Removing corrosion, surface contamination, mill scale, or heat discoloration
- Roughening surfaces to promote adhesion or bonding
- Removing applied finishes and coatings
- Producing decorative surface finishes
- Deburring or finishing cylindrical parts
- Deburring the cut ends of tubing and extrusions



Disposable Brush Assemblies - Wide face assemblies for brushing flat surfaces can be manufactured as disposable units with a variety of available fill materials depending on the specific application. Available fills include; metallic filaments such as steel, stainless steel, or brass crimped wire; Nylox® nylon abrasive filaments; synthetic filaments such as nylon or heat-stabilized polypropylene; or natural fibers such as tampico.

Disposable mountings can be constructed of carbon steel or stainless steel components, and "flow-through" mountings which allow coolant to be circulated through the core and out the face of the brush are available for wet applications.



Refillable Brush Assemblies - Wide face assemblies for brushing flat surfaces can also be manufactured as a replaceable brush unit wound onto a permanent and reusable arbor. Depending on the specific application and production environment, the refilling of reusable arbors may be a more economical option than using disposable units. Reusable mountings can be designed by Weiler or supplied by the customer.

In addition to the secondary operations such as nibbling and grinding of the brush face and dynamic balancing of the completed unit, Weiler also offers maintenance services on mounting hardware like collars and bearings.



Call our Application Engineering Hotline at 888-299-APPS (2777). If the problem is too complex to be solved over the phone, we will determine if an evaluation should be conducted at our in-house lab or your facility. Either way, Weiler will provide the most cost-effective solution for your specific application.

Wide Face Brushes

Tube End Deburring Brushes - Cylindrical rotary brushes are an ideal media for production applications involving the batch deburring of the ends of tubing that has been cut-to-length. Automated brushing systems are readily available and considerably less expensive to purchase and operate than chamfering machines.

Brush deburring machines can be integrated with cut-off operations to eliminate work-in-process and increase throughput, and they are flexible enough to be quickly adjusted for various shapes, sizes, and lengths of tubing. Unlike chamfering operations, brush deburring does not leave secondary burrs, brushing equipment is more tolerant of slight variations in machine set-up and tube length, and quality brushes last much longer than cutting inserts on double-end finishers.

Tube end deburring brushes are most commonly manufactured as disposable assemblies which are then mounted onto keyed shafts. High-tensile steel, hard-drawn steel, and Type 302 stainless steel wire are the most common fill materials used in tube end deburring brushes. Weiler offers high quality brushes with wire sizes from .006 to .020 and four available levels of fill density so that the brushing performance can be tailored to the material, burr condition, and budget of the end-user.

Replacement Tube End Deburring Brushes - The brushes in the chart below are a few of the popular Weiler replacement brushes that are available for the most common tube end deburring machines.

Dia.	Face Width	Arbor Hole	Wire Size	Brush Density	Standard Pack	Item No. Steel
10"	18"	3-1/4"	.014	General Purpose High Performance	1	07340 07341
12"	18"	3-1/4"	.014	General Purpose High Performance	1	07286 07342
12"	18"	3-1/4"	.020	General Purpose High Performance	1	07343 07344

* The most common arbor hole sizes are 3-1/4" and 2" with 1/2" x 1/4" keyways. Other arbor holes are available upon request.

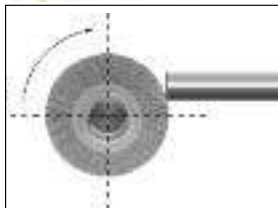
Contact your Weiler Sales Rep. or our Customer Service Department for price and availability.

Custom Tube End Deburring Brushes - Please use the appropriate specification sheet on the next page when requesting a quotation on a custom tube end deburring brush.

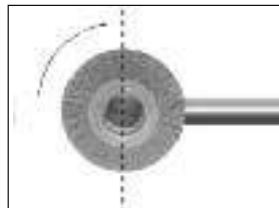


Brush-Tube Orientation

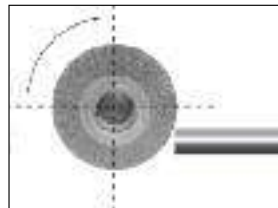
Brush-tube orientation determines which edges of the tube are deburred. The illustrations below show three orientations and the target edge.



Deburring Tube I.D.



Deburring Tube I.D. and O.D.



Deburring Tube O.D.



Deburring steel tubing on an automated machine.

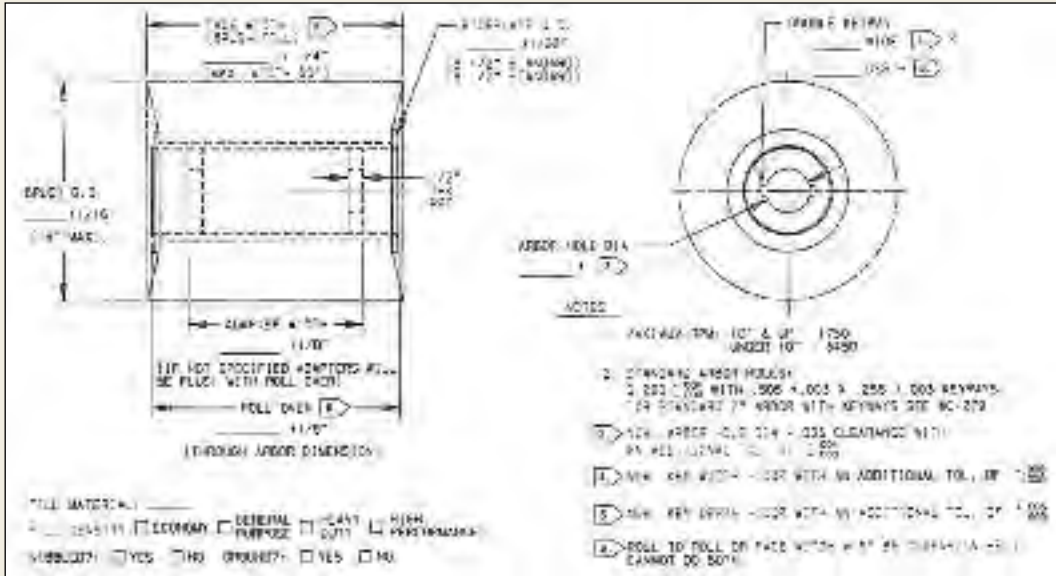
DID YOU KNOW?

The largest wide face brush we manufacture weighs 152 pounds.

Wide Face Brushes

Wide Face Brushes

Wide Face Brush Specification Sheet - For 8" to 16" brushes



Name: _____

Company Name: _____

Address: _____

Phone: (____) _____ Fax: (____) _____

E-mail: _____

End-user Name: _____

City _____ State _____ Zip _____

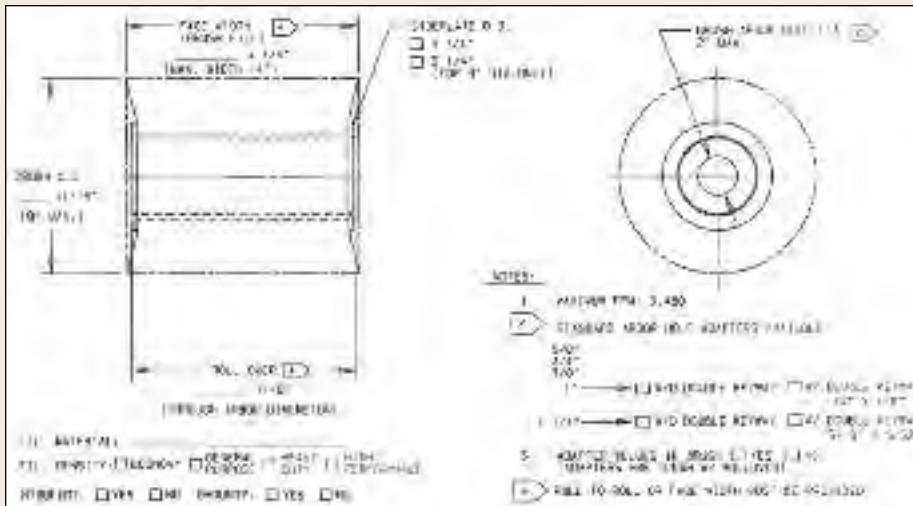
For additional information call:
 Weiler's Application Engineering Hotline
 toll free at: **888-299-APPS (2777)**

Mail or fax specification sheet to:

Application Engineering
 Weiler Corporation
 One Weiler Drive
 Cresco, PA 18326-0149
 Fax: **800-635-3615**

Or visit our website:
www.weilercorp.com
 E-mail: info@weilercorp.com

Wide Face Brush Specification Sheet (2" I.D.) - For 6" & 8" brushes with a 2" I.D.



Name: _____

Company Name: _____

Address: _____

Phone: (____) _____ Fax: (____) _____

E-mail: _____

End-user Name: _____

City _____ State _____ Zip _____

For additional information call:
 Weiler's Application Engineering Hotline
 toll free at: **888-299-APPS (2777)**

Mail or fax specification sheet to:

Application Engineering
 Weiler Corporation
 One Weiler Drive
 Cresco, PA 18326-0149
 Fax: **800-635-3615**

Or visit our website:
www.weilercorp.com
 E-mail: info@weilercorp.com

Display Packaged Product

Display Packaged Product - In order to generate impulse purchases, a variety of our most popular Weiler industrial grade items are available in highly visible display packaging to stimulate impulse sales. Customers can easily view the product and assess its high quality. Package labeling includes key technical information and UPC barcodes. A multi-lingual safety slip is included with all products, providing comprehensive information on the safe use of the product.

Standard Twist Wheels - Provide heavy-duty brushing action with some flexibility; ideal for demanding cleaning applications on somewhat irregular surfaces.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Std. Pack	Item Number	
										Steel	Stainless
3"	.014	1/2"-3/8"	20	3/8"	5/8"	1/2"	7/16"	25,000	1	08014P	-
4"	.014	1/2"-3/8"	24	1/2"	7/8"	1/2"	7/16"	20,000	1	08044P	-
4"	.014	5/8"-11	24	1/2"	7/8"	-	7/16"	20,000	1	13106P	13113P
6"	.014	5/8"-1/2"	24	1/2"	1-3/8"	1-1/4"	9/16"	9,000	1	08085P	-



13106P

Cable Twist Wheel - Maximum brushing action with minimal flexibility; ideal for demanding cleaning and surface prep applications on relatively smooth surfaces.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Standard Pack	Item No. Steel
4"	.020	5/8"-11	24	1/4"	7/8"	1/2"	7/16"	20,000	1	13266P



13266P

Roughneck® Stringer Bead Wheels - Maximum impact action for fast removal of slag, spatter, oxidation as well as other surface prep and cleaning applications.



Dia.	Wire Size	Arbor Hole	No. of Knots	Face Width	Trim Length	Thickness at Face Plates	Max. RPM	Standard Pack	Item Number	
									Steel	Stainless
4"	.020	M10 x 1.25 5/8"-11	32	3/16"	7/8"	7/16"	20,000	1	13125P	-
									13131P	13138P
6"	.020	5/8"-11	56	3/16"	1-1/8"	7/16"	12,500	1	09400P	-
	.023			1/2"	1-3/8"	9/16"			08776P	-
6-7/8"	.020	5/8"-11	56	3/16"	1-1/8"	7/16"	9,000	1	09000P	-



13131P

Crimped Wire Wheels - Provide a flexible brushing action and consistent performance for demanding light-duty cleaning and deburring applications.



Dia.	Wire Size	Arbor Hole	Face Width	Trim Length	Max. AH Avail.	Thickness at Face Plates	Max. RPM	Standard Pack	Item Number Steel
6"	.014	5/8"-1/2"	3/4"	1-7/16"	1-1/4"	7/16"	6,000	1	01075P
6"	.014	5/8"-1/2"	5/8"	1-1/16"	-	1/2"	6,000	1	02325P
6"	.014	5/8"-1/2"	7/8"	1-1/8"	-	7/8"	6,000	1	06645P
7"	.014	5/8"-1/2"	3/4"	1-9/16"	-	1/2"	6,000	1	02335P
8"	.014	5/8"	3/4"	2-1/16"	1-1/4"	1/2"	6,000	1	01175P



01075P

Conflex Brushes - Small diameter copper center wheels permanently mounted onto a 1/4" stem to provide a very flexible brushing action.



Dia.	Wire Size	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number Steel
3"	.008	1/2"	1"	20,000	1	17615P
	.014					17617P



17617P

Threaded Adapters - For mounting brushes with a 5/8"-11UNC nut to other threaded spindles.

Fixed Thread Size	Adapted Thread Size	Standard Pack	Item No.
5/8" - 11 UNC	M10 x 1.25	1	07771P
5/8" - 11 UNC	M10 x 1.50	1	07772P



07771P

Display Packaged Product

Display Packaged Product

Display Packaged Product

Knot Wire Cup Brushes - Single Row - Provide heavy-duty brushing action with some flexibility; ideal for demanding cleaning applications on relatively flat surfaces.



12316P

Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Standard Pack	Item Number Steel
2-3/4"	.014	5/8"-11 UNC	1"	14,000	1	13025P
2-3/4"	.020	M10 x 1.25 5/8"-11 UNC	1"	14,000	1	13281P 13286P
3-1/2"	.023	5/8"-11 UNC	7/8"	13,000	1	13156P
4"	.023	5/8"-11 UNC	1-1/4"	10,200	1	12316P
5"	.023	5/8"-11 UNC	1-3/8"	7,000	1	12276P*
6"	.023	5/8"-11 UNC	1-3/8"	6,600	1	12376P

* With internal nut

Crimped Wire Cup Brushes - Very flexible brushing action and the most consistent performance for demanding light-duty cleaning applications; featuring a threaded nut for use on angle grinders.



13245P

Dia.	Wire Size	Arbor Hole	Trim Length	Max. RPM	Standard Pack	Item Number Steel
3"	.014	M10 x 1.25 5/8"-11 UNC	1"	14,000	1	13240P 13245P
4"	.020	5/8"-11 UNC	1-3/8"	9,000	1	14036P
6"	.020	5/8"-11 UNC	1-1/4"	6,600	1	14076P*

* With internal nut

Knot Wire End Brushes - Feature a hollow end and heavy-duty brushing action with some flexibility; ideal for more demanding cleaning applications in recessed areas.



10012P



10028P

Dia.	Wire Size	Trim Length	Max. RPM	Standard Pack	Item Number Steel
3/4"	.014 .020	1-1/8"	22,000	1	10025P 10026P
1-1/8"	.014 .020	7/8"	22,000	1	10027P 10028P

Crimped Wire End Brush - Feature a solid end construction and very flexible brushing action ideal for more demanding light-duty cleaning applications in corners and hard-to-reach areas.



13001

Dia.	Wire Size	Trim Length	Max. RPM	Standard Pack	Item Number Steel
1"	.020	1-1/8"	20,000	1	10012P

Mini-Grinder Kit - For use on small right angle grinders. All products have a 5/8"-11 Arbor Hole



Kit Contains	Item No.
4-1/2" Abrasive Flap Disc (Zirconium Grain, 60 Grit); Item #50519: For grinding and finishing in one step.	13001
2-3/4" Knot Wire Cup Brush (.020 Steel Wire); Item #13286: For cleaning large surface areas.	
4" Stringer Bead Knot Wire Wheel (.020 Steel Wire); Item #13131 For weld cleaning, deburring and surface preparation.	



13002

Air Tool/Drill Accessory Kit -

All products have a 1/4" Stem and are ideal for general purpose cleaning and deburring in recessed or confined areas.



Kit Contains	Item No.
3" Crimped Wire Wheel (.0118 Steel Wire); Item #17616	13002
1-3/4" Crimped Wire Cup Brush (.0118 Steel Wire); Item #14301	
3/4" Crimped Wire End Brush (.020 Steel Wire); Item #10008	
3" Abrasive Flap Wheel (Aluminum Oxide Grain, 80 Grit); Item #52028	

Display Packaged Product

Vortec Pro® - Display Packaged Flap Discs- Angled Style (Type 29)

Convenient hang-card makes increasing point-of-purchase sales easy!



Diameter	Grit Size	Max. RPM	Phenolic Back - Zirconium			Aluminum Back - Zirconium		
			Arbor Hole	Standard Pack	Item Number	Arbor Hole	Standard Pack	Item Number
4"	36	15,000	5/8"	6	30822	5/8"-11	6	30821
	60				30825			30823
	80				30826			30824
4-1/2"	36	13,000	7/8"	6	30828	5/8"-11	6	30827
	60				30831			30829
	80				30832			30830



30828

Multi-Purpose Brush Countertop Display -

Economical brushes provide lasting, efficient service at minimal cost.

Display Contains	Item No.
(20) 2" Multi-Purpose Brushes, White Bristle - Wood Handle; Item #40068	61011
(10) 3" Multi-Purpose Brushes, White Bristle - Wood Handle; Item #40070	



61011

Stainless Steel Scratch Brush Countertop Display -

Ideal for removing rust, scale and paint from metal surfaces.

Display Contains	Item No.
(36) Stainless Steel Small Hand Scratch Brushes, 7-1/2" x 1/2" Block Wood Handle; Item #44167	61012



61012

FREE Sweeping Center Rack And Header with Qualifying Order - Rack #44901 and Header #44902

Contact Customer Service at 800-835-9999 for details on how to receive a FREE rack and header to use when displaying Weiler maintenance products.

A Qualifying Order is required. Below is an example of a Qualifying Order.

Recommended List of Product for Sweeping Center Display

Description	Item No.
6 each: 24" Contractor Broom, Flagged Grey Polystyrene Border with Stiff Black Polypropylene Center, 3" Trim	44581
24" Contractor Broom, Palmyra, 4" Trim	44584
24" Contractor Broom, Medium Maroon Polypropylene, 3-1/4" Trim	44587
24" Contractor Broom, Stiff Blue Polypropylene, 3-1/4" Trim	44590
12 each: 57" Light Industrial Corn Broom, 17" Trim	44548
24 each: 5' x 1-1/8" Contractor Broom Handle with Free Brace	44635

Item #s 44901 & 44902 must appear on purchase order.



42300

FREE Pro-Flex™ Display Box with Qualifying Order - Display Box #44625

Contact Customer Service at 800-835-9999 for details on how to receive your FREE display box to use when displaying Weiler Pro-Flex products.

A Qualifying Order is required. Below is an example of a Qualifying Order.

Recommended List of Product for Pro-Flex™ Display Box

Description	Item No.
3 each: 24" Flagged Grey Polystyrene Border with Stiff Black Polypropylene Center, 3" Trim	44600
24" Palmyra, 4" Trim	44601
24" Medium Maroon Polypropylene, 3-1/4" Trim	44604
24" Stiff Blue Polypropylene, 3-1/4" Trim	44606

Each sweep comes with handle attached and ready to display.

Item #44625 must appear on purchase order.



44625

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