



osborn

NEW from Osborn...[ATB Ceramic Filament](#)

About Osborn

Since Osborn's inception in 1887, success has always been about ensuring that you finish first. Whether it was last century, last week or in the last hour, customers like you need the right solutions and count on us. As the global leader in surface treatment and finishing solutions, we have more patents on products and processes than all other brush companies combined.

Engineering expertise and manufacturing skills are what set the Osborn brand apart. People experienced in surface treatment solutions and finishing tools. Collaborating with customers to achieve optimum results. Matching tough finishing problems with the right solutions when and where you need them.

In addition to more than 10,000 standard products sold in more than 120 countries, we offer local support throughout the world. So, no matter where you or your customers are located, you'll always have access to Osborn application expertise and the industry's best, most practical solutions.

When you start with Osborn, you finish first.



Deburring is the primary function of ceramic brushes.

Osborn's Advanced Technology Brushing (ATB) ceramic brushes are designed to work on the toughest of materials including; powdered metal, ductile iron, titanium, stainless steel, Inconel and compact graphite iron. Typical parts would include, variable valve timing vane rotors/actuator housings, large diesel engine blocks/cylinder heads, turbo charged gas engine cylinder heads, turbine blades for gas turbine engines/jet engines, Gas turbine/jet engine housings and other machined parts for the automotive, diesel engine and aerospace industries. These materials/parts when machined typically push a class 3 or class 4 burr (see Burr Classification Chart on page 9 for details) and have been problematic for typical Nylon Abrasive Filament (NAF) brushes. Until now typical NAF brushes have only been truly effective on class 1 and class 2 burrs. Our proprietary ATB "CG" filament now provides the "Osborn solution" for class 3 and class 4 burrs on materials with high hardness or a high plasticity.

Osborn ATB ceramic filament (CG)

Finally, a ceramic filament worthy of the Osborn ATB name! Our newest filament called the "CG" filament has been formulated to deliver maximum results. This unique "CG" filament features an encapsulated ceramic grain. This encapsulation provides a 100% support of the ceramic grain during the cutting action of the "CG" filament. This allows for the ceramic grain to have a longer life, as the grain is not susceptible to premature fracture like other ceramic grained filaments. This tight encapsulation also allows the Osborn "CG" filament to hold the ceramic grain longer, resulting in even longer filament and brush life.

Osborn's unique blue "CG" filament provides advantages that other ceramic filaments cannot deliver. The harder, stiffer filament provides more energy therefore allowing the ceramic grain to cut deeper and faster. With Osborn's blue "CG" filament comes other advantages, faster filament bend recovery, this allows the filament to flow into complicated shapes at higher feed rates, longer life and the durability to work on class 3 and 4 burrs. With the combination of ceramic grain and Osborn's unique blue nylon filament there is no break in required as with other "long life" NAF brushes. The sharpness of the ceramic grain instantly breaks the nylon and starts cutting on your part.

Process improvement

With Osborn's new ATB "CG" filament you can now brush away your problematic class 3 and class 4 burrs on exotic materials. The elimination of most preconditioning on class 3 and class 4 burrs, saves you cycle time as well as secondary machinery, and consumable cost. Let our team of experienced field engineers and knowledgeable sales managers assist you in applying the Osborn ATB "CG" filament line of products to your application. If you do not have time to test in your plant, our state of the art application lab stands ready to assist you in developing a customized process that fits your requirements. All you need to do is to contact your local Osborn representative and we will take care of the rest.

MASTER WHEELS

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 - Turbine blade dovetails, Dovetail slots on turbine disc/rotors, Powder metal gears and pedestal grinders in robotic cells.

PART NO.	BRUSH DIA	GRIT	ARBOR HOLE	FACE WIDTH	TRIM LENGTH	FILAMENT SIZE	FILAMENT SHAPE	MAX RPM	STD PACK
22508	3	80	5/8	1/2	5/8	0.035	Round	20000	6
22510	3	120	5/8	1/2	5/8	0.026	Round	20000	6
22511	3	120	5/8	1/2	5/8	0.043	Round	20000	6
22509	3	80	5/8	7/8	5/8	0.035	Round	20000	6
22512	3	120	5/8	7/8	5/8	0.026	Round	20000	6
22513	3	120	5/8	7/8	5/8	0.043	Round	20000	6
22514	4	80	5/8	1/2	1-1/8	0.035	Round	18000	6
22515	4	80	5/8	1/2	1-1/8	0.055	Round	18000	6
22518	4	80	5/8	7/8	1-1/8	0.035	Round	18000	6
22519	4	80	5/8	7/8	1-1/8	0.055	Round	18000	6
22516	4	80	5/8	5/8	3/4	0.035	Round	12000	6
22517	4	80	5/8	5/8	3/4	0.055	Round	12000	6
22522	4	120	5/8	5/8	3/4	0.026	Round	12000	6
22523	4	120	5/8	5/8	3/4	0.043	Round	12000	6
22520	4	120	5/8	1/2	1-1/8	0.026	Round	18000	6
22521	4	120	5/8	1/2	1-1/8	0.043	Round	18000	6
22524	6	80	2	7/8	1-1/16	0.035	Round	6000	2
22525	6	80	2	7/8	1-1/16	0.055	Round	6000	2
22527	6	120	2	7/8	1-1/16	0.030	Round	6000	2
22528	6	120	2	7/8	1-1/16	0.043	Round	6000	2
22526	6	80	2	7/8	1-1/16	0.049X0.098	Crimped Rect	6000	2
22529	8	80	2	7/8	1-1/2	0.055	Round	4500	2
22530	8	120	2	7/8	1-1/2	0.043	Round	4500	2
22538	8	120	2	7/8	1-1/2	0.030	Round	4500	2
22531	10	80	2	1	2-1/16	0.055	Round	3600	2
22539	10	80	2	1	2-1/16	0.035	Round	3600	2
22540	10	120	2	1	2-1/16	0.030	Round	3600	2
22541	10	120	2	1	2-1/16	0.043	Round	3600	2
22532	12	120	2	1	2-1/8	0.043	Round	3000	2
22542	12	80	2	1	2-1/8	0.055	Round	3000	2
22543	12	120	2	1	2-1/8	0.030	Round	3000	2
22533	14	80	2	1	2-1/8	0.035	Round	2400	2
22534	14	80	2	1	2-1/8	0.055	Round	2400	2
22535	14	80	2	1	2-1/8	0.049X0.098	Crimped Rect	2400	2
22536	14	120	2	1	2-1/8	0.030	Round	2400	2
22537	14	120	2	1	2-1/8	0.043	Round	2400	2



COMPOSITE WHEELS-AGGRESSIVE

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

Applications: Deburring - Dovetail slots on turbine disc/rotors with heavy burrs, robotic deburring cells for turbine engine housings, forged gears and broached parts.

PART NO.	BRUSH DIA	GRIT	FILAMENT SIZE	ARBOR HOLE	FACE WIDTH	TRIM LENGTH	FILAMENT SHAPE	MAX RPM	STD PACK
40886	8	80	0.035	2	1	1-1/4	Round	3600	2
40888	8	120	0.043	2	1	1-1/4	Round	3600	2
40829	10	80	0.035	4-1/4	1	1-1/4	Round	3600	2
40831	10	120	0.043	4-1/4	1	1-1/4	Round	3600	2
40845	12	80	0.035	5-1/4	1	1-1/4	Round	1800	2
40847	12	120	0.043	5-1/4	1	1-1/4	Round	1800	2
40867	14	80	0.035	5-1/4	1	1-1/4	Round	1800	2
40868	14	80	0.055	5-1/4	1	1-1/4	Round	1800	2
40870	14	120	0.026	5-1/4	1	1-1/4	Round	1800	2
40869	14	120	0.043	5-1/4	1	1-1/4	Round	1800	2
40872	14	80	0.049X0.098	5-1/4	1	1-1/4	Crimped Rect	1800	2



COMPOSITE WHEELS-FLEXIBLE

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

Applications: Deburring - Large turbine blade dovetails, camshafts lobes and journals, and crankshaft journals.

PART NO.	BRUSH DIA	GRIT	FILAMENT SIZE	ARBOR HOLE	FACE WIDTH	TRIM LENGTH	FILAMENT SHAPE	MAX RPM	STD PACK
40825	6	120	0.026	2	1	1-1/4	Round	3600	2
40821	6	80	0.035	2	1	1-1/4	Round	3600	2
40822	6	80	0.055	2	1	1-1/4	Round	3600	2
40823	6	120	0.043	2	1	1-1/4	Round	3600	2
40824	6	80	0.049X0.098	2	1	1-1/4	Crimped Rect	3600	2
40894	8	80	0.035	1-1/4	1	2-1/4	Round	3600	2
40895	8	120	0.043	1-1/4	1	2-1/4	Round	3600	2
40896	8	80	0.049X0.098	1-1/4	1	2-1/4	Crimped Rect	3600	2
40840	10	80	0.035	2	1	2-1/16	Round	3600	1
40841	10	120	0.043	2	1	2-1/16	Round	3600	1
40862	12	80	0.035	4-1/4	1	3	Round	1800	2
40863	12	120	0.043	4-1/4	1	3	Round	1800	2
40835	14	80	0.035	7-1/4	1	2-3/4	Round	1800	2
40836	14	80	0.055	7-1/4	1	2-3/4	Round	1800	2
40837	14	80	0.049X0.098	7-1/4	1	2-3/4	Crimped Rect	1800	2
40838	14	120	0.026	7-1/4	1	2-3/4	Round	1800	2
40839	14	120	0.043	7-1/4	1	2-3/4	Round	1800	2



RINGLOCKS

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: Deburring - Cross holes in large bearing bores, seal grooves in turbine engine cases and small aerospace parts.

PART NO.	BRUSH DIA	GRIT	FILAMENT SIZE	ARBOR HOLE	FACE WIDTH	TRIM LENGTH	FILAMENT SHAPE	MAX RPM	STD PACK
11332	1-1/2	120	0.026	1/2	1/4	1/4	Round	20000	12
11333	2	120	0.026	5/8	3/8	7/16	Round	15000	12
11334	2	80	0.035	5/8	3/8	7/16	Round	15000	12
11335	2	80	0.055	5/8	3/8	7/16	Round	15000	12
11336	2-1/2	120	0.026	5/8	3/8	11/16	Round	15000	12
11337	2-1/2	80	0.035	5/8	3/8	11/16	Round	15000	12



BRIDLED 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.

Applications: Deburring - Fuel rail bosses, fuel injector mounting bosses, and pockets in turbine engine combustion cases.

PART NO.	BRUSH DIA	GRIT	FILAMENT SIZE	SHANK DIA	TRIM LENGTH	FILAMENT SHAPE	MAX RPM	STD PACK
30870	3/8	120	0.026	1/4	1	Round	9000	12
30871	3/8	120	0.043	1/4	1	Round	9000	12
30872	1/2	120	0.026	1/4	1	Round	9000	12
30873	1/2	120	0.043	1/4	1	Round	9000	12
30874	3/4	120	0.026	1/4	1	Round	9000	12
30875	3/4	120	0.043	1/4	1	Round	9000	12
30876	1	120	0.026	1/4	1	Round	9000	12
30877	1	120	0.043	1/4	1	Round	9000	12



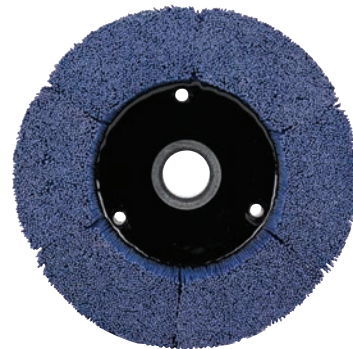
UNI-LOK DISC BRUSHES

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.

Max Density Applications: Deburring - Large diesel engine blocks, large diesel engine cylinder heads and turbo charged cylinder heads.

Turbo Applications: Deburring - Dovetail slots on turbine disc/rotors, Powder metal gears, and intake and exhaust port bosses on cylinder heads.

MAX DENSITY PART NO.	TURBO PART NO.	BRUSH DIA	GRIT	FILAMENT SIZE	ARBOR HOLE	TRIM LENGTH	FILAMENT SHAPE	MAX RPM	STD PACK
47504	47522	4	80	0.049X0.098	7/8	1-1/2	Crimped Rect	3500	1
47502	-	4	80	0.035	7/8	1-1/2	Round	3500	1
47503	47521	4	80	0.055	7/8	1-1/2	Round	3500	1
47500	-	4	120	0.026	7/8	1-1/2	Round	3500	1
47501	47520	4	120	0.043	7/8	1-1/2	Round	3500	1
47509	47525	6	80	0.049X0.098	7/8	1-1/2	Crimped Rect	2500	1
47507	-	6	80	0.035	7/8	1-1/2	Round	2500	1
47508	47524	6	80	0.055	7/8	1-1/2	Round	2500	1
47505	-	6	120	0.026	7/8	1-1/2	Round	2500	1
47506	47523	6	120	0.043	7/8	1-1/2	Round	2500	1
47514	47528	8	80	0.049X0.098	7/8	1-1/2	Crimped Rect	1800	1
47512	-	8	80	0.035	7/8	1-1/2	Round	1800	1
47513	47527	8	80	0.055	7/8	1-1/2	Round	1800	1
47510	-	8	120	0.026	7/8	1-1/2	Round	1800	1
47511	47526	8	120	0.043	7/8	1-1/2	Round	1800	1
47519	47531	10	80	0.049X0.098	7/8	1-1/2	Crimped Rect	1500	1
47517	-	10	80	0.035	7/8	1-1/2	Round	1500	1
47518	47530	10	80	0.055	7/8	1-1/2	Round	1500	1
47515	-	10	120	0.026	7/8	1-1/2	Round	1500	1
47516	47529	10	120	0.043	7/8	1-1/2	Round	1500	1



Max Density



Turbo

UNI-LOK QUICK CHANGE

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.

Osborn's unique composite design is ideal for deburring in tight locations. The composite body allows for "touching" of surrounding raised surfaces without harming the part or the brush. These tools are ideal for use in CNC machining centers, automated equipment and robotic cells.

Applications: Deburring - Larger bosses on cylinder heads, sensor ports on turbine engine cases and larger pockets in turbine engine combustion cases.

PART NO.	BRUSH DIA	GRIT	FILAMENT SIZE	SHANK DIA	TRIM LENGTH	FILAMENT SHAPE	MAX RPM	STD PACK
47228	3/4	120	0.026	1/4	1	Round	4500	1
47229	3/4	80	0.035	1/4	1	Round	4500	1
47230	3/4	120	0.043	1/4	1	Round	4500	1
47231	3/4	80	0.055	1/4	1	Round	4500	1
47232	3/4	80	0.049X0.098	1/4	1	Crimped Rect	4500	1
47233	1	120	0.026	1/4	1	Round	4500	1
47234	1	80	0.035	1/4	1	Round	4500	1
47235	1	120	0.043	1/4	1	Round	4500	1
47236	1	80	0.055	1/4	1	Round	4500	1
47237	1	80	0.049X0.098	1/4	1	Crimped Rect	4500	1
47857	1-1/2	80	0.049X0.098	1/4	1-3/8	Crimped Rect	4500	1
47854	1-1/2	80	0.035	1/4	1-3/8	Round	4500	1
47856	1-1/2	80	0.055	1/4	1-3/8	Round	4500	1
47855	1-1/2	120	0.043	1/4	1-3/8	Round	4500	1
47853	1-1/2	120	0.026	1/4	1-3/8	Round	4500	1
47862	2	80	0.049X0.098	1/4	1-3/8	Crimped Rect	4500	1
47859	2	80	0.035	1/4	1-3/8	Round	4500	1
47861	2	80	0.055	1/4	1-3/8	Round	4500	1
47860	2	120	0.043	1/4	1-3/8	Round	4500	1
47858	2	120	0.026	1/4	1-3/8	Round	4500	1
47867	2-1/2	80	0.049X0.098	1/4	1-3/8	Crimped Rect	4500	1
47864	2-1/2	80	0.035	1/4	1-3/8	Round	4500	1
47866	2-1/2	80	0.055	1/4	1-3/8	Round	4500	1
47865	2-1/2	120	0.043	1/4	1-3/8	Round	4500	1
47863	2-1/2	120	0.026	1/4	1-3/8	Round	4500	1
47238	3	120	0.026	1/4	1-3/8	Round	4500	1
47239	3	80	0.035	1/4	1-3/8	Round	4500	1
47240	3	120	0.043	1/4	1-3/8	Round	4500	1
47241	3	80	0.055	1/4	1-3/8	Round	4500	1



ATB BRUSH IMPLEMENTATION

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

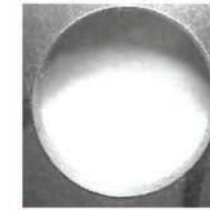
The Maximum Safe Free Speed (MSFS) printed on the brush is not the ideal working speed. In most operations, a lower speed will prove more efficient. Optimal operating speed is typically 50-70% less than the MSFS. Lower speeds and lighter pressure give longer brush life, generate less heat, and require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

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.

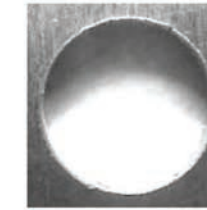
ATB Disc Brush Operating Parameters																	
Type	Dia. (in)	Brush Speed (RPM)				Penetration (inches)						Feed (in/min)					
		W/Coolant		Dry		Alum		Cast/Mild Steel		SS / Alloy		Alum		Cast/Mild Steel		SS / Alloy	
		Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Max W/Bridge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

- Rectangular filament should be run at the low end of the recommendation.
- Depth of penetration should be set while the brush tool is rotating at operational speed.
- 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.

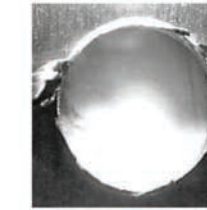
CLASS OF BURR



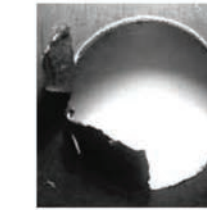
CLASS ONE
Micro burrs can only be seen with magnification



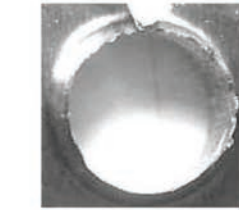
CLASS TWO
Feather burrs can be without magnification. They can be removed with your fingernail.



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.

BRUSH TOOL WEAR COMPENSATION:

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

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

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

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

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

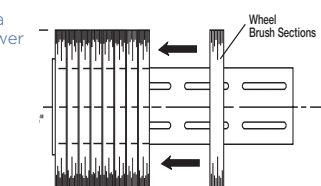
SUGGESTED ATB WHEEL BRUSH OPERATING PARAMETERS

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

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)



ATB BRUSH IMPLEMENTATION CONT.

Tool Path Considerations:

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

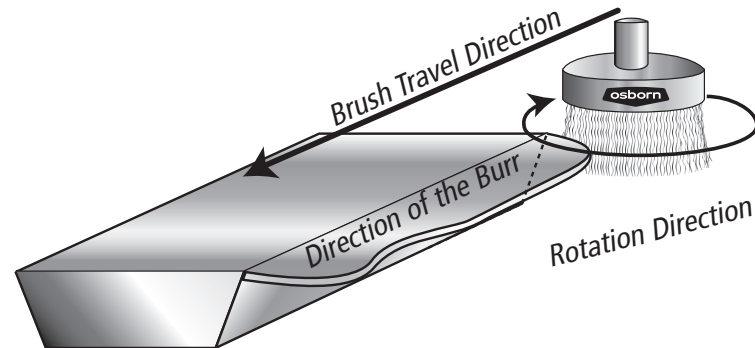
Tool Path:

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.

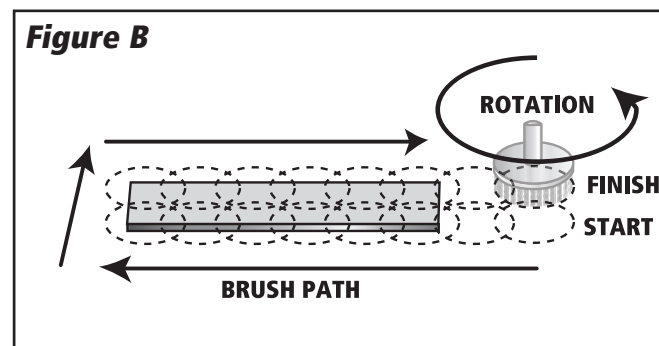
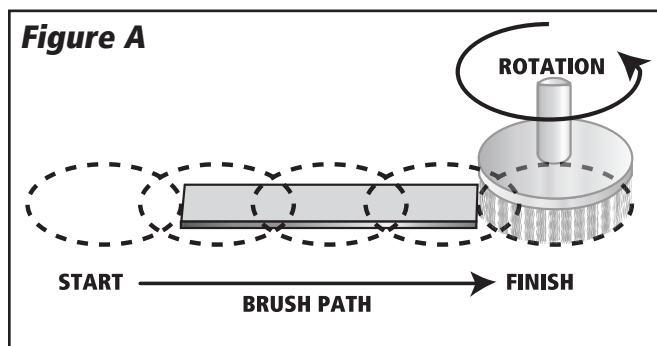


Table of Surface Speed

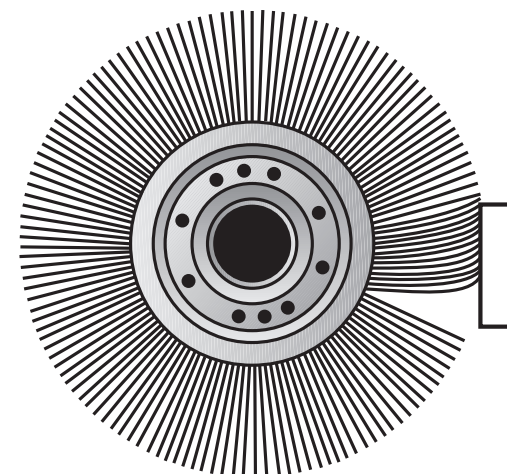
RPM	1" DIA.	4" DIA.	6" DIA.	8" DIA.	10" DIA.	12" DIA.	13" DIA.	14" DIA.	15" DIA.	16" DIA.
900	235	950	1400	1900	2350	2800	3100	3350	3550	3750
1150	300	1200	1800	2400	3000	3600	3900	4200	4500	4800
1200	315	1250	1900	2500	3200	3800	4100	4400	4700	5000
1500	400	1550	2350	3150	3900	4700	5200	5500	5900	6250
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

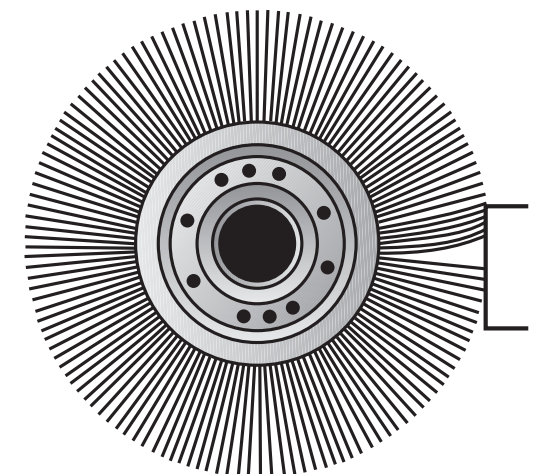
ATB Wheel Brush Penetration

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



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