

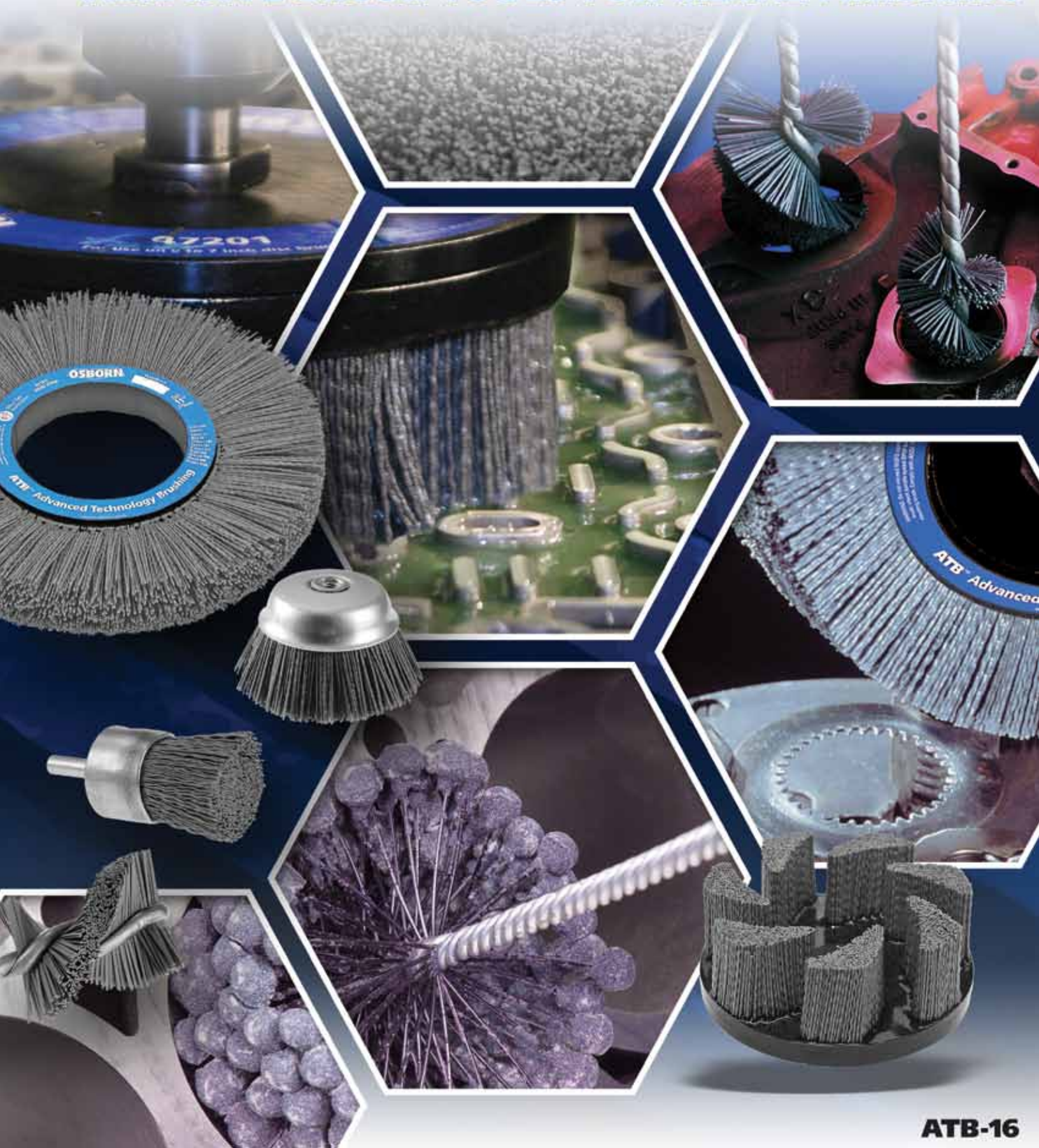
OSBORN®

ATB™

JACKSONLEA

Advanced Technology Brushing

ABRASIVE BRUSH TOOLS FOR METAL FINISHING



AUTOMOTIVE APPLICATIONS

AUTOMOTIVE APPLICATIONS

ATB™ BRUSH TOOL APPLICATIONS

ATB™ BRUSH TOOL APPLICATIONS

Engine Block

- Camshaft bore
- Crankshaft Bore
- Cylinder Bore
- Oil Galley
- Deck Surface

Transmission

- Housing
- Clutch Plates
- Gears
- Valve Bodies

Engine Parts

- Camshafts
- Connecting Rods
- Crankshafts
- Cylinder Heads
- Pistons

SPECIAL APPLICATIONS

SPECIAL APPLICATIONS

Aerospace

- Turbine Blades
- Wing Spars
- Static Engine Parts

Military

- Tanks
- Ordnance

Medical Implants

- Bone Screws
- Cervical Screws
- Bone Broach
- Titanium Knee Joints
- Hips
- Shoulders

TYPICAL APPLICATIONS

TYPICAL APPLICATIONS

Gears

Wheel Finishing

Fineblanking

Cutting Tools

- Insert Honing
- Drill Bit Honing

Aluminum Extrusions

Hydraulics

- Pump Housings
- Manifolds
- Pistons

SPECIAL APPLICATIONS

SPECIAL APPLICATIONS

Communications

- Microwave Antennas
- Heat Sinks

Stone & Tile

Commercial Kitchen

- Sinks
- Cookware

Farm/Landscaping

- Tractors
- Lawn Mowers
- Chainsaws

Woodworking

Log Cabins

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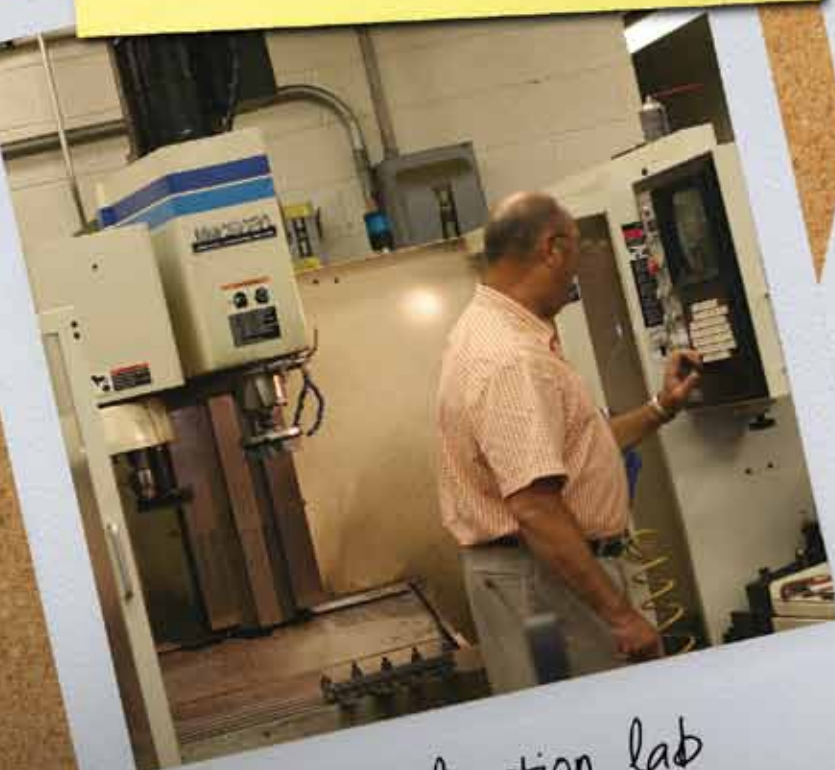
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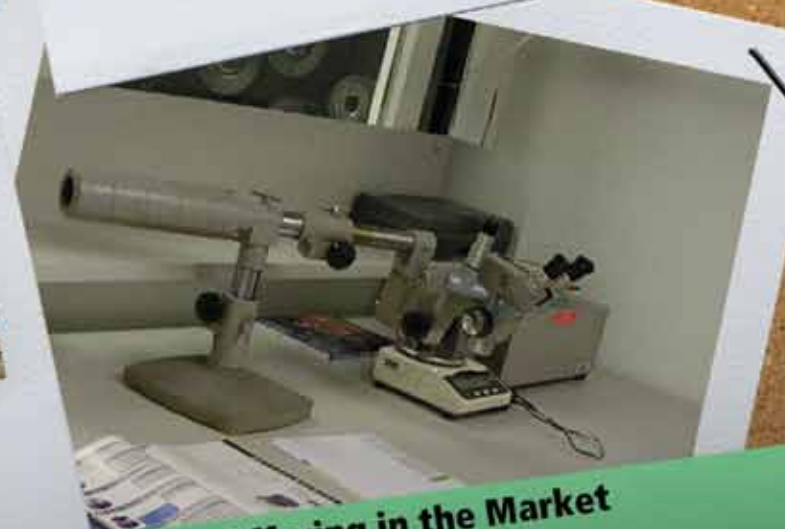
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ATB™ ABRASIVE NYLON BRUSHES

ATB

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, cloth.

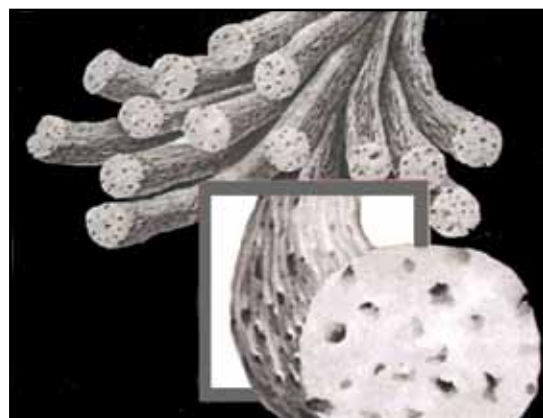


ATB NYLON ABRASIVE FILAMENTS

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 or Polycrystalline Diamond grit. Grit loading ranges from 10-40% by weight, offering a wide variety of filament choices.

ATB Physical Properties	
Bend Recovery	80%
Melting Point	210C(410F)
Beam Strength	At 140 F 70% lost
Density	1.29g/cc
Coolant	PH Between 2-9
Absorbtion at 50% RH	1.30%
Absorbtion at 100% RH	2.80%



ATB BRUSH TOOL SELECTION

Tool Style Options:

Osborn produces ATB brushes in six 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.



Wide Face Brushes - Wide Face brushes prevent costly build-up and wear on conveyor belts in a variety of manufacturing and processing environments. Outside diameters range from a few inches to over one foot. Standard face widths span from two inches to nearly twenty feet.

ATB BRUSH TOOL SELECTION

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)

•**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)

•**Poly Crystalline 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])



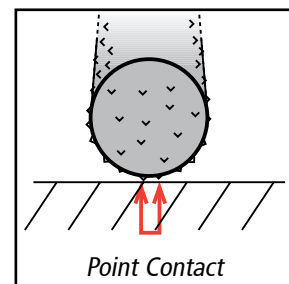
Filament Geometry Options:

ATB abrasive tools feature three different filament geometries: round crimped, round straight and rectangular.



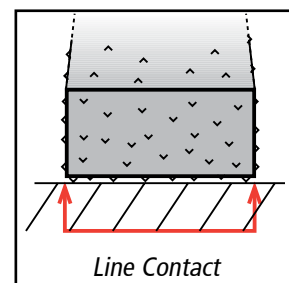
Round Abrasive Nylon Filaments are impregnated with either Silicon Carbide or Aluminum Oxide grit. Grit sizes vary from coarse to very fine. This style is available in crimped or uncrimped form, and is also made in Alumina Silicate and Polycrystalline Diamond super abrasives.

- 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



Abrasive Nylon Rectangular Filaments are impregnated with either Silicon Carbide 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
- Superior draw file grinding action using sides of extra long filaments



ATB BRUSH TOOL SELECTION

Filament and 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. mm.	12 .030	18 .046	22 .058	28 .074	35 .089	40 1.02	50 1.27	30 x 70 0.76 x 1.78	45 x 90 1.14 x 2.28
Grit									
Silicon Carbide (SC)		SC	SC	SC	SC	SC	SC	SC	SC
Aluminum Oxide (AO)	AO	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
Grit Color 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 and 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 TOOL 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.

Where higher brush speeds and pressures are required, it is recommended to use a more aggressive brush tool. This may be done by increasing abrasive grit size, changing filament shape, increasing fill density, decreasing trim length, increasing the brush diameter, and/or slowing line speed.

Suggested ATB Disc Brush Operating Parameters

Type	Dia. (in)	Brush Speed (RPM)				Penetration (inches)						Feed (in/min)					
		Dry		W/Coolant		Alum		Cast/Mild Steel		SS / Alloy		Alum		Cast/Mild Steel		SS / Alloy	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Max	0.5 to 1	2,500	5,000	3,000	6,200	0.03	0.06	0.03	0.13	0.03	0.18	23	35	17	30	11	24
	1.5 to 2.5	2,000	3,500	2,500	4,000	0.03	0.06	0.03	0.13	0.03	0.18	30	42	24	38	19	29
	3 to 4	1,500	2,500	2,000	2,700	0.03	0.06	0.03	0.13	0.03	0.18	37	50	30	45	22	36
	5 to 6	Not Recommended		1,300	1,700	0.03	0.06	0.03	0.13	0.03	0.18	44	56	35	50	26	40
	7 to 8			1,000	1,100	0.03	0.06	0.03	0.13	0.03	0.18	50	62	40	56	30	45
	9 to 10			800	1,000	0.03	0.06	0.03	0.13	0.03	0.18	57	70	47	63	36	51
	12 to 14			600	700	0.03	0.06	0.03	0.13	0.03	0.18	64	76	51	68	39	54
Max W/Bridal	3 to 4	Not Recommended		2,500	3,500	0.03	0.06	0.03	0.13	0.03	0.18	52	67	42	60	31	48
	5 to 6			1,700	2,000	0.03	0.06	0.03	0.13	0.03	0.18	60	74	48	67	36	54
	7 to 8			1,300	1,500	0.03	0.06	0.03	0.13	0.03	0.18	68	84	56	75	43	61
	9 to 10			1,000	1,200	0.03	0.06	0.03	0.13	0.03	0.18	77	91	61	81	46	64
Turbo	3 to 4	2,100	2,800	2,600	3,500	0.06	0.13	0.06	0.19	0.06	0.25	29	40	24	36	18	28
	5 to 6	1,400	1,600	1,700	2,100	0.06	0.13	0.06	0.19	0.06	0.25	35	44	28	40	21	32
	7 to 8	1,000	1,200	1,300	1,500	0.06	0.13	0.06	0.19	0.06	0.25	40	49	32	44	24	36
	9 to 10	850	1,000	1,000	1,100	0.06	0.13	0.06	0.19	0.06	0.25	45	56	37	50	28	40
	12 to 14	600	700	750	900	0.06	0.13	0.06	0.19	0.06	0.25	51	60	40	54	38	43
Tuftmatic	6	1,200	3,000	1,500	2,500	0.06	0.19	0.06	0.25	0.06	0.25	31	39	25	36	18	28
	8	1,000	1,400	1,200	1,700	0.06	0.19	0.06	0.25	0.06	0.25	36	44	28	39	21	32
	10	750	1,100	900	1,500	0.06	0.19	0.06	0.25	0.06	0.25	40	50	33	45	25	36
	14	550	800	650	1,000	0.06	0.19	0.06	0.25	0.06	0.25	45	54	36	48	34	38

- Depth of penetration should be set while the brush tool is rotating at operational speed.
- Precise edge radius can be controlled by adjusting the line speed.
- Slower line speed results in more aggressive brushing action.
- Surface speeds should always be kept below 3500 surface speed per minute wet and 2500 surface speed per minute dry.

Tool Path Considerations:

For consistent results in an automated environment, careful consideration should be given when implementing ATB brush tools.

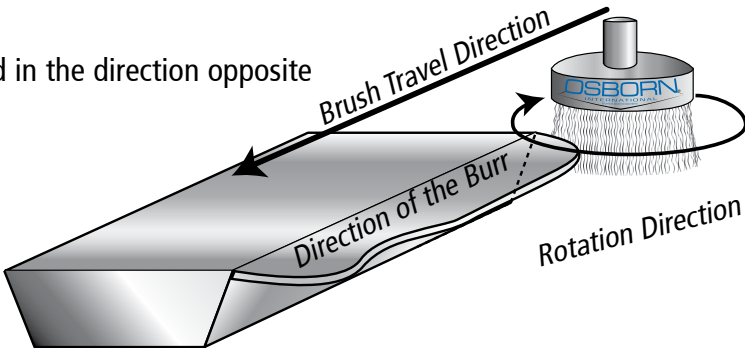
Tool Path:

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

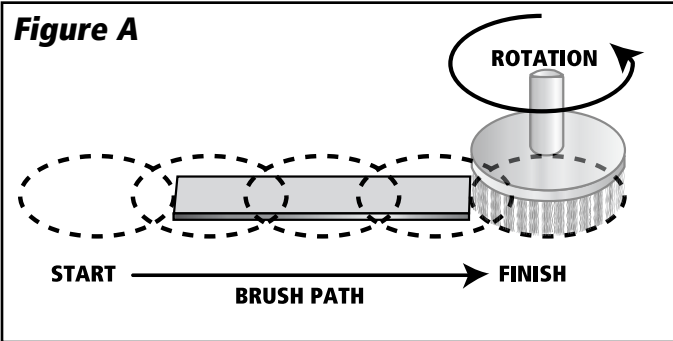
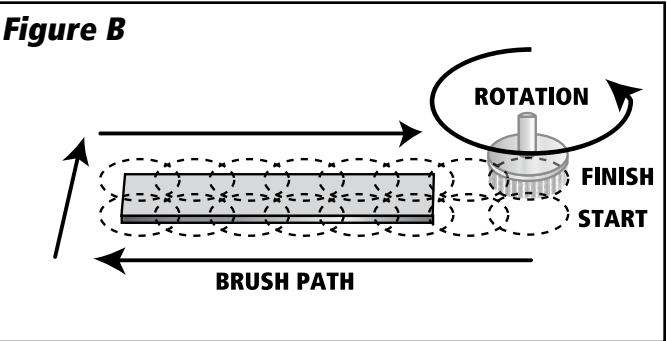


Figure B



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

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 the wear on the brush using historical statistical data.

ATB BRUSH TOOL IMPLEMENTATION

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.



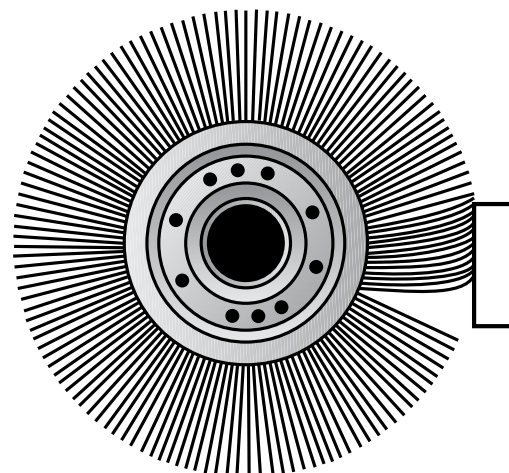
Suggested ATB Wheel Brush Operating Parameters

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

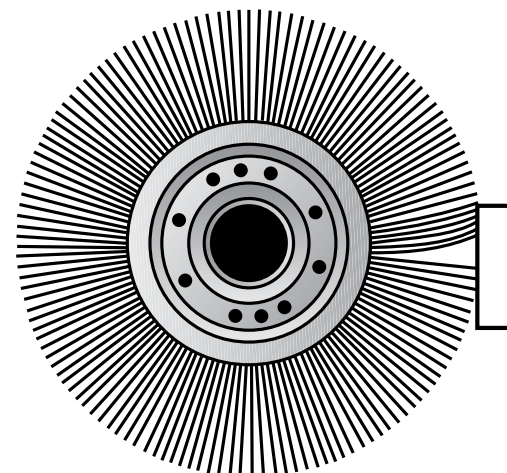
ATB Wheel Brush Penetration

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.

Correct Penetration



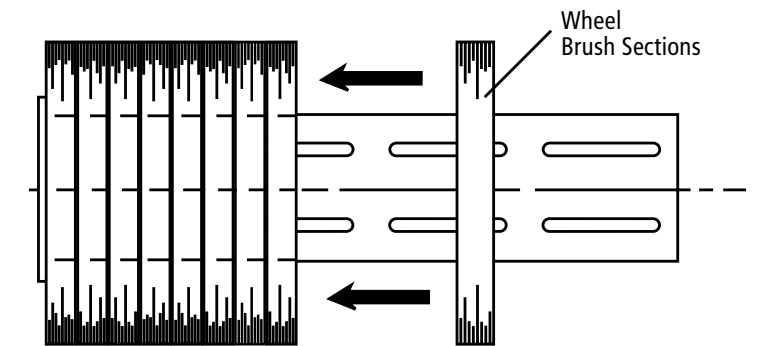
Incorrect Penetration



ENGINEERING INFORMATION

Recommended Horsepower

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)

Table of Surface Speed

RPM	1" DIA.	4" DIA.	6" DIA.	8" DIA.	10" DIA.	12" DIA.	13" DIA.	14" DIA.	15" DIA.	16" DIA.
900	235	950	1400	1900	2350	2800	3100	3350	3550	3750
1150	300	1200	1800	2400	3000	3600	3900	4200	4500	4800
1200	315	1250	1900	2500	3200	3800	4100	4400	4700	5000
1500	400	1550	2350	3150	3900	4700	5200	5500	5900	6250
1750	450	1800	2750	3650	4550	5500	6000	6400	6800	7300
2000	525	2100	3100	4200	5200	6300	6800	7300	7800	8400
2400	625	2500	3800	5000	6100	7500	8250	8800	9400	10000
2800	730	2900	4400	5850	7300	8800	9600	10200	11000	11700
3000	785	3100	4700	6300	7800	9400	10250	11000	11800	12500
3200	840	3350	5000	6700	8400	10200	11000	11700	12600	13400
3450	900	3600	5400	7200	9000	11000	11800	12600	13500	
3750	980	3900	5900	7800	9800	11800	12800	13700		
4000	1045	4200	6300	8400	10500	12500	13750			
4500	1180	4700	7200	9400	11800	14100				
5000	1310	5200	7800	10500	13100					
5400	1410	5600	8500	11300						
6000	1570	6300	9400	12500						
* Figures in this table are approximate										

(Peripheral Speed in Feet per Minute)

ENGINEERING INFORMATION

English to Metric Conversion

Fraction (Inches)	Decimal (Inches)	Milimeters
1/64	.0156	.40
1/32	.0313	.80
3/64	.0469	1.19
1/8	.125	3.18
9/64	.1406	3.57
5/32	.1563	3.97
11/64	.1719	4.37
3/16	.1875	4.76
13/64	.2031	5.16
7/32	.2188	5.56
15/64	.2344	5.95
1/4	.250	6.35
17/64	.2656	6.75
9/32	.2813	7.15
19/64	.2969	7.54
5/16	.3125	7.94
21/64	.3281	8.33
11/32	.3438	8.73
23/64	.3594	9.13
3/8	.375	9.53
25/64	.3906	9.92
13/32	.4063	10.32
27/64	.4219	10.72
7/16	.4375	11.11
29/64	.4531	11.51
15/32	.4688	11.91
31/64	.4844	12.30
1/2	.500	12.70
33/64	.5156	13.10
17/32	.5313	13.50
35/64	.5469	13.89
9/16	.5625	14.29

Fraction (Inches)	Decimal (Inches)	Milimeters
37/64	.5781	14.68
19/32	.5938	15.08
39/64	.6094	15.48
5/8	.625	15.88
41/64	.6406	16.27
21/32	.6563	16.67
43/64	.6719	17.07
11/16	.6875	17.46
45/64	.7031	17.86
23/32	.7188	18.26
47/64	.7344	18.65
3/4	.750	19.05
49/64	.7656	19.45
25/32	.7813	19.85
51/64	.7969	20.24
13/16	.8125	20.64
53/64	.8281	21.03
27/32	.8438	21.43
55/64	.8594	21.83
7/8	.875	22.23
57/64	.8906	22.62
29/32	.9063	23.02
59/64	.9219	23.42
15/16	.9375	23.81
61/64	.9531	24.21
31/32	.9688	24.61
63/64	.9844	25.00
1	1.0000	25.40
1 1/4	1.250	31.75
1 1/2	1.500	38.10
1 3/4	1.750	44.45

ATB BRUSH TOOL TROUBLESHOOTING

PROBLEM	SOLUTION
Brush not aggressive enough	1. Increase surface speed by increasing OD or RPM 2. Use larger brush diameter 3. Use coarser abrasive filament 4. Decrease feed rate 5. Use shorter trim length and denser brush
Brush too aggressive	1. Reduce surface speed by reducing OD or RPM 2. Increase trim length and use less dense brush 3. Reduce filament diameter 4. Increase feed rate
Finish too rough	1. Use coolant or cutting oil 2. Increase RPM 3. Use finer abrasive filament 4. Use buffing compound
Finish too smooth	1. Increase filament grit size 2. Decrease surface speed 3. Reduce brush fill density
Brushing action not sufficiently uniform	1. Increase trim length and decrease fill density 2. Utilize automated equipment for brushing motion
More action required on edges parallel to brush axis	1. Increase brush RPM 2. Reduce feed rate 3. Dwell brush at the problem area
More action required on edges perpendicular to brush axis	1. Decrease brush RPM 2. Increase feed rate 3. Oscillate brush at the problem area
Smearing/melting of nylon filament	1. Use coolant 2. Reduce RPM 3. Use larger brush diameter

NOTE: Please contact Osborn customer support for any additional questions.

Every effort has been made to incorporate up-to-date and accurate information regarding product specifications. This information should be used as a reference only. Osborn International reserves the right to change the product specifications without warning. For specific product information contact Osborn International.

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.

Osborn’s ATB composite hub wheel brushes are engineered to outperform the competition with the highest fill concentration on the market. Our manufacturing process produces a consistent brush face and superior balance for optimal performance.

These 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.



All Osborn ATB brushes are color coded for easy identification of the grit size.

ATB™ Color Coding System

60

80

120

180

240

320

500

600

1000

Special ATB Wheel Brush Request Form

Territory

End User

Distributor

Contact Name

Address

City

State

Zip

Phone

Fax

E-Mail

Customer Drawing Available: YES NO

YES NO

If Yes, How many

Date

Outer Diameter	Inner Diameter	Arbor Hole	Width at Arbor Hole	Trim Length
Fill Material	Grit	Face Width	RPM	Fill Style

Brush Run in sets YES NO

YES NO

Fill Diameter

Equipment Used:

Comp. to Stock Product #

Variation

Method now being used

Desc. if Competitor Brush

Price

Stock Brushes Tested

Result

Yearly Potential

Order Quantity

Application

Comments

Samples Needed YES NO

of Samples

Outer Diameter

Inner Diameter

Width at Arbor Hole

Arbor Hole

Trim Length

Face Width

One Keyway

Two 180° Keyway

Square

Hex

Round

Other

OSBORN

JACKSONLEA

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www.osborn.com
marketsupport@osborn.com

ATB FASCUT™ WHEEL BRUSHES - AGGRESSIVE

These brushes feature short trim and higher filament density for increased aggression, minimum cycle time and longer brush life.

Applications: Steel Gears, Machine Parts, Stainless Steel, Hardened Alloys, Saw Cut Extrusions, Powder Metal Components



Benefits:

- Longer brush life
- Minimum cycle time
- No pre-stressing of filaments
- Less filament breakage
- Uniform distribution of filaments
- No parting line
- Balanced for optimal performance



Adapters for mounting into smaller shafts must be specified and are priced separately. Please refer to pages 31 - 33 to select the appropriate adapter.

Brush Dia.	Grit	Fill Dia.	Arbor Hole	Face Width	Trim Length	Filament Shape	Max RPM	Std Pk	Item No.
* 6	80	45 x 90	2	1	1-1/4	Rectangular	3600	2	40627
* 6	80	0.040	2	1	1-1/4	Round Crimped	3600	2	40621
* 6	120	0.028	2	1	1-1/4	Round Crimped	3600	2	40622
* 6	120	0.040	2	1	1-1/4	Round Crimped	3600	2	40623
* 6	180	0.035	2	1	1-1/4	Round Crimped	3600	2	40624
* 6	320	0.022	2	1	1-1/4	Round Crimped	3600	2	40625
* 6	500	0.018	2	1	1-1/4	Round Crimped	3600	2	40626
8	80	45 x 90	2	1	1-1/4	Rectangular	3600	2	40592
8	80	0.040	2	1	1-1/4	Round Crimped	3600	2	40586
8	120	0.028	2	1	1-1/4	Round Crimped	3600	1	40587
8	120	0.040	2	1	1-1/4	Round Crimped	3600	2	40588
8	180	0.035	2	1	1-1/4	Round Crimped	3600	2	40589
8	320	0.022	2	1	1-1/4	Round Crimped	3600	2	40590
8	500	0.018	2	1	1-1/4	Round Crimped	3600	2	40591
10	80	45 x 90	4-1/4	1	1-1/4	Rectangular	3600	2	40534
10	80	0.040	4-1/4	1	1-1/4	Round Crimped	3600	2	40529
10	120	0.028	4-1/4	1	1-1/4	Round Crimped	3600	2	40530
10	120	0.040	4-1/4	1	1-1/4	Round Crimped	3600	2	40531
10	180	0.035	4-1/4	1	1-1/4	Round Crimped	3600	2	40532
10	320	0.022	4-1/4	1	1-1/4	Round Crimped	3600	2	40533
12	80	45 x 90	5-1/4	1	1-1/4	Rectangular	1800	2	40650
12	80	0.040	5-1/4	1	1-1/4	Round Crimped	1800	2	40645
12	120	0.028	5-1/4	1	1-1/4	Round Crimped	1800	2	40646
12	120	0.040	5-1/4	1	1-1/4	Round Crimped	1800	2	40647
12	180	0.035	5-1/4	1	1-1/4	Round Crimped	1800	2	40648
12	320	0.022	5-1/4	1	1-1/4	Round Crimped	1800	2	40649
12	80	45 x 90	5-1/4	2	1-1/4	Rectangular	1800	2	40661
12	80	0.040	5-1/4	2	1-1/4	Round Crimped	1800	2	40656
12	120	0.028	5-1/4	2	1-1/4	Round Crimped	1800	2	40657
12	120	0.040	5-1/4	2	1-1/4	Round Crimped	1800	2	40658
12	180	0.035	5-1/4	2	1-1/4	Round Crimped	1800	2	40659
12	320	0.022	5-1/4	2	1-1/4	Round Crimped	1800	2	40660
14	80	45 x 90	5-1/4	1	1-1/4	Rectangular	1800	2	40672
14	80	0.040	5-1/4	1	1-1/4	Round Crimped	1800	2	40667
14	120	0.028	5-1/4	1	1-1/4	Round Crimped	1800	2	40668
14	120	0.040	5-1/4	1	1-1/4	Round Crimped	1800	2	40669
14	180	0.035	5-1/4	1	1-1/4	Round Crimped	1800	2	40670
14	320	0.022	5-1/4	1	1-1/4	Round Crimped	1800	2	40671
14	80	45 x 90	5-1/4	2	1-1/4	Rectangular	1800	2	40687
14	80	0.040	5-1/4	2	1-1/4	Round Crimped	1800	2	40682
14	120	0.028	5-1/4	2	1-1/4	Round Crimped	1800	2	40683
14	120	0.040	5-1/4	2	1-1/4	Round Crimped	1800	2	40684
14	180	0.035	5-1/4	2	1-1/4	Round Crimped	1800	2	40685
14	320	0.022	5-1/4	2	1-1/4	Round Crimped	1800	2	40686

* 6 inch size is ideal for both aggressive or flexible.

ATB FASCUT™ WHEEL BRUSHES - FLEXIBLE

These brushes, with long trim and moderate density, are ideal for applications requiring a high degree of conformability.

Applications: Turbine Blades, Indexable Cutting Tool Inserts, Cam Shafts, Gears, Machined Parts, Edge Radiusing



Benefits:

- Longer brush life
- Minimum cycle time
- No pre-stressing of filaments
- Less filament breakage
- Uniform distribution of filaments
- No parting line
- Balanced for optimal performance



Adapters for mounting into smaller shafts must be specified and are priced separately. Please refer to pages 31 - 33 to select the appropriate adapter.

Brush Dia.	Grit	Fill Dia.	Arbor Hole	Face Width	Trim Length	Fill Shape	Max RPM	Std Pk	Item No.
* 6	80	45 x 90	2	1	1-1/4	Rectangular	3600	2	40627
* 6	80	0.040	2	1	1-1/4	Round Crimped	3600	2	40621
* 6	120	0.028	2	1	1-1/4	Round Crimped	3600	2	40622
* 6	120	0.040	2	1	1-1/4	Round Crimped	3600	2	40623
* 6	180	0.035	2	1	1-1/4	Round Crimped	3600	2	40624
* 6	320	0.022	2	1	1-1/4	Round Crimped	3600	2	40625
* 6	500	0.018	2	1	1-1/4	Round Crimped	3600	2	40626
8	80	45 x 90	1-1/4	1	2-1/4	Rectangular	3600	2	40598
8	80	0.040	1-1/4	1	2-1/4	Round Crimped	3600	2	40594
8	120	0.040	1-1/4	1	2-1/4	Round Crimped	3600	2	40595
8	180	0.035	1-1/4	1	2-1/4	Round Crimped	3600	2	40596
8	320	0.022	1-1/4	1	2-1/4	Round Crimped	3600	2	40597
10	80	45 x 90	2	1	2-1/16	Rectangular	3600	2	40544
10	80	45 x 90	2	1	3	Rectangular	3600	2	40539
10	80	0.040	2	1	2-1/16	Round Crimped	3600	2	40540
10	80	0.040	2	1	3	Round Crimped	3600	2	40535
10	120	0.040	2	1	2-1/16	Round Crimped	3600	2	40541
10	120	0.040	2	1	3	Round Crimped	3600	2	40536
10	180	0.035	2	1	2-1/16	Round Crimped	3600	2	40542
10	180	0.035	2	1	3	Round Crimped	3600	2	40537
10	320	0.022	2	1	2-1/16	Round Crimped	3600	2	40543
10	320	0.022	2	1	3	Round Crimped	3600	2	40538
12	80	45 x 90	4-1/4	1	3	Rectangular	1800	2	40655
12	80	0.040	4-1/4	1	3	Round Crimped	1800	2	40651
12	120	0.040	4-1/4	1	3	Round Crimped	1800	2	40652
12	180	0.035	4-1/4	1	3	Round Crimped	1800	2	40653
12	320	0.022	4-1/4	1	3	Round Crimped	1800	2	40654
12	80	45 x 90	4-1/4	2	3	Rectangular	1800	2	40666
12	80	0.040	4-1/4	2	3	Round Crimped	1800	2	40662
12	120	0.040	4-1/4	2	3	Round Crimped	1800	2	40663
12	180	0.035	4-1/4	2	3	Round Crimped	1800	2	40664
12	320	0.022	4-1/4	2	3	Round Crimped	1800	2	40665
14	80	45 x 90	5-1/4	1	3-5/8	Rectangular	1800	2	40187
14	120	45 x 90	5-1/4	1	3-5/8	Rectangular	1800	2	40188
14	180	45 x 90	5-1/4	1	3-5/8	Rectangular	1800	2	40191
14	320	45 x 90	5-1/4	1	3-5/8	Rectangular	1800	2	40190
14	80	0.040	5-1/4	1	3-5/8	Round Crimped	1800	2	40195
14	120	0.028	5-1/4	1	3-5/8	Round Crimped	1800	1	40158
14	120	0.040	5-1/4	1	3-5/8	Round Crimped	1800	2	40192
14	180	0.035	5-1/4	1	3-5/8	Round Crimped	1800	1	40197
14	320	0.022	5-1/4	1	3-5/8	Round Crimped	1800	2	40194
14	80	45 x 90	5-1/4	2-1/2	3-5/8	Rectangular	1800	2	40170
14	120	45 x 90	5-1/4	2-1/2	3-5/8	Rectangular	1800	2	40171
14	180	45 x 90	5-1/4	2-1/2	3-5/8	Rectangular	1800	2	40172
14	320	45 x 90	5-1/4	2-1/2	3-5/8	Rectangular	1800	2	40173
14	80	0.040	5-1/4	2-1/2	3-5/8	Round Crimped	1800	2	40165
14	120	0.040	5-1/4	2-1/2	3-5/8	Round Crimped	1800	2	40162
14	180	0.035	5-1/4	2-1/2	3-5/8	Round Crimped	1800	2	40163
14	320	0.022	5-1/4	2-1/2	3-5/8	Round Crimped	1800	2	40164

ATB FASCUT™ BRUSHES — FLEXIBLE SINJET™ REPLACEMENT SECTIONS FOR SINJET CARBIDE HONING MACHINES

Osborn's new composite hub wheel is lighter, denser, and more durable than what competitors are offering. They are designed for demanding applications where balance is critical. The composite is impact-resistant to prevent cracking. These wheels can be ganged to produce any face width. A full range of fill materials, diameters, and face widths is available.

Sinjet™



Note: Not recommended for Sinjet IBX-12 machine. Call Osborn for recommendations.



Adapters for mounting into smaller shafts must be specified and are priced separately. Please refer to pages 31 - 33 to select the appropriate adapter.

Brush Dia.	Grit	Fill Dia.	Fill Material	Arbor Hole	Face Width	Trim Length	Filament Shape	Max RPM	Std Pk	Item No.
11	80	45 x 90	Silicon Carbide	4-1/4	1	2-1/2	Rectangular	2000	2	40420
11	120	45 x 90	Silicon Carbide	4-1/4	1	2-1/2	Rectangular	2000	2	40421
11	180	45 x 90	Silicon Carbide	4-1/4	1	2-1/2	Rectangular	2000	2	40422
11	320	45 x 90	Silicon Carbide	4-1/4	1	2-1/2	Rectangular	2000	2	40423
11	80	45 x 90	Silicon Carbide	4-1/4	2	2-1/2	Rectangular	2000	2	40400
11	120	45 x 90	Silicon Carbide	4-1/4	2	2-1/2	Rectangular	2000	2	40401
11	180	45 x 90	Silicon Carbide	4-1/4	2	2-1/2	Rectangular	2000	2	40402
11	320	45 x 90	Silicon Carbide	4-1/4	2	2-1/2	Rectangular	2000	2	40403
11	80	0.040	Silicon Carbide	4-1/4	1	2-1/2	Crimped	2000	2	40410
11	120	0.040	Silicon Carbide	4-1/4	1	2-1/2	Crimped	2000	2	40411
11	180	0.035	Silicon Carbide	4-1/4	1	2-1/2	Crimped	2000	2	40412
11	320	0.022	Silicon Carbide	4-1/4	1	2-1/2	Crimped	2000	2	40413
11	80	0.040	Silicon Carbide	4-1/4	2	2-1/2	Crimped	2000	2	40390
11	120	0.040	Silicon Carbide	4-1/4	2	2-1/2	Crimped	2000	2	40391
11	180	0.035	Silicon Carbide	4-1/4	2	2-1/2	Crimped	2000	2	40392
11	320	0.022	Silicon Carbide	4-1/4	2	2-1/2	Crimped	2000	2	40393
11	400	0.020	PCD Diamond	4-1/4	1	2	Crimped	2000	1	41007



THE CUTTING EDGE IN PART FINISHING

Whether the production process is fully automated, manual or in-between, significant improvements can be achieved with Sinjet™ finishing machines and Osborn ATB™ Advanced Technology Brushing products.

Sinjet machines provide the benefits of faster cycle times, along with higher consistency, and tighter tolerances. NC controls Sinjet systems for easy integration into existing automated lines. On difficult jobs, the flexibility of these machines allows them to surpass even CNC systems.

All Sinjet products are backed by state-of-the-art engineering support from Osborn. Osborn leads the industry in brush technology applications and will gladly provide assistance for any application — send us your parts for a complete consultation.

The IBX series machines are designed for edge honing of cutting tool inserts and other similar small components. These machines are geared for large production or job shop volumes. The IBX machines utilize ATB brushes for accurate, repeatable edge honing and can be fitted with special ATB brushes for advanced materials. Even inserts with uneven surfaces can be accurately honed thanks to 4-axis CNC controls.

Multiple spindles on each machine allow for simultaneous loading/unloading and machining. ATB brushes also have the ability to be fitted for fully automated control. The graphic interface console allows for easy programming and program storage.

IBX-2 Technical Information

Parts: max height: 0.591" (15 mm)
max length: 1.575" (40 mm)

Table: 2 x 180°

No. brushes: 1

No. spindles: 2

NC controlled axis: 4

Control system: Siemens, Industrial PC

Brush spindle motor: 2.2 KW controlled by frequency inverters

Brush dimensions: Ø 8-12" (200-300 mm)
width: 4" (100 mm)

Production capacity: Up to 300 inserts/hour

Cooling liquid: Oil emulsion

Machine Wt.: Approx. 1350 lbs. (600 kg)

Options: Integrated brush trimming
Cooling tank w/pump & level sensors
Separate, turnable, panel for controls
Internal PC assembly

IBX-12 Technical Information

Parts: Max height: 2.638" (67 mm)
standard flat top
0.591" (15 mm) side brush top
Max length: 1.575" (40 mm)

Table Indexing: 3 x 120°

Spindles: 3 groups of 4 spindles
2.09" (53 mm) between each spindle
X-axis stroke: 9" (225 mm)
Y-axis stroke: 10" (255 mm)
Z-axis stroke: 8.5" (219 mm)

Movements: 0-315" (0-8000 mm) per minute

Feed: 0-80 min-1

Spindle speed: 4 KW via frequency inverters

Brush motors: 0-3000 min-1

CNC controller: Fanuc 18i TB

CNC-panel: Fanuc PC Pentium III 866MHZ
256MB, 15" LCD Display

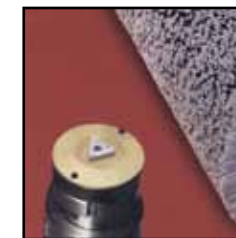
Coolant motor: 0.63 kW

Servo: Fanuc ALPHA SVM 2-10Hvi (X5)

Servo motors: Fanuc ALPHA 4/5000Hvis 4NM
Absolut Encoder (X10)

Power: 400 V 15 KW (standard)
Optional conversion with transformer

Sinjet™



Contact your Osborn representative for ordering replacement Sinjet brushes for your IBX series machine.

ATB MASTER™ WHEEL BRUSHES

These brushes have a wide-face construction which is highly effective on both metallic and non-metallic materials. Since the cutting action does not require the use of a compound, the need to clean finished parts is eliminated. The brushes may be used singly or mounted in multiple for a wider face. Certain styles are available with rectangular filaments.

Applications: Deburring, Edge Breaking, Finishing



Adapters for mounting into smaller shafts must be specified and are priced separately. Please refer to pages 31 - 33 to select the appropriate adapter.

Brush Dia.	Grit	Fill Material	Arbor Hole	Face Width	Trim Length	Filament Shape	Max RPM	Std Pk	Item No.
3	80	Silicon Carbide	5/8	1/2	5/8	Round Crimped	20000	6	22248
3	120	Silicon Carbide	5/8	1/2	5/8	Round Crimped	20000	6	22249
3	180	Silicon Carbide	5/8	1/2	5/8	Round Crimped	20000	6	22250
3	320	Silicon Carbide	5/8	1/2	5/8	Round Crimped	20000	6	22251
3	80	Silicon Carbide	5/8	7/8	5/8	Round Crimped	20000	6	22252
3	120	Silicon Carbide	5/8	7/8	5/8	Round Crimped	20000	6	22253
3	180	Silicon Carbide	5/8	7/8	5/8	Round Crimped	20000	6	22254
3	320	Silicon Carbide	5/8	7/8	5/8	Round Crimped	20000	6	22255
4	80	Silicon Carbide	5/8	5/8	3/4	Round Crimped	12000	6	22256
4	120	Silicon Carbide	5/8	5/8	3/4	Round Crimped	12000	6	22257
4	180	Silicon Carbide	5/8	5/8	3/4	Round Crimped	12000	6	22258
4	320	Silicon Carbide	5/8	5/8	3/4	Round Crimped	12000	6	22259
4	80	Silicon Carbide	5/8	1/2	1-1/8	Round Crimped	18000	6	22240
4	80	Silicon Carbide	5/8	7/8	1-1/8	Round Crimped	18000	6	22244
6	80	Aluminum Oxide	2	7/8	1-1/16	Rectangular	6000	2	22280
6	120	Aluminum Oxide	2	7/8	1-1/16	Rectangular	6000	2	22281
6	180	Aluminum Oxide	2	7/8	1-1/16	Rectangular	6000	2	22282
6	320	Aluminum Oxide	2	7/8	1-1/16	Rectangular	6000	2	22283
6	80	Silicon Carbide	2	7/8	1-1/16	Rectangular	6000	2	22292
6	120	Silicon Carbide	2	7/8	1-1/16	Rectangular	6000	2	22293
6	180	Silicon Carbide	2	7/8	1-1/16	Rectangular	6000	2	22284
6	320	Silicon Carbide	2	7/8	1-1/16	Rectangular	6000	2	22294
6	80	Silicon Carbide	2	7/8	1-1/16	Round Crimped	6000	2	22285
6	120	Silicon Carbide	2	7/8	1-1/16	Round Crimped	6000	2	22286
6	180	Silicon Carbide	2	7/8	1-1/16	Round Crimped	6000	2	22287
6	320	Silicon Carbide	2	7/8	1-1/16	Round Crimped	6000	2	22288
6	500	Silicon Carbide	2	7/8	1-1/16	Round Crimped	6000	2	22289
8	80	Silicon Carbide	2	7/8	1-1/2	Round Crimped	4500	2	22296
8	120	Silicon Carbide	2	7/8	1-1/2	Round Crimped	4500	2	22297
8	180	Silicon Carbide	2	7/8	1-1/2	Round Crimped	4500	2	22298
8	320	Silicon Carbide	2	7/8	1-1/2	Round Crimped	4500	2	22299
8	500	Silicon Carbide	2	7/8	1-1/2	Round Crimped	4500	2	22300
10	80	Silicon Carbide	2	1	2-1/16	Round Crimped	3600	2	22312
10	120	Silicon Carbide	2	1	2-1/16	Round Crimped	3600	2	22313
10	180	Silicon Carbide	2	1	2-1/16	Round Crimped	3600	2	22314
10	320	Silicon Carbide	2	1	2-1/16	Round Crimped	3600	2	22315
12	80	Silicon Carbide	2	1	2-1/8	Round Crimped	3000	2	22325
12	120	Silicon Carbide	2	1	2-1/8	Round Crimped	3000	2	22326
12	180	Silicon Carbide	2	1	2-1/8	Round Crimped	3000	2	22327
12	320	Silicon Carbide	2	1	2-1/8	Round Crimped	3000	2	22328
14	80	Silicon Carbide	2	1	2-1/8	Round Crimped	2400	2	22333
14	120	Silicon Carbide	2	1	2-1/8	Round Crimped	2400	2	22334
14	180	Silicon Carbide	2	1	2-1/8	Round Crimped	2400	2	22335
14	320	Silicon Carbide	2	1	2-1/8	Round Crimped	2400	2	22336

ATB MONARCH™ WHEEL BRUSHES

This narrow face wheel brush features the same abrasive cutting power as our wide face brushes but with a narrower face and longer trim. Rectangular filaments are available in many sizes.

Applications: Confined Areas and Irregular Shapes, Excellent for Carbide Insert Edge Honing, Piston Ring Grooves, Inside Steel Tanks, Wood Finishing

Brush Dia.	Grit	Fill Material	Arbor Hole	Face Width	Trim Length	Filament Shape	Max RPM	Std Pk	Item No.
6	80	Silicon Carbide	2	1/2	1-5/8	Round Straight	5500	12	20665
6	120	Silicon Carbide	2	1/2	1-5/8	Round Straight	5500	12	20666
6	180	Silicon Carbide	2	1/2	1-5/8	Round Straight	5500	12	20667
6	320	Silicon Carbide	2	1/2	1-5/8	Round Straight	5500	12	20668
6	500	Silicon Carbide	2	1/2	1-5/8	Round Straight	5500	12	20669
8	80	Silicon Carbide	2	1/2	2-5/8	Round Straight	5500	12	20652
8	120	Silicon Carbide	2	1/2	2-5/8	Round Straight	5500	12	20660
8	180	Silicon Carbide	2	1/2	2-5/8	Round Straight	5500	12	20654
8	320	Silicon Carbide	2	1/2	2-5/8	Round Straight	5500	12	20646
8	500	Silicon Carbide	2	1/2	2-5/8	Round Straight	5500	12	20661
11	80	Silicon Carbide	4-1/4	5/8	3	Rectangular	3600	12	20623
11	120	Silicon Carbide	4-1/4	5/8	3	Rectangular	3600	12	20622
11	180	Silicon Carbide	4-1/4	5/8	3	Rectangular	3600	12	20875
11	320	Silicon Carbide	4-1/4	5/8	3	Rectangular	3600	12	20621
12	80	Silicon Carbide	4-1/4	5/8	3-1/2	Round Crimped	3000	12	20735
12	120	Silicon Carbide	4-1/4	5/8	3-1/2	Round Crimped	3000	12	20971
12	180	Silicon Carbide	4-1/4	5/8	3-1/2	Round Crimped	3000	12	20973
12	320	Silicon Carbide	4-1/4	5/8	3-1/2	Round Crimped	3000	12	20736
14	80	Silicon Carbide	5-1/4	5/8	3-7/8	Rectangular	3600	12	20877
14	120	Silicon Carbide	5-1/4	5/8	3-7/8	Rectangular	3600	12	20876
14	180	Silicon Carbide	5-1/4	5/8	3-7/8	Rectangular	3600	12	20624
14	320	Silicon Carbide	5-1/4	5/8	3-7/8	Rectangular	3600	12	20878
14	60	Silicon Carbide	5-1/4	5/8	3-7/8	Round Crimped	3000	12	20891
14	80	Silicon Carbide	5-1/4	5/8	3-7/8	Round Crimped	3000	12	20888
14	120	Silicon Carbide	5-1/4	5/8	3-7/8	Round Crimped	3000	12	20887
14	180	Silicon Carbide	5-1/4	5/8	3-7/8	Round Crimped	3000	12	20886
14	240	Silicon Carbide	5-1/4	5/8	3-7/8	Round Crimped	3000	12	20885
14	320	Silicon Carbide	5-1/4	5/8	3-7/8	Round Crimped	3000	12	20884
22	180	Silicon Carbide	7-1/4	5/8	6-5/8	Rectangular	600	12	20097



Adapters for mounting into smaller shafts must be specified and are priced separately. Please refer to pages 31 - 33 to select the appropriate adapter.



ATB RINGLOCK™ WHEEL BRUSHES

This small diameter brush is ideal for cleaning and polishing both ID and OD surfaces. These brushes can be used with portable tools and drill presses.

Applications: Cleaning and Polishing ID and OD Surfaces

Brush Dia.	Grit	Fill Material	Arbor Hole	Face Width	Trim Length	Max RPM	Std Pk	Item No.
1-1/2	120	Silcon Carbide	1/2	1/4	1/4	20000	12	11146
1-1/2	180	Silcon Carbide	1/2	1/4	1/4	20000	12	11147
1-1/2	320	Silcon Carbide	1/2	1/4	1/4	20000	12	11148
2	120	Silcon Carbide	5/8	3/8	7/16	15000	12	11149
2	180	Silcon Carbide	5/8	3/8	7/16	15000	12	11150
2	320	Silcon Carbide	5/8	3/8	7/16	15000	12	11151
2-1/2	120	Silcon Carbide	5/8	3/8	11/16	15000	12	11153
2-1/2	180	Silcon Carbide	5/8	3/8	11/16	15000	12	11154
2-1/2	320	Silcon Carbide	5/8	3/8	11/16	15000	12	11155



PRINTED CIRCUIT BRUSHES

Osborn Printed Circuit brushes feature a continuous helically wound brush roll of ATB abrasive nylon which provides long life with non-loading characteristics. These brushes perform from start-up to replacement with less streakage without dressing, and fit most machines.

Applications: Scrubbing, Brightening, Copper Surface Cleaning, Deburring Holes, Roughening Phenolic



Brush Dia.	Grit	Fill Material	Arbor Hole	Overall Length	Std Pk	Item No.
3-7/8	320	Silicon Carbide	1	24	1	39513
3-7/8	500	Silicon Carbide	1	24	1	39514
5-7/8	120	Silicon Carbide	2	23-1/2	1	39551

PRINTED CIRCUIT BRUSH ADAPTERS



Arbor Hole	Item No.
1	75153
2	75155

ATB CENTERLESS BRUSHES

This brush is designed for use on centerless grinding machines. Changeover from grinding wheel to brush is usually no different than a change from one grinding wheel to another.

This table shows sizes which are the most commonly used styles. Other sizes and fill varieties are available. Contact your Osborn representative for pricing and availability of these and others not listed.



Outer Dia.	Grit	Fill Material	Face Width	Inner Dia.	Std Pk	Item No.
20	80	Silicon Carbide	6	12	1	13803
20	120	Silicon Carbide	6	12	1	13835
20	180	Silicon Carbide	6	12	1	13843
20	320	Silicon Carbide	6	12	1	13839
20	500	Silicon Carbide	6	12	1	13809

Contact your Osborn representative for pricing and availability of Centerless Brushes

ADAPTERS

CENTER PLATES

Used with Airway Flanges.

Used in pairs only with the composite wheel brushes and used individually with other wheel brushes.

Diameter	Arbor Hole	Item No.
3-1/4	1/2	75331
3-1/4	5/8	75332
3-1/4	3/4	75333
3-1/4	1	75334
3-1/4	1-1/4	75335
3-1/4	2	75336
4-1/4	3/4	75339
4-1/4	7/8	75340
4-1/4	1	75341
4-1/4	1-1/4	75342
4-1/4	1-1/2	75343
4-1/4	2	75344
5-1/4	1-1/4	75347
5-1/4	1-1/2	75348*
5-1/4	2	75350**
7-1/4	1-1/4	75353
7-1/4	1-1/2	75354
7-1/4	1-3/4	75355
7-1/4	2	75356

* Double Keyway 3/8" x 3/16"

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



AIRWAY FLANGES

Used with Center Plates.

Diameter	Arbor Hole	Item No.
4-1/2	1/2	46140
4-1/2	5/8	46143
4-1/2	3/4	46141
4-1/2	1	46146
4-1/2	1-1/4	46142
4-1/2	2	46147
6	3/4	46159
6	7/8	46158
6	1	46161
6	1-1/4	46160
6	1-1/2	46163
6	2	46164
8	1-1/4	46126
8	1-1/2	46128
8	1-3/4	46127
8	2	46130



SIDE PLATES FOR USE WITH WHEEL STYLE BRUSHES



Used in pairs.

Diameter	Arbor Hole	Item No.
3-1/2	5/8	75086
3-1/2	1-1/4	75087
4	5/8	75088
4	1-1/4	75089
5-1/2	5/8	75090
5-1/2	1-1/4	75091
5-1/2	1-1/2	75092
9-5/8	1-1/4	75093
9-5/8	2	75094

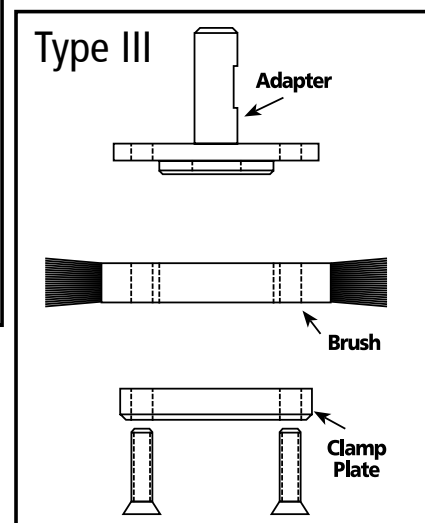
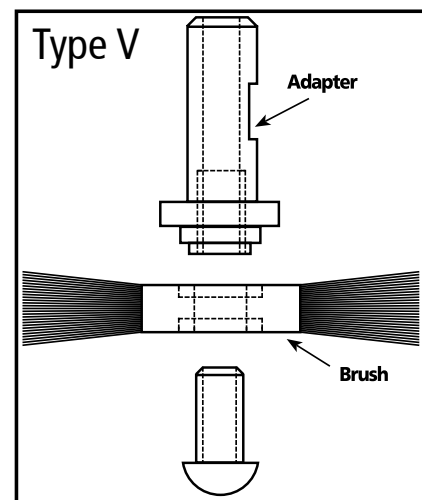
BRUSH DRIVE ARBORS



For brushes up to 3" in diameter only.
Designed for use with a single brush only.
Not for use with grinding wheels, abrasive discs, buffs, buffing pads, or other non-brush perishable tools.

Diameter	Overall Length	Shank Dia.	Item No.	Clamshell
1/4	1-1/2	3/16	75007	75386
3/8	1-3/4	1/4	75008	75387
1/2	1-3/4	1/4	75009	75388
5/8	1-3/4	1/4	75010	75389

CNC ADAPTERS FOR ATB BRUSHES



Type III brushes include adapter and clamp plate

Brush Dia.	Arbor Hole	Shank Dia.	Description	Adapter Item No.
3	5/8	3/4	Type V	75117
4	5/8	3/4	Type V	75118
6	2	3/4	Type III	75077
8	2	3/4	Type III	75077
9	2	3/4	Type III	75077
10	2	1-1/4	Type III	75080
12	2	1-1/4	Type III	75080
14	2	1-1/4	Type III	75080

METAL ADAPTERS FOR BRUSHES WITH 2" ARBOR HOLE

For use with Osborn wheel brushes. Slip fit adapter.

Adapter Fits AH	Arbor Hole	Item No.	Clamshell
2	1/4	75019	75370
2	3/8	75020	75371
2	1/2	75021	75372
2	5/8	75022	75373
2	3/4	75023	75374
2	7/8	75024	75375
2	1	75025	75376
2	1-1/8	75026	75377
2	1-1/4	75027	75378
2	1-1/2	75028	75379



Used in pairs.

METAL ADAPTERS FOR BRUSHES WITH 1-1/4" ARBOR HOLE

For use with Osborn wheel brushes. Slip fit adapter.

Adapter Fits AH	Arbor Hole	Item No.
1-1/4	1/4	75046
1-1/4	3/8	75047
1-1/4	1/2	75048
1-1/4	5/8	75049
1-1/4	3/4	75050
1-1/4	7/8	75051
1-1/4	1	75052



Used in pairs.

CENTERING BUSHINGS FOR SMALL ID BRUSHES

Adapter Fits AH	Bushing AH	Item No.
3/8	1/4	75058
1/2	1/4	75059
1/2	3/8	75060
5/8	1/4	75063
5/8	3/8	75062
5/8	1/2	75061
1	1/2	75141
1-1/4	1/2	75135
1-1/4	5/8	75136
1-1/4	3/4	75137
1-1/4	7/8	75138
1-1/4	1	75139



Use only one.

ATB™ Disc Brushes

These brushes are perfect for many applications in a variety of industries including automotive, woodworking, cutting tool, aircraft/aerospace, and general industrial use. And our adapters allow them to work easily with existing equipment. Osborn maintains our most popular configurations as standard stock items. A wide variety of specials can be made to order.



All Osborn ATB brushes are color coded for easy identification of the grit size.

ATB™ Color Coding System

60

80

120

180

240

320

500

600

1000

Special ATB Disc Brush Request Form

Territory

End User

Distributor

Contact Name

Address

City

State

Zip

Phone

Fax

E-Mail

Customer Drawing Available:

YES

NO

Date

Outer Diameter	Inner Diameter	Brush Style	Trim Length	Face Width
Fill Material	Grit	Fill Diameter	RPM	Fill Style

Brush Run in sets

YES

NO

If Yes, How many

Equipment Used:

Block Material

Arbor Hole

Drive Pin Location, Number & Size

Comp. to Stock Product #

Variation

Method now being used

Desc. if Competitor Brush

Price

Stock Brushes Tested

Result

Yearly Potential

Order Quantity

Application

Samples Needed

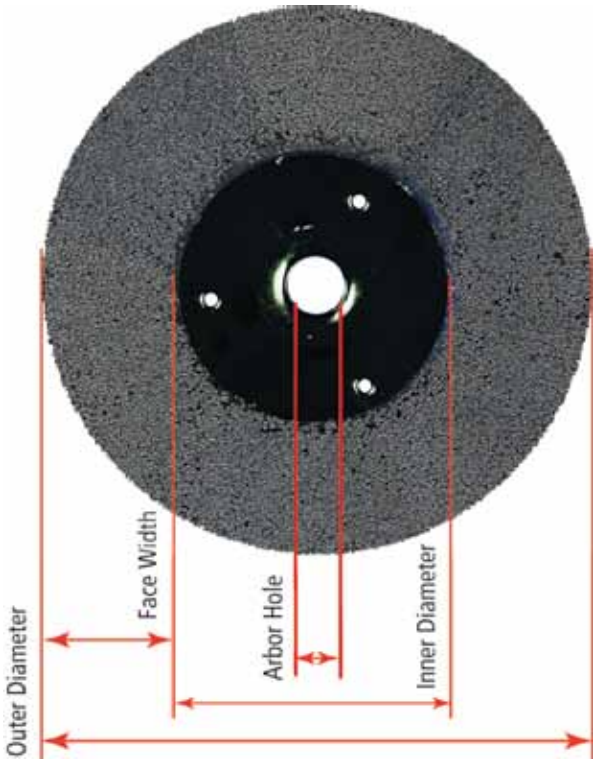
YES

NO

of Samples

Comments

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Cleveland OH 44114
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Fax: (216) 361-1913
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marketsupport@osborn.com





ATB™ UNI-LOK® BRUSHES

Osborn ATB disc brushes defined a new level of low cost, high quality metal finishing tools upon their introduction. As a result of ongoing advancements, ATB metal finishing tools continue to be the leading choice for in-machine deburring, edge radiusing and surface conditioning applications.

Osborn's new ATB Uni-Lok disc brushes are reliable, high-performance tools that produce consistent quality and cost effective results. These flexible, abrasive tools are selective in nature and preferentially deburr, radius corners and edges without changing critical dimensional tolerances.

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 standard. We also have the capability of providing customized products for a wide variety of applications.

NEW



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.

Typical applications: Engine Block Housing, Airframe Components, Gears after Machining/Grinding, Die Cast Parts after Machining, Cast Aluminum Automobile Wheels, Blending Tool Marks

NEW



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.

Typical applications: Aluminum Engine Housing, Engine Components, Fine Blanked Steel Parts, Pump Housings

NEW



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.

Typical applications: Saw Cut Aluminum Extrusions, Heat Sinks, Machined Parts, Powdered Metal Parts, Electronic Aluminum Housings, Stamped Parts, Fineblanked Steel Parts, Robotic Deburring

Brush Dia.	Grit	Filament Dia.	Fill Material	Trim Length	Filament Shape	Max RPM	Std Pk	Max Density Item No.	Turbo Item No.	Tufmatic Item No.	Adapter
3	80	45x90	Silicon Carbide	1-1/2	Rectangular	4500	1	47020	47080		47200
3	80	.040	Silicon Carbide	1-1/2	Round Crimped	4500	1	47021	47081		
3	120	.028	Silicon Carbide	1-1/2	Round Crimped	4500	1	47022	47082		
3	120	.040	Silicon Carbide	1-1/2	Round Crimped	4500	1	47023	47083		
3	180	.035	Silicon Carbide	1-1/2	Round Crimped	4500	1	47024	47084		
3	320	.022	Silicon Carbide	1-1/2	Round Crimped	4500	1	47025	47085		
4	80	45x90	Silicon Carbide	1-1/2	Rectangular	3500	1	47026	47086		
4	80	.040	Silicon Carbide	1-1/2	Round Crimped	3500	1	47027	47087		
4	120	.028	Silicon Carbide	1-1/2	Round Crimped	3500	1	47028	47088		
4	120	.040	Silicon Carbide	1-1/2	Round Crimped	3500	1	47029	47089		
4	180	.035	Silicon Carbide	1-1/2	Round Crimped	3500	1	47030	47090		
4	320	.022	Silicon Carbide	1-1/2	Round Crimped	3500	1	47031	47091		
5	80	45x90	Silicon Carbide	1-1/2	Rectangular	3000	1	47032	47092		
5	80	.040	Silicon Carbide	1-1/2	Round Crimped	3000	1	47033	47093		
5	120	.028	Silicon Carbide	1-1/2	Round Crimped	3000	1	47034	47094		
5	120	.040	Silicon Carbide	1-1/2	Round Crimped	3000	1	47035	47095		
5	180	.035	Silicon Carbide	1-1/2	Round Crimped	3000	1	47036	47096		
5	320	.022	Silicon Carbide	1-1/2	Round Crimped	3000	1	47037	47097		
6	80	45x90	Silicon Carbide	1-1/2	Rectangular	2500	1	47038	47098		47201
6	80	.040	Silicon Carbide	1-1/2	Round Crimped	2500	1	47039	47099	47159	
6	120	.028	Silicon Carbide	1-1/2	Round Crimped	2500	1	47040	47100	47161*	
6	120	.040	Silicon Carbide	1-1/2	Round Crimped	2500	1	47041	47101	47160	
6	180	.035	Silicon Carbide	1-1/2	Round Crimped	2500	1	47042	47102		
6	320	.022	Silicon Carbide	1-1/2	Round Crimped	2500	1	47043	47103	47163	
7	80	45x90	Silicon Carbide	1-1/2	Rectangular	2000	1	47044	47104		
7	80	.040	Silicon Carbide	1-1/2	Round Crimped	2000	1	47045	47105		
7	120	.028	Silicon Carbide	1-1/2	Round Crimped	2000	1	47046	47106		
7	120	.040	Silicon Carbide	1-1/2	Round Crimped	2000	1	47047	47107		
7	180	.035	Silicon Carbide	1-1/2	Round Crimped	2000	1	47048	47108		47202
7	320	.022	Silicon Carbide	1-1/2	Round Crimped	2000	1	47049	47109		
8	80	45x90	Silicon Carbide	1-1/2	Rectangular	1800	1	47050	47110		
8	80	.040	Silicon Carbide	1-1/2	Round Crimped	1800	1	47051	47111	47171	
8	120	.028	Silicon Carbide	1-1/2	Round Crimped	1800	1	47052	47112	47173*	
8	120	.040	Silicon Carbide	1-1/2	Round Crimped	1800	1	47053	47113	47172	
8	180	.035	Silicon Carbide	1-1/2	Round Crimped	1800	1	47054	47114		
8	320	.022	Silicon Carbide	1-1/2	Round Crimped	1800	1	47055	47115	47175	
9	80	45x90	Silicon Carbide	1-1/2	Rectangular	1500	1	47056	47116		
9	80	.040	Silicon Carbide	1-1/2	Round Crimped	1500	1	47057	47117		
9	120	.028	Silicon Carbide	1-1/2	Round Crimped	1500	1	47058	47118		47203
9	120	.040	Silicon Carbide	1-1/2	Round Crimped	1500	1	47059	47119		
9	180	.035	Silicon Carbide	1-1/2	Round Crimped	1500	1	47060	47120		
9	320	.022	Silicon Carbide	1-1/2	Round Crimped	1500	1	47061	47121		
10	80	45x90	Silicon Carbide	1-1/2	Rectangular	1500	1	47062	47122		
10	80	.040	Silicon Carbide	1-1/2	Round Crimped	1500	1	47063	47123	47183	
10	120	.028	Silicon Carbide	1-1/2	Round Crimped	1500	1	47064	47124	47185*	
10	120	.040	Silicon Carbide	1-1/2	Round Crimped	1500	1	47065	47125	47184	
10	180	.035	Silicon Carbide	1-1/2	Round Crimped	1500	1	47066	47126		
10	320	.022	Silicon Carbide	1-1/2	Round Crimped	1500	1	47067	47127	47187	
12	80	45x90	Silicon Carbide	1-1/2	Rectangular	1340	1	47068	47128		
12	80	.040	Silicon Carbide	1-1/2	Round Crimped	1340	1	47069	47129		
12	120	.028	Silicon Carbide	1-1/2	Round Crimped	1340	1	47070	47130		
12	120	.040	Silicon Carbide	1-1/2	Round Crimped	1340	1	47071	47131		
12	180	.035	Silicon Carbide	1-1/2	Round Crimped	1340	1	47072	47132		
12	320	.022	Silicon Carbide	1-1/2	Round Crimped	1340	1	47073	47133		
14	80	45x90	Silicon Carbide	1-1/2	Rectangular	1200	1	47074	47134		
14	80	.040	Silicon Carbide	1-1/2	Round Crimped	1200	1	47075	47135		
14	120	.028	Silicon Carbide	1-1/2	Round Crimped	1200	1	47076	47136		
14	120	.040	Silicon Carbide	1-1/2	Round Crimped	1200	1	47077	47137		
14	180	.035	Silicon Carbide	1-1/2	Round Crimped	1200	1	47078	47138		
14	320	.022	Silicon Carbide	1-1/2	Round Crimped	1200	1	47079	47139		

* Straight Filaments

ATB Uni-Lok® QUICK CHANGE BRUSHES

The Uni-Lok Quick Change tool is engineered to deliver maximum aggression in a small package. The Uni-Lok Quick Change disc brush is one complete unit and is ready for production right out of the box. These tools are designed for use in CNC machining centers, fully automatic machinery and robot cells.

Applications: Deburring and Edge Radiusing Space Restricted and Recessed Areas



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

Brush Dia.	Grit	Fill Dia.	Arbor Hole	Trim Length	Fill Style	Max RPM	Std Pk	Item No.
1-1/2	80	45 x 90	1/4" Stem	1-3/8"	Rectangular	4500	1	47250
1-1/2	80	0.040	1/4" Stem	1-3/8"	Round Crimped	4500	1	47251
1-1/2	120	0.040	1/4" Stem	1-3/8"	Round Crimped	4500	1	47252
1-1/2	120	0.028	1/4" Stem	1-3/8"	Straight	4500	1	47253
1-1/2	320	0.022	1/4" Stem	1-3/8"	Round Crimped	4500	1	47254
2	80	45 x 90	1/4" Stem	1-3/8"	Rectangular	4500	1	47255
2	80	0.040	1/4" Stem	1-3/8"	Round Crimped	4500	1	47256
2	120	0.040	1/4" Stem	1-3/8"	Round Crimped	4500	1	47257
2	120	0.028	1/4" Stem	1-3/8"	Straight	4500	1	47258
2	320	0.022	1/4" Stem	1-3/8"	Round Crimped	4500	1	47259
2-1/2	80	45 x 90	1/4" Stem	1-3/8"	Rectangular	4500	1	47260
2-1/2	80	0.040	1/4" Stem	1-3/8"	Round Crimped	4500	1	47261
2-1/2	120	0.040	1/4" Stem	1-3/8"	Round Crimped	4500	1	47262
2-1/2	120	0.028	1/4" Stem	1-3/8"	Straight	4500	1	47263
2-1/2	320	0.022	1/4" Stem	1-3/8"	Round Crimped	4500	1	47264

ATB Uni-Lok® DISC BRUSH DRIVE ARBORS

The Uni-Lok drive arbor allows coolant to flow-through and features a single point fastening system for quick and easy changeover.



Brush Dia.	Drive Hole Size & Location	Backing Plate Dia.	Item No.
3", 4" & 5"	(2) 1/4" Dia. on 1-1/4" bolt circle	3"	47200
6" & 7"	(3) 1/4" Dia. on 3" bolt circle	6"	47201
8" & 9"	(4) 1/4" Dia. on 3" bolt circle	8"	47202
10", 12" & 14"	(4) 1/4" Dia. on a 1-5/8" bolt circle	10"	47203
Replacement Coolant Flow-through Kit			47206

Features a standard 3/4" shaft, 2-1/2" long, with 7/8" diameter shoulder spindle.



Replacement Flow-through Kit

ATB BRIDLES

These bridles work with Osborn's ATB Composite Disc brushes to significantly reduce flare. They improve the aggressiveness of the brush for use on heavy-duty applications. Not for use on ATB turbo discs.



Brush Size	Bridle Size Chart					
	Compression	Cross Section	Bridle I.D.	Bridle O.D.	Bridle O.D. on brush	Osborn Part Number
1.50	0.38	0.13	1.13	1.38	1.66	47148
2.00	0.50	0.19	1.50	1.88	2.25	47140
2.50	0.50	0.19	2.00	2.38	2.75	47141
3.00	0.75	0.19	2.25	2.63	3.13	47142
4.00	0.75	0.19	3.25	3.63	4.20	47143
5.00	1.00	0.19	4.00	4.38	5.20	47144
6.00	1.00	0.25	5.00	5.50	6.30	47145
7.00	1.00	0.25	6.00	6.50	7.25	47146
8.00	1.00	0.25	7.00	7.50	8.38	47147

Bridles come in packs of three. For more information and directions, please contact Osborn at marketsupport@osborn.com.

ATB TUFMATIC™ BRUSHES

Osborn's Uni-Lok 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 brushes are designed to be compatible with end deburring machines and stationary finishing machines.

Brush Dia.	Grit	Fill Dia.	Fill Shape	Trim Length	Arbor Hole	Block Height	Max RPM	Item No.
6	80	0.040	Crimped	1	7/8	3/4	3000	47159
6	120	0.040	Crimped	1	7/8	3/4	3000	47160
6	120	0.028	Straight	1	7/8	3/4	3000	47161
6	320	0.022	Crimped	1	7/8	3/4	3000	47163
8	80	0.040	Crimped	1	7/8	3/4	3000	47171
8	120	0.040	Crimped	1	7/8	3/4	3000	47172
8	120	0.028	Straight	1	7/8	3/4	3000	47173
8	320	0.022	Crimped	1	7/8	3/4	3000	47175
10	80	0.040	Crimped	1	7/8	3/4	1500	47183
10	120	0.040	Crimped	1	7/8	3/4	3000	47184
10	120	0.028	Straight	1	7/8	3/4	3000	47185
10	320	0.022	Crimped	1	7/8	3/4	3000	47187
12	80	0.040	Crimped	1	7/8	3/4	1500	47189
12	120	0.040	Crimped	1	7/8	3/4	1500	47190
12	120	0.028	Straight	1	7/8	3/4	1500	47191
12	320	0.022	Crimped	1	7/8	3/4	1500	47193
14	80	0.040	Crimped	1	7/8	3/4	1500	47195
14	120	0.040	Crimped	1	7/8	3/4	1500	47196
14	120	0.028	Straight	1	7/8	3/4	1500	47197
14	320	0.022	Crimped	1	7/8	3/4	1500	47199

Applications: Machined Parts, Powdered Metal Parts, Electronic Aluminum Housings, Stamped Parts, Fineblanked Steel Parts, CNC Machine Center Deburring, Robotic Deburring



ATB ALUMINUM WHEEL FINISHING DISC BRUSHES

A multi-directional deburring tool with long trim length, this flexible brush reaches the crevices located in multi-level planes on aluminum wheels. ATB composite discs can easily be tailored to meet the specifications of your equipment. Simple to operate, the brush is rotated in both clockwise and counterclockwise directions while the wheel is held stationary. Cycle time is approximately 15 seconds in each direction.

Brush Dia.	Grit	Filament Dia.	Fill Material	Arbor Hole	Trim Length	Filament Shape	Max RPM	Std Pk	Item No.
15	120	100 x 170	Silicon Carbide	4-1/2	8-1/2	Rectangular	600	1	40263



Benefits

- Consistent results
- Uniform edge radius
- Shorter cycle time – the process is automated
- Longer life compared to other brush styles
- Ease of use – the brush is customized to fit your machine
- Improved safety
- Less inventory required– same brush can be used on the same size wheels with different aluminum wheel designs

ATB Composite Disc for deburring Aluminum Wheels can easily be customized to fit your machine. Contact us for a free consultation with an Osborn Regional Sales Manager and Application Engineer. They can show you how our technical expertise and high performance products can save you time and money.

ATB FINEBLANKING BRUSHES

ATB Fineblanking brushes are specially designed for today's stationary finishing machines.

Applications: Machine Surfaces, Stamping, Deburring Fineblanked Steel Parts, Radius Fineblanked Steel Parts, Cut Ends of Aluminium Extrusions and Powdered Metal Components

NEW



Brush Dia.	Grit	Fill Dia.	Arbor Hole (mm)	Trim Length (mm)	Block	Fill Shape	Max RPM	Std Pk	Item No.
6	46	0.063	25	25	1	Crimped	3000	16	40335
6	60	0.050	25	25	1	Crimped	3000	16	40336
6	60	0.050	25	36	1	Crimped	3000	12	40327
6	80	0.050	25	28	1	Crimped	3000	16	40339
6	80	0.050	25	36	1	Crimped	3000	12	40328
6	120	0.040	25	25	1	Crimped	3000	16	40341
6	120	0.040	25	36	1	Crimped	3000	12	40329
6	180	0.035	25	25	1	Crimped	3000	16	40325
6	180	0.035	25	36	1	Crimped	3000	12	40330
6	320	0.022	25	25	1	Crimped	3000	16	40326
6	320	0.022	25	36	1	Crimped	3000	12	40331

ATB Fineblanking brushes offer a variety of benefits for your application:

- Higher filament density than standard staple set product
- Fits all European stationary finishing machines including Niederberger, Volbhag and Peter Wolters
- Longer brush life
- Faster cycle times
- Wide range of filament grit sizes and fill densities available



ATB™ Cup/End BRUSHES

Heavily filled with round nylon filaments. Filaments are impregnated with Silicon Carbide or Aluminum Oxide grit. Ideal for surface finishing and deburring.



ATB™ Color Coding System

All Osborn ATB brushes are color coded for easy identification of the grit size.

60 80 120 180 240 320 500 600 1000

ATB Cup Brushes - Round Trim

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 Dia.	Grit	Threaded Arbor Hole	Fill Material	Trim Length	Max RPM	Std Pk	Item No.
4	80	5/8-11 NC	Silicon Carbide	1-1/2	6000	1	32137
4	120	5/8-11 NC	Silicon Carbide	1-1/2	6000	1	32125
4	320	5/8-11 NC	Silicon Carbide	1-1/2	6000	1	32127
6	80	5/8-11 NC	Silicon Carbide	1-1/2	6000	1	32138
6	120	5/8-11 NC	Silicon Carbide	1-1/2	6000	1	32131
6	320	5/8-11 NC	Silicon Carbide	1-1/2	6000	1	32133



ATB Cup Brushes - Flat Trim

Brush Dia.	Grit	Threaded Arbor Hole	Fill Material	Trim Length	Max RPM	Std Pk	Item No.
4	80	5/8-11 NC	Silicon Carbide	1-1/2	7000	1	32148*
4	120	5/8-11 NC	Aluminum Oxide	1-1/2	7000	1	32149*
6	80	5/8-11 NC	Silicon Carbide	2	7000	1	32132



* Bridled

ATB Round Trim Cup Brushes - Reduced Flare

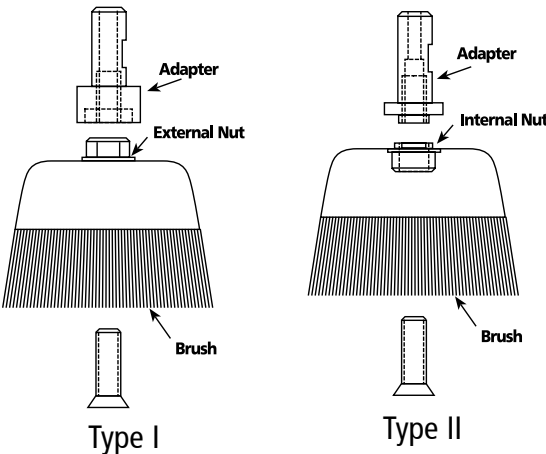
Brush Dia.	Grit	Shank Dia.	Fill Material	Trim Length	Max RPM	Std Pk	Item No.
2-1/2	80	1/4	Silicon Carbide	1	5000	6	32146



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

CNC Adapters for ATB Cup Brushes

Description		Item No.
TYPE II 5/8-11 ADAPTER	HEAVY DUTY	75074
TYPE II 5/8-11 ADAPTER		75075
TYPE II M14 OR 1/2-13 ADAPTER		75076
TYPE I 5/8-11 ADAPTER		75078
TYPE I 5/8-11 ADAPTER	HEAVY DUTY	75079
TYPE II M10 OR 3/8-11 ADAPTER		75084
TYPE I M14 OR 1/2-13 ADAPTER	HEAVY DUTY	75085
TYPE I M10 OR 3/8-24 ADAPTER	HEAVY DUTY	75096
TYPE I M14 OR 1/2-13 ADAPTER		75097
TYPE I M10 OR 3/8-24 ADAPTER		75098



Special ATB Cup Brush Request Form



OSBORN

JACKSONLEA

5401 Hamilton Ave.
Cleveland OH 44114
Phone: (800) 720-3358 (216) 361-1900
Fax: (216) 361-1913
www.osborn.com
marketsupport@osborn.com

Comments

Equipment Used:

Metal Components:

Comp. to Stock Product #

Desc. if Competitor Brush

Stock Brushes Tested

Yearly Potential

Application

Samples Needed

YES

NO

of Samples

Variation

Price

Result

Order Quantity

Fill Density:

Method now being used

Customer Drawing Available:

YES

NO

Date

Outer Diameter

Arbor Hole

Trim Length

Arbor Type

Fill Material

Grit

Fill Diameter

RPM

Fill Style

End User

Distributor

Contact Name

Address

City

State

Zip

Phone

Fax

E-Mail

Territory

ATB™ END BRUSHES

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, as in CNC and robotic use. Automated in-process deburring is easy with ATB end brushes; simply use the same paths as the cutting tools, adjusted for proper penetration.

ATB END BRUSHES

Ideal for cleaning and finishing inside diameters, spot facing and recessed areas. Recommended for operations where balance is critical, as in CNC and robotic use. They can also be used on portable air and electric tools. The same style is also available from stock in steel, stainless steel and other metallic and non-metallic fills.

Brush Dia.	Grit	Brush Area Length	Overall Length	Fill Material	Shank Dia.	Trim Length	Max RPM	Std Pk	Item No.
1/2	120	1	2-3/4	Silicon Carbide	1/4	1	9000	12	30285
1/2	320	1	2-3/4	Silicon Carbide	1/4	1	9000	12	30287
1	120	1	2-3/4	Silicon Carbide	1/4	1	9000	12	30293
1	320	1	2-3/4	Silicon Carbide	1/4	1	9000	12	30295



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

U.S. Patent # 5464275, 5755003

ATB END BRUSHES WITH BRIDLE

Removable plastic bridle keeps filaments from flaring.

Applications: Cleaning & Finishing I.D., Spot Facing, Brushing Recessed Areas

Brush Dia.	Grit	Brush Area Length	Overall Length	Fill Material	Shank Diameter	Trim Length	Max RPM	Std Pk	Item No.
1/2	80	1	2-3/4	Silicon Carbide	1/4	1	9000	12	30296
1/2	120	1	2-3/4	Silicon Carbide	1/4	1	9000	12	30299
3/4	80	1	2-3/4	Silicon Carbide	1/4	1	9000	12	30297
3/4	120	1	2-3/4	Silicon Carbide	1/4	1	9000	12	30300
1	80	1	2-3/4	Silicon Carbide	1/4	1	9000	12	30298
1	120	1	2-3/4	Silicon Carbide	1/4	1	9000	12	30301

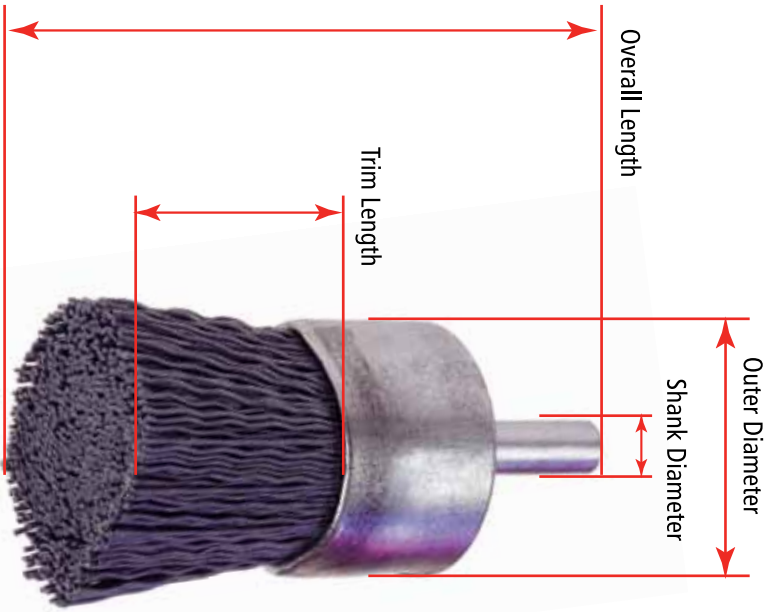


Note: As a safety precaution, shank must be fully inserted into the chuck or collet and tightened securely.

U.S. Patent # 5464275, 5755003

OE 0407 208

Special ATB End Brush Request Form



Comments



5401 Hamilton Ave.
Cleveland OH 44114
Phone: (800) 720-3358 (216) 361-1900
Fax: (216) 361-1913
www.osborn.com
marketsupport@osborn.com

Equipment Used:

Metal Components:

Comp. to Stock Product #

Variation

Method now being used

Desc. if Competitor Brush

Stock Brushes Tested

Result

Yearly Potential

Order Quantity

Application

Samples Needed YES ☐ NO ☐ # of Samples

Territory

End User

Distributor

Contact Name

Address

City

State

Zip

Phone

Fax

E-Mail

Customer Drawing Available:

YES ☐

NO ☐

Date

Trim Length

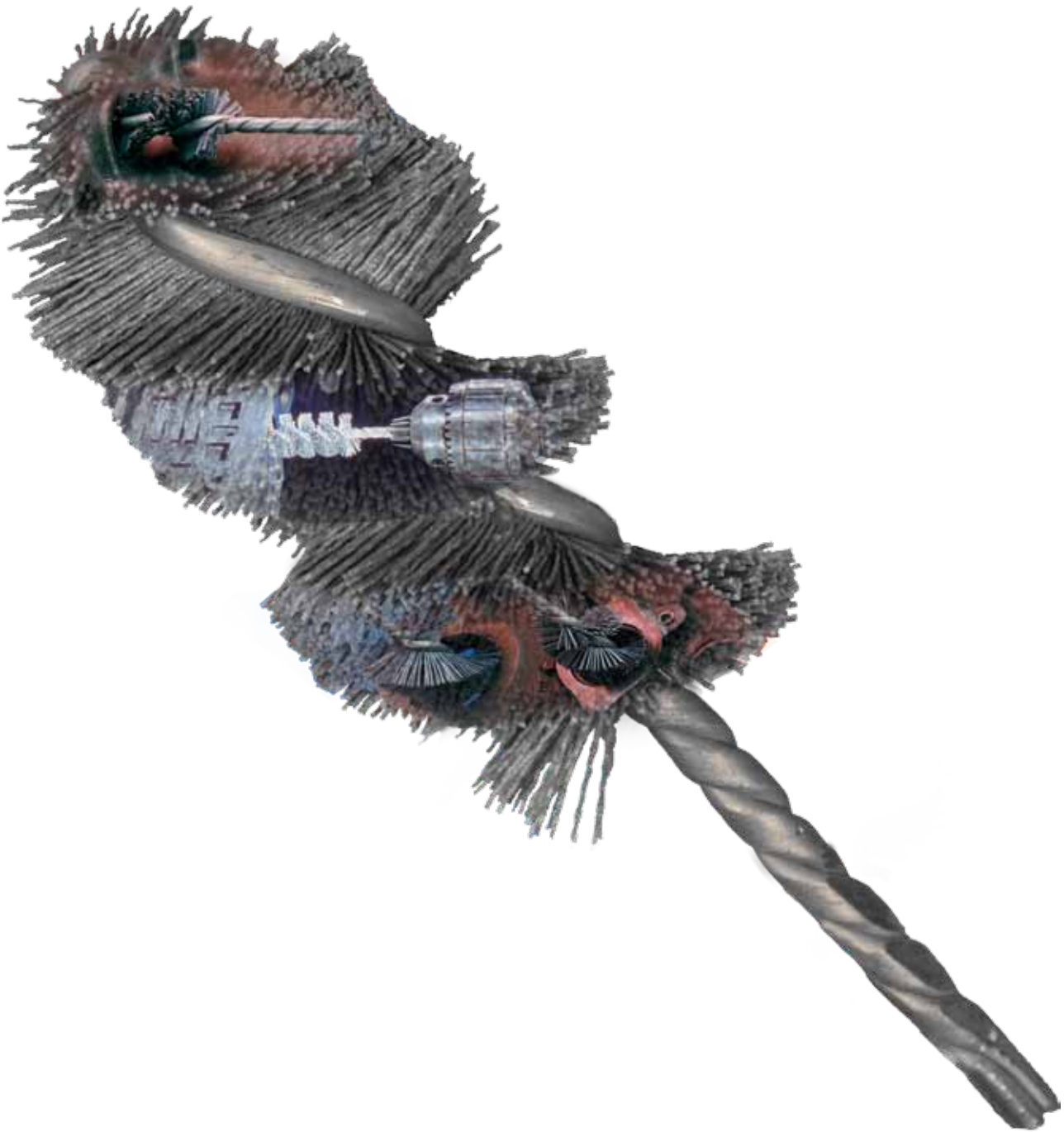
Overall Length

Outer Diameter

Shank Diameter

ATB™ INTERNAL BRUSHES

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



All Osborn ATB brushes are color coded for easy identification of the grit size.

ATB™ Color Coding System

60

80

120

180

240

320

500

600

1000

Special ATB Internal Brush Request Form

End User
Territory

Distributor

Contact Name

Address

City
State
Zip

Phone
Fax

E-Mail

Customer Drawing Available: YES NO Date

Outer Diameter	Stem Diameter	Overall Length	Brush Area Length	Stem Style
Fill Material	Grit	Brush Style	RPM	Fill Style

Stem Adapter: Fill Diameter

Equipment Used:

Metal Components: Fill Density:

Comp. to Stock Product # Variation

Method now being used

Desc. if Competitor Brush Price

Stock Brushes Tested Result

Yearly Potential Order Quantity

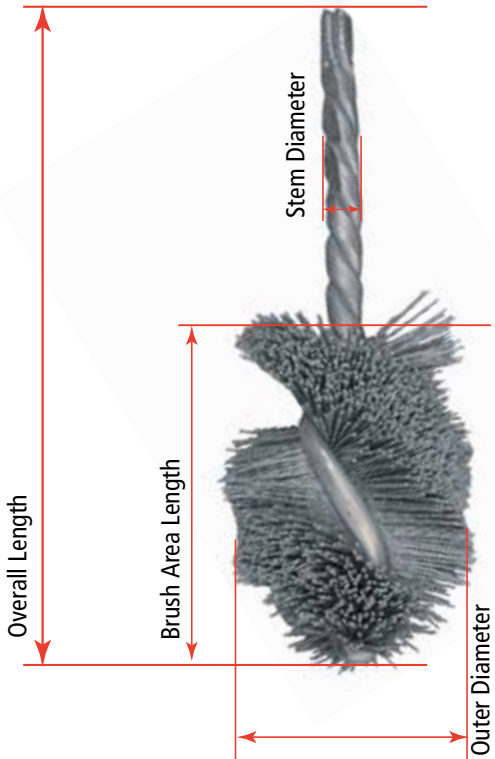
Application

Samples Needed YES NO # of Samples

Comments

5401 Hamilton Ave.
Cleveland OH 44114
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Fax: (216) 361-1913
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marketsupport@osborn.com

OSBORN
JACKSONLEA



Impregnated with durable Silicon Carbide to provide a highly efficient cleaning action on the surface. Designed for long life. Helituf brushes should be used only with suitable holders and fully chucked.



Brush Dia.	Grit	Fill Dia.	Brush Area Length	Overall Length	Fill Material	Stem Dia.	Std Pk	Item No.
3/8	120	0.028	1	3-1/2	Silicon Carbide	1/8	12	36250
3/8	120	0.040	1	3-1/2	Silicon Carbide	1/8	12	36256
1/2	120	0.028	1	3-1/2	Silicon Carbide	1/8	12	36251
1/2	120	0.040	1	3-1/2	Silicon Carbide	1/8	12	36257
5/8	120	0.028	1	3-1/2	Silicon Carbide	1/8	12	36252
5/8	120	0.040	1	3-1/2	Silicon Carbide	1/8	12	36258
3/4	120	0.028	1	3-1/2	Silicon Carbide	1/8	12	36253
3/4	120	0.040	1	3-1/2	Silicon Carbide	1/8	12	36259
1	120	0.028	1	3-1/2	Silicon Carbide	1/8	12	36254
1	120	0.040	1	3-1/2	Silicon Carbide	1/8	12	36260
1-1/4	120	0.028	1	3-1/2	Silicon Carbide	1/8	12	36255
1-1/4	120	0.040	1	3-1/2	Silicon Carbide	1/8	12	36261

U.S. Patent # 5609398, 5599225

HELITUF HOLDERS

The holders can be used individually or together to form approximately an 8-1/2" long brush. One end is threaded and the other has a tapered hole. 75003 is externally threaded while 75004 is internally threaded allowing both extension holders to be used together.



Diameter	Overall Length	Item No.
3/16	3-5/8	75003
1/4	3-5/8	75004

ATB SITUFT™ INTERNAL BRUSHES

Impregnated with Silicon Carbide for aggressive and efficient abrasive action across a range of internal cleaning or finishing operations. SITUFT brushes should be used only with suitable holders.

Applications: Cleaning Threads, Drilled Holes and Tubes Where Space is Limited



Brush Dia.	Grit	Fill Dia.	Brush Area Length	Overall Length	Fill Material	Stem Dia.	Std Pk	Item No.
3/8	120	0.028	1	3-1/2	Silicon Carbide	1/8	12	35500
3/8	120	0.040	1	3-1/2	Silicon Carbide	1/8	12	35506
1/2	120	0.028	1	3-1/2	Silicon Carbide	1/8	12	35501
1/2	120	0.040	1	3-1/2	Silicon Carbide	1/8	12	35507
5/8	120	0.028	1	3-1/2	Silicon Carbide	1/8	12	35502
5/8	120	0.040	1	3-1/2	Silicon Carbide	1/8	12	35508
3/4	120	0.028	1	3-1/2	Silicon Carbide	1/8	12	35503
3/4	120	0.040	1	3-1/2	Silicon Carbide	1/8	12	35509
1	120	0.028	1	3-1/2	Silicon Carbide	1/8	12	35504
1	120	0.040	1	3-1/2	Silicon Carbide	1/8	12	35510
1-1/4	120	0.028	1	3-1/2	Silicon Carbide	1/8	12	35505
1-1/4	120	0.040	1	3-1/2	Silicon Carbide	1/8	12	35511

SITUFT™ HOLDERS

Holder 75005 has a 1/4" outer diameter and is 3-3/8" long, with socket setscrew, and wrench, to be used with 3/32" stem. Holder 75006 has a 3/8" outer diameter, with 1/4" shank and is 3-3/8" long with socket setscrew and wrench, to be used with 1/8" stem.

Diameter	Overall Length	Item No.
1/4	3-3/8	75005
3/8	3-3/8	75006



EXTENSION HOLDERS FOR ATB ABRASIVE BRUSH TOOLS

Increase the overall length of Osborn ATB Internal finishing tools. Note: The 1/4" size can be used with Osborn tools having a 1/4" shank.

Overall Length	Stem Dia.	Item No.
6	1/4	75485
12	1/4	75486
16	3/8	75487
16	1/2	75488



ATB TUBE BRUSHES

Made with abrasive grit to provide extra cutting and cleaning action for a variety of applications. Can be used as a hand tool or mounted onto a portable or stationary tool.

Applications: Internal Cleaning, Removal of Small Imperfections, Surface Preparation

Brush Dia.	Grit	Brush Area Length	Overall Length	Fill Material	Stem Dia.	Std Pk	Item No.
3/8	80	2	5	Silicon Carbide	0.187	12	56010
1/2	80	2	5	Silicon Carbide	0.187	12	56011
5/8	80	2	5	Silicon Carbide	0.208	12	56012
5/8	120	2	5	Silicon Carbide	0.208	12	56312
3/4	80	2-1/2	5	Silicon Carbide	0.168	12	56013
1	80	2-1/2	5-1/2	Silicon Carbide	0.238	12	56015
1	120	2-1/2	5-1/2	Silicon Carbide	0.208	12	56315
1-1/4	80	2-1/2	5-1/2	Silicon Carbide	0.238	12	56016
1-1/4	120	2-1/2	5-1/2	Silicon Carbide	0.238	12	56316



ATB HEAVY DUTY INTERNAL DEBURRING TOOLS

The helical brush shape and flexible crimped filaments allow the brush to work in both rotational directions with excellent part conformability. Higher filament concentration for: Heavy Deburring, Minimum Cycle Time, Stainless Steel / Hardened Alloys.

Applications: Cross hole deburring, Edge blending, Edge radiusing, Cam bores, Crankcase bores, 2 Stroke engines, Valve bodies, Pistons, Cleaning threads, Pipe IDs



Brush Dia.	Grit	Brush Area Length	Overall Length	Fill Material	Filament Shape	Stem Dia.	Std Pk	Item No.
1	80	2	4-7/8	Silicon Carbide	Round Crimped	1/4	1	36650
1	120	2	4-7/8	Silicon Carbide	Round Crimped	1/4	1	36651
1-1/4	80	2	4-7/8	Silicon Carbide	Round Crimped	1/4	1	36652
1-1/4	120	2	4-7/8	Silicon Carbide	Round Crimped	1/4	1	36653
1-1/2	80	2-1/2	6-1/4	Silicon Carbide	Round Crimped	3/8	1	36654
1-1/2	120	2-1/2	6-1/4	Silicon Carbide	Round Crimped	3/8	1	36655
1-3/4	80	3	6-1/4	Silicon Carbide	Round Crimped	3/8	1	36656
1-3/4	120	3	6-1/4	Silicon Carbide	Round Crimped	3/8	1	36657
2	80	3	6-1/4	Silicon Carbide	Round Crimped	3/8	1	36658
2	120	3	6-1/4	Silicon Carbide	Round Crimped	3/8	1	36659
2-1/4	80	3	6-1/4	Silicon Carbide	Round Crimped	3/8	1	36660
2-1/4	120	3	6-1/4	Silicon Carbide	Round Crimped	3/8	1	36661
2-1/2	80	3	6-1/4	Silicon Carbide	Round Crimped	3/8	1	36662
2-1/2	120	3	6-1/4	Silicon Carbide	Round Crimped	3/8	1	36663
3	80	3	9	Silicon Carbide	Round Crimped	1/2	2	36664
3	120	3	9	Silicon Carbide	Round Crimped	1/2	2	36665
3-1/2	80	3	9	Silicon Carbide	Round Crimped	1/2	6	36666
3-1/2	120	3	9	Silicon Carbide	Round Crimped	1/2	6	36667
4	80	4	9	Silicon Carbide	Round Crimped	1/2	2	36668
4	120	4	9	Silicon Carbide	Round Crimped	1/2	2	36669

Operating suggestions:

- Can be used dry or wet
- Chuck brush tool at the stem as close to the filaments as the application will allow
- If extension is required, support the brush by plunging the brush into the bore in the static position and stop the brush prior to exiting the bore
- Run the brush tool in both directions with a complete stroke cycle
- Operational speeds between 600 and 1800 RPM

The high filament concentration and substantial stem make this brush tool ideal for use in semi-automatic and fully automatic machinery, CNC and robotics. The stem comes standard with three flats for use in a standard drill chuck.

Heavy Duty Internals can be customized with adapters. Options include – Threaded shank or straight shank with flat.



ATB RECTANGULAR FILAMENT INTERNAL BRUSHES - ALUMINUM OXIDE

Features rectangular nylon strips impregnated with tough Aluminum Oxide which provides a highly efficient side-swiping action across the surface. The Aluminum Oxide ensures a superior finish and prolonged brush life. The Industrial and Hi-Flex tools are suitable for both rotational directions at operational speeds of approximately 600 to 1400 RPM. When increased flexibility is required, we recommend Hi-Flex tools with 50% less fill material than the industrial.

Applications: Deburring and ID Work on Cylinders, Camshaft Bores, and Valve Bodies

Brush Dia.	Grit	Overall Length	Face Width	Stem Dia.	Std Pk	Industrial Item No.	Hi-Flex Item No.
5/8	120	3-1/2	7/8	1/8	12	36300	
5/8	320	3-1/2	7/8	1/8	12	36301	
1	120	3-5/8	7/8	1/8	12	36302	
1	320	3-5/8	7/8	1/8	12	36303	
1-1/2	120	4-7/8	2	1/4	12	36304	36350
1-1/2	320	4-7/8	2	1/4	12	36305	36351
2	120	4-3/4	2	1/4	12	36306	36352
2	320	4-3/4	2	1/4	12	36307	36353
2-1/2	120	6-1/2	3-1/2	3/8	12	36308	36354
2-1/2	320	6-1/2	3-1/2	3/8	12	36309	36355
3	120	6-1/4	4	3/8	12	36310	36356
3	320	6-1/4	4	3/8	12	36311	36357
3-1/2	120	6-5/8	4	3/8	12	36312	36358
3-1/2	320	6-5/8	4	3/8	12	36313	36359
4	120	6-3/4	4	3/8	12	36314	36360
4	320	6-3/4	4	3/8	12	36315	36361
4-1/2	120	6-1/2	4	3/8	6	36316	36362
4-1/2	320	6-1/2	4	3/8	6	36317	36363
5	120	9-3/4	5	3/8	6		36364
5	120	9-3/4	5	1/2	6	36318	
5	320	9-3/4	5	3/8	6		36365
5	320	9-3/4	5	1/2	6	36319	
5-1/2	120	10	5	3/8	6		36366
5-1/2	120	10	5	1/2	6	36320	
5-1/2	320	10	5	3/8	6		36367
5-1/2	320	10	5	1/2	6	36321	
6	120	9-3/4	6	3/8	1		36368
6	120	9-3/4	6	1/2	1	36322	
6	320	9-3/4	6	3/8	1		36369
6	320	9-3/4	6	1/2	1	36323	
7	120	9-1/4	6	3/8	1		36370
7	120	9-1/4	6	1/2	1	36324	
7	320	9-1/4	6	3/8	1		36371
7	320	9-1/4	6	1/2	1	36325	
8	120	9-3/4	6	3/8	1		36372
8	120	9-3/4	6	1/2	1	36326	
8	320	9-3/4	6	3/8	1		36373
8	320	9-3/4	6	1/2	1	36327	
9	120	9-1/4	6	1/2	1	36328	
9	320	9-1/4	6	1/2	1	36329	
10	120	9-7/8	6	1/2	1	36330	
10	320	9-7/8	6	1/2	1	36331	



U.S. Patent # 5329730, 5609398, 5599225

ATB RECTANGULAR FILAMENT INTERNAL BRUSHES = SILICON CARBIDE

Features tough nylon filaments packed with super-hard Silicon Carbide grit for more aggressive finishing and longer brush life. The extruded nylon monofilament has a flat, rectangular cross-section which brings twice as much of the Silicon Carbide grit in contact with the surface. The brushes are made larger than the nominal diameters to be finished, creating a highly efficient side-swiping action. Their helical brush shape and flexible filaments allow them to be used in both rotational directions for longer work life. These brushes can be used wet or dry at operational speeds of approximately 600 to 1400 RPM.

Applications: Automated or Manual Deburring, Honing, Edge Contouring, I.D. Work on Cylinders, Camshaft Bores, Valve Bodies, Pistons and Blocks



Brush Dia.	Grit	Fill Size	Brush Area Length	Fill Material	Stem Dia.	Std Pk	Item No.
1	320	30 x 70	2	Silicon Carbide	1/4	2	36394
1-1/4	320	30 x 70	2	Silicon Carbide	1/4	2	36395
1-1/2	320	30 x 70	2-1/2	Silicon Carbide	3/8	2	36396
1-3/4	320	30 x 70	2-1/2	Silicon Carbide	3/8	2	36397
2	320	30 x 70	3	Silicon Carbide	3/8	2	36398
2-1/4	320	30 x 70	3	Silicon Carbide	3/8	2	36399
2-1/2	320	30 x 70	3	Silicon Carbide	3/8	2	36400
3	320	45 x 90	3	Silicon Carbide	1/2	2	36408
3-1/2	320	45 x 90	3	Silicon Carbide	1/2	2	36409
4	320	45 x 90	4	Silicon Carbide	1/2	2	36403
4-1/2	320	45 x 90	4	Silicon Carbide	1/2	2	36404
5	320	45 x 90	5	Silicon Carbide	1/2	2	36405
5-1/2	320	45 x 90	5	Silicon Carbide	1/2	2	36406
6	320	45 x 90	6	Silicon Carbide	1/2	1	36407

U.S. Patent # 5329730, 5609398, 5599225

ATB RECTANGULAR FILAMENT INTERNAL BRUSHES = THERMO FORMED

Offer increased flexibility and are designed for rotation in one direction only at speeds of approximately 600 RPM. These tools are made approximately 20-25% larger than the listed outside diameter to ensure maximum abrasive contact with the work surface. They are also available in Silicon Carbide and other minerals and grit sizes. Special brush diameters, lengths and configurations will be made on request.

Applications: Pipe I.D., Pumps, Engines



Brush Dia.	Grit	Brush Area Length	Overall Length	Fill Material	Stem Dia.	Std Pk	Item No.
5/8	120	7/8	3-1/2	Aluminum Oxide	1/8	12	36450
5/8	320	7/8	3-1/2	Aluminum Oxide	1/8	12	36451
1	120	7/8	3-3/8	Aluminum Oxide	1/8	12	36452
1	320	7/8	3-3/8	Aluminum Oxide	1/8	12	36453
1-1/2	120	1-1/2	4-7/8	Aluminum Oxide	1/4	12	36454
1-1/2	320	1-1/2	4-7/8	Aluminum Oxide	1/4	12	36455
2	120	1-1/2	4-3/4	Aluminum Oxide	1/4	12	36456
2	320	1-1/2	4-3/4	Aluminum Oxide	1/4	12	36457
2-1/2	120	2	6-1/4	Aluminum Oxide	3/8	12	36458
2-1/2	320	2	6-1/4	Aluminum Oxide	3/8	12	36459
3	120	2	6-1/4	Aluminum Oxide	3/8	12	36460
3	320	2	6-1/4	Aluminum Oxide	3/8	12	36461

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 BRUSHES

Brush Dia.	Grit	Brush Area Length	Overall Length	Fill Material	Stem Dia.	For Hole Diameter			Std Pk	Item No.
						Fraction (in.)	Decimal (in.)	Decimal (mm)		
0.030	1000	1/2	4	Alumina Silicate	0.014	1/32	0.031	0.787	12	56400
0.050	500	1/2	4	Silicon Carbide	0.023	3/64	0.047	1.191	12	56404
0.050	1000	1/2	4	Alumina Silicate	0.023	3/64	0.047	1.191	12	56403
0.075	500	3/4	4	Silicon Carbide	0.035	1/16	0.063	1.588	12	56407
0.075	1000	3/4	4	Alumina Silicate	0.035	1/16	0.063	1.588	12	56406
0.090	320	3/4	4	Silicon Carbide	0.043	5/64	0.078	1.984	12	56073
0.090	500	3/4	4	Silicon Carbide	0.043	5/64	0.078	1.984	12	56410
0.090	1000	3/4	4	Alumina Silicate	0.043	5/64	0.078	1.984	12	56409
0.105	320	1	4	Silicon Carbide	0.046	3/32	0.094	2.381	12	56074
0.105	500	1	4	Silicon Carbide	0.046	3/32	0.094	2.381	12	56414
0.105	1000	1	4	Alumina Silicate	0.046	3/32	0.094	2.381	12	56412
0.125	320	1	4	Silicon Carbide	0.067	7/64	0.109	2.778	12	56075
0.125	500	1	4	Silicon Carbide	0.067	7/64	0.109	2.778	12	56417
0.125	1000	1	4	Alumina Silicate	0.067	7/64	0.109	2.778	12	56415
0.135	320	1	4	Silicon Carbide	0.067	1/8	0.125	3.175	12	56076
0.135	500	1	4	Silicon Carbide	0.067	1/8	0.125	3.175	12	56419
0.135	1000	1	4	Alumina Silicate	0.067	1/8	0.125	3.175	12	56418
0.165	320	1	5	Silicon Carbide	0.093	5/32	0.156	3.969	12	56077
0.165	500	1	5	Silicon Carbide	0.093	5/32	0.156	3.969	12	56426
0.165	600	1	5	Aluminum Oxide	0.093	5/32	0.156	3.969	12	56425
0.190	320	1	5	Silicon Carbide	0.093	3/16	0.188	4.763	12	56078
0.190	500	1	5	Silicon Carbide	0.093	3/16	0.188	4.763	12	56428
0.190	600	1	5	Aluminum Oxide	0.093	3/16	0.188	4.763	12	56427
0.260	320	1	5	Silicon Carbide	0.121	1/4	0.250	6.350	12	56079
0.260	500	1	5	Silicon Carbide	0.121	1/4	0.250	6.350	12	56430
0.260	600	1	5	Aluminum Oxide	0.121	1/4	0.250	6.350	12	56429
0.325	320	1	5	Silicon Carbide	0.121	5/16	0.313	7.938	12	56080
0.325	500	1	5	Silicon Carbide	0.121	5/16	0.313	7.938	12	56433
0.325	600	1	5	Aluminum Oxide	0.121	5/16	0.313	7.938	12	56432
0.385	320	1	5	Silicon Carbide	0.154	3/8	0.375	9.525	12	56081
0.385	500	1	5	Silicon Carbide	0.154	3/8	0.375	9.525	12	56437
0.385	600	1	5	Aluminum Oxide	0.154	3/8	0.375	9.525	12	56435
0.515	320	1	5	Silicon Carbide	0.175	1/2	0.500	12.700	12	56082
0.515	500	1	5	Silicon Carbide	0.175	1/2	0.500	12.700	12	56439
0.515	600	1	5	Aluminum Oxide	0.175	1/2	0.500	12.700	12	56438
0.640	320	1	5	Silicon Carbide	0.175	5/8	0.625	15.875	12	56083
0.640	500	1	5	Silicon Carbide	0.175	5/8	0.625	15.875	12	56442
0.640	600	1	5	Aluminum Oxide	0.175	5/8	0.625	15.875	12	56441
0.765	320	1	5	Silicon Carbide	0.228	3/4	0.750	19.050	12	56084
0.765	500	1	5	Silicon Carbide	0.228	3/4	0.750	19.050	12	56446
0.765	600	1	5	Aluminum Oxide	0.228	3/4	0.750	19.050	12	56444
0.890	320	1	5	Silicon Carbide	0.228	7/8	0.875	22.225	12	56085
0.890	500	1	5	Silicon Carbide	0.228	7/8	0.875	22.225	12	56448
0.890	600	1	5	Aluminum Oxide	0.228	7/8	0.875	22.225	12	56447
1.015	320	1	5	Silicon Carbide	0.255	1	1.000	25.400	12	56086
1.015	500	1	5	Silicon Carbide	0.255	1	1.000	25.400	12	56451
1.015	600	1	5	Aluminum Oxide	0.255	1	1.000	25.400	12	56450

Four types of brushes are available: 1000 grit very fine Silicate 600 grit Aluminum Oxide, 500 grit Silicon Carbide, and 320 grit Silicon Carbide.

Applications: Aircraft & Aerospace, Computer & Electronics, Medical Equipment, Hydraulic Fittings



ATB MICROABRASIVE BRUSH KITS

Applications: Aircraft & Aerospace, Computer and Electronics, Medical Equipment, Hydraulic Fittings

Grit	Fill Material	Std Pk	Item No.
500	Silicon Carbide	1	56396
500	Silicon Carbide	1	56423
600	Aluminum Oxide	1	56422
1000	Alumina Silicate	1	56395

Note: Please order the item number from the above table to receive the entire kit.

56396

Brush Dia.	Grit	Brush Area Length	Overall Length	Stem Dia.	Kit Contains Item No.
0.050	500	1/2	4	0.023	56404
0.075	500	3/4	4	0.035	56407
0.090	500	3/4	4	0.043	56410
0.105	500	1	4	0.046	56414
0.125	500	1	4	0.067	56417
0.135	500	1	4	0.067	56419

56422: 600 Grit, Aluminum Oxide Kit

Brush Dia.	Grit	Brush Area Length	Overall Length	Stem Dia.	Kit Contains Item No.
0.165	600	1	5	0.093	56425
0.190	600	1	5	0.093	56427
0.260	600	1	5	0.121	56429
0.325	600	1	5	0.121	56432
0.385	600	1	5	0.154	56435
0.515	600	1	5	0.175	56438
0.640	600	1	5	0.175	56441
0.765	600	1	5	0.228	56444
0.890	600	1	5	0.228	56447
1.015	600	1	5	0.255	56450

56423: 500 Grit, Silicon Carbide Kit

Brush Dia.	Grit	Brush Area Length	Overall Length	Stem Dia.	Kit Contains Item No.
0.165	500	1	5	0.093	56426
0.190	500	1	5	0.093	56428
0.260	500	1	5	0.121	56430
0.325	500	1	5	0.121	56433
0.385	500	1	5	0.154	56437
0.515	500	1	5	0.175	56439
0.640	500	1	5	0.175	56442
0.765	500	1	5	0.228	56446
0.890	500	1	5	0.228	56448
1.015	500	1	5	0.255	56451

56395: 1000 Grit, Alumina Silicate Kit

Brush Dia.	Grit	Brush Area Length	Overall Length	Stem Dia.	Kit Contains Item No.
0.030	1000	1/2	4	0.014	56400
0.050	1000	1/2	4	0.023	56403
0.075	1000	3/4	4	0.035	56406
0.090	1000	3/4	4	0.043	56409
0.105	1000	1	4	0.046	56412
0.125	1000	1	4	0.067	56415
0.135	1000	1	4	0.067	56418



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.

Applications: Aerospace, Aerosystems, Electronics, Molds, Textile, Optics, Medical Equipment, Hydraulics, Computers, Tool & Dies, Jewelry, Other Precision Industries

MINIATURE ATB WHEEL BRUSHES

Brush Dia.	Grit	Fill Material	Overall Length	Stem Dia.	Max RPM	Item No.
3/4	600	Aluminum Oxide	1-5/8	1/8	6000	75752
3/4	1000	Alumina Silicate	1-5/8	1/8	6000	75751
1	600	Aluminum Oxide	1-5/8	1/8	6000	75766
1	1000	Alumina Silicate	1-5/8	1/8	6000	75765
1-1/4	600	Aluminum Oxide	1-5/8	1/8	6000	75770
1-1/4	1000	Alumina Silicate	1-5/8	1/8	6000	75769
1-1/2	600	Aluminum Oxide	1-5/8	1/8	6000	75774
1-1/2	1000	Alumina Silicate	1-5/8	1/8	6000	75773



MINIATURE ATB CUP BRUSHES

Brush Dia.	Grit	Overall Length	Fill Material	Stem Dia.	Max RPM	Item No.
9/16	600	2-1/8	Aluminum Oxide	1/8	6000	75707
9/16	1000	2-1/8	Alumina Silicate	1/8	6000	75706



MINIATURE ATB END BRUSHES

Precision Miniature End styles are small diameter, light duty brushes.

Applications: Ideal for Edge and Surface Blending, Fine Deburring and Surface Finishing, Cleaning Small Holes and Crevices

Brush Dia.	Grit	Overall Length	Fill Material	Stem Dia.	Max RPM	Item No.
3/16	600	1-7/8	Aluminum Oxide	1/8	6000	75693
3/16	1000	1-7/8	Alumina Silicate	1/8	6000	75692
1/4	600	2-1/8	Aluminum Oxide	1/8	6000	75687
1/4	1000	2-1/8	Alumina Silicate	1/8	6000	75686
5/16	600	2-1/8	Aluminum Oxide	1/8	6000	75698
5/16	1000	2-1/8	Alumina Silicate	1/8	6000	75697



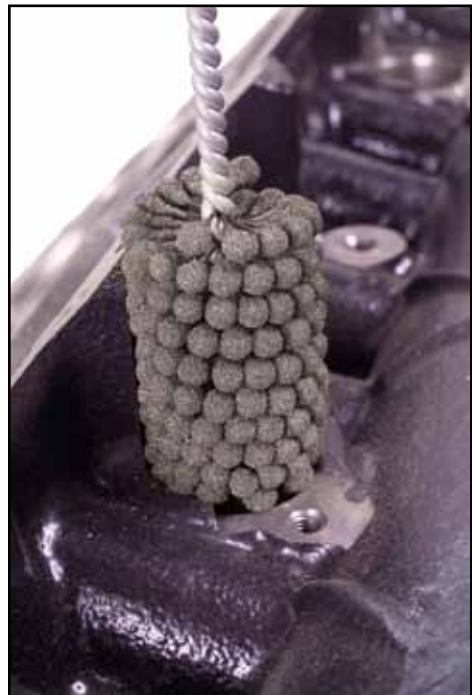
NovoFLEX FLEXIBLE HONING TOOLS



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.

Selection:

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.



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

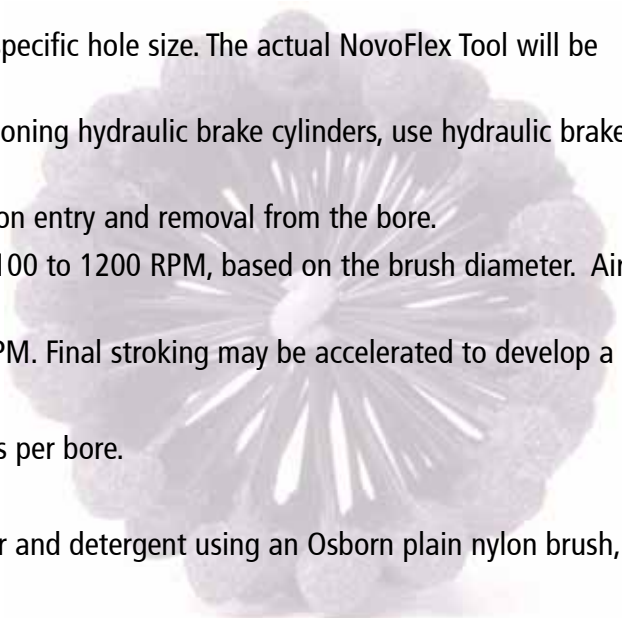
Applications:

- 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 your 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.



Special ATB NovoFlex Flexible Honing Tool Request Form

End User

Distributor

Contact Name

Address

City

State

Zip

Phone

Fax

E-Mail

Customer Drawing Available:

YES

NO

Date

Overall Length

Brush Area Length

Stem Diameter

Brush Diameter	Stem Diameter	Overall Length	Brush Area Length
Fill Material	Grit	RPM	Stem Style

Stem Adapter:

Equipment Used:

Metal Components:

Comp. to Stock Product #

Method now being used

Desc. if Competitor Brush

Fill Density:

Variation

Price

Result

Order Quantity

Stock Brushes Tested

Yearly Potential

Application

Samples Needed

YES

NO

of Samples

Comments

5401 Hamilton Ave.

Cleveland OH 44114

Phone: (800) 720-3358 (216) 361-1900

Fax: (216) 361-1913

www.osborn.com

marketsupport@osborn.com

OSBORN

JACKSONLEA

ATB NovoFLEX Tools - SMALL DIAMETER

Applications: Brake Cylinders, Hydraulics, Valve Guides



Hole Dia. (mm)	Hole Dia. (in.)	Brush Length (mm)	Overall Length (mm)	Std Pk	120 SC Item No.	180 SC Item No.	240 SC Item No.
6.4	0.250	50	200	12	77246	77248	77250
7.0	0.276	50	200	12	77247	77249	77251
8.0	0.315	50	200	12	77200	77223	77252
9.0	0.354	50	200	12	77201	77224	77253
9.5	0.375	50	200	12	77359	77360	77361
10.0	0.394	60	200	12	77202	77225	77255
11.0	0.433	60	200	12	77203	77226	77256
12.0	0.472	60	200	12	77362	77363	77364
12.7	0.500	60	200	12	77204	77227	77258
13.0	0.512	60	200	12	77205	77228	77377
14.0	0.552	60	200	12	77206	77229	77259
16.0	0.630	60	200	12	77207	77230	77260
18.0	0.709	60	200	12	77208	77231	77261
19.0	0.750	70	200	12	77209	77232	77262
20.0	0.787	70	200	12	77365	77366	77367
22.0	0.875	70	200	12	77210	77233	77264
23.8	0.940	70	200	12	77211	77234	77265
25.4	1.000	70	200	12	77212	77235	77266
26.9	1.060	70	200	12	77213	77236	77257
29.0	1.125	70	200	12	77214	77237	77267
31.8	1.250	70	200	12	77215	77238	77268
35.0	1.375	70	200	12	77216	77239	77269
38.0	1.500	70	200	12	77217	77240	77270
41.0	1.625	70	200	12	77218	77241	77271
45.0	1.750	70	200	12	77368	77369	77370
51.0	2.000	70	200	12	77371	77372	77373
54.0	2.125	70	200	12	77220	77243	77274
57.0	2.250	70	200	12	77221	77244	77275
60.0	2.375	70	200	12	77222	77245	77276
64.0	2.500	70	200	12	77374	77375	77378

ATB NovoFLEX Tools

Applications: Brake Cylinders



Hole Dia. (mm)	Hole Dia. (in.)	Brush Length (mm)	Overall Length (mm)	Std Pk	120 SC Item No.	180 SC Item No.	240 SC Item No.
67	2.625	76	200	6	77296	77300	77278
70	2.750	76	200	6	77297	77301	77279
73	2.875	76	200	6	77298	77302	77280
76	3.000	76	200	6	77299	77303	77281

ATB NovoFLEX Tools - STANDARD DUTY

Applications: Block Cylinders



Hole Dia. (mm)	Hole Dia. (in.)	Brush Length (mm)	Overall Length (mm)	Std Pk	120 SC Item No.	180 SC Item No.	240 SC Item No.
83	3.250	76	343	6	77379	77380	77381
89	3.500	76	343	6	77305	77307	77283
95	3.750	89	343	6	77308	77325	77342
105	4.125	102	343	6	77309	77326	77343
118	4.625	114	343	6	77310	77327	77344

ATB NovoFLEX Tools - HEAVY DUTY

Applications: Block Cylinders, Liners



Hole Dia. (mm)	Hole Dia. (in.)	Brush Length (mm)	Overall Length (mm)	Std Pk	120 SC Item No.	180 SC Item No.	240 SC Item No.
76	3.000	140	343	6	77311	77328	77345
83	3.250	140	343	6	77312	77329	77346
89	3.500	140	343	6	77313	77330	77347
95	3.750	140	343	6	77314	77331	77348
101	4.000	165	343	6	77315	77332	77349
108	4.250	165	343	6	77316	77333	77350
114	4.500	165	343	6	77317	77334	77351
127	5.000	165	457	6	77318	77335	77352
140	5.500	165	457	2	77319	77336	77353
152	6.000	165	457	2	77320	77337	77354
165	6.500	165	457	2	77321	77338	77355
178	7.000	178	457	2	77322	77339	77356
190	7.500	178	457	2	77323	77340	77357
203	8.000	178	457	2	77324	77341	77358

ATB Softool® BRUSHES

U.S. Patent # 5556328, 5527213

Smoother, Cleaner, Improved Performance

Looking for a honing finish that is smoother, cleaner and does not require a lengthy break-in period? You need Osborn Softool with flexible ATB abrasive nylon filaments that remove excess material left on the surface of the bore after honing with conventional methods.

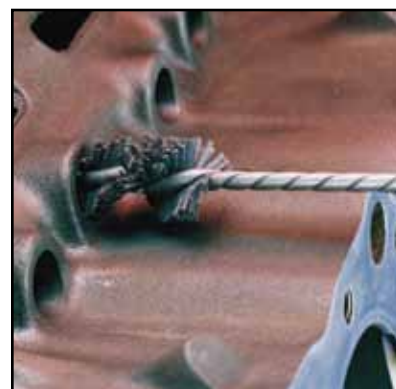
Consistent Results

The performance of the Softool will remain consistent throughout its life as new grit is revealed through the wear of the brush, constantly exposing a gentle yet effective cutting surface.

Using Softool after honing with conventional abrasives or metal diamond stones will improve your finish by:

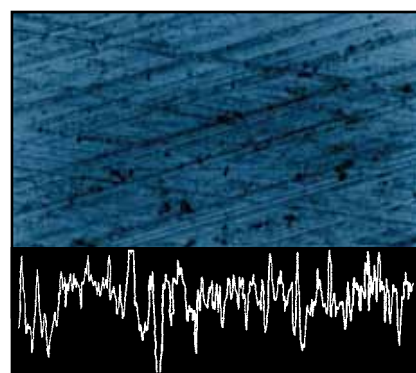
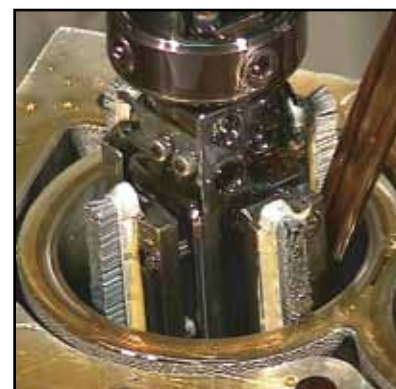
- *reducing peak height to decrease ring break-in period.*
- *improving crosshatch for optimum oil retention and overall reduced oil consumption.*
- *eliminating debris and contaminants from valleys allowing the rings to seat almost immediately.*

Softool honing inserts and internal brushes will effectively improve your finish without changing the geometry or size of the bore!

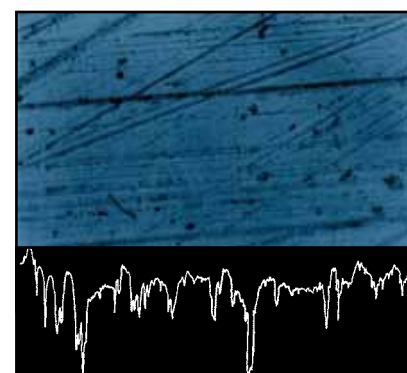


Why is Softool so effective?

Softool has abrasive grit embedded into the flexible filaments. This flexibility allows the abrasive grit to cut without requiring high pressure that tears up the surface of the bore like conventional honing methods.



The surface profile of a cylinder bore honed with a metal bond diamond product (left), and the same bore after being brush honed with Osborn Softool brushes (right).



See the Difference!

See the difference when washing out the bore with hot, soapy water after honing. Debris that once decreased oil efficiency and wore on the ring will be knocked loose by Softool brush honing and washed away!

Please contact your Osborn representative for additional information to order your Softool honing brush.

PCD SUPERABRASIVE BRUSHES

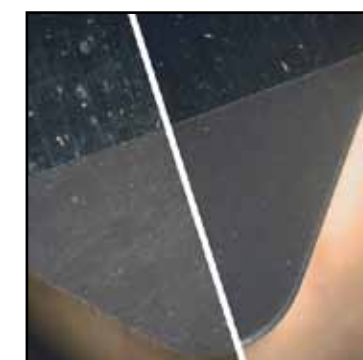
Planetary brush honing - fast, clean and consistent

Osborn ATB Diamond Superabrasives are engineered for today's superhard materials such as CBN, PCD 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.

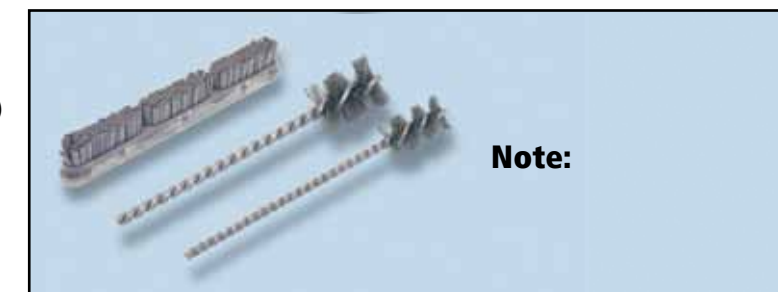


A more efficient production environment

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.



Note:

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 .0005" - .003" on extremely hard materials such as PCD, 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 WHEELS - ALUMINUM HUB

Innovative brushing tools designed for today's most challenging applications.

Applications: Edge Honing Super Hard Materials Such as Ceramics, CBN Tungsten Carbide, Diamond and Glass



Brush Dia.	Grit	Arbor Hole	Fill Dia.	Trim Length	Face Width	Std Pk	Item No.
6	240	1-1/4	0.040	1	1/4	1	41004
6	400	1-1/4	0.010	1	1/4	1	41002
6	400	1-1/4	0.020	1	1/4	1	41003
6	600	1-1/4	0.010	1	1/4	1	41001
6	600	1-1/4	0.020	1	0.072	1	41005
6	600	1-1/4	0.020	1	0.157	1	41006
6	1000	1-1/4	0.010	1	1/4	1	41000
8	120	1-1/4	0.040	1	1/4	1	41014
8	400	1-1/4	0.010	1	1/4	1	41012
8	400	1-1/4	0.020	1	1/4	1	41013
8	600	1-1/4	0.010	1	1/4	1	41011
8	1000	1-1/4	0.010	1	1/4	1	41010
11	400	4-1/4	0.020	2	1	1	41007

U.S. Patent # 4945687

Recommended wheel brush operating parameters

Optimum life and cut will be obtained by finding the proper balance between brush speed, part penetration and abrasive grain size.

- SPEED – Typical brush speeds range from 1200 to 2400 RPM.
- PENETRATION – Typical part penetration into the face of the brush range from 1/16" to 3/8".

Other applications for ATB Superabrasive wheel brushes can be found in the field of optics, medical implants and aerospace industries.

ATB DIAMOND SUPERABRASIVE DISCS - COMPOSITE HUB

Applications: Edge Honing Indexable Cutting Tool Inserts



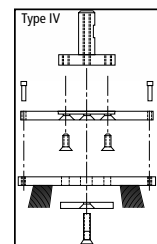
Brush Dia.	Grit	Arbor Hole	Fill Dia.	Trim Length	Std Pk	Item No.
9	400	2.35	0.02	1	1	40252
9	600	2.35	0.01	1	1	40254
9	1000	2.35	0.01	1	1	40253
14	400	5	0.02	1-1/2	1	40251

U.S. Patent # 4945687

Recommended disc brush operating parameters

- SPEED – Typical brush speeds ranges from 300 to 1500 RPM.
- PENETRATION – Typical part penetration ranges from 1/16" to 1/4".

Disc styles are available in grit sizes from 120 to 1000, with OD from 3" to 18". They are easily adaptable to your existing planetary brush honing and polishing machine with the help of a full line of engineered support plates.



Adapters for mounting into smaller shafts must be specified and are priced separately. Please refer to page 27 to select the appropriate adapter.

Please contact Osborn Customer Support for Pricing Information.

Item No	Pg	Item No	Pg	Item No	Pg	Item No	Pg	Item No	Pg	Item No	Pg	Item No	Pg	Item No	Pg
11146	29	22258	28	35504	48	36353	51	36658	50	40403	26	40656	24	47024	37
11147	29	22259	28	35505	48	36354	51	36659	50	40410	26	40657	24	47025	37
11148	29	22280	28	35506	48	36355	51	36660	50	40411	26	40658	24	47026	37
11149	29	22281	28	35507	48	36356	51	36661	50	40412	26	40659	24	47027	37
11150	29	22282	28	35508	48	36357	51	36662	50	40413	26	40660	24	47028	37
11151	29	22283	28	35509	48	36358	51	36663	50	40420	26	40661	24	47029	37
11153	29	22284	28	35510	48	36359	51	36664	50	40421	26	40662	25	47030	37
11154	29	22285	28	35511	48	36360	51	36665	50	40422	26	40663	25	47031	37
11155	29	22286	28	36250	48	36361	51	36666	50	40423	26	40664	25	47032	37
13803	30	22287	28	36251	48	36362	51	36667	50	40529	24	40665	25	47033	37
13809	30	22288	28	36252	48	36363	51	36668	50	40530	24	40666	25	47034	37
13835	30	22289	28	36253	48	36364	51	36669	50	40531	24	40667	24	47035	37
13839	30	22292	28	36254	48	36365	51	39513	30	40532	24	40668	24	47036	37
13843	30	22293	28	36255	48	36366	51	39514	30	40533	24	40669	24	47037	37
20097	29	22294	28	36256	48	36367	51	39551	30	40534	24	40670	24	47038	37
20621	29	22296	28	36257	48	36368	51	40158	25	40535	25	40671	24	47039	37
20622	29	22297	28	36258	48	36369	51	40162	25	40536	25	40672	24	47040	37
20623	29	22298	28	36259	48	36370	51	40163	25	40537	25	40682	24	47041	37
20624	29	22299	28	36260	48	36371	51	40164	25	40538	25	40683	24	47042	37
20646	29	22300	28	36261	48	36372	51	40165	25	40539	25	40684	24	47043	37
20652	29	22312	28	36300	51	36373	51	40170	25	40540	25	40685	24	47044	37
20654	29	22313	28	36301	51	36394	52	40171	25	40541	25	40686	24	47045	37
20660	29	22314	28	36302	51	36395	52	40172	25	40542	25	40687	24	47046	37
20661	29	22315	28	36303	51	36396	52	40173	25	40543	25	41000	62	47047	37
20665	29	22325	28	36304	51	36397	52	40187	25	40544	25	41001	62	47048	37
20666	29	22326	28	36305	51	36398	52	40188	25	40586	24	41002	62	47049	37
20667	29	22327	28	36306	51	36399	52	40190	25	40587	24	41003	62	47050	37
20668	29	22328	28	36307	51	36400	52	40191	25	40588	24	41004	62	47051	37
20669	29	22333	28	36308	51	36403	52	40192	25	40589	24	41005	62	47052	37
20735	29	22334	28	36309	51	36404	52	40194	25	40590	24	41006	62	47053	37
20736	29	22335	28	36310	51	36405	52	40195	25	40591	24	41007	62	47054	37
20875	29	22336	28	36311	51	36406	52	40197	25	40592	24	41010	62	47055	37
20876	29	30285	45	36312	51	36407	52	40251	62	40594	25	41011	62	47056	37
20877	29	30287	45	36313	51	36408	52	40252	62	40595	25	41012	62	47057	37
20878	29	30293	45	36314	51	36409	52	40253	62	40596	25	41013	62	47058	37
20884	29	30295	45	36315	51	36450	52	40254	62	40597	25	41014	62	47059	37
20885	29	30296	45	36316	51	36451	52	40263	39	40598	25	46126	31	47060	37
20886	29	30297	45	36317	51	36452	52	40325	30	40621	24	46127	31	47061	37
20887	29	30298	45	36318	51	36453	52	40326	30	40622	24	46128	31	47062	37
20888	29	30299	45	36319	51	36454	52	40327	40	40623	24	46130	31	47063	37
20891	29	30300	45	36320	51	36455	52	40328	40	40624	24	46140	31	47064	37
20971	29	30301	45	36321	51	36456	52	40329	40	40625	24	46141	31	47065	37
20973	29	32125	43	36322	51	36457	52	40330	40	40626	24	46142	31	47066	37
22240	28	32127	43	36323	51	36458	52	40331	40	40627	25	46143	31	47067	37
22244	28	32131	43	36324	51	36459	52	40335	40	40645	24	46146	31	47068	37
22248	28	32132	43	36325	51	36460	52	40336	40	40646	24	46158	31	47069	37
22249	28	32133	43	36326	51	36461	52	40339	40	40647	24	46159	31	47070	37
22250	28	32137	43	36327	51	36650	50	40341	40	40648	24	46160	31	47071	37
22251	28	32138	43	36328	51	36651	50	40390	26	40649	24	46161	31	47072	37
22252	28	32148	43	36329	51	36652	50	40391	26	40650	24	46163	31	47073	37
22253	28	32149	43	36330	51	36653	50	40392	26	40651	25	46164	31	47074	37
22254	28	35500	48	36331	51	36654	50	40393	26	40652	25	47020	37	47075	37
22255	28	35501	48	36350	51	36655	50	40400	26	40653	25	47021	37	47076	37
22256	28	35502	48	36351	51	36656	40	40401	26	40654	25	47022	37	47077	37
22257	28	35503	48	36352	51	36657	40	40402	26	40655	25	47023	37	47078	37

ITEM NUMBER INDEX



Item No	Pg	Item No	Pg	Item No	Pg	Item No	Pg	Item No	Pg	Item No	Pg	Item No	Pg	Item No	Pg
47079	37	47134	37	56075	53	75006	49	75331	31	77202	48	77260	58	77334	59
47080	37	47135	37	56076	53	75019	33	75332	31	77203	48	77261	58	77335	59
47081	37	47136	37	56077	53	75020	33	75333	31	77204	48	77262	58	77336	59
47082	37	47137	37	56078	53	75021	33	75334	31	77205	48	77264	58	77337	59
47083	37	47138	37	56079	53	75022	33	75335	31	77206	48	77265	58	77338	59
47084	37	47139	37	56080	53	75023	33	75339	31	77207	48	77266	58	77339	59
47085	37	47159	37	56081	53	75024	33	75340	31	77208	48	77267	58	77340	59
47086	37	47159	39	56082	53	75025	33	75341	31	77209	48	77268	58	77341	59
47087	37	47160	37	56083	53	75026	33	75342	31	77210	48	77269	58	77342	59
47088	37	47161	37	56084	53	75027	33	75343	31	77211	48	77270	58	77343	59
47089	37	47163	37	56085	53	75028	33	75344	31	77212	48	77271	58	77344	59
47090	37	47171	37	56086	53	75046	33	75347	31	77213	48	77274	58	77345	59
47091	37	47172	37	56312	49	75047	33	75348	31	77214	48	77275	58	77346	59
47092	37	47173	37	56315	49	75048	33	75350	31	77215	48	77276	58	77347	59
47093	37	47175	37	56316	49	75049	33	75353	31	77216	48	77278	58	77348	59
47094	37	47183	37	56395	54	75050	33	75354	31	77217	48	77279	58	77349	59
47095	37	47184	37	56396	54	75051	33	75355	31	77218	48	77280	58	77350	59
47096	37	47185	37	56400	53	75052	33	75356	31	77220	48	77281	58	77351	59
47097	37	47187	37	56403	53	75058	33	75370	33	77221	48	77283	58	77352	59
47098	37	47189	39	56404	53	75059	33	75371	33	77222	48	77296	58	77353	59
47099	37	47190	39	56406	53	75060	33	75372	33	77223	48	77297	58	77354	59
47100	37	47191	39	56407	53	75061	33	75373	33	77224	48	77298	58	77355	59
47101	37	47193	39	56409	43	75062	33	75374	33	77225	48	77299	58	77356	59
47102	37	47195	39	56410	53	75063	33	75375	33	77226	48	77300	58	77357	59
47103	37	47196	39	56412	53	75074	43	75376	33	77227	48	77301	58	77358	59
47104	37	47197	39	56414	53	75075	43	75377	33	77228	48	77302	58	77359	58
47105	37	47199	39	56415	53	75076	43	75378	33	77229	48	77303	58	77360	58
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47107	37	47201	38	56418	53	75078	43	75386	32	77231	48	77307	59	77362	58
47108	37	47202	38	56419	53	75079	43	75387	32	77232	48	77308	59	77363	58
47109	37	47203	38	56422	54	75080	32	75388	32	77233	48	77309	59	77364	58
47110	37	47206	38	56423	54	75084	43	75389	32	77234	48	77310	59	77365	58
47111	37	47250	38	56425	53	75085	43	75485	49	77235	48	77311	59	77366	58
47112	37	47251	38	56426	53	75086	32	75486	49	77236	48	77312	59	77367	58
47113	37	47252	38	56427	53	75087	32	75487	49	77237	48	77313	59	77368	58
47114	37	47253	38	56428	53	75088	32	75488	49	77238	48	77314	59	77369	58
47115	37	47254	38	56429	53	75089	32	75686	55	77239	48	77315	59	77370	58
47116	37	47255	38	56430	53	75090	32	75687	55	77240	48	77316	59	77371	58
47117	37	47256	38	56432	53	75091	32	75692	55	77241	48	77317	59	77372	58
47118	37	47257	38	56433	53	75092	32	75693	55	77243	48	77318	59	77373	58
47119	37	47258	38	56435	53	75093	32	75697	45	77244	48	77319	59	77374	58
47120	37	47259	38	56437	53	75094	32	75698	55	77245	48	77320	59	77375	58
47121	37	47260	38	56438	53	75096	43	75706	55	77246	48	77321	59	77378	58
47122	37	47261	38	56439	53	75097	43	75707	55	77247	48	77322	59	77379	59
47123	37	47262	38	56441	53	75098	43	75751	55	77248	48	77323	59	77380	59
47124	37	47263	38	56442	53	75117	32	75752	55	77249	48	77324	59	77381	59
47125	37	47264	38	56444	53	75118	32	75765	55	77250	48	77325	59		
47126	37	56010	49	56446	53	75135	33	75766	55	77251	48	77326	59		
47127	37	56011	49	56447	53	75136	33	75769	55	77252	48	77327	59		
47128	37	56012	49	56448	53	75137	33	75770	55	77253	48	77328	59		
47129	37	56013	49	56450	53	75138	33	75773	55	77255	48	77329	59		
47130	37	56015	49	56451	53	75139	33	75774	55	77256	48	77330	59		
47131	37	56016	49	75003	48	75141	33	76377	33	77257	48	77331	59		
47132	37	56073	53	75004	48	75153	30	77200	58	77258	48	77332	59		
47133	37	56074	53	75005	49	75155	30	77201	58	77259	48	77333	59		

Application Sheet for
SAMPLE PARTS

BASIC INFORMATION:

DATE: _____

Regional Manager: _____ Territory: _____ Phone Number: _____

Distributor/Contact: _____ Location: _____ Phone Number: _____

End user/Contact: _____ Location: _____ Phone Number: _____

Call/Copy Rep: YES NO Call/Copy Dist: YES NO Call/Copy End User: YES NO

Application (Description): _____

INDUSTRY (Check One):

Aerospace-Engine

Aerospace-Structure

Auto Body

Auto Chassis

Auto Engine

Auto Transmission

Construction

Electronics

Firearms

Food

Processing

Freight Transport

Glass

Housewares

Janitorial

Material Handling

Medical

Paper

Petroleum

Plumbing

Primary Metals

Recreation

Ship Building

Textile

Timber/Wood

Tire

Tooling

Welding

Other (Explain) _____

PART DESCRIPTION/NAME: _____

PART MATERIAL: _____

CLASS OF BURR (Check One):

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.

ADDITIONAL INFORMATION:

Method currently being used: _____ What does the customer currently not like? _____

Type of equipment: _____ Maximum brush size? _____

Horsepower: _____ Maximum RPM: _____ Minimum RPM: _____ Variable? YES NO

Method preferred: _____

Volume of parts per year: _____ Cycle time desired: _____

Sample part quantity: _____ Cost of current brush: _____ Current brush life: _____

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North American Headquarters

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LITATB 16v2 03/10 5K