ATB™ Advanced Technology Brushing

Cost effective solutions. Maximum results.

From start to finish, Osborn has your back with Advanced Technology Brushing.

Osborn offers the best solutions for your mechanical surface treatment challenges. Our experts are highly trained to serve you with the best off-the-shelf or tailored solutions, when and where you need them. Unlike others, we help you optimize your process, meet the highest quality and safety requirements, and reduce your costs.

ATB™ abrasive tools feature four different filament geometries: round crimped, round straight, rectangular crimped, rectangular straight.

Constructed of steel or premium quality composite

Abrasive media options include silicon carbide, aluminum oxide, ceramic, and polycrystaline diamond

Why ATB? The results speak for themselves.

Reduce cost, increase efficiency, and improve results. Ideal for deburring, sharp edge removal, radiusing, edge contouring, de-fuzzing, surface refinement and conditioning.

3x
longer brush life

100%
performance satisfaction guaranteed

20%
lower cycle times

> The Osborn brushes are not only better performing, but are also much more consistent in quality and performance.
>
> **Machine Operator–Energy Sector**

ATB™ Introduction and Technical Information

ATB™ filaments work like independent flexible files conforming to part contours while abrading edges and surfaces. ATB™ abrasive tools produce rapid, repeatable results, which decrease process costs and create a cleaner, more efficient, working environment.

These tools are specifically designed for mechanical finishing tasks such as: deburring, sharp edge removal, radiusing, edge contouring, de-fuzzing, surface refinement and conditioning, plateau finishing, blending imperfections, reduction of surface stresses and micro crack propagation, cleaning, polishing and surface wiping prior to inspection gauging.

Both external and internal surface areas are processed on a wide variety of materials which include but are not limited to: metallics, super alloys, plastics, composites, advanced composites, metal matrix, ceramics, wood, leather, and cloth.

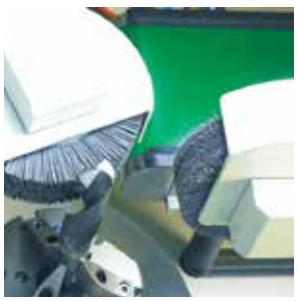
ATB™ Nylon Abrasive Filaments

Osborn continues to remain on the leading edge of advanced technology through innovation. Osborn has engineered abrasive nylon into flexible abrasive tools, which are being implemented into today's highly refined finishing processes. Osborn's abrasive tools are designed to adapt with the times as most manual operations are rapidly being replaced by automatic machinery and equipment such as: CNC machine centers, robotics, flexible machining systems, special machinery, and finishing cells.

Osborn's ATB™ brush tools are made with heat stabilized nylon filaments impregnated with Silicon Carbide, Aluminum Oxide, Ceramic or Polycrystalline Diamond grit. Grit loading ranges from 10–40% by weight, offering a wide variety of filament choices.

Coolant:
ATB™ filaments are designed with heat stabilizers and are able to withstand most applications dry.

However, coolant is always recommended for applications on very thin parts, requiring high penetration, and/or high speeds. Coolant provides an ideal working environment for ATB™ filaments.



ATB™ Brush Tool Selection

Osborn's Advanced Technology Brushes are constructed with filaments that have a high density of abrasive grit for powerful deburring. They are designed for automatic machinery, equipment and hand tools. Osborn ATB™ brushes will improve your deburring processes, increase throughput and optimize your finishing results.

Tool Style Options

Osborn produces ATB™ brushes in five basic configurations.

Wheel Brushes

Wheel brushes are unidirectional finishing tools. The circumferential edge or "face" of this circular style brush performs the work. ATB™ wheel brushes are ideal for focused area work and are easily adaptable to standard shop equipment, highly specialized machinery, CNC machining centers and robot work cells. Osborn standard wheel brushes are produced in a full range of diameters, with a selection of operating face widths to perform almost any finishing task.

Disc Brushes

Disc brushes are a highly efficient tool for applications in which burred edges are on the same plane. Disc Brushes are multi-directional deburring tools working all part edges uniformly. They are easily adaptable to CNC machine centers, robot cells, and stationary finishing machines.

Cup Brushes

Cup brushes are efficient multi-directional deburring tools working all part edges uniformly. They are primarily used in off hand applications for maximum part coverage.

End Brushes

End brushes are ideal multi-directional tools for confined areas; this style is designed to have the ends of the fill strands do the bulk of the work.

Internal Finishing Brushes

Also known as a "side action" brush, this style is primarily used in CNC machines, portable tools and drill presses for cross hole deburring and fast cleaning and finishing of such inaccessible surfaces as small diameter bores and internally threaded surfaces.

Abrasive Media Options:

- Silicon Carbide is characterized by a sharp jagged structure, and is the most popular grain choice because of its cost effective, efficient properties. (Color: gray/black. Hardness = 13 [MHOS Scale], Density = 3.25)
- Ceramic is characterized by a sharp jagged structure and extremely high fracture point. The blue ceramic filaments are the number one choice for deburring hardened and tougher materials.
- Aluminum Oxide is characterized by a rounded structure and produces a finer finish and prevents discoloration on certain alloys such as titanium, aluminum and stainless steel. (Color: tan/brown. Hardness = 12 [MHOS Scale], Density = 3.99)
- Polycrystalline Diamond (PCD) is characterized by a jagged structure. PCD is used to edge hone and radius super hard materials such as CBN and ceramics. (Hardness = 15 [MHOS scale])

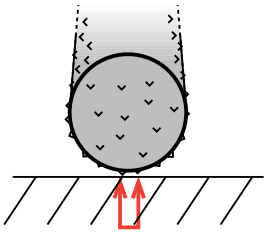
Filament Geometry Options:

ATB™ abrasive tools feature four different filament geometries: round crimped, round straight, rectangular crimped, rectangular straight.

Round Crimped | Round Straight | Rectangular Straight | Rectangular Crimped

Round abrasive nylon filaments are impregnated with either Silicon Carbide, Ceramic or Aluminum Oxide grit. Grit sizes vary from coarse to very fine. This style is available in crimped or uncrimped form, and is also made in Alumina Silicate and Polycrystalline Diamond super abrasives.

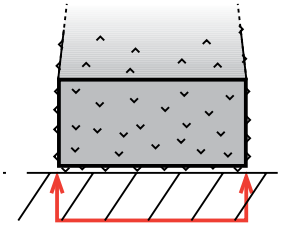
- For general use
- Provides point contact—light to medium application technology
- Fine grit sizes are able to radius small corners
- Uncrimped filaments generate twice the abrasive contact on work surface
- Increased flexibility to conform to irregular surfaces



Point Contact

Rectangular Abrasive Nylon Filaments are impregnated with either Silicon Carbide, Ceramic or Aluminum Oxide and are offered in grit sizes ranging from coarse to fine.

- For high performance work
- Line contact—heavy duty application technology
- Applies approximately 18 times more abrasive on work surface
- Ideal on applications requiring more surface compliance without sacrificing the amount of abrasive in contact with the work surface
- Larger cross section allows the filament to be more rigid and aggressive
- Shorter cycle times
- Ability to remove micro chips and materials
- Excellent performance at lower rotational speeds



Line Contact

Filament & Grit Size Options

Smaller filaments with smaller grit size produce a finer finish and offer longer life. Larger filaments are more rigid and apply larger abrasive grit to the work piece with greater force and increased aggression. Grit sizes are available from 46–1000.

Crimped filaments offer better part conformability. Rectangular filaments offer higher aggression.

Shapes		○	○	○	○	○	○	○	▭	▭
Sizes	mil	12	18	22	24	35	40	50	30x70	45x90
	mm	0.30	0.46	0.56	0.61	0.89	1.02	1.27	0.76 x 1.78	1.14 x 2.29
Grit Silicon Carbide (SC) Aluminium Oxide (AO)			SC	SC	SC	SC	SC	SC	SC	SC
		AO		AO	AO	AO	AO	AO	AO	AO
Mesh (USA Std.)		600	500	320	120	180	120	80	80 120 180 320 600	80 120 180 320 600

Color Grit Codes

○ 60 white ● 80 red ● 120 yellow ● 180 green ● 240 brown ● 320 blue ● 500 orange ● 600 black ● 1000 purple

ATB™ brush tools are color coded for easy identification

Trim Length & Density Options

Trim Length refers to the length of the fill material that extends beyond the brush back or hub. A short trim makes a stiff, fast cutting brush, while a long trim gives the brush added flexibility that enables it to conform to irregular surfaces.

Fill Density is the number of filaments in the brushing surface. High density brushes produce finer surface finishes and are also used in deburring, or when fast cutting is required. Low density brushes offer greater flexibility, which increases its resiliency and ability to reach into confined areas and conform to uneven or contoured surfaces.

Long trim and light density are ideal for applications requiring a high degree of conformability

Short trim and high density are ideal for applications requiring increased aggression and minimal cycle time

ATB™ Brush Implementation

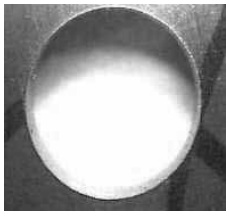
Optimal life and cut will be obtained by finding the proper balance between brush speed (RPM), part penetration, and line speed.

The Maximum Safe Free Speed (MSFS) printed on the brush is not the ideal working speed. In most operations, a lower speed will prove more efficient. Optimal operating speed is typically 50–70% less than the MSFS. Lower speeds and lighter pressure give longer brush life, generate less heat, and require less power.

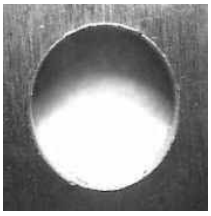
ATB™ Disc Brush Operating Parameters

		Brush Speed (RPM)				Penetration (in)						Feed (in/mm)					
		w/Coolant		Dry		Alum		Cast/Mild Steel		SS/Alloy		Alum		Cast/Mild Steel		SS/Alloy	
Type	Dia. (in)	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Max. w/Bridle	0.5–1	4,300	7,500	3,800	7,000	0.03	0.06	0.03	0.13	0.03	0.18	36	44	24	43	15	33
	1.5–2.5	3,200	4,700	2,700	4,000	0.03	0.06	0.03	0.13	0.03	0.18	44	54	32	51	22	40
	3–4	2,500	3,500			0.03	0.06	0.03	0.13	0.03	0.18	52	67	42	60	31	48
	5–6	1,700	2,000			0.03	0.06	0.03	0.13	0.03	0.18	60	74	48	67	36	54
	7–8	1,300	1,500			0.03	0.06	0.03	0.13	0.03	0.18	68	84	56	75	43	61
	9–10	1,000	1,200			0.03	0.06	0.03	0.13	0.03	0.18	77	91	61	81	46	64
	12–14	800	1,000			0.03	0.06	0.03	0.13	0.03	0.18	84	98	65	85	50	68
Max.	0.5–1	3,000	6,200	2,500	5,000	0.03	0.06	0.03	0.13	0.03	0.18	23	35	17	30	11	24
	1.5–2.5	2,500	4,000	2,000	3,500	0.03	0.06	0.03	0.13	0.03	0.18	30	42	24	38	19	29
	3–4	2,000	2,700	1,500	2,500	0.03	0.06	0.03	0.13	0.03	0.18	37	50	30	45	22	36
	5–6	1,300	1,700	1,000	1,500	0.03	0.06	0.03	0.13	0.03	0.18	44	56	35	50	26	40
	7–8	1,000	1,100	850	1,000	0.03	0.06	0.03	0.13	0.03	0.18	50	62	40	56	30	45
	9–10	800	1,000	650	750	0.03	0.06	0.03	0.13	0.03	0.18	57	70	47	63	36	51
	12–14	600	700	450	550	0.03	0.06	0.03	0.13	0.03	0.18	64	76	51	68	39	54
Turbo	3–4	2,600	3,500	2,100	2,800	0.06	0.13	0.06	0.19	0.06	0.25	29	40	24	36	18	28
	5–6	1,700	2,100	1,400	1,600	0.06	0.13	0.06	0.19	0.06	0.25	35	44	28	40	21	32
	7–8	1,300	1,500	1,000	1,200	0.06	0.13	0.06	0.19	0.06	0.25	40	49	32	44	24	36
	9–10	1,000	1,100	850	1,000	0.06	0.13	0.06	0.19	0.06	0.25	45	56	37	50	28	40
	12–14	750	900	600	700	0.06	0.13	0.06	0.19	0.06	0.25	51	60	40	54	38	43
Tuftmatiuc	9–10	1,500	2,500	1,200	3,000	0.06	0.19	0.06	0.25	0.06	0.25	31	39	25	36	18	28
	12–14	1,200	1,700	1,000	1,400	0.06	0.19	0.06	0.25	0.06	0.25	36	44	28	39	21	32
	10	900	1,500	750	1,100	0.06	0.19	0.06	0.25	0.06	0.25	40	50	33	45	25	36
	12	770	1,200	650	950	0.06	0.19	0.06	0.25	0.06	0.25	42	52	34	46	30	37
	14	6550	1,000	550	800	0.06	0.19	0.06	0.25	0.06	0.25	45	54	36	48	34	38

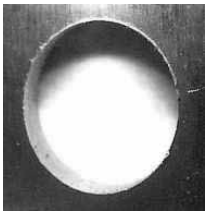
- Rectangular filament should be run at the low end of the recommendation.
- Depth of penetration should be set while the brush tool is rotating at operational speed.
- Surface speeds should always be kept below 3500 surface speed per minute wet and 2500 surface speed per minute dry.



Class One
Micro burrs can only be seen with magnification



Class Two
Feather burrs can be seen without magnification. They can be removed with your fingernail.



Class Three
Well attached small burrs are small in nature, but require a lot of force to be removed.

Class Four
Well attached large burrs are large in nature and have a larger attachment point than a Class Three burr.

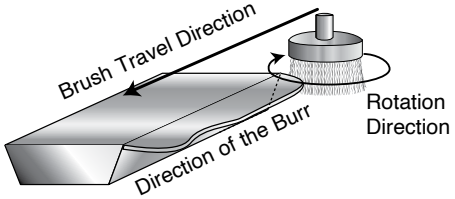
Class Five
Extruded burrs are very large burrs that extrude from the base material. These burrs need to be preconditioned before brushing.

ATB™ Brush Implementation

Tool Path Considerations:
For consistent results in an automated environment, careful consideration should be given when implementing ATB™ brush tools.

Tool Path:
The brush should start and finish its path completely off the part.

Rotational Direction:
The initial pass of the brush tool should be rotated in the direction opposite of the cutting tool that created the burr.



Part Coverage:
There are two different ways to efficiently finish a part. The ideal (Figure A) is to use a brush which is approximately three inches larger than the work piece. If a smaller brush is required due to application restrictions, (Figure B) the centerline of the brush tool should be aligned with the targeted edge.

Figure A

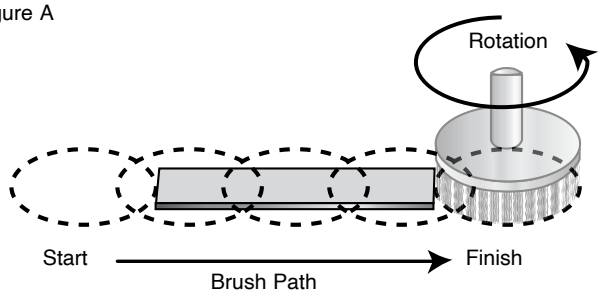
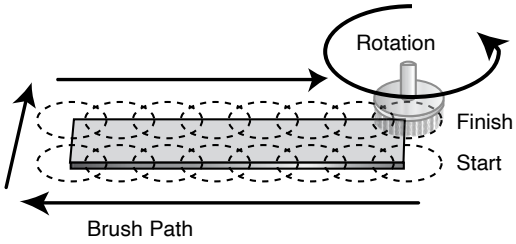


Figure B



Brush Tool Wear Compensation

The following are the four most commonly used methods to compensate for brush tool wear.

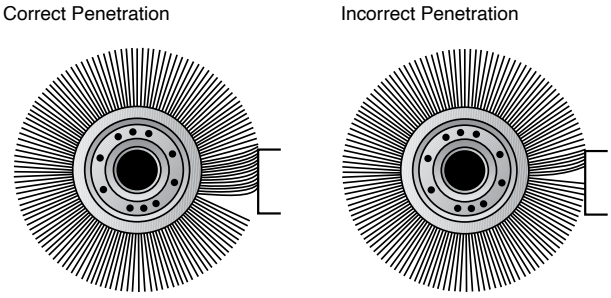
Automatic Indexing is a technique involving indexing the brush tool in the Z axis after a predetermined number of parts. It is a commonly used technique in CNC machining centers.

Probing is a technique that helps maintain a constant depth of penetration. It is a feature specific to certain machines.

Amperage (Amp) Metering is a technique that consistently monitors the amp reading to maintain consistent pressure. This feature requires the addition of an amp meter to the process.

Manual Indexing is a technique where the operator manually adjusts for wear on the brush using historical statistical data.

ATB™ Wheel Brush Penetration
ATB™ Filaments deburr and radius edges by drawing the filament sides across part edges. Optimum life and cut is obtained by finding the proper balance between brush speed (RPM), part penetration, dwell time, and abrasive grain size.

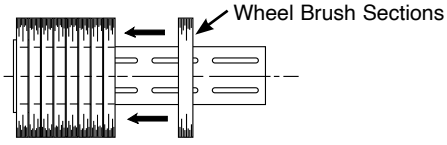


Suggested ATB™ Wheel Brush Operating Parameters

Diameter	RPM	Penetration
2"	4000–6000	0.125
3"	3000–4000	0.125
4"	2000–3000	0.125
6"	1500–2000	0.010
8"	1200–1800	0.125
10"	1000–1250	0.014
12"	800–1000	0.125
14"	700–900	0.125

Recommended Horse Power

Diameter	Horse Power	RPM
4"	1/4 HP	3000
6"	1/4 HP	2000
8"	3/4 HP	1800
10"	1 HP	1250
12"	1 HP	1000
14"	1 HP	900



When using multiple brushes on a common shaft, multiply Horsepower (HP) with number of brushes (N). (HP x N)

ATB™ Wheel Brushes

Osborn provides a complete line of ATB™ Wheel Brushes including narrow and wide face, small ringlocks, and specialty treated configurations. The abrasive nylon filaments eliminate the need for cleaning finished parts. ATB™ Wheel Brushes are excellent for use on both metallic and non-metallic surfaces.

ATB Fascut™ Wheel Brush–Aggressive

Osborn's aggressive ATB Fascut™ Wheel Brush is designed with short trim, premium nylon filament that is impregnated with abrasive material. Features high density, uniformly distributed Round Crimped Silicon Carbide or Round Ceramic filaments for increased aggression, minimum cycle time, and the industry's longest brush life.

Applications: Steel gears, machine parts, stainless steel, hardened alloys, saw cut extrusions, powder metal components

Brush Diameter	Fill Diameter	Grit Size	Arbor Hole Diameter	Max RPM	Trim Length	Face Width	Item Number
Silicon Carbide							
6	0.018	500	2	3,600	1-1/4	1	0004062600
6	0.022	320	2	3,600	1-1/4	1	0004062500
6	0.024	120	2	3,600	1-1/4	1	0004062200
6	0.035	180	2	3,600	1-1/4	1	0004062400
6	0.040	80	2	3,600	1-1/4	1	0004062100
6	0.040	120	2	3,600	1-1/4	1	0004062300
8	0.022	320	2	3,600	1-1/4	1	0004059000
8	0.024	120	2	3,600	1-1/4	1	0004058700
8	0.040	80	2	3,600	1-1/4	1	0004058600
8	0.040	120	2	3,600	1-1/4	1	0004058800
10	0.040	120	4-1/4	3,600	1-1/4	1	0004053100
12	0.022	320	5-1/4	1,800	1-1/4	1	0004064900
Ceramic							
8	0.035	80	2	3,600	1-1/4	1	0004088600
8	0.043	120	2	3,600	1-1/4	1	0004088800

ATB Fascut™ Wheel Brush–Flexible

Osborn's flexible ATB Fascut™ Wheel Brushes feature long trim, flexible Round Crimped Silicon Carbide or Round Ceramic nylon abrasive filaments. Designed with moderate density, this brush is ideal for applications requiring a high degree of conformability. High-quality materials and construction offer the industry's longest brush life.

Applications: Turbine blades, indexable cutting tool inserts, cam shafts, gears, machined parts, edge radiusing

Brush Diameter	Fill Diameter	Grit Size	Arbor Hole Diameter	Max RPM	Trim Length	Face Width	Item Number
Ceramic							
6	0.026	120	2	3,600	1-1/4	1	0004082500
6	0.035	80	2	3,600	1-1/4	1	0004082100
6	0.043	120	2	3,600	1-1/4	1	0004082300
8	0.049	80	1-1/4	3,600	2-1/4	1	0004089600
Silicon Carbide							
8	0.022	320	1-1/4	3,600	2-1/4	1	0004059700
8	0.035	180	1-1/4	3,600	2-1/4	1	0004059600
8	0.040	80	1-1/4	3,600	2-1/4	1	0004059400
8	0.040	120	1-1/4	3,600	2-1/4	1	0004059500
10	0.022	320	2	3,600	2-1/16	1	0004054300
10	0.035	180	2	3,600	3	1	0004053700
10	0.040	80	2	3,600	2-1/16	1	0004054000
10	0.040	120	2	3,600	2-1/16	1	0004054100
12	0.022	320	4-1/4	1,800	3	1	0004065400
12	0.040	120	4-1/4	1,800	3	1	0004065200
14	0.022	320	5-1/4	1,800	3-5/8	2-1/2	0004016400
14	0.035	180	5-1/4	1,800	3-5/8	2-1/2	0004016300
14	0.040	80	5-1/4	1,800	3-5/8	1	0004019500
14	0.040	120	5-1/4	1,800	3-5/8	1	0004019200

ATB Master™ Wheel Brush

Featuring efficient Silicon Carbide or aggressive Ceramic abrasives and a wide face width, Osborn ATB Master™ Wheel Brushes are highly effective on both metallic and non-metallic materials. Cutting action does not require compound, eliminating the need to clean finished parts to save you time and money. Designed with premium Round Crimped nylon filaments to offer the industry's longest brush life. Brushes can be used singly, or can be mounted in multiples for larger surfaces.

Applications: Deburring, edge breaking, finishing

Brush Diameter	Fill Diameter	Grit Size	Arbor Hole Diameter	Max RPM	Trim Length	Face Width	Item Number
Silicon Carbide							
3	0.022	320	5/8	20,000	5/8	1/2	0002225100
3	0.022	320	5/8	20,000	5/8	7/8	0002225500
3	0.035	180	5/8	20,000	5/8	1/2	0002225000
3	0.035	180	5/8	20,000	5/8	7/8	0002225400
3	0.040	80	5/8	20,000	5/8	1/2	0002224800
3	0.040	80	5/8	20,000	5/8	7/8	0002225200
3	0.040	120	5/8	20,000	5/8	1/2	0002224900
3	0.040	120	5/8	20,000	5/8	7/8	0002225300
4	0.022	320	5/8	12,000	3/4	5/8	0002225900
4	0.035	180	5/8	12,000	3/4	5/8	0002225800
4	0.040	80	5/8	18,000	1-1/8	1/2	0002224000
4	0.040	80	5/8	18,000	1-1/8	7/8	0002224400
4	0.040	80	5/8	12,000	3/4	5/8	0002225600
4	0.040	120	5/8	12,000	3/4	5/8	0002225700
6	0.018	500	2	6,000	1-1/16	7/8	0002228900
6	0.022	320	2	6,000	1-1/16	7/8	0002228800
6	0.035	180	2	6,000	1-1/16	7/8	0002228700
6	0.040	80	2	6,000	1-1/16	7/8	0002228500
6	0.040	120	2	6,000	1-1/16	7/8	0002228600
8	0.018	500	2	4,500	1-1/2	7/8	0002230000
8	0.022	320	2	4,500	1-1/2	7/8	0002229900
8	0.035	180	2	4,500	1-1/2	7/8	0002229800
8	0.040	80	2	4,500	1-1/2	7/8	0002229600
8	0.040	120	2	4,500	1-1/2	7/8	0002229700
10	0.022	320	2	3,600	2-1/16	1	0002231500
10	0.035	180	2	3,600	2-1/16	1	0002231400
10	0.040	80	2	3,600	2-1/16	1	0002231200
10	0.040	120	2	3,600	2-1/16	1	0002231300
12	0.022	320	2	3,000	2-1/8	1	0002232800
12	0.035	180	2	3,000	2-1/8	1	0002232700
12	0.040	120	2	3,000	2-1/8	1	0002232500
12	0.040	120	2	3,000	2-1/8	1	0002232600
14	0.022	320	2	2,400	2-1/8	1	0002233600
14	0.035	180	2	2,400	2-1/8	1	0002233500
14	0.040	80	2	2,400	2-1/8	1	0002233300
14	0.040	120	2	2,400	2-1/8	1	0002233400
Ceramic							
3	0.026	120	5/8	20,000	5/8	1/2	0002251000
4	0.026	120	5/8	18,000	1-1/8	1/2	0002252000
4	0.026	120	5/8	12,000	3/4	5/8	0002252200
4	0.035	80	5/8	18,000	1-1/8	1/2	0002251400
4	0.035	80	5/8	18,000	1-1/8	7/8	0002251800
4	0.043	120	5/8	12,000	3/4	5/8	0002252300
4	0.055	80	5/8	18,000	1-1/8	1/2	0002251500
4	0.055	80	5/8	12,000	3/4	5/8	0002251700
4	0.055	80	5/8	18,000	1-1/8	7/8	0002251900
6	0.030	120	2	6,000	1-1/16	7/8	0002252700
6	0.035	80	2	6,000	1-1/16	7/8	0002252400
6	0.043	120	2	6,000	1-1/16	7/8	0002252800
14	0.030	120	2	2,400	2-1/8	1	0002253600
14	0.035	80	2	2,400	2-1/8	1	0002253300

ATB Monarch™ Wheel Brush

The highly versatile Osborn ATB Monarch™ Wheel Brush features premium Round Crimped nylon filaments with abrasive Silicon Carbide. Brush is narrow-faced with long trim, making it ideal for confined areas and irregular shapes. Quality materials and construction provides aggressive cutting power without sacrificing longevity.

Applications: Confined areas and irregular shapes, excellent for carbide insert edge honing, piston ring grooves, inside steel tanks, wood finishing

Brush Diameter	Fill Diameter	Grit Size	Arbor Hole Diameter	Max RPM	Trim Length	Face Width	Item Number
Silicon Carbide							
6	0.018	500	2	5,500	1-5/8	1/2	0002066900
6	0.022	320	2	5,500	1-5/8	1/2	0002066800
6	0.035	180	2	5,500	1-5/8	1/2	0002066700
6	0.040	80	2	5,500	1-5/8	1/2	0002066500
6	0.040	120	2	5,500	1-5/8	1/2	0002066600
8	0.022	320	2	5,500	2-5/8	1/2	0002064600
8	0.035	180	2	5,500	2-5/8	1/2	0002065400
8	0.040	120	2	5,500	2-5/8	1/2	0002066000
14	0.022	320	5-1/4	3,000	3-7/8	5/8	0002088400
14	0.035	180	5-1/4	3,000	3-7/8	5/8	0002088600
14	0.040	120	5-1/4	3,000	3-7/8	5/8	0002088700

ATB Ringlock™ Brush

Constructed with high-quality nylon filament with choice of Silicon Carbide or Ceramic abrasive, Osborn's small diameter ATB Ringlock™ Wheel Brushes are ideal for a variety of tasks using portable tools and drill presses. Silicon Carbide brushes tackle a variety of cleaning and deburring both ID and OD surfaces while Ceramic brushes are designed for more aggressive deburring applications. Brushes are expertly designed and tested to provide unmatched longevity.

Applications: Cleaning and polishing ID and OD surfaces. Deburring cross holes in large bearing bores, seal grooves in turbine engine cases and small aerospace parts.

Brush Diameter	Fill Diameter	Grit Size	Arbor Hole Diameter	Max RPM	Trim Length	Face Width	Item Number
Silicon Carbide							
1-1/2	0.022	320	1/2	20,000	1/4	1/4	0001114800
1-1/2	0.024	120	1/2	20,000	1/4	1/4	0001114600
1-1/2	0.035	180	1/2	20,000	1/4	1/4	0001114700
2	0.022	320	5/8	15,000	7/16	3/8	0001115100
2	0.024	120	5/8	15,000	7/16	3/8	0001114900
2	0.035	180	5/8	15,000	7/16	3/8	0001115000
2-1/2	0.022	320	5/8	15,000	11/16	3/8	0001115500
2-1/2	0.024	120	5/8	15,000	11/16	3/8	0001115300
2-1/2	0.035	180	5/8	15,000	11/16	3/8	0001115400
Ceramic							
1-1/2	0.026	120	1/2	20,000	1/4	1/4	0001133200
2	0.026	120	5/8	15,000	7/16	3/8	0001133300
2-1/2	0.026	120	5/8	15,000	11/16	3/8	0001133600
2-1/2	0.035	80	5/8	15,000	11/16	3/8	0001133700

ATB™ Disc Brushes

ATB™ Disc brushes are perfect for many applications in a variety of industries including automotive, woodworking, cutting tool, aircraft/aerospace, and general industrial use. Our adapters allow them to work easily with existing equipment. A wide variety of specials can be made to order.

ATB™ Uni-Lok® Disc Brushes

Osborn's ATB™ Uni-Lok disc brushes are reliable, high-performance tools that produce consistent quality and cost effective results. These flexible abrasive tools are ideal for deburring and radiusing corners and edges without changing critical dimensions.

The tools are easily integrated into today's automated machinery, CNC machining centers, transfer lines and robotic cells. Repeatable results, high through-put and adaptability to existing plant equipment make ATB™ metal finishing tools considered one of the most economical deburring methods on the market.

Disc Brush Configurations

Osborn maintains three configurations as standard stock options: max density, turbo and tuftmatic. We also have the capability of providing customized products for a wide variety of applications. ATB™ Uni-Lok brushes fit most disc brush adapters.

ATB™ Uni-Lok®–Max Density

Osborn's maximum density design delivers maximum aggression for the most demanding applications. These tools are capable of processing large burrs and generating significant edge radii on stainless steel and hardened alloys without altering the part's dimension. Our maximum density allows for minimal cycle time and longer brush life.

ATB™ Uni-Lok®–Turbo

Osborn's unique turbo design draws air into the brush face allowing the brush to run cooler in dry applications. In wet applications, the turbo design allows for better coolant flow. These brushes are capable of handling moderate to severe burrs or where conformability is needed.

ATB™ Uni-Lok®–Tufmatic™

Osborn's Tufmatic design is constructed with a tough polypropylene base and precisely located staple set tufts. This density configuration allows the abrasive filaments to flow evenly and consistently over the most intricate flat faced parts. Osborn's tufmatic design allows for fast, accurate burr removal, precisely controlled edge radiusing and improved surface finishing. These tools are designed to be compatible with Osborn's Uni-Lok adapter system and are effective in both dry and wet applications.

ATB Uni-Lok® Max Density Disc Brush

Designed to tackle the most demanding of applications, Osborn's ATB Uni-Lok® Max Density Disc Brushes deliver maximum aggression and reliable, uniform performance. Brushes feature max density, premium quality Round Crimped abrasive nylon filament, making them capable of processing large burrs on stainless steel and hardened alloys without altering the part's dimension. Expertly designed and tested for minimal cycle time and exceptional brush life.

Applications: Engine block housing, airframe components, gears after machining/grinding, die cast parts after machining, cast aluminum automobile wheels, blending tool marks

Brush Diameter	Fill Diameter	Grit Size	Max RPM	Item Number
Silicon Carbide				
3	0.022	320	4,500	0004702500
3	0.024	120	4,500	0004702200
3	0.035	180	4,500	0004702400
3	0.040	80	4,500	0004702100
3	0.040	120	4,500	0004702300
4	0.024	120	3,500	0004702800
4	0.035	180	3,500	0004703000
4	0.040	80	3,500	0004702700
4	0.040	120	3,500	0004702900
4	0.045	80	3,500	0004702600*
5	0.022	320	3,000	0004703700
5	0.035	180	3,000	0004703600
5	0.040	80	3,000	0004703300
5	0.040	120	3,000	0004703500
5	0.045	80	3,000	0004703200*
6	0.035	180	2,500	0004704200
6	0.040	80	2,500	0004703900
6	0.040	120	2,500	0004704100
8	0.040	80	1,800	0004705100
8	0.040	120	1,800	0004705300
9	0.040	80	1,500	0004705700
9	0.040	120	1,500	0004705900
10	0.022	320	1,500	0004706700
10	0.035	180	1,500	0004706600
Ceramic				
4	0.043	120	3,500	0004750100
4	0.055	80	3,500	0004750300
6	0.035	80	2,500	0004750700
6	0.043	120	2,500	0004750600
6	0.055	80	2,500	0004750800

* 0.045x0.090 Rectangular Filament

ATB Uni-Lok® Turbo Disc Brush

Osborn's ATB Uni-Lok® Turbo Disc Brush features Round Crimped abrasive filaments in a unique turbo design to effectively tackle moderate to severe burrs or tasks where conformability is required. When used in dry applications, turbo design draws air into the brush face to run cooler. When used in wet applications, the turbo design allows more coolant to flow within the brushing surface.

Applications: Aluminum engine housing, engine components, fine blanked steel parts, pump housings

Brush Diameter	Fill Diameter	Grit Size	Max RPM	Item Number
Silicon Carbide				
3	0.022	320	4,500	0004708500
3	0.035	180	4,500	0004708400
3	0.040	80	4,500	0004708100
3	0.040	120	4,500	0004708300
4	0.040	80	3,500	0004708700
4	0.040	120	3,500	0004708900
5	0.040	120	3,000	0004709500
6	0.040	120	2,500	0004710100
8	0.040	120	1,800	0004711300
10	0.035	180	1,500	0004712600
10	0.040	80	1,500	0004712300
10	0.040	120	1,500	0004712500
Ceramic				
4	0.055	80	3,500	0004752100
4	0.043	120	3,500	0004752000
6	0.055	80	2,500	0004752400
6	0.043	120	2,500	0004752300

ATB Uni-Lok® Quick Change Brush

Osborn's ATB Uni-Lok® Quick Change Brushes feature a permanently mounted 1/4" shank for quick, convenient attachment to CNC machines, automatic equipment, portable tools, and robotic cells. These small diameter brushes feature premium-quality nylon filament with choice of Round Crimped Silicon Carbide or Round Ceramic abrasive to serve a variety of deburring needs. The unique composite design allows for "touching" of surrounding raised surfaces without harming the part or the brush. Designed and tested for longevity and uniformity.

Applications: Deburring and edge radiusing space restricted and recessed areas, larger bosses on cylinder heads, sensor ports on turbine engine cases and larger pockets in turbine engine combustion cases.

Brush Diameter	Fill Diameter	Grit Size	Max RPM	Trim Length	Item Number
Ceramic					
1	0.035	80	4,500	1	0004723400
1	0.043	120	4,500	1	0004723500
1-1/2	0.043	120	4,500	1-3/8	0004785500
2	0.035	80	4,500	1-3/8	0004785900
2	0.043	120	4,500	1-3/8	0004786000
2	0.055	80	4,500	1-3/8	0004786100
2-1/2	0.055	80	4,500	1-3/8	0004786600
3	0.043	120	4,500	1-3/8	0004724000
3	0.055	80	4,500	1-3/8	0004724100
Silicon Carbide					
1-1/2	0.022	320	4,500	1-3/8	0004725400
1-1/2	0.040	80	4,500	1-3/8	0004725100
1-1/2	0.040	120	4,500	1-3/8	0004725200
2	0.022	320	4,500	1-3/8	0004725900
2	0.040	80	4,500	1-3/8	0004725600
2	0.040	120	4,500	1-3/8	0004725700
2-1/2	0.022	320	4,500	1-3/8	0004726400
2-1/2	0.040	80	4,500	1-3/8	0004726100
2-1/2	0.040	120	4,500	1-3/8	0004726200

ATB Uni-Lok® Tuftmatic Disc Brush

Constructed with a durable polypropylene base and a dense configuration of strategically located tufts, Osborn ATB Uni-Lok® Tuftmatic™ Disc Brushes offer thorough, uniform performance in both dry and wet applications. Each tuft features high-quality nylon filaments impregnated with Silicon Carbide, and is configured to allow abrasive filaments to flow evenly and consistently over the most intricate flat-faced parts. Compatible with Osborn's Uni-Lok® adapter system and designed for maximum effectiveness.

Applications: Saw cut aluminum extrusions, heat sinks, machined parts, powdered metal parts, electronic aluminum housings, stamped parts, fineblanked steel parts, robotic deburring

Brush Diameter	Fill Diameter	Grit Size	Arbor Hole Diameter	Max RPM	Trim Length	Item Number
Silicon Carbide						
6	0.022	320	7/8	3,000	1	0004716300
6	0.028	120	7/8	3,000	1	0004716100
8	0.022	320	7/8	3,000	1	0004717500
10	0.028	120	7/8	3,000	1	0004718500

ATB Uni-Lok® Bridle

Improve the aggressiveness of Osborn's ATB™ Composite brushes with ATB Uni-Lok® Bridles. Sold in three packs, these Bridles are designed to significantly reduce the flare of filaments to increase rigidity for use on heavy-duty applications. Not for use on ATB™ turbo discs.

Brush Size	Compression	Cross Section	Bridle I.D.	Bridle O.D.	Bridle O.D. on brush	Part No.
1.50	0.38	0.13	1.13	1.38	1.66	0004714800
2.00	0.50	0.19	1.50	1.88	2.25	0004714000
2.50	0.50	0.19	2.00	2.38	2.75	0004714100
3.00	0.75	0.19	2.25	2.63	3.13	0004714200
4.00	0.75	0.19	3.25	3.63	4.20	0004714300
5.00	1.00	0.19	4.00	4.38	5.20	0004714400
6.00	1.00	0.25	5.00	5.50	6.30	0004714500

ATB Uni-Lok® Disc Brush Drive Arbor

Save time and increase efficiency with Osborn's ATB Uni-Lok® Disc Brush Drive Arbor. Compatible with all Osborn Uni-Lok® Brushes, the drive arbor features a single point fastening system for quick changeover. Features a 3/4" shank with screw flat. Design also allows coolant to flow through to maintain optimal brush performance.

Brush Diameter	Drive Hole Size & Location	Backing Plate Diameter	Part No.
3", 4" & 5"	(2) 1/4" Dia. On 1-1/4" bolt circle	3"	0004720000
6" & 7"	(3) 1/4" Dia on 3" bolt circle	6"	0004720100
8" & 9"	(4) 1/4" Dia on 3" bolt circle	8"	0004720200
10"	(4) 1/4" Dia. On 1-5/8" bolt circle	10"	0004720300

ATB™ Cup/ End Brushes

ATB™ cup brushes are heavily filled with nylon filaments. Filaments are impregnated with silicon carbide or aluminum oxide grit, ideal for surface finishing and deburring. ATB™ end brushes are frequently used for power transmission gear deburring, to fit into tight areas too small for wheels and discs. They are recommended for operations where balance is critical.

ATB™ Cup Brushes

ATB™ Cup Brush–Round Trim

Designed with a round trim and densely packed nylon filaments, this Osborn ATB™ Cup Brush offers optimal performance on irregular surfaces. Premium quality nylon filaments filled with Silicon Carbide abrasive to increase effectiveness and brush life.

Applications: Engine blocks, cylinder heads, exhaust manifolds, transmission housings, water pumps and intake manifolds, bulk heads, wing spars, engine housings and components, hydraulic valve bodies, machine components, housings, gears and castings

Brush Diameter	Fill Diameter	Grit Size	Arbor Hole Diameter	Max RPM	Trim Length	Item Number
Silicon Carbide						
4	0.022	320	5/8-11	6,000	1-1/2	0003212700
4	0.040	80	5/8-11	6,000	1-1/2	0003213700
4	0.040	120	5/8-11	6,000	1-1/2	0003212500
6	0.022	320	5/8-11	6,000	1-1/2	0003213300
6	0.040	80	5/8-11	6,000	1-1/2	0003213800
6	0.040	120	5/8-11	6,000	1-1/2	0003213100

ATB™ Cup Brush–Flat Trim

Featuring a precision cut flat trim and premium quality 0.045" x 0.090" rectangular nylon filaments, this Osborn ATB™ Cup Brush is ideal for flat surface finishing and deburring. Brushes are heavily filled with filaments impregnated with choice of Silicon Carbide or Aluminum Oxide and are designed for maximum longevity. Note: 4" brushes include premium quality bridle for maximum filament rigidity.

Applications: Hydraulic valve bodies, machine components, housings, gears and castings

Brush Diameter	Grit Size	Arbor Hole Diameter	Max RPM	Trim Length	Item Number
Silicon Carbide					
4	80	5/8-11	6,000	1-1/2	0003214800
6	80	5/8-11	6,000	2	0003213200
Aluminum Oxide					
4	120	5/8-11	6,000	1-1/2	0003214900

ATB™ Cup Brush with Shank

Constructed with a permanently attached 1/4" stem and reduced flare for increased rigidity, Osborn's ATB™ Cup Brush with Shank provides aggressive brush action on irregular or flat surfaces. Brush features round trimmed premium abrasive nylon filaments for multi-directional uniformity. Designed and tested for maximum longevity.

Applications: Engine blocks, cylinder heads, exhaust manifolds, transmission housings, water pumps and intake manifolds, bulk heads, wing spars, engine housings and components, hydraulic valve bodies, machine components, housings, gears and castings

Brush Diameter	Fill Diameter	Grit Size	Max RPM	Trim Length	Item Number
		Silicon Carbide			
2-1/2	0.040	80	5,000	1	0003214600

ATB™ End Brushes

ATB™ End Brush

Small diameter brush featuring high-performing abrasive nylon filament to quickly and efficiently clean and finish inside diameters, spot facing, and recessed areas. Precision design makes these brushes ideal for operations where balance is critical, as in CNC and robotic use. Attached 1/4" stem also allows for use on portable air and electric tools.

Brush Diameter	Fill Diameter	Grit Size	Max RPM	Trim Length	Item Number
Silicon Carbide					
1/2	0.022	320	9,000	1	0003028700
1/2	0.024	120	9,000	1	0003028500
1	0.022	320	9,000	1	0003029500
1	0.024	120	9,000	1	0003029300

ATB™ End Brush w/ Bridle

The industry-best quality and performance of an Osborn ATB™ End Brush combined with a removable plastic bridle offers increased rigidity and aggression. Bridle keeps premium nylon filaments with choice of Silicon Carbide (for cleaning and finishing) or Ceramic (for tough deburring applications) abrasive from flaring for increased aggression.

Brush Diameter	Fill Diameter	Grit Size	Max RPM	Trim Length	Item Number
Ceramic					
3/8	0.026	120	9,000	1	0003087000
1/2	0.026	120	9,000	1	0003087200
3/4	0.043	120	9,000	1	0003087500
1	0.026	120	9,000	1	0003087600
1	0.043	120	9,000	1	0003087700
Silicon Carbide					
1/2	0.040	80	9,000	1	0003029600
1/2	0.040	120	9,000	1	0003029900
3/4	0.040	80	9,000	1	0003029700
3/4	0.040	120	9,000	1	0003030000
1	0.040	80	9,000	1	0003029800
1	0.040	120	9,000	1	0003030100

Safety First!

As a safety precaution, shank must be fully inserted into the chuck or collect and tightened securely.

ATB™ Internal Brushes

Ideal in both wet and dry applications, great for automated and manual operations. Premium quality ATB™ internal brushes are available in several filament styles allowing you to choose the right brush for your application.

ATB Helituf™ Internal Brush

Osborn ATB Helituf™ Internal Brushes are designed with high-quality nylon filament embedded with durable Silicon Carbide and unique helix design to provide efficient internal surface cleaning and deburring action. Helituf™ brushes should only be used with suitable holders and fully chucked.

Brush Diameter	Brush Area Length	Stem Diameter	Grit Size	Overall Length	Item Number
		Silicon Carbide			
3/8	1	1/8	120	3-1/2	0003625000
3/8	1	1/8	120	3-1/2	0003625600
1/2	1	1/8	120	3-1/2	0003625100
1/2	1	1/8	120	3-1/2	0003625700
5/8	1	1/8	120	3-1/2	0003625200
5/8	1	1/8	120	3-1/2	0003625800
3/4	1	1/8	120	3-1/2	0003625300
3/4	1	1/8	120	3-1/2	0003625900
1	1	1/8	120	3-1/2	0003625400
1	1	1/8	120	3-1/2	0003626000
1-1/4	1	1/8	120	3-1/2	0003625500
1-1/4	1	1/8	120	3-1/2	0003626100

Use with Helituf extension holder 0007500300 features a 3/16" externally threaded stem, while extension holder 0007500400 features a 1/4" internally threaded stem. Use both extension holders together to form an 8" long brush.

ATB Situft™ Internal Brush

Osborn's ATB Situft™ Internal Brushes feature premium-quality abrasive nylon filaments to provide efficient, aggressive abrasive action across a wide range of internal cleaning and finishing operations. Situft™ brushes should be used only with suitable holders.

Applications: Cleaning threads, drilled holes and tubes where space is limited

Brush Diameter	Brush Area Length	Stem Diameter	Grit Size	Overall Length	Item Number
		Silicon Carbide			
3/8	1	1/8	120	3-1/2	0003550000
1/2	1	1/8	120	3-1/2	0003550100
3/4	1	1/8	120	3-1/2	0003550300
1-1/4	1	1/8	120	3-1/2	0003550500

ATB™ Tube Brush

Featuring spiral-mounted nylon filaments with abrasive Silicon Carbide grit, Osborn ATB™ Tube Brushes offer extra cutting and cleaning action without sacrificing brush life. Brush can be mounted onto a portable or stationary tool for efficient operation.

Applications: Internal cleaning, removal of small imperfections, surface preparation

Brush Diameter	Brush Area Length	Stem Diameter	Grit Size	Overall Length	Item Number
		Silicon Carbide			
3/8	2	0.187	80	5	0005601000
1/2	2	0.187	80	5	0005601100
5/8	2	0.208	80	5	0005601200
5/8	2	0.208	120	5	0005631200
3/4	2-1/2	0.238	80	5	0005601300
1	2-1/2	0.238	80	5-1/2	0005601500
1	2-1/2	0.208	120	5-1/2	0005631500
1-1/4	2-1/2	0.238	80	5-1/2	0005601600
1-1/4	2-1/2	0.238	120	5-1/2	0005631600

ATB™ Heavy Duty Internal Deburring Brush

Osborn ATB™ Heavy Duty Internal Deburring Brushes feature a higher filament content and are specifically designed to efficiently tackle the toughest tasks. Flexible crimped nylon filaments feature durable Silicon Carbide abrasive and are manufactured with a helical shape, providing optimal performance in both rotational directions with excellent part conformability.

Applications: Cross hole deburring, edge blending, edge radiusing, cam bores, crankcase bores, 2 stroke engines, valve bodies, pistons, cleaning threads, pipe IDs

Brush Diameter	Brush Area Length	Grit Size	Shank Diameter	Overall Length	Item Number
Silicon Carbide					
1	2	80	1/4	4-7/8	0003665000
1	2	120	1/4	4-7/8	0003665100
1-1/4	2	80	1/4	4-7/8	0003665200
1-1/2	2-1/2	120	3/8	6-1/4	0003665500
1-3/4	3	80	3/8	6-1/4	0003665600
2	3	80	3/8	6-1/4	0003665800
2-1/4	3	80	3/8	6-1/4	0003666000
2-1/4	3	120	3/8	6-1/4	0003666100
2-1/2	5	80	3/8	7	0003665400
2-1/2	3	80	3/8	6-1/4	0003666200
3	3	80	1/2	9	0003666400
3	3	120	3/8	6-1/4	0003665900
3	3	120	1/2	9	0003666500
3-1/2	3	80	1/2	9	0003666600
4	4	80	1/2	9	0003666800
4	4	120	1/2	9	0003666900

ATB™ Rectangular Filament Internal Brush

Featuring rectangular nylon strips impregnated with tough Aluminum Oxide, Osborn's ATB™ Rectangular Filament Internal Brush provides a highly efficient side-sweeping action across the surface. Filament shape applies approximately 18 times more abrasive contact than traditional round filaments. Aluminum Oxide ensures a superior finish and prolonged brush life.

Applications: Deburring and ID work on cylinders, camshaft bores, and valve bodies

Brush Diameter	Brush Area Length	Fill Diameter	Grit Size	Shank Diameter	Overall Length	Item Number
Silicon Carbide						
1	2	0.030	320	1/4	3-5/8	0003639400
1-1/2	2-1/2	0.030	320	3/8	4-7/8	0003639600
2-1/4	3	0.030	320	3/8	6-1/2	0003639900
2-1/2	3	0.030	320	3/8	6-1/2	0003640000
Aluminum Oxide						
1	7/8	0.045	120	1/8	3-5/8	0003630200
1	7/8	0.045	320	1/8	3-5/8	0003630300
1-1/2	2	0.045	120	1/4	4-7/8	0003630400
2-1/2	3-1/2	0.045	120	3/8	6-1/2	0003630800
3	4	0.045	120	3/8	6-1/4	0003631000
3	4	0.045	320	3/8	6-1/4	0003631100
3-1/2	4	0.045	120	3/8	6-5/8	0003631200
3-1/2	4	0.045	120	3/8	6-5/8	0003635800
4	4	0.045	120	3/8	6-3/4	0003631400
4	4	0.045	320	3/8	6-3/4	0003631500
4-1/2	4	0.045	120	3/8	6-1/2	0003631600
4-1/2	4	0.045	120	3/8	6-1/2	0003636200
4-1/2	4	0.045	320	3/8	6-1/2	0003631700
5	4	0.045	120	3/8	9-3/4	0003636400
5-1/2	4	0.045	120	3/8	10	0003636600
7	4	0.045	120	3/8	9-1/4	0003637000
7	4	0.045	320	3/8	9-1/4	0003637100

ATB™ Microabrasive Internal Brushes

Designed for ultra-fine deburring and cleaning of holes produced by micro drilling, but will not alter the diameter or surface finish. On power tools, these brushes use a side-swiping action. They can also be used manually.

ATB™ Microabrasive Internal Brush

Premium high-performance nylon filaments with choice of embedded abrasives offer ultra-fine deburring and cleaning of holes produced by micro drilling. Designed for uniform brushing action that will not alter the hole diameter or surface finish. Can be used manually or on power tools. Constructed for longevity and use on applications requiring absolute precision. Note: brush selected should be ~0.015 inches larger than hole.

Applications: Aircraft & aerospace, computer & electronics, medical equipment, hydraulic fittings

Brush Diameter	Brush Area Length	Stem Diameter	Grit Size	Overall Length	Item Number
		Alumina Silicate			
0.030	1/2	0.014	1000	4	0005640000
0.050	1/2	0.023	1000	4	0005640300
0.075	3/4	0.035	1000	4	0005640600
0.090	3/4	0.043	1000	4	0005640900
0.105	1	0.046	1000	4	0005641200
0.125	1	0.067	1000	4	0005641500
0.135	1	0.067	1000	4	0005641800
		Silicon Carbide			
0.075	3/4	0.035	500	4	0005640700
0.090	3/4	0.043	320	4-3/4	0005607300
0.090	3/4	0.043	500	4	0005641000
0.105	1	0.046	320	4	0005607400
0.105	1	0.046	500	4	0005641400
0.125	1	0.067	320	4	0005607500
0.125	1	0.067	500	4	0005641700
0.135	1	0.067	320	4	0005607600
0.135	1	0.067	500	4	0005641900
0.165	1	0.093	320	5	0005607700
0.165	1	0.093	500	5	0005642600
0.190	1	0.093	320	5	0005607800
0.190	1	0.093	500	5	0005642800
0.260	1	0.121	320	5	0005607900
0.260	1	0.121	500	5	0005643000
0.325	1	0.121	320	5	0005608000
0.325	1	0.121	500	5	0005643300
0.385	1	0.154	320	5	0005608100
0.385	1	0.154	500	5	0005643700
0.515	1	0.175	320	5	0005608200
0.515	1	0.175	500	5	0005643900
0.640	1	0.175	320	5	0005608300
0.640	1	0.175	500	5	0005644200
0.765	1	0.228	320	5	0005608400
0.765	1	0.228	500	5	0005644600
0.890	1	0.228	320	5	0005608500
0.890	1	0.228	500	5	0005644800
1.015	1	0.255	320	5	0005608600

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ATB™ Microabrasive Internal Brush *Continued*

Brush Diameter	Brush Area Length	Stem Diameter	Grit Size	Overall Length	Item Number
Aluminum Oxide					
0.165	1	0.093	600	5	0005642500
0.190	1	0.093	600	5	0005642700
0.260	1	0.121	600	5	0005642900
0.325	1	0.121	600	5	0005643200
0.385	1	0.154	600	5	0005643500
0.515	1	0.175	600	5	0005643800
0.640	1	0.175	600	5	0005644100
0.765	1	0.228	600	5	0005644400
0.890	1	0.228	600	5	0005644700
1.015	1	0.255	600	5	0005645000

ATB™ Miniature Brushes

Osborn Precision Miniature Nylon Abrasive Brush Tools are designed for ultra-fine deburring, edge contouring, surface conditioning, cleaning and polishing. Can be used on extremely hard materials.

ATB™ Miniature End Brush

Osborn ATB™ Miniature End Brushes feature a small diameter for light duty cleaning, deburring, and surface finishing tasks. Brushes are constructed with premium nylon filaments with choice of Aluminum Oxide or Alumina Silicate abrasive.

Brush Diameter	Stem Diameter	Grit Size	Max RPM	Overall Length	Item Number
Alumina Silicate					
0.187	1/8	600	6,000	1-7/8	0007569200
0.25	1/8	1000	6,000	2-1/8	0007568600
Aluminum Oxide					
0.187	1/8	600	6,000	1-7/8	0007569300
0.25	1/8	600	6,000	2-1/8	0007568700
0.312	1/8	600	6,000	2-1/8	0007569800

ATB™ Miniature Cup Brush

Featuring flared nylon filaments with choice of embedded abrasive, Osborn's ATB™ Miniature Cup Brushes offer exceptional surface conditioning, cleaning, and polishing. Cup brush designs provide uniform performance over wider areas.

Brush Diameter	Stem Diameter	Grit Size	Max RPM	Overall Length	Item Number
Aluminum Oxide					
0.563	1/8	600	6,000	2-1/8	0007570700
Alumina Silicate					
0.563	1/8	1000	6,000	2-1/8	0007570600

ATB™ Miniature Wheel Brush

Versatile Osborn ATB™ Miniature Wheel Brushes are designed for uniform performance even when used on extremely hard materials. Each nylon filament is impregnated with choice of tough abrasive for precision ultra-fine deburring and edge contouring.

Brush Diameter	Stem Diameter	Grit Size	Max RPM	Overall Length	Item Number
Aluminum Oxide					
0.75	1/8	600	6,000	1-5/8	0007575200
1	1/8	600	6,000	1-5/8	0007576600
1.25	1/8	600	6,000	1-5/8	0007577000
1.5	1/8	600	6,000	1-5/8	0007577400
Alumina Silicate					
0.75	1/8	1000	6,000	1-5/8	0007575100
1	1/8	1000	6,000	1-5/8	0007576500

ATB™ NovoFlex Honing Tools

NovoFlex Flexible Honing Tools have round, abrasive beads fastened to the ends of flexible filaments. This self-centering tool will conform to the bore surface providing a consistent, even surface finish over the life of the tool. The ATB™ NovoFlex Flexible Honing Tool will even provide an “edge break” not possible with conventional honing stones.

ATB™ NovoFlex Introduction and Technical Information

NovoFlex Flexible Honing Tools are available for hole diameters ranging from 6.4mm to 203mm. Grit is available in Silicon Carbide & Aluminum Oxide in sizes from 60 to 320 for your application. These brushes are ideal for reaching into holes and crevices where other brushes cannot.

Great On:

- Engine bores
- Pneumatic and hydraulic bores
- Valve and pump housings
- Pipes
- Connecting rods
- Cam bores
- Crank bores
- Valve bores
- Hydraulic cylinders
- Stainless steel tubing

Applications:

- Honing
- Creating cross hatched surface pattern for oil retention
- Cylinder port area deburring
- Eliminating inside flashing

Instructions:

1. Choose the NovoFlex Flexible Honing Tool for the specific hole size. The actual NovoFlex Tool will be approximately 10% larger than the hole size.
2. Use 10–30 weight oil for honing lubrication, when honing hydraulic brake cylinders, use hydraulic brake fluid as a honing lubricant.
3. Have the NovoFlex Flexible Honing Tool rotating upon entry and removal from the bore.
4. Recommended RPM range for the NovoFlex Tool is 100 to 1200 RPM, based on the brush diameter. Air tools are not recommended.
5. Use 60–120 strokes per minute depending on the RPM. Final stroking may be accelerated to develop a 45 degree cross-hatch angle.
6. Honing time should be approximately 20/45 seconds per bore.
7. Do not use solvents for honing or cleaning.
8. Clean cylinders after honing with warm or hot water and detergent using an Osborn plain nylon brush, and then lightly oil the bore.

Novoflex–Small Diameter

Osborn's small diameter ATB™ Novoflex Tools are designed with round, abrasive beads fastened to the end of flexible nylon filaments sized to address smaller applications such as brake cylinders, hydraulics and valve guides. This self-centering tool will conform to the bore surface to provide a consistent, even surface finish over the life of the tool.

Inches	Used for Hole Diameter (mm)	Brush Length (mm)	Overall Length (mm)	Stem Diameter	120SC Part No.	180SC Part No.	240SC Part No.
0.196	5	50	200	0.072	—	0007728700	—
0.250	6.4	50	200	0.072	0007724600	0007724800	0007725000
0.276	7	50	200	0.072	0007724700	0007724900	0007725100
0.315	8	50	200	0.080	0007720000	0007722300	0007725200
0.354	9	50	200	0.080	0007720100	0007722400	0007725300
0.375	9.5	55	200	0.080	0007735900	0007736000	0007736100
0.394	10	60	200	0.080	0007720200	0007722500	0007725500
0.433	11	60	200	0.080	0007720300	0007722600	0007725600
0.472	12	60	200	0.091	0007736200	0007736300	0007736400
0.500	12.7	60	200	0.091	0007720400	0007722700	0007725800
0.512	13	60	200	0.105	0007720500	0007722800	0007737700
0.552	14	60	200	0.105	0007720600	0007722900	0007725900
0.630	16	60	200	0.105	0007720700	0007723000	0007726000
0.709	18.0	60	200	0.091	0007720800	0007723100	0007726100
0.750	19	70	200	0.105	0007720900	0007723200	0007726200
0.787	20	70	200	0.105	0007736500	0007736600	0007736700
0.875	22	70	200	0.105	0007721000	0007723300	0007726400
0.940	23.8	70	200	0.105	0007721100	0007723400	0007726500
1.000	25.4	70	200	0.105	0007721200	0007723500	0007726600
1.060	26.9	70	200	0.105	0007721300	0007723600	0007725700
1.125	29	70	200	0.105	0007721400	0007723700	0007726700
1.250	31.8	70	200	0.105	0007721500	0007723800	0007726800
1.375	35	70	200	0.105	0007721600	0007723900	0007726900
1.500	38	70	200	0.135	0007721700	0007724000	0007727000
1.625	41	70	200	0.135	0007721800	0007724100	0007727100
1.750	45	70	200	0.135	0007736800	0007736900	0007737000
2.000	51	70	200	0.135	0007737100	0007737200	0007737300
2.125	54	70	200	0.135	0007722000	0007724300	0007727400
2.250	57	70	200	0.135	0007722100	0007724400	0007727500
2.375	60	70	200	0.135	0007722200	0007724500	0007727600
2.500	64	70	200	0.135	0007737400	0007737500	0007737600

Novoflex–Standard Duty

Achieve a smooth, even surface finish with standard duty Osborn ATB™ Novoflex Tools. Tool is constructed of flexible nylon filaments that each have an abrasive bead fastened to the end of it. This tool is self-centering and is designed to conform to the bore surface for consistent finish and longevity.

Used for Hole Diameter (mm)	Brush Diameter	Brush Length (mm)	Overall Length (mm)	Stem Diameter	120SC Part No.	180SC Part No.	240SC Part No.
67	2.625	76	200	0.105	—	0007730000	0007727800
70	2.750	76	200	0.105	0007729700	0007730100	0007727900
73	2.875	76	200	0.105	0007729800	0007730200	0007728000
76	3.000	76	200	0.105	0007729900	0007730300	0007728100
83	3.250	76	343	0.300	0007737900	0007738000	0007738100
89	3.500	76	343	0.300	0007730500	0007730700	0007728300
95	3.750	89	343	0.300	0007730800	0007732500	0007734200
105	4.125	102	343	0.300	0007730900	0007732600	0007734300
118	4.625	114	343	0.300	—	0007732700	0007734400

Novoflex–Heavy Duty

The longer brush length of Osborn's heavy duty ATB™ Novoflex Tool tackles tough honing projects with efficiency. Silicon Carbide abrasive beads are fastened to durable nylon filaments to allow the tool to conform to the bore surface. Flexible filaments are engineered to provide the correct pressure to create an ideal hone over the life of the tool.

Hole Diameter (mm)	Hole Diameter (in)	Brush Length (mm)	Overall Length (mm)	Stem Diameter	120SC Part No.	180SC Part No.	240SC Part No.
76	3.000	140	343	0.300	0007731100	0007732800	0007734500
83	3.250	140	343	0.300	0007731200	0007732900	0007734600
89	3.500	140	343	0.300	0007731300	0007733000	0007734700
95	3.750	140	343	0.300	0007731400	0007733100	0007734800
101	4.000	165	343	0.350	0007731500	0007733200	0007734900
108	4.250	165	343	0.350	0007731600	0007733300	0007735000
114	4.500	165	343	0.350	0007731700	0007733400	0007735100
127	5.000	165	457	0.350	0007731800	0007733500	0007735200
140	5.500	165	457	0.375	0007731900	0007733600	0007735300
152	6.000	165	457	0.375	0007732000	0007733700	0007735400
165	6.500	165	457	0.375	0007732100	0007733800	0007735500
178	7.000	178	457	0.375	0007732200	0007733900	0007735600
190	7.500	178	457	0.375	0007732300	0007734000	0007735700
203	8.000	178	457	0.375	0007732400	0007734100	0007735800

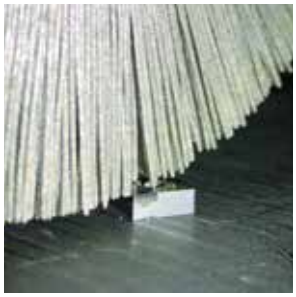
ATB™ PCD Superabrasive

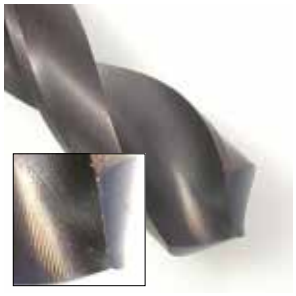
Fast, clean and consistent. Osborn ATB™ Diamond Superabrasives are engineered for today's superhard materials such as CBN and ceramics. ATB™ Superabrasives are made with polycrystalline diamond (PCD) impregnated filaments. Superior honing and polishing results can be achieved without the use of diamond paste or slurry.

PCD Superabrasive Introduction and Technical Information

Without the need for diamond paste, ATB™ Diamond Superabrasives minimize or eliminate the secondary clean up operation. Osborn Superabrasives produce fast, consistent and repeatable honing results, lowering process cost and creating a cleaner, more efficient production environment.

Cutting tool insert before (left) and after (right) planetary honing operation with ATB™ PCD disc. ATB™ Superabrasive wheel brushes are easily adaptable to both common shop equipment as well as highly specialized machines. These tools can be used for a variety of polishing, deburring, and edge radiusing applications. Wheel brush tools are ideal for focused area work such as drill honing, polishing and indexable insert honing. ATB™ Superabrasives are capable of producing an edge radius of 0.0005"–0.003" on extremely hard materials such as such as CBN and ceramics. The degree of hone can be optimized by balancing PCD grain size, brush operating speed and cycle time. Grit sizes include 120, 240, 400, 600, and 1000 grit.





Before Honing

During Honing

After Honing

ATB™ Diamond Superabrasive Wheel Brush

Designed to provide uniform, repeatable results, Osborn ATB™ Diamond Superabrasive Wheel Brushes offer superior performance for a variety of polishing, deburring, and edge honing applications. Brushes are engineered for optimal edge honing of super hard materials such as CBN, ceramics, diamond, and glass without sacrificing brush life. ATB™ Diamond Superabrasives lower process costs and create a cleaner, more efficient production environment by minimizing or eliminating the secondary cleanup operation.

Brush Diameter	Grit Size	Arbor Hole Diameter	Max RPM	Trim Length	Face Width	Item Number
			PCD			
6	400	1-1/4	6,000	1	1/4	0004100200
6	600	1-1/4	6,000	1	1/4	0004100100
6	1000	1-1/4	6,000	1	1/4	0004100000
8	400	1-1/4	6,000	1	1/4	0004101200

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