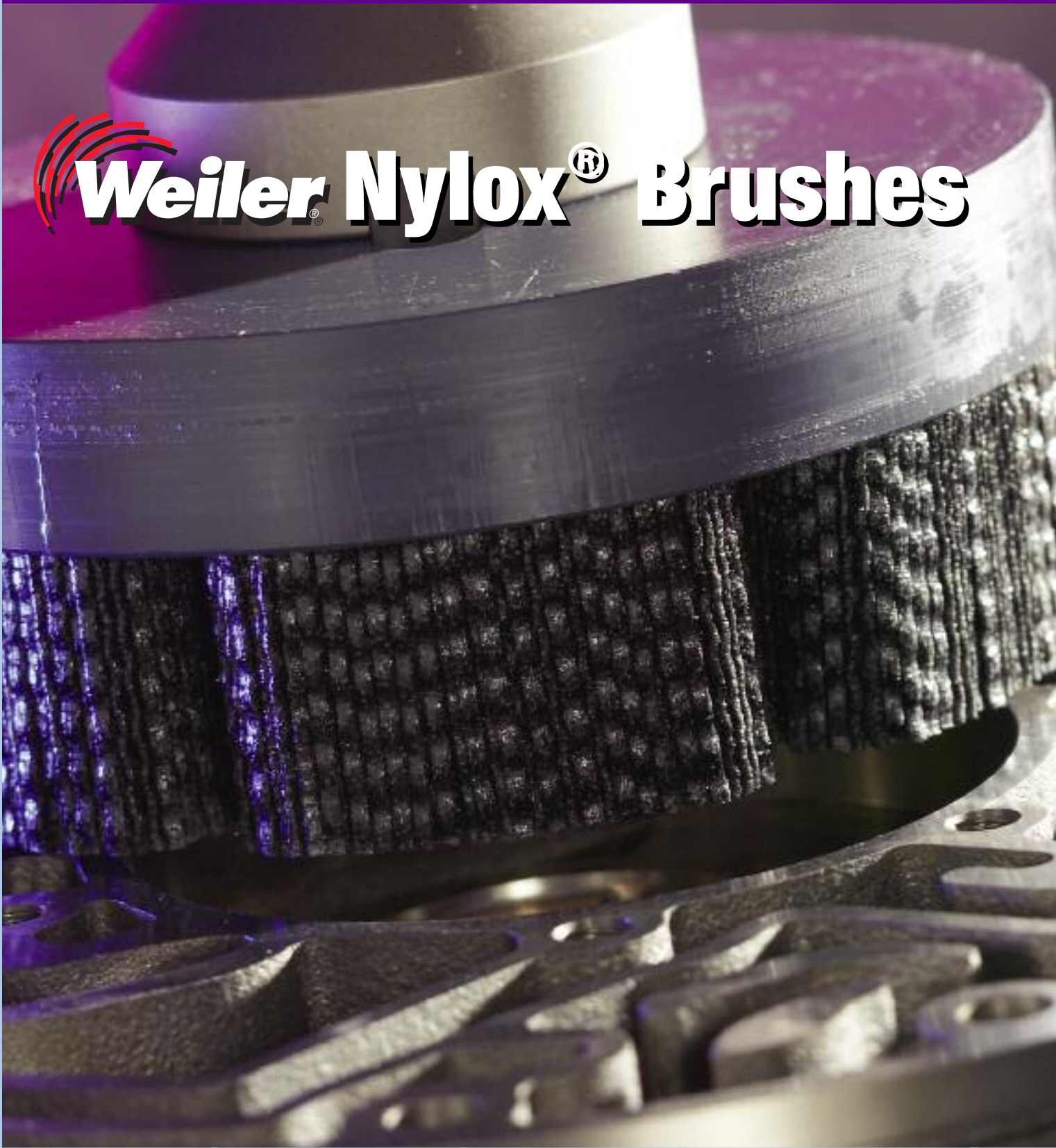


# **Weiler Nylox<sup>®</sup> Brushes**

**Nylox<sup>®</sup> Brushes**





## ■ Engineered Products & Equipment

**New!**

### ■ Wheel Brushes

*Including an Expanded Offering of Burr-Rx® Ceramic Filament Brushes!*

**New!**

### ■ Disc Brushes

*Featuring Burr-Rx® Shell Mill Holder Brushes - No Drive Arbor Required!*

### ■ Cup Brushes

### ■ End Brushes

**New!**

### ■ Crosshole Deburring Brushes

*Now with Advanced Burr-Rx® Ceramic Filament Technology!*

**New!**

### ■ Tube Brushes

*Including Burr-Rx® Ceramic Filament Power Tube Brushes!*

**New!**

### ■ FME Area Product Solutions

### ■ Adapters & Drive Arbors

**Knowledgeable and Responsive  
Customer Service Team:  
800-835-9999**

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

**Interactive Website:  
[www.weilercorp.com](http://www.weilercorp.com)**



# Solutions Showcase

## Transmission Valve Body

**Problem:** Burrs on transmission components can break away from parent components during use and cause transmission wear and eventual failure. Therefore, fluid passages must be completely burr-free.

**Solution:** A 10" Nylox® disc brush operating at 825 RPM in a vertical CNC machining center is an ideal solution for deburring this component. Since all of the burrs are on a single plane, the non-directional nature of a Nylox disc brush produces a part on which all edges have been uniformly deburred.



## Steering Component

**Problem:** Manual deburring can be costly in many respects. Hard deburring tools and aggressive abrasive wheels do not allow much margin for operator error and the result is often high scrap rates.

**Solution:** Nylox brushes produce a flexible filing action which concentrates all of the abrasive cutting action on sharp edges, giving them the ability to remove burrs without altering overall part dimensions. For example, a 6" Burr-Rx wheel mounted onto a 1,725 RPM pedestal buffer is capable of deburring this steering component just as quickly as a convolute wheel but without the fear of over-radiusing the edges of the teeth or producing flat spots.



## Aluminum Wheel

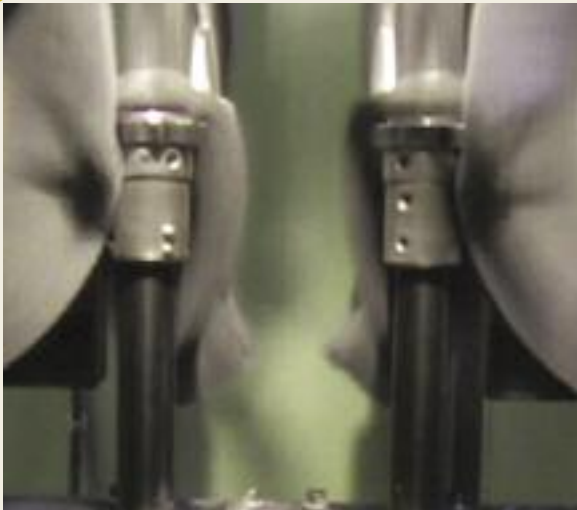
**Problem:** Sharp burrs cause safety concerns due to handling issues. In the production of aluminum wheels, burrs and sharp edges can also contribute to problems with painting and powder coating.

**Solution:** Weiler designs Nylox disc brushes that are tailored to match the specific geometric features of each aluminum wheel. The customized design and use of next-generation filament technology ensures wheels that are thoroughly deburred at the minimal cost-per-part.



# Solutions Showcase

## Pump Gear



**Problem:** Pumps are extremely susceptible to failure due to burrs. Due to the tight fit between components, all edges must be deburred and radiused to ensure proper function. Proper deburring of rotating pump gears is especially important.

**Solution:** A dedicated machine running 14" Nylox wheel brushes at 900 RPM was a low-cost solution for deburring these gears. By using dedicated equipment, cycle time was minimized and an acceptable edge condition was achieved.

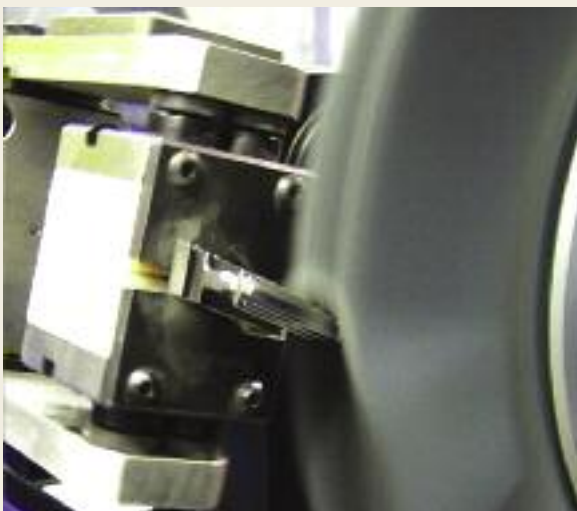
## Cast Aluminum Housing



**Problem:** Although deburring the face-milled surfaces of castings is a very straight forward application for Nylox disc brushes, the limited availability of valuable machine time can be a perceived obstacle that prevents users from reaping the many benefits of implementing in-machine deburring operations.

**Solution:** The advanced ceramic grain technology of Weiler's Burr-Rx tools offer a deburring action that is up to 400% greater than traditional abrasive nylon brushes which contain silicon carbide or aluminum oxide filaments. This allows Burr-Rx deburring tools to be used at feed rates which dramatically reduce the amount of additional machine time required to perform a brushing operation.

## Turbine Blade



**Problem:** Protecting turbine engine components against high-temperature fatigue is critical to ensure safe, reliable engine operation. Component edges must be burr-free and generally require an edge radius in the range of 0.005" to 0.060".

**Solution:** Robots are extremely well-suited for this application because they can manipulate the component in many orientations in relation to the brush. Weiler works closely with users and robot integrators to develop products and process programs which maximize brush life while generating exceptional part quality and consistency.

Photo courtesy of ACME Manufacturing.

# Nylox® Technical Information

## Operational Advantages of Nylox® Brushes

### Aggressive Yet Compliant



Nylon filaments co-extruded with an abrasive grain act like flexible files precisely deburring and radiusing edges as they wipe across them. Because the cutting pressure with which the abrasive grains are applied against a broad surface is limited by the compliant nature of the filaments, Nylox brushes tend not to alter the overall dimensions or geometry of a part. This high degree of compliance allows them to conform to complex part shapes and reduces the need for ultra-precise programming and fixturing that is typically required with other deburring and finishing tools.

### Enhanced Surface Finishes



The compliant cutting action of Nylox brushes not only limits their ability to alter part dimensions, but it makes them an effective tool for refining surface texture characteristics without removing significant amounts of base material. Although they contain the same abrasive grain sizes, Nylox brushes will **not** generate the same prominent scratch pattern as a comparable coated abrasive product. Their limited aggression and flexible filing action also make them suitable for deburring a wider range of materials in comparison to wire filled power brushes.

### Ideal For Automation



Because the abrasive grain is evenly distributed throughout the durable nylon filament, Nylox brushes offer extremely consistent performance throughout their product life. Coupled with their extremely compliant nature, this makes them an ideal media for use in automated deburring and finishing processes involving either dedicated production equipment or flexible solutions such as robotic cells. Their use can also be directly integrated into the cycle of CNC machining centers to improve part quality and consistency while reducing direct labor costs.

## Construction Advantages of Weiler Nylox Brushes

### Metal Hub Construction

- Metal hub components are assembled under high pressure, potentially damaging the filaments and causing premature breakage.
- Retaining ring displaces filament material creating a void in the center of the brush face.
- Lower fill density can result in shorter life and less consistent performance.



### Weiler's Composite Hub Construction

- Molded hub construction eliminates filament breakage.
- Uniform distribution of fill material and superior balance.
- Higher fill density provides more aggressive brushing and longer life.
- Consistent performance as the brush wears.



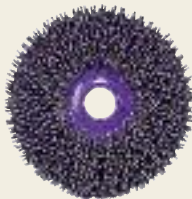
### Weiler's Composite Metal Hub Construction

- Filaments retained using the latest polymer technology to prevent filament breakage.
- Metal components add impact resistance and dimensional stability.
- The highest filament density in the market ensures lowest cost-per-part.



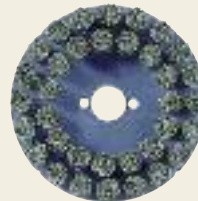
### Monofilament Construction

This construction is less aggressive due to lack of filament density. This hinders processing of severe burrs or generating larger edge radii in shorter cycle times. The short trim length results in less conformability and decreased brush life, resulting in fewer parts-per-brush.



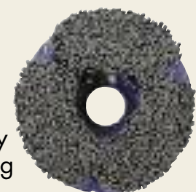
### Weiler's Tufted Construction

Weiler's construction offers increased aggression due to added filament density. This enables processing of severe burrs or generating larger edge radii in shorter cycle times. Our longer trim length allows for greater conformability and longer tool life.



### Weiler's Maximum Density Construction

Maximum density brushes are uniquely suited for demanding applications characterized by large burrs and rapid feed rates.



## Product Attributes

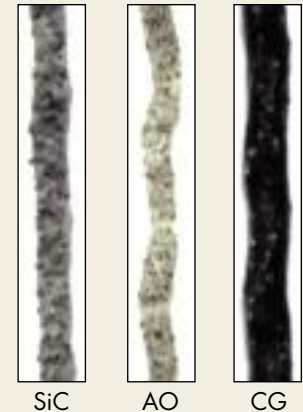
### Brush Terminology



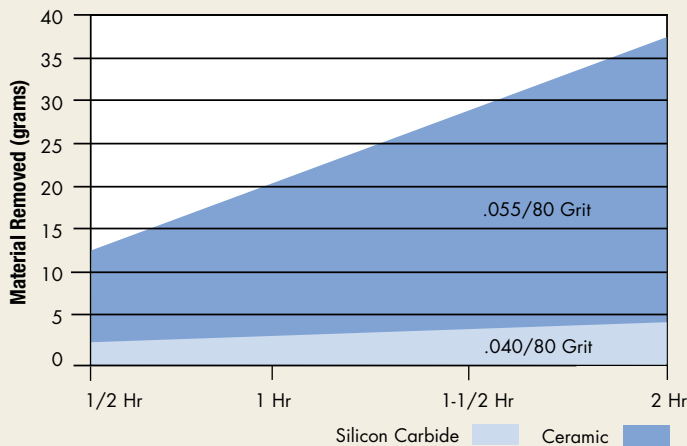
### Nylox Filaments

Abrasive brush filaments are manufactured by extruding a mixture of liquefied polymer and abrasive grain. Unlike the filaments used in DIY grade abrasive brushes, industrial grade products like Weiler's Nylox and Burr-Rx brushes feature the highest grade of abrasive filament manufactured using a Type 6.12 nylon polymer. Industrial grade filaments also feature the highest quality abrasive materials which have been sifted and sorted to insure that the grains are consistent in size. These grains may be one of three different types of abrasive:

- **Silicon Carbide (SiC)** - Is a sharp-edged grain which produces an effective cutting action. It is the most common grain used in industrial grade brushes.
- **Aluminum Oxide (AO)** - Is a duller, less aggressive grain typically used in finishing applications requiring a less pronounced scratch line pattern or deburring applications on materials where the use of SiC may be prohibited.
- **Burr-Rx Ceramic (CG)** - An engineered abrasive grain that produces a superior cutting action and is compatible with the widest range of materials. It is the most effective grain available today!



### Material Removal vs. Time



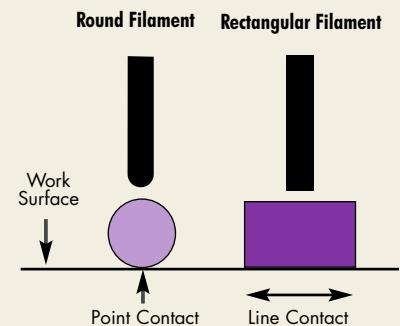
Nylox brushes containing the Burr-Rx black ceramic filament are the most cost-effective choice for a brush deburring tool because the engineered abrasive grain produces a cutting action up to 400% greater than equivalent SiC and AO filaments. This not only allows Burr-Rx brushes to remove burrs that traditional nylon abrasive filament products cannot, but it also minimizes cycle times by allowing the use of much higher feed rates and much shorter dwell times.

Burr-Rx brushes are especially well-suited for use on hard-to-deburr metals such as Inconel, stainless steel and titanium, but with proper selection of the product and operating parameters, they can be used on virtually any material.

**Round Filaments** - Due to their cross-sectional shape and the reduced contact with the work surface or part edges that result, round filaments provide a more compliant brushing action for less aggression and enhanced conformability.

**Rectangular Filaments** - Due to their shape, larger cross-sectional area and increased contact with the work, rectangular filaments provide a less compliant brushing action for much greater aggression and reduced conformability.

Crimping either type of filament along its length enhances conformability, allowing greater penetration of part edges into the brush face, often increases aggression. Crimped filaments are especially beneficial in maximum density disc brush designs.



# Nylox® Technical Information

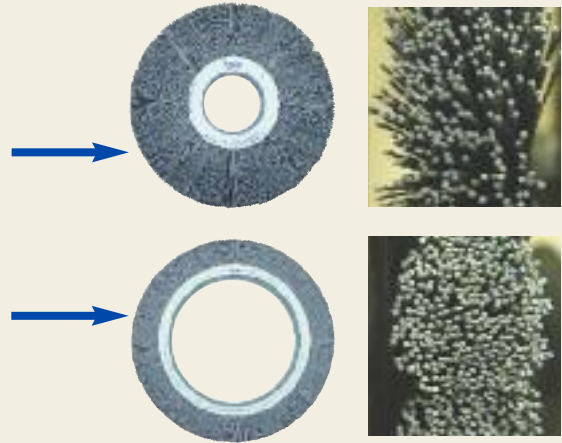
## Product Selection

### Trim Length and Fill Density

**Longer Trim, lower density brushes** offer a greater degree of flexibility that is ideal for applications requiring a high degree of brush conformability. However, the lower fill density can result in shorter brush life and less consistent performance.

**Shorter Trim, higher density brushes** work with a faster action and less engagement with the brush face. This produces shorter cycle times, more consistent performance and longer life in applications that do not require a high degree of brush conformability.

**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.



### Nylox® Brush Selection Chart

	Surface Finishing (Functional, Aesthetic, Decorative, Satin)	Deburring & Edge Blending	Automated Equipment Applications
Wheel	● ● ●	● ● ●	●
Disc	●	●	●
Cup	●	●	●
Stem-Mounted	●	●	●
Tube			

### Product & Application Key

● Right Angle Grinder \*



● Hand Drill/Drill Press



● CNC's, Milling & Automatic Machines

● Straight Grinder \*

● Bench/Pedestal Grinder \*

\* Due to the low recommended operating speeds of Nylox products, they typically cannot be used on standard power tools. However, they are suitable for use on low or variable-speed tools.



## Lubricut™ Lubricant

Prevents Smearing. Improves the Finish. Lowers Costs.

Lubricut™ is a lubricant that can be used with Nylox wheels operating above the recommended surface speed. Directing a light spray of Lubricut into the face of the wheel permits the wheel to be operated at higher surface speeds and up to twice the normal load **without smearing** - while improving the finish.



1. Turn off machine.



2. Slowly rotate wheel by hand.



3. While rotating, direct a light spray of Lubricut into the wheel face.

## Nylox® Brush Operating Information

### Operating Speed

Nylox® abrasive brushes work with a wiping and filing action. Think of them as flexible files. They work best when operated at speeds that allow fairly deep penetration of the work-piece into the brush filaments. Usually, faster speeds do not work as well as slower speeds. The maximum RPM marked on the brush is not the optimum working speed. A good rule of thumb is to stay under 2,500 SFPM in dry applications and 3,500 SFPM in wet applications.

### Operating Speeds - Wheel Brushes

Diameter	RPM
2"	3,450 - 5,000
3"	2,500 - 3,450
4"	1,750 - 2,500
6"	1,350 - 1,750
8"	1,150 - 1,350
10"	950 - 1,150
12"	750 - 950
14"	650 - 850

### Operating Speeds - Disc Brushes

Diameter	RPM
1-3/4" & 2"	1,750 - 2,000
3"-4"	1,500 - 1,750
5" - 6"	1,250 - 1,500
8"	800 - 1,000
10"	700 - 800
12"	600 - 700
14"	500 - 600

### Wheel Brush Penetration

When using nylon abrasive wheel brushes, optimum aggression is obtained and wheel life maximized when the work-piece penetrates into the face of the brush approximately 10% of the trim length. The sides of the Nylox filament actually do the work. To achieve a maximum edge radius and complete burr removal, parts should be buried into a slow running brush face.



### Disc Brush Penetration

When using nylon abrasive disc brushes, a good starting point for a depth of penetration between the brush face and work surface is 0.075"-0.100". This depth of interference produces the best compromise between aggression and brush life.



### Feed Rate Recommendations

Feed rate is determined by the amount of deburring, edge radiusing or surface finishing required, and the type of material that is being processed. It is generally application specific. Slower feeds result in a more aggressive brushing action. Based on the brushing action desired for a specific application, the feed rate can be increased or decreased.

Material	SiC and AO Grain Feed Rate	Burr-Rx Grain Feed Rate
Non-Ferrous	50 in./min.	80 in./min.
Cast Iron	30 in./min.	60 in./min.
Mild Steel and Ductile Iron	25 in./min.	50 in./min.
Stainless and Alloy Steels	15 in./min.	30 in./min.
Titanium and High Nickel Alloys	10 in./min.	30 in./min.



## Nylox Brush Operating Information

### Tool Path

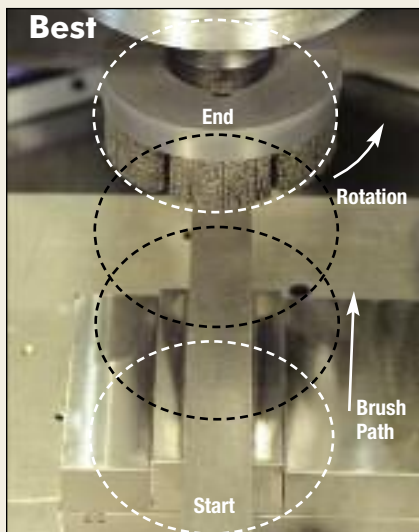
The ideal tool path for a Nylox® Disc brush is very similar to the path of the face mill that produced the burr. However, three differences exist:

- The rotation direction of the brush should be opposite of the cutting tool that created the burr.
- The length of the path must be longer than the part. Unlike a cutter path that can stop when the leading edge of the cutter reaches the end of the part, the tool path of a brush should continue until the trailing edge of the brush reaches the end of the part.
- The centerline of the brush may need to be off-set from the center of the part in order to maximize the number of filaments that strike the part at a perpendicular angle. This is especially important when the diameter of the brush is similar to the width of the part.

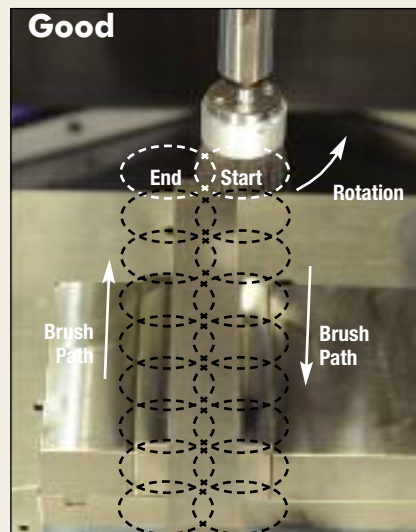
**A** The part is deburred in the shortest cycle time with the lowest consumable cost-per-part.

**B** The part is deburred, but requires a longer cycle time. When a large brush will not fit in the tool changer, this method is recommended.

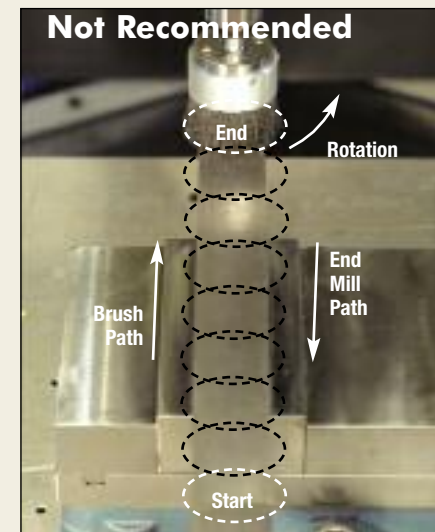
**C** Produces less deburring than A & B.



If a large diameter brush can be used, the centerline of the brush should be positioned on the center of the part. Ideally, the brush should be 3-4" wider than the part.



If a small diameter brush must be used, the centerline of the brush should be positioned on the edge of the part. This maximizes aggression by increasing the amount of perpendicular contact between the brush filaments and the burred edge.



Positioning a small diameter brush with its centerline on the center of the part is not recommended. This configuration will not allow perpendicular contact of the filaments against the burred edge.

### Coolants

Nylox® brushes can be run dry, without coolants. However, certain deburring conditions, such as higher speeds, material properties and greater depth of penetration can create excessive heat buildup, causing the nylon filaments to melt and smear on the work surface. If the speed or depth of penetration cannot be changed, coolants are recommended to overcome heat smear. Coolants will also help produce finer finishes.

### Wear Compensation

On dedicated equipment, it is possible to automate wear compensation by using electronic controls to monitor the load on drive motors and adjust the position of the brushing tool to maintain a relatively consistent amount of interference or pressure. Since this is typically not possible with standard CNC machine tools, there are three other possible methods of compensating for tool wear for "in-machine" implementations of Nylox brushes.

#### Automatic Indexing:

Most CNC controllers allow tool wear compensation to be accomplished by programming a "macro" - routine to periodically adjust the position of the tool based upon the number of parts produced. Some experimentation may be required to determine the frequency and the amount of adjustment that will result in the most consistent performance and maximum brush life.

#### Probing:

If the machining center has the capability to probe the face of the brush, this feature can be used to gauge the true position of the filament tips. Adjustments to the brush position can then be made to maintain a consistent amount of interference between the tool and the part.

#### Manual:

If the other methods cannot possibly be used, machine operators can adjust the brush position based on either statistical process control data or visual inspection of completed parts.

## Nylox Brush Operating Information

**Spindle Diameter Requirements:** The minimum Spindle Diameter standards of ANSI B165.1 for Power Brushes should also be used for Nylox Brushes. See pg. 20 for more information.

### Recommended Motor Sizes

Brush Diameter	Motor Size	RPM*
8"-4"	1/4 HP	3,450
6"	1/2 HP	1,725
8"	3/4 HP	1,725
10"	1 HP	1,140
12"	1 HP	1,140
14"	1-1/2 HP	900

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

\* A variable-speed motor control may be required to achieve optimum operating RPM; see charts on page 74.

## Nylox Brush Troubleshooting Guide

There are many variables in Nylox applications. If the Nylox 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 not aggressive enough	<ul style="list-style-type: none"> <li>• Increase filament diameter and/or grit size</li> <li>• Increase filament density by using round straight rather than round crimped</li> <li>• Increase surface contact by using rectangular rather than round</li> <li>• Increase pressure/depth of interference</li> <li>• Increase surface speed by increasing spindle RPM</li> <li>• Use a larger diameter brush</li> <li>• Reduce trim length or feed rate</li> </ul>
Brush too aggressive	<ul style="list-style-type: none"> <li>• Reduce filament diameter and/or grit size</li> <li>• Reduce filament density by using round crimped rather than round straight</li> <li>• Reduce surface contact by using round rather than rectangular</li> <li>• Reduce pressure/depth of interference</li> <li>• Reduce surface speed by reducing spindle RPM</li> <li>• Use a smaller diameter brush</li> <li>• Increase trim length or feed rate</li> </ul>
Brush not conformable enough	<ul style="list-style-type: none"> <li>• Increase trim length</li> <li>• Reduce filament diameter</li> <li>• Reduce filament density by using round crimped rather than round straight or rectangular</li> <li>• Reduce surface speed by reducing spindle RPM</li> <li>• Reduce feed rate</li> </ul>
Finer final finish required	<ul style="list-style-type: none"> <li>• Increase surface speed by increasing spindle RPM</li> <li>• Decrease grit size</li> <li>• Use brush with a coolant</li> </ul>
Coarser final finish required	<ul style="list-style-type: none"> <li>• Reduce surface speed by reducing spindle RPM</li> <li>• Increase grit size</li> <li>• Use brush without a coolant</li> </ul>
Filaments melt/smear on workpiece	<ul style="list-style-type: none"> <li>• Reduce surface speed by reducing spindle RPM</li> <li>• Use a smaller diameter brush</li> <li>• Use brush with a coolant</li> </ul>
Short brush life	<ul style="list-style-type: none"> <li>• Increase filament density</li> <li>• Reduce pressure/depth of interference</li> </ul>



Two members of our Application Engineering Team discuss the results after testing an engineered product.

**Nylox® Engineered Products** - In order to provide you with the most cost-effective media for your particular surface conditioning application, it is sometimes necessary to design and manufacture a unique, custom tailored product to meet your requirements. Although Weiler offers such engineered solutions in all of our product lines, the innovative construction and value-added nature of the Nylox line of nylon abrasive filament brushes showcases the creativity and expertise of our Application Engineering Team in designing products that have been tailored to the needs of the customer.



Custom-engineered Nylox brushes can be designed and manufactured as variations on standard product configurations such as wheel, disc, cup, end, or tube brushes. In addition, Weiler's exclusive Burr-Rx® and Bore-Rx™ brushing tools can be engineered to meet the demands of a specific application.

Wide face brush assemblies for applications such as finishing flat surfaces or deburring cylindrical parts can also be designed and manufactured using Nylox nylon abrasive filaments. For more information on Weiler's wide face brushes, see pages 63 and 64.

For solutions to difficult applications, call our Application Engineering Hotline at 888-299-APPS.

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 the user's facility.

## Application Engineering Solutions

Weiler Corporation is *the* source for surface conditioning solutions. Our goal is to provide solutions that will help you lower costs by increasing productivity. By combining our broad product offering with the support of our Application Engineering Team, you can count on Weiler to provide solutions to your specific application.

### Have An Application Problem?

#### Option 1 - Application Hotline:

Call our Application Engineering Hotline at 888-299-APPS (2777) with all your deburring, cleaning and finishing challenges. If your question cannot be answered on the phone...

#### Option 2 - In-House Part Evaluation:

Send your component parts to our in-house lab for evaluation and product recommendation. This enables Weiler to evaluate and process parts in a controlled environment without interrupting your production schedule. We will address issues such as cycle time, finish required and product life, providing the most cost-effective solution. Weiler's in-house lab is also equipped with a Hurco VSX-40 vertical machining center, giving us the capability to perform technical viability analysis on your parts. The availability of the Hurco permits recommendations concerning speeds, feeds and tool paths to be extremely precise. This virtually eliminates technical uncertainty for customers interested in implementing in-machine deburring.

#### Option 3 - On-Site Evaluation:

If it is determined that an on-site visit is required, a Weiler Application Engineer will visit your facility to review the current production process. Weiler will determine the best product and process to meet your specific application requirements.



**When Performance Counts, Turn to Weiler for assistance with product selection and application solutions!**

# Nylox<sup>®</sup> Wheel Brushes



Deburring a vane section for a jet engine.

## Nylox<sup>®</sup> Composite Metal Hub and Composite Hub Wheels -

Weiler's Nylox abrasive nylon wheel brushes featuring composite metal hub and composite hub construction are manufactured using a molded polymer material to retain the filaments. In comparison to traditional metal hub construction which folds the fill material around an internal retaining ring or wrap wire, these techniques result in a significant increase in fill density and the elimination of filament breakage offering the lowest cost-of-use and greatest consistency of performance in production applications.

Weiler's composite metal hub wheels marry the high density and superior filament retention of composite hub wheels with the dimensional stability and shock resistance of metal hub construction, and they feature 2" arbor holes which allows for convenient mounting on many pieces of equipment.

Burr-Rx wheels feature Weiler's advanced black ceramic grain filament which delivers up to a 400% greater edge cutting action in comparison to traditional silicon carbide and aluminum oxide filaments for the fastest, most aggressive deburring action to minimize cycle times and maximize media life.

### Applications

- Precision deburring of component parts after machining or grinding
- Honing cutting tools and generating specific edge profiles and radii
- Improving texture characteristics on machined or ground surfaces
- Light duty cleaning and finishing of metals; Light sanding of woods and composites

### Burr-Rx<sup>®</sup> Crimped Filament Wheels - Composite Metal Hub\* - Crimped Round Black Ceramic Filament

Dia.	Filament Dia./Grit	Arbor Hole	Face Width	Trim Length	Thickness At Face Plates	Max. RPM	Standard Pack	Item Number
6"	.026/120	2"	3/4"	1"	15/16"	4,000	1	86123
	.035/80							86181
	.043/120							86124
	.055/80							86120
8"	.026/120	2"	7/8"	2"	15/16"	4,000	1	86126
	.043/120							86127
	.055/80							86128
10"	.026/120	2"★	1-1/8"	2"	7/8"	1,800	2	86129
	.035/80							86182
	.043/120							86130
	.055/80							86131
12"	.026/120	2"★	1-1/4"	3"	7/8"	1,800	2	86132
	.043/120							86133
	.055/80							86134
14"	.026/120	2"★	1"	1-3/4"	3/4"	1,800	2	86135
	.035/80							86108
	.043/120							86136
	.055/80							86137
14"	.026/120	2"★	1-1/4"	4"	7/8"	1,800	2	86138
	.043/120							86139
	.055/80							86140

\*Patent Pending

★ 1/2" x 1/4" Double Keyway

### Burr-Rx<sup>®</sup> Crimped Filament Wheels - Composite Hub - Round Black Ceramic Filament

O.D. x I.D.	Filament Dia./Grit	Face Width	Trim Length	Thickness Through Arbor	Max. RPM	Standard Pack	Item Number
8" x 3-1/4"	.043/120	1"	1-5/16"	13/16"	1,800	2	83394
14" x 7-1/4"	.026/120	1"	2-3/4"	15/16"	1,800	2	84926
	.043/120						84941
	.035/80						84925
	.055/80						83405



86123



86131



86135



**NOTE**

See adapters on page 90.

Nylox<sup>®</sup> Wheel Brushes

# Nylox® Wheel Brushes

## Crimped Filament Wheels - Composite Metal Hub\* - Round Silicon Carbide Filament

Dia.	Filament Dia./Grit	Arbor Hole	Face Width	Trim Length	Thickness Through Arbor	Max. RPM	Standard Pack	Item Number
6"	.018/500	2"	1"	1-1/4"	1-1/16"	3,600	1	83000
	.022/320							83010
	.022/120							83011
	.035/180							83030
	.040/120							83040
	.040/80							83050
8"	.018/500	2"	1"	2-1/4"	3/4"	3,600	2	83100
	.022/320							83110
	.022/120							83111
	.035/180							83130
	.040/120							83140
	.040/80							83150
10"	.022/320	2"★	1-1/8"	2"	7/8"	1,800	2	83513
	.035/180							83514
	.040/120							83515
	.040/80							83516
12"	.022/320	2"★	1-1/4"	3"	7/8"	1,800	2	83715
	.035/180							83716
	.040/120							83717
	.040/80							83718
12"	.050/80	2"★	1-1/4"	3"	7/8"	1,800	2	83719•

\*Patent Pending  
 ★ 1/2" x 1/4" Double Keyway  
 • High Aggression

Removing burrs from an aluminum heat sink.



83075



83516



85014

## Rectangular Filament Wheel - Composite Metal Hub\* - Straight Silicon Carbide Filament

Dia.	Grit Size	Arbor Hole	Face Width	Trim Length	Thickness Through Arbor	Max. RPM	Standard Pack	Item Number
12"	80	2"★	1-1/4"	3"	7/8"	1,800	2	85014

\*Patent Pending  
 ★ 1/2" x 1/4" Double Keyway

**DID YOU KNOW?**

The largest special order Nylox composite hub wheel that we have manufactured was over 40" in diameter.

**Lubricut™**  
**Lubricant**

**Prevents Smearing.**  
**Improves the Finish.**  
**Lowers Costs.**

Lubricut™ is a lubricant that can be used with Nylox® wheels operating above the recommended surface speed. Directing a light spray of Lubricut into the face of the wheel permits the wheel to be operated at higher surface speeds and up to twice the normal load **without smearing** - while improving the finish. *See page 73 for recommended usage.*

83999



# Nylox<sup>®</sup> Wheel Brushes

## Crimped Filament Wheels - Composite Hub - Round Silicon Carbide Filament

O.D. x I.D.	Filament Dia./Grit	Face Width	Trim Length	Thickness Through Arbor	Max. RPM	Standard Pack	Item Number
6" x 2"	.040/80	1/2"	1-1/4"	9/16"	3,600	1	83116
8" x 2"*	.040/120 .040/80	7/8"	2-1/8"	13/16"	3,600	2	83190 83180
8" x 3-1/4"	.040/80	1"	1-5/16"	13/16"	1,800	2	83393
10" x 2"	.018/500 .022/320 .035/180 .040/120 .040/80	1"	3"	1-1/16"	3,600	2	83300 83310 83330 83340 83350
10" x 3-1/4"	.035/180 .040/120 .040/80	1"	2-5/16"	13/16"	1,800	2	83430 83440 83450
10" x 5-1/4"	.040/80	1"	1-5/8"	15/16"	1,800	2	83550
12" x 3-1/4"	.035/180 .040/120	1-1/8"	3-5/16"	13/16"	1,800	2	83630 83640
12" x 4-1/4"	.022/320 .035/180 .040/120 .040/80	1"	3-1/8"	15/16"	1,800	2	84710 84730 84740 84750
12" x 5-1/4"	.040/120 .040/80	1-1/8"	2-3/4"	15/16"	1,800	2	83740 83750
12" x 5-1/4"-2"*	.022/320	1-1/8"	2-3/4"	1-1/16"	1,800	2	85156 •
14" x 5-1/4"	.022/320 .035/180 .040/120 .040/80	1-1/8"	3-3/4"	15/16"	1,800	2	83910 83930 83940 83950
14" x 5-1/4"-2"*	.022/320 .040/80	1-1/8"	3-3/4"	1-1/16"	1,800	2	85150 • 85153 •
20" x 12"	.035/180	1-1/4"	3-1/4"	1-1/16"	1,000	1	85440

• Same density as our standard 5-1/4" I.D. brushes, but requires no adapters for mounting on a 2" diameter shaft.

\* 1/2" x 1/4" Double Keyway

## Rectangular Filament Wheel - Composite Hub - Straight Silicon Carbide Filament

O.D. x I.D.	Grit Size	Face Width	Trim Length	Thickness Through Arbor	Max. RPM	Standard Pack	Item Number
14" x 5-1/4"	120	1-1/8"	3-3/4"	1-1/16"	1,800	2	84640

Other diameters and grit sizes available upon request.

**Nylox<sup>®</sup> Metal Hub Basic Sections** - Weiler also offers abrasive nylon wheels featuring traditional metal hub construction for light duty deburring and finishing in non-production applications.

### Applications

- Low volume manual deburring
- General use in a tool room or shop

## Crimped Filament Basic Sections - Metal Hub - Round Silicon Carbide Filament

O.D. x I.D.	Filament Dia./Grit	Face Width	Trim Length	Thickness Through Arbor	Max. RPM	Standard Pack	Item Number
6" x 2"	.022/320 .035/180 .040/120	5/8"	1-1/2"	9/16"	6,000	2	20600 20610 20620
8" x 2"	.022/320 .040/120	5/8"	2-1/2"	9/16"	5,000	2	20630 20650
10" x 3-1/4"	.035/180	9/16"	2-7/8"	17/32"	4,500	2	20661
14" x 5-1/4"	.035/180	9/16"	3-7/8"	9/16"	3,000	2	20730



Deburring the tip of a turbine blade.



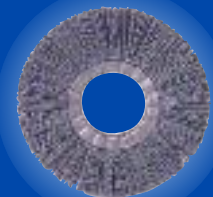
83190



85150



84640



20620



**NOTE**

See adapters on page 90.

Nylox<sup>®</sup> Wheel Brushes

# Nylox® Wheel Brushes

**Nylox® Narrow Face Wheels** - Featuring a high density metal hub construction, Weiler's narrow face wheels are designed and manufactured to be the most cost-effective tool for applications requiring a 3" or 4" radial brush.

Deburring threads on a CNC lathe with live tooling.



31110



86165



31255



31124

## Burr-Rx® Heavy-Duty Narrow Face Wheels - Metal Hub - Crimped Round Black Ceramic Filament

Dia.	Filament Dia./Grit	Arbor Hole	Face Width	Trim Length	Thickness Through Arbor	Max. RPM	Standard Pack	Item Number
3"	.026/120	5/8"-1/2"	9/16"	1/2"	7/16"	6,000	2	31240
	.035/80							31241
	.043/120							31242
	.055/80							31246
4"	.026/120	5/8"-1/2"	5/8"	1"	7/16"	6,000	2	31110
	.035/80							31270
	.043/120							31280
	.055/80							31290

## Burr-Rx® Narrow Face Wheels - Metal Hub - Crimped Round Black Ceramic Filament

Dia.	Filament Dia./Grit	Arbor Hole	Face Width	Trim Length	Thickness Through Arbor	Max. RPM	Standard Pack	Item Number
3"	.026/120	1/2"-3/8"	3/8"	1/2"	7/16"	6,000	2	86164
	.035/80							31102
	.043/120							31101
4"	.026/120	1/2"-3/8"	1/2"	7/8"	7/16"	6,000	2	86165
	.035/80							31103
	.043/120							31100
	.055/80							31105
6"	.026/120	5/8"-1/2"	5/8"	7/8"	11/16"	4,500	2	31134
	.043/120							31135
	.035/80							31136
	.055/80							31137

## Heavy-Duty Narrow Face Wheels - Metal Hub - Crimped Round Silicon Carbide Filament

Dia.	Filament Dia./Grit	Arbor Hole	Face Width	Trim Length	Thickness Through Arbor	Max. RPM	Standard Pack	Item Number
3"	.040/80	5/8"-1/2"	9/16"	1/2"	7/16"	6,000	2	31245
4"	.022/320	5/8"-1/2"	5/8"	1"	7/16"	6,000	2	31255
	.035/180							31265
	.040/120							31275
	.040/80							31285

## Narrow Face Wheels - Metal Hub - Crimped Round Silicon Carbide Filament

Dia.	Filament Dia./Grit	Arbor Hole	Face Width	Trim Length	Thickness Through Arbor	Max. RPM	Standard Pack	Item Number
3"	.022/320	1/2"-3/8"	3/8"	1/2"	7/16"	6,000	2	31074
	.035/180							31084
	.040/120							31094
4"	.022/320	1/2"-3/8"	1/2"	7/8"	7/16"	6,000	2	31104
	.035/180							31114
	.040/120							31124
6"	.022/320	5/8"-1/2"	5/8"	7/8"	11/16"	4,500	1	31121
	.035/180							31122
	.040/120							31123

# Nylox® Wheel Brushes

**Nylox® Small Diameter Wheels** - Weiler offers the widest assortment of small diameter radial wheels for addressing recesses and internal features, or delivering a targeted brushing action to a specific area on a part.

Small diameter Burr-Rx® wheels feature Weiler's advanced black ceramic grain filament which delivers up to a 400% greater edge cutting action in comparison to traditional silicon carbide and aluminum oxide filaments for the fastest, most aggressive deburring action for minimum cycle times and maximum media life.

## Applications

- Deburring keyways, slots and crosshole intersections
- Honing and finishing of cylindrical bores

### Burr-Rx® Small Diameter Wheels - Metal Hub - Crimped Round Black Ceramic Filament

Diameter	Filament Dia./Grit	Arbor Hole	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number
1-1/4"	.026/120	1/4"	5/16"	5/16"	10,000	10	17551
1-1/2"	.026/120	1/2"	3/8"	1/4"	10,000	10	17541
2"	.026/120	1/2"	3/8"	1/2"	10,000	10	17548
	.035/80						17555
	.055/80						17542
2-1/2"	.026/120	5/8"	1/2"	11/16"	10,000	10	17556
	.035/80						17557
3"	.026/120	1/2"	1/2"	1"	10,000	10	17565
	.035/80						17567
	.043/120						17568
	.055/80						16000

Other diameters and grit sizes available upon request.

### Small Diameter Wheels - Metal Hub - Crimped Round Silicon Carbide Filament

Diameter	Filament Dia./Grit	Arbor Hole	Face Width	Trim Length	Max. RPM	Standard Pack	Item Number
1-1/8"	.022/120	1/4"	5/16"	1/4"	10,000	10	17532
1-1/4"	.022/120	1/4"	5/16"	5/16"	10,000	10	17535
1-3/8"	.018/500 ▲	1/4"	5/16"	3/8"	10,000	10	16310
1-1/2"	.022/120	1/2"	3/8"	1/4"	10,000	10	17628
	.035/180						29353
	.018/500						17533
2"	.022/320	1/2"	3/8"	1/2"	10,000	10	17543
	.040/120						17633
	.022/120						17629
2"	.022/120	5/8"	7/16"	7/16"	10,000	10	17629
	.022/320						29356
2-1/2"	.022/120	5/8"	1/2"	11/16"	10,000	10	29123
	.035/180						29280
	.035/180						29088
3"	.022/320	1/2"	1/2"	1"	10,000	10	17563
	.022/120						16315
	.040/120						16263

▲ Aluminum Oxide

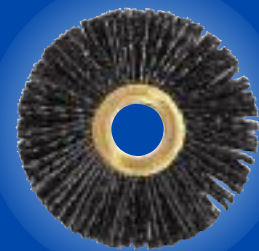
Other diameters and grit sizes available upon request.



Weiler's Application Engineering Team is available to recommend the best product and process to meet your specific application requirements.



Deburring the edges of a machined aluminum component.



16000



17533



**NOTE**

See adapters on page 90.

Nylox® Wheel Brushes



# Nylox® Wheel Brushes



A diamond abrasive disc brush creates a small radius on a ceramic part.



83005

**Diamond Filament Wheel Brushes** - Weiler's diamond filament wheels utilize composite hub construction for high performance in precision applications. Our wheel brushes are made-to-order in a wide range of diameters and thicknesses. Additional configurations are available such as; tube brushes, composite hub disc brushes and end brushes. Common wheel configurations are listed below. Other sizes and pricing are available on request. Additional product configurations are available. Please contact Customer Service at 800-835-9999.

## Applications

Ideal for producing edge radii on hard materials:

- Diamond
- Ceramic
- CBN
- Glass

## Diamond Filament Wheels - Composite Hub - Round Diamond Filament

O.D. x I.D.	Filament Diam. /Grit	Face Width	Trim Length	Thickness Through Arbor	Max. RPM	Standard Pack	Item Number
6" x 2"	.024/200	5/16"	1-1/4"	1/4"	3,600	1	83002
	.014/600						83003
	.012/1000						83004
8" x 2"	.024/200	5/16"	2-1/4"	1/4"	3,600	1	83005
	.014/600						83006
	.012/1000						83007



See adapters on page 90.



**Operating Speeds - Wheels** - Nylox® abrasive brushes work with a wiping and filing action. Think of them as flexible files. They work best when operated at speeds that allow penetration of the work-piece into the brush filaments. The maximum RPM marked on the brush is not the optimum working speed. A good rule of thumb is to stay under 2,500 SFPM in dry applications and 3,500 SFPM in wet applications.

Diameter	RPM
2"	3,450 - 5,000
3"	2,500 - 3,450
4"	1,750 - 2,500
6"	1,350 - 1,750
8"	1,150 - 1,350
10"	950 - 1,150
12"	750 - 950
14"	650 - 850

Note: See parameter summary on page 74 for additional information.



Weiler was the first manufacturer of Composite Hub Nylox® Brushes.

# Nylox<sup>®</sup> Crosshole Deburring Brushes

**Bore-Rx<sup>™</sup> Brushes** - These brushes are designed for automated applications in CNC machining centers and dedicated machines. They are ideal for removing burrs from internal edges and finishing bores. Since they eliminate off-hand deburring, they improve part-to-part consistency and reduce direct labor content. Bore-Rx brushes are available in sizes ranging from 7/8" to 4" and can be readily adapted into a machining center's tool changer using an end-mill holder or 3/8" collet.

## Bore-Rx Brushes - 3/8" stems - Crimped Round Black Ceramic Filament

Diameter	Filament Dia./Grit	Face Width	Overall Length	Max. RPM	Standard Pack	Item Number
7/8"	.026"/120	3/4"	4-3/4"	8,000	1	17206
1"	.026"/120	3/4"	4-3/4"	8,000	1	17208
1-1/4"	.026"/120	3/4"	4-3/4"	8,000	1	17210
1-1/2"	.026"/120	1"	5"	8,000	1	17212
2"	.026"/120	1"	3-1/4"	6,000	1	17215
2-1/2"	.055"/80	1"	3-1/4"	6,000	1	17217
3"	.026"/120	1"	3-1/4"	6,000	1	86150
	.043/120					86151
	.055/80					86152
4"	.026/120	1"	3-1/4"	6,000	1	86154
	.043/120					86155
	.055/80					86156

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.

## 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 7/8" 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 Bore-Rx Brushes

Brush Diameter	Recommended RPM	Recommended Feed Rate
5/8" - 7/8"	3000	20"/min
1" - 1-1/2"	3000	20"/min
2" - 2-1/2"	2000	20"/min
3" - 4"	1500	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.

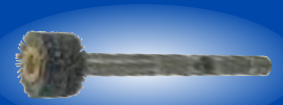
■ Diameter of Interpolation = Hole Dia. - 0.975 x Brush Dia.

### Tool Paths for Bore Finishing

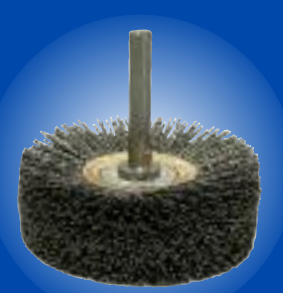
Nylox brushes can be used to improve the surface finish of bores. The best tool path normally involves helically interpolating the bore. The above recommendations for speed, feed and diameter of interpolation are also valid for bore finishing. The use of coolant is highly recommended in order to achieve maximum surface finish improvement.



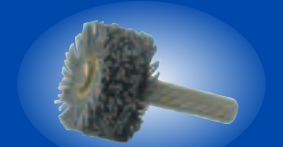
Deburring the internal bores of an air-cooled cylinder head.



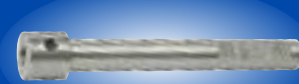
17208



86155



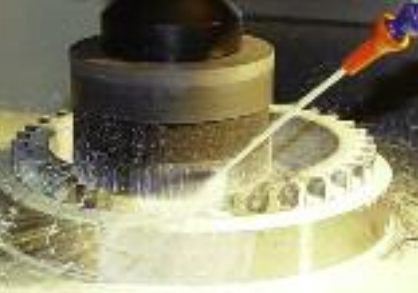
Replacement Head



Reusable Arbor

Nylox<sup>®</sup> Crosshole Deburring Brushes

# Nylox® Disc Brushes



Deburring a bearing cage in a CNC machining center.



86112



86143

Nylox® Disc Brushes



See page 72 for more information about applying Nylox disc brushes in CNC applications.

**Nylox® Disc Brushes** - Weiler's Nylox disc brushes are manufactured using a tufted filament configuration and longer trim length for increased aggression, greater conformability and longer product life in comparison to monofilament disc brushes which feature a distribution of short individual bristles.

Burr-Rx® disc brushes feature Weiler's advanced black ceramic grain filament which delivers up to a 400% greater edge cutting action in comparison to traditional silicon carbide and aluminum oxide filaments for the fastest, most aggressive deburring action for minimum cycle times and maximum media life.

All of our Burr-Rx disc brushes are manufactured using a new process which results in a very consistent, flat brush face in comparison to traditional construction which utilizes a molded backing. The high dimensional precision of these tools means that the brushes are suitable for the most critical applications and perform more consistently from first part to last. In addition, the machined polymer backings are designed to mount directly onto a standard shell mill holder for convenient use in CNC machining centers.

## Applications

- Deburring flat surfaces on machined components
- Improving texture characteristics on machined or ground surfaces
- Deburring face-milled castings or forgings
- Blending tool marks after machining or grinding

## Burr-Rx® Shell Mill Holder Disc Brushes - Crimped Black Ceramic Filament

Diameter	Filament Diameter/Grit	Arbor Hole	Trim Length	Max. RPM	Standard Pack	Item Number
<b>Round Filament</b>						
4"	.026/120	1-1/4"	1-1/2"	1,800	1	86112
	.043/120					86113
	.043/120					86204*
	.055/80					86114*
6"	.026/120	1-1/4"	1-1/2"	1,800	1	86115
	.043/120					86116
	.043/120					86117*
	.055/80					86117*
8"	.026/120	1-1/4"	1-1/2"	1,800	1	86141
	.043/120					86142
	.043/120					86143*
	.055/80					86143*
10"	.026/120	1-1/4"	1-1/2"	1,800	1	86125
	.043/120					86121
	.043/120					86122*
	.055/80					86122*
<b>Rectangular Filament</b>						
4"	80	1-1/4"	1-1/2"	1,800	1	86167*
6"	80	1-1/4"	1-1/2"	1,800	1	86198*
8"	80	1-1/4"	1-1/2"	1,800	1	86199*

\* Maximum Density



Note: See parameter summary on page 74 for additional information.

**Operating Speeds - Discs** - Nylox® abrasive brushes work with a wiping and filing action. Think of them as flexible files. They work best when operated at speeds that allow penetration of the work-piece into the brush filaments. The maximum RPM marked on the brush is not the optimum working speed. A good rule of thumb is to stay under 2,500 SFPM in dry applications and 3,500 SFPM in wet applications.

Diameter	RPM
1-3/4"	1,750 - 2,000
3"-4"	1,500 - 1,750
5" - 6"	1,250 - 1,500
8"	800 - 1,000
10"	700 - 800
12"	600 - 700
14"	500 - 600

# Nylox<sup>®</sup> Disc Brushes

## Composite Hub Disc Brushes - Silicon Carbide Filament

Diameter	Filament Dia./Grit	Arbor Hole	Trim Length	Max. RPM	Standard Pack	Item Number
<b>Crimped Round Filament</b>						
3"	.035/180	7/8"	1-1/2"	2,500	1	85776
	.040/120					85778
3-1/2"	.022/320	7/8"	1-1/2"	2,500	1	85792
	.035/180					85794
	.040/80					85798
4"	.022/320	7/8"	1-1/2"	2,500	1	85812
	.035/180					85814
	.040/120					85816
	.040/80					85818
5"	.035/180	7/8"	1-1/2"	2,500	1	85832
	.040/80					85836
6"	.035/180	7/8"	1-1/2"	2,000	1	85850
	.040/120					85852
	.040/80					85854
8"	.035/180	7/8"	1-1/2"	2,000	1	85908
	.040/120					85912
	.040/80					85914
10"	.040/120	7/8"	1-1/2"	1,750	1	85930
	.040/80					85932
12"	.035/180	7/8"	1-1/2"	1,750	1	85946
	.040/120					85948
<b>Rectangular Filament</b>						
3"	120	7/8"	1-1/2"	2,500	1	85786
	80					85788
3-1/2"	320	7/8"	1-1/2"	2,500	1	85800
	80					85806
4"	180	7/8"	1-1/2"	2,500	1	85822
	120					85824
	80					85826
	80					85995 •
	80					85900* •
5"	120	7/8"	1-1/2"	2,500	1	85842
	80					85844
	80					85978 •
6"	120	7/8"	1-1/2"	2,000	1	85860
	80					85862
	80					85996 •
	80					85901* •
8"	120	7/8"	1-1/2"	2,000	1	85920
	80					85922
9"	80	7/8"	1-1/2"	2,000	1	85997 •
10"	120	7/8"	1-1/2"	1,750	1	85938
	80					85940

\* Banded for extra aggression

• Maximum density

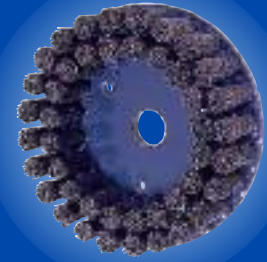


### Arbor & Drive Hole Specifications for Composite Hub Disc Brushes

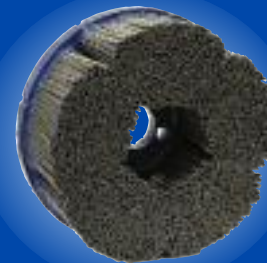
Brush Diameter	Arbor Hole Diameter	Drive Holes
3"-5", 6" Max. Density	7/8"	(2) 1/4" dia. on a 1-1/4" dia. bolt circle
6"	7/8"	(3) 1/4" dia. on a 3" dia. bolt circle
8"	7/8"	(4) 1/4" dia. on a 3" dia. bolt circle
10"	7/8"	(4) 1/4" dia. on a 1.625" dia. bolt circle
12"	7/8"	(4) 1/4" dia. on a 1.625" dia. bolt circle
14"	5"	N.A.



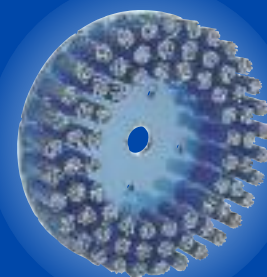
Deburring the edges of an aluminum engine cover.



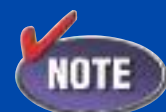
85852



85978



85920



See adapters & drive arbors on pages 90-91.

Nylox<sup>®</sup> Disc Brushes

# Nylox® Disc and Cup Brushes



Removing burrs and breaking sharp edges on a transmission component.



85733



85753



85752



85981



14413



See adapters & drive arbors on pages 90-91.

**Nylox Mini-Disc Brushes** - Featuring a precision machined aluminum cup, Weiler's mini-disc brushes are designed to be the most cost-effective media for applications requiring a smaller brushing tool.

## Applications

- Deburring flat surfaces on machined components
- Deburring face-milled castings or forgings
- Improving texture characteristics on machined or ground surfaces
- Blending tool marks after machining or grinding

## Burr-Rx® Mini Disc Brushes - Maximum Density - Crimped Black Ceramic Filament

Diameter	Filament Diameter/Grit	Trim Length	Max. RPM	Standard Pack	Item Number
<b>Round Filament</b>					
2"	.026/120	1-1/4"	4,500	1	86106
	.035/80				85738
	.043/120				86107
	.055/80				85733
3"	.026/120	1-1/4"	4,500	1	86109
	.035/80				86013
	.043/120				86110
	.055/80				86111
<b>Rectangular Filament</b>					
2"	80	1-1/4"	4,500	1	85736
3"	80	1-1/4"	4,500	1	86014

## Mini Disc Brushes - Silicon Carbide Filament

Diameter	Filament Dia./Grit	Trim Length	Max. RPM	Standard Pack	Item Number
<b>Round Filament</b>					
1-3/4"	.035/180	1-1/4"	6,000	2	85753
	.022/120				85751
	.040/80				85750
<b>Rectangular Filament</b>					
1-3/4"	80	1-1/4"	6,000	2	85752
2"	80	1-1/4"	4,500	2	85773*
3"	80	1-1/4"	4,500	1	85981*

\* Maximum Density

**Nylox Cup Brushes** - Weiler also offers an assortment of Nylox tools featuring traditional cup brush construction for deburring and finishing use in lighter duty applications. These brushing tools can be used on dedicated machines in automated processes or on low speed/high torque handheld tools for manual applications.

## Applications

- Deburring and finishing complex or contoured parts



## Cup Brushes - Crimped Round Silicon Carbide Filament

Diameter	Filament Dia./Grit	Arbor Hole	Trim Length	Max. RPM	Standard Pack	Item Number
2-3/4"	.022/320	1/4" Stem	1-1/4"	6,000	1	14401
	.035/180					14403
	.040/120					14404
3-1/2"	.035/180	5/8"-11	1-1/2"	12,000	1	14413
	.040/120					14414
5"	.040/120	5/8"-11	1-1/4"	8,000	1	14576
6"	.040/120	5/8"-11	1-1/4"	6,600	1	14516*
	.040/80					14506*

\* With internal nut

# Nylox<sup>®</sup> End Brushes

**Nylox<sup>®</sup> End Brushes and Miniature End Brushes** - Featuring an integral stem for convenient mounting into a toolholder or collet, Nylox end brushes and miniature end brushes are suitable for addressing recesses and internal features, or delivering a targeted brushing action to a specific area on a part.

## Applications

- Deburring small recessed areas and internal part features
- Finishing slots and recessed surfaces on machined parts

### Burr-Rx<sup>®</sup> End Brushes - Banded - Crimped Round Black Ceramic Filament - Mounted on 1/4" Stems

Diameter	Filament Diameter/Grit	Trim Length*	Max. RPM	Standard Pack	Item Number
3/8"	.026/120	1/4"	10,000	10	86098
	.043/120				86099
1/2"	.026/120	1/4"	10,000	10	86100
	.043/120				86101
3/4"	.026/120	1/4"	10,000	10	86102
	.043/120				86103
1"	.026/120	1/4"	10,000	10	86104
	.043/120				86105

\* Trim length from bands

### End Brushes - Banded - Crimped Round Silicon Carbide Filament - Mounted on 1/4" Stems

Diameter	Filament Dia./Grit	Trim Length*	Max. RPM	Standard Pack	Item Number
1/2"	.022/320	3/8"	10,000	10	11160
	.035/180				11161
	.040/120				11162
3/4"	.035/180	3/8"	10,000	10	11165
	.040/120				11166
1"	.022/320	3/8"	10,000	10	11168
	.035/180				11169
	.040/120				11170

\* Trim length from bands

### End Brushes - Crimped Round Silicon Carbide Filament - Mounted on 1/4" Stems

Diameter	Filament Dia./Grit	Trim Length	Max. RPM	Standard Pack	Item Number
1/2"	.022/320	7/8"	10,000	10	10172
	.035/180				10173
	.040/120				10174
3/4"	.022/320	7/8"	10,000	10	10152
	.035/180				10153
	.040/120				10154
1"	.022/320	7/8"	10,000	10	10155
	.035/180				10156
	.040/120				10157

### Miniature End Brushes - Crimped Round Silicon Carbide Filament

Plastic Ferrule - Mounted on 1/8" stems

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



Blending tool marks on a hydraulic component.



86104



11166



10154



26136

Nylox<sup>®</sup> End Brushes

# Nylox® Tube Brushes

**Nylox® Power Tube Brushes** - Weiler offers a comprehensive line of Nylox power tube brushes for internal deburring and finishing applications in tubular component parts, drilled and tapered holes, and machined bores and passages. Power tube brushes are suitable for use in drill presses and manual and CNC machine tools. See pages 50-51 for operating guidelines.

## Burr-Rx® Tube Brushes - Crimped Black Ceramic Filament - 1/4" Cadmium Plated Stems

Diameter	Filament Dia./Grit	Length of Brush Part	Stem Diameter	Overall Length	Standard Pack	Item Number
3/8"	.026/120	1"	1/4"	3-1/2"	10	21758
1/2"	.026/120	1"	1/4"	3-1/2"	10	21759
5/8"	.026/120	1"	1/4"	3-1/2"	10	21761
3/4"	.026/120	1"	1/4"	3-1/2"	10	21762
7/8"	.026/120	1"	1/4"	3-1/2"	10	21763
1"	.026/120	1"	1/4"	3-1/2"	10	21764
1-1/4"	.026/120	1"	1/4"	3-1/2"	10	21765

## Tube Brushes - Crimped Round Silicon Carbide Filament - Double Stem, Single Spiral

Diameter	Filament Dia./Grit	Length of Brush Part	Stem Diameter	Overall Length	Standard Pack	Item Number
1/4"	.022/320	2"	5/32"	5"	10	21126
3/8"	.022/320	2"	5/32"	5"	10	21128
1/2"	.022/320 .040/80	2"	3/16"	5"	10	21130 21325
5/8"	.022/320 .040/80	2"	7/32"	5"	10	21132 21326
11/16"	.022/320	2"	7/32"	5"	10	21133
3/4"	.022/320 .040/80	2-1/2"	1/4"	5-1/2"	10	21134 21327
7/8"	.022/320 .040/80	2-1/2"	1/4"	5-1/2"	10	21136 21976
1"	.022/320 .040/80	2-1/2"	1/4"	5-1/2"	10	21138 21328
1-1/4"	.022/320 .022/120 .035/180 .040/80	2-1/2"	1/4"	5-1/2"	10	21306 21304 21305 21329
1-1/2"	.022/320 .035/180 .040/80	2-1/2"	1/4"	5-1/2"	10	21309 21308 21330
1-3/4"	.040/80 .035/180	2-1/2"	1/4"	5-1/2"	10	21311 21312
2"	.022/320 .040/80	2-1/2"	1/4"	5-1/2"	10	21473 21345

## Tube Brushes - Micro Abrasive - For ultra-fine deburring and finishing of small internal holes.

Diameter	Length of Brush Part	Stem Diameter	FOR HOLE DIAMETERS		Overall Length	Standard Pack	Item Number
			Decimal	Fraction			
<b>Silicate Filament</b>							
.030"	1/2"	.015	.031"	1/32"	4"	10	26900
.050"	1/2"	.022	.047"	3/64"	4"		26901
.075"	3/4"	.033	.063"	1/16"	4"		26902
.090"	3/4"	.041	.078"	5/64"	4"		26903
.105"	1"	.041	.094"	3/32"	4"		26904
.125"	1"	.064	.109"	7/64"	4"		26905
.135"	1"	.075	.125"	1/8"	4"		26906
<b>600 Grit Aluminum Oxide Filament</b>							
.165"	1"	.087	.156"	5/32"	5"	10	26907
.190"	1"	.087	.188"	3/16"	5"		26908
.260"	1"	.115	.250"	1/4"	5"		26909
.325"	1"	.115	.313"	5/16"	5"		26910
.385"	1"	.147	.375"	3/8"	5"		26911
.515"	1"	.194	.500"	1/2"	5"		26912
.640"	1"	.194	.625"	5/8"	5"		26913
.765"	1"	.212	.750"	3/4"	5"		26914
.890"	1"	.212	.875"	7/8"	5"		26915

Crosshole deburring an aluminum manifold.



21759



21128



21138



21473



26904



26908



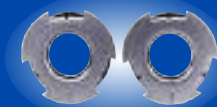
26915

Nylox® Tube Brushes

# Nylox<sup>®</sup> Adapters and Drive Arbors

**Metal Adapters - Reusable - Used in pairs and priced per pair.**

Diameter	Arbor Hole Size	Used With	Standard Pack	Item Number
2"	1/2"	All 2" I.D. Wheels	1	03809
	5/8"			03810
	3/4"			03811
	7/8"			03824
	1"			03812
	1-1/4"			03813
	1-1/2"			03814
3-1/4"	3/4"	3-1/4" I.D. Wheels (When mounting only one wheel)	1	03910
	7/8"			03911
	1"			03912
	1-1/4"			03913
	2"			03915
5-1/4"	3/4"	5-1/4" I.D. Wheels (When mounting only one wheel)	1	03920
	7/8"			03921
	1"			03922
	1-1/4"			03923
	2"			03925



03809

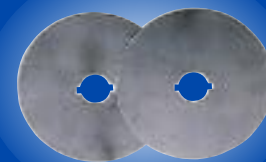


03923

**Steel Flanges - Reusable - Used on the ends of a gang mount. Used in pairs and priced per pair.**

Must be used in conjunction with Pressboard Adapters in chart below.

Flange O.D.	Arbor Hole Size	Used With	Standard Pack	Item Number
5-5/8"	3/4"	3-1/4" & 4-1/4" I.D. Wheels	1	03931
	1"			03933
	1-1/4"			03934
	2"			03936
6-1/2"	1-1/4"	5-1/4" I.D. Wheels	1	03944
	1-1/2"			03945
	2"			03946
8-3/4"	1-1/4"	7-1/4" I.D. Wheels	1	03954
	1-1/2"			03955
	2"			03956

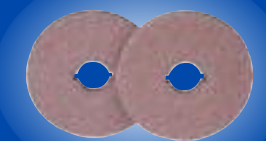


03944

**Pressboard Adapters - Used for centering 10", 12" and 14" Nylox<sup>®</sup> Wheels when gang mounting.**

Must be used in conjunction with Steel Flanges in chart above.

Brush I.D.	Arbor Hole Size	Standard Pack	Item Number
3-1/4"	3/4"	1	03890
	1"		03892
	1-1/4"		03893
	2"		03895
4-1/4"	3/4"	1	03960
	1-1/4"		03963
	2"		03965
5-1/4"	1-1/4"	1	03403
	1-1/2"		03404
	2"		03405
7-1/4"	1-1/4"	1	03973
	1-1/2"		03974
	2"		03975



03403

Nylox<sup>®</sup> Adapters and Drive Arbors



# Nylox<sup>®</sup> Adapters and Drive Arbors



04401

04402



89029



89033



07700



07701



07718

## Plastic Adapters

Fixed Arbor Hole Size	Adapted Arbor Hole Size	Used With	Standard Pack	Item Number
1/2"	1/4"	Small Dia. Wheels	10	04400
1/2"	3/8"	Small Dia. Wheels	10	04401
5/8"	1/2"	Small Dia. Wheels	10	04402

## Miniature & Burr-Rx™ Disc Brush Drive Arbors - Includes drive arbor, set screw and hex key.

For Brush Diameter	Stem Diameter	Stem Length	Max. RPM	Standard Pack	Item Number
1-3/4"-3"	1/4"	1-3/4"	6,000	1	89023*
1-3/4"-3"	3/8"	1-3/4"	6,000	1	89024*
1-3/4"-3"	1/2"	1-3/4"	6,000	1	89029*

\* For use with Burr-Rx Mini Disc brushes on page 87 only. Products supplied with set screw and wrench.

## Miniature & Burr-Rx™ Disc Brush Drive Arbors - Includes drive arbor, set screw and hex key. Recommended for operations in which brush rotation alternates between forward and reverse.

For Brush Diameter	Stem Diameter	Stem Length	Max. RPM	Standard Pack	Item Number
2"-3"	1/2"	1-3/4"	6,000	1	89033*

\* For use with Burr-Rx Mini Disc brushes on page 87 only. Products supplied with set screw and wrench.

## Disc Brush Drive Arbors - Mounts Weiler disc brushes to any type of milling machine or CNC machine.

Fits	Arbor Hole	Drive Studs	Bolt Circle	Plate O.D.	Shaft Dia.	Stem Length	Std. Pack	Item Number
3", 4" and 5" Disc Brushes	7/8"	2	1-1/4"	2-7/8"	3/4"	2-3/4"	1	07700*
6" Std. Tuft Disc Brushes NOT Max. Density	7/8"	3	3"	5-7/8"	3/4"	2-1/2"	1	07701*
6" Max. Density Disc Brushes, also 5" Std. Tuft	7/8"	2	1-1/4"	4-7/8"	3/4"	2-1/2"	1	07715*
8" and 9" Disc Brushes	7/8"	4	3"	7-7/8"	3/4"	2-1/2"	1	07702*
10" and 12" Disc Brushes	7/8"	4	1-5/8"	9-7/8"	3/4"	2-1/2"	1	07703*
<b>Replacement kit includes:</b> (1) 1/2"-13 locking flow-through bolt and (1) Belleville spring washer	-	-	-	-	-	-	1	07718*

\* Flow-through drive arbor.



- 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.

**DID YOU KNOW?**

Weiler's Black Ceramic Nylon Abrasive Filament Brushes are being used on key parts of the United States Navy's newest warships.

# Nylox<sup>®</sup> FME Area Product Solutions

In nuclear power plants, Foreign Material Exclusion (FME) programs may limit or even exclude the use of wire brushes in some areas during the performance of routine maintenance, repair or shut-down activities. Weiler has developed a FME-compliant tooling system to address the needs of plant operators and maintenance contractors working in these facilities as well as other industries where the potential introduction of broken wire filaments may be of concern.

Weiler's FME Solutions program is a complete system consisting of non-wire brushing tools designed to perform a broad range of surface cleaning and preparation applications as well as the power tools **required** to drive them. For cleaning hot welds in FME-controlled areas, Weiler offers the HFR stringer bead wire wheel (see page 28) which can be used on a standard right angle grinder.

**Black Nylox Ceramic Brushes** - The engineered ceramic grain in Weiler's Black Nylox filament is up to 400% more aggressive than the silicon carbide and aluminum oxide grain in other abrasive filaments, making it much more effective in surface cleaning applications. The efficient cutting action of the Black Nylox filament also generates less heat and makes it much more resistant to "smearing" than traditional nylon abrasive filaments.

**Narrow Face Wheels - Crimped Ceramic Filament**  
Used on edge for weld prep and cold weld cleaning.

Diameter	Filment Dia./Grit Size	Face Width	Arbor Hole	Max. RPM	Standard Pack	Item Number
4"	.055/80	1/2"	5/8"-11 Nut	4,800	5	31112
4"	.043/120	1/2"	5/8"-11 Nut	4,800	5	31111

**Cup Brush - Rectangular Ceramic Filament**  
Used on its face for heavy-duty cleaning of broad surfaces.

Diameter	Filment Dia./Grit Size	Arbor Hole	Max. RPM	Standard Pack	Item Number
4"	.049 x .098 - 80 Grit	5/8"-11 Nut	4,800	1	86160

**Bevel Brush - Rectangular Ceramic Filament**  
For aggressive cleaning in corners and confined areas.

Diameter	Filment Dia./Grit Size	Face Width	Arbor Hole	Max. RPM	Standard Pack	Item Number
4"	.049 x .098 - 80 Grit	3/4"	5/8"-11 Nut	4,800	1	31113



Nylon abrasive filament brushes require a lower operating RPM than most other power tool accessories and they cannot be used effectively on standard grinders.

**Weiler Grinders By Metabo<sup>®</sup>** - Engineered by Metabo exclusively for Weiler, these grinders operate at the optimum speed required to make the most effective use of the Black Nylox brushes. The critical mechanisms of these industrial grade electric grinders are sealed to protect them from the accumulation of dust and swarf. In addition, the housing and case of these virtually indestructible power tools are designed to insure optimum air flow over the motors for reliable performance and long service life. Grinders feature an extended-slide "Deadman" switch design which insures that the tool shuts off if dropped.



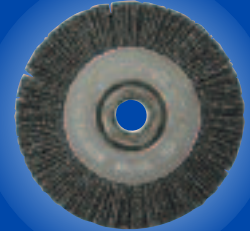
## Model 60012 4-1/2" Right Angle Grinder

### Features:

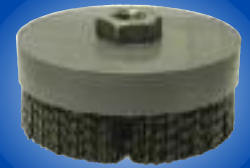
- Double insulation
- 4,800 RPM
- Deadman switch
- Current interruption protection
- Spindle lock
- Tool-free guard adjustment
- 2-position side handle
- 12.2 Amp
- 5/8"-11 Spindle
- Spanner wrench included



Removing gasket material from a pipe flange.



31112



86160



31113

Nylox<sup>®</sup> FME Area Product Solutions

# Nylox® FME Area Product Solutions



Cleaning internal threads inside a valve.

## End Brush - Crimped Ceramic Filament - 1/4" Stem

For spot-facing or cleaning in tight areas.



Diameter	Filment Dia./Grit Size	Trim Length	Max. RPM	Standard Pack	Item Number
1"	.055/80	3/4"	4,800	10	86148

## Controlled Flare End Brush - Crimped Ceramic Filament - 1/4" Stem

For cleaning corners and tight areas.



Diameter	Filment Dia./Grit Size	Trim Length	Max. RPM	Standard Pack	Item Number
1"	.035/80	1-1/8"	4,800	10	86159

## Conflex Brushes - Crimped Ceramic Filament - 1/4" Stem

For O.D. and I.D. cleaning in confined areas.



Diameter	Filment Dia./Grit Size	Face Width	Trim Length	Max. RPM	Standard Pack	Item No.
3"	.043/120	1"	15/16"	4,800	10	86171
3"	.055/80	1"	15/16"	4,800	10	86172



86148



86159



86171



**Tech Note**

Nylon abrasive filament brushes require a lower operating RPM than most other power tool accessories and they cannot be used effectively on standard grinders.



## Model 60006 Die Grinder

### Features:

- Double insulation
- 4,800 RPM
- Deadman switch
- Spindle lock
- Side handle included
- 7.5 Amp
- 1/4" Collet
- Extended spindle for working in confined areas

## Hand Scratch Brushes - Crimped Ceramic Filament - For general purpose, light-duty cleaning.

Overall Length	Block Type	Brush Part	Grit Size	Trim Length	Standard Pack	Item No.
10"	Wood	5"	80	3/4"	12	44144
8-3/4"	Wood	2 x 9 Rows	120	5/8"	36	95016



44144



95016

**DID YOU KNOW?**

Weiler's Nylox and Burr-Rx brushes are used by all three of the major jet engine manufacturers to deburr critical component parts.