Power Brush Applications:

Cleaning
Use carbon wire filled brushes for dry cleaning operations such as removal of rust or scale, insulation from wires, varnish from stators, etc. Use fiber (tampico), synthetic or stainless steel filled wire brushes for wet cleaning applications.

Deburring
Power Brushes are ideal tools for completely removing burrs. Brushes can be used on all types of materials and are suitable for deburring irregular shaped parts.

Surface Finishing
Anderson power brushes are used as final finishing tools to improve flat or cylindrical surfaces that have been ground or abrasive polished. The brush removes the small raised metal particles without changing dimensions.

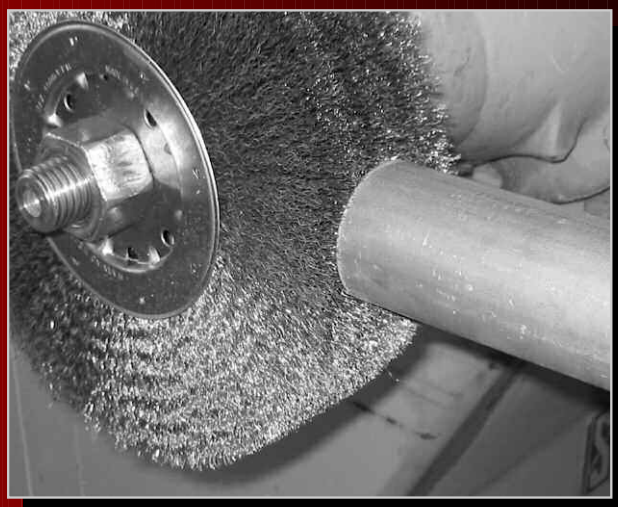
Roughening
Power brushes are used for roughening rubber, leather, plastics, ferrous and non-ferrous metal before bonding or painting. Brushes are also used to produce satin or matte finishes on various materials.

Edge Blending
Anderson power brushes offer a complete range of tools for blending surface intersections. Brushes perform this application without removing metal on the surface adjacent to the edge or changing the part's dimensions.

Weld cleaning with a stringer bead knot wheel. This brush offers a narrow face width and aggressive brushing action for fast, efficient use in weld cleaning such as the pipeline application pictured.

Removing paint from large surfaces is accomplished easily with an Anderson crimped wire cup brush mounted onto your right angle grinder.

Whether they are gang-mounted or used individually, crimped wire wheels offer an effective, economical solution to deburring the ends of tubes after cutting.



The aggressive impact action of Anderson's knot cup brushes make them suitable for a wide range of heavy-duty cleaning applications.

Equipment

Use of the proper equipment with power brushes is an important consideration in setting up a successful brushing application. Even when the correct brush has been selected, it will not perform optimally if the equipment is not capable of supplying the right operating conditions.

When selecting equipment for brushing applications, remember, the largest diameter brush permitted by machine clearance and part size will provide the most efficient tool and lowest end-of-service cost. (Maximum recommended brush diameter for portable tools is 6"). When brushing large surfaces, the widest possible brush face width will also provide maximum efficiency.

Minimum Spindle (Shaft) Diameter for Brushes of Various Sizes

(From ANSI Standard B165.1 - 2000)

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

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

Horsepower

Three factors affect the horsepower required to drive a power brush for any given operation:
(1) Brushing pressure required to accomplish the work.
(2) Resistance developed between work and brush.
(3) Speed of the brush.

The following chart provides a working guide for horsepower requirements based on medium brushing action. For conditions not simple or normal, call our Application Hotline at: 800-553-2371.

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

Horsepower ratings are for 1" brush face.

Table Of Surface Speeds

Recommended speeds in this catalog are given in RPM. The following table gives the approximate surface feet per minute (SFPM) of the brush face for standard diameters at various RPMs. However, never exceed the Maximum Safe Free Speed (MSFS) or RPM of the brush.

RPM	Diameter (Inches) 2	3	4	6
1,000	525	785	1,050	1,575
1,500	785	1,175	1,575	2,350
1,750	915	1,375	1,850	2,750
2,500	1,300	1,950	2,625	3,925
3,000	1,575	2,350	3,125	4,725
3,450	1,800	2,700	3,600	5,400
4,000	2,100	3,150	4,175	6,275
6,000	3,125	4,700	6,275	9,425
10,000	5,250	7,850	10,500	–
15,000	7,850	11,775	15,750	–
20,000	10,450	15,700	20,950	–

RPM	Diameter (Inches) 8	10	12	15
1,000	2,100	2,625	3,150	3,925
1,500	3,150	3,925	4,725	5,900
1,750	3,650	4,550	5,500	6,800
2,500	5,250	6,550	7,850	9,825
3,000	6,275	7,850	9,425	11,775
3,450	7,200	9,000	11,000	13,500
4,000	8,375	10,475	–	–

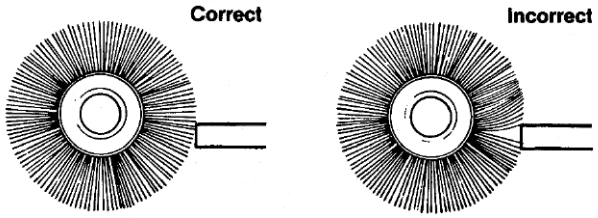
Brushing Speeds

For efficient use and low end-of-service cost, there is an optimum operating speed for each type of power brush. The table below provides a guide of practical brushing speeds.

Recommended Surface Speeds For Brushing Applications	
Application	Surface Feet Per Minute
Removing Burrs	5,500 to 7,500
Removing Scale	7,500 to 10,000
Cleaning Welds	7,200 to 9,400
Edge Blending	4,700 to 7,500
Cleaning (dry)	4,000 to 5,500
Cleaning (wet)	1,900 to 4,000
Surface Polishing	6,400 to 8,000

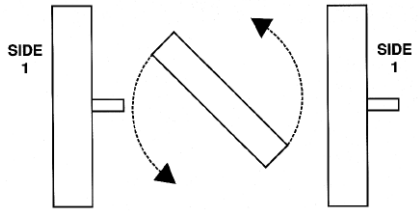
Brushing Pressure Control

Controlling the pressure applied to the brush is important. Brushing pressure affects the quality of the work and the brush life. Brushes should always be operated at the highest practical speeds with the lightest possible pressure. The sharp tips of the brush filament do the work. Excessive pressure bends the filaments and results in a wiping action rather than a cutting action. It also causes excess flexing of the filaments which, in turn, causes premature breakage and shortens the life of the brush. Where practical, the best method of maintaining the uniform brush pressure is through the use of a meter amp which measures the load on the drive motor.



Brush Face Conditioning

When using wire wheel brushes, periodically reverse the direction of rotation to take advantage of the self-sharpening action that will result. This may be accomplished by removing the brush from the spindle and turning it side for side and remounting securely. See illustration below.



Power Brush Fill Materials:

Carbon Steel Wire: The steel wire used in all Anderson brushes is manufactured to strict specifications. Anderson's special analysis steel provides a combination of excellent cutting characteristics and optimum fatigue resistance for superior performance.

Stainless Steel Wire: Type 302 stainless wire is highly resistant to corrosion and high temperatures and is used where heat and contamination is a factor. It is used in brushing stainless, aluminum and other non-ferrous metals. Type 316 stainless wire is also available by special order.

Non-Ferrous Wire: Wire such as brass, bronze, nickel silver and aluminum are available in some standard products and by special order.

Tampico: A natural vegetable fiber provides brush fill material for scrubbing and washing applications. They can also be used for deburring, edge blending and surface finishing when used with abrasive compounds.

Synthetic: Many synthetic fibers are available. These are long-wearing fibers, resistant to acids and alkali solutions. Most are for use with temperatures up to 140˚ F.

Wire Form

Crimped Wire:
Provides a continuous brushing action and a fine finish.

Straight Wire:
Used in knot type brushes, the twisted tuft provides maximum impact action for severe applications.

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

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

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

Hurricane® Brushes: Featured in our small angle grinder brushes. The Hurricane Twist provides long brush life and smooth operation.

Wire Gages

Wire sizes shown in this catalog are in decimals of an inch. The following are equivalent American Steel Wire (formerly Washburn and Moen) gage numbers.

Diameter (Inches)	Millimeters	ASW Gage No.	Diameter (Inches)	Millimeters	ASW Gage No.
.005	0.13	47	.014	0.35	30
.006	0.15	43	.016	0.40	28
.008	0.20	38	.020	0.50	25
.0095	0.24	35	.023	0.58	24
.0104	0.26	34	.0258	0.66	23
.0118	0.30	33	.035	0.89	20

Tube Brush Operating Recommendations

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

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

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

Before starting the brush:

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

Arbor Hole Table

Refer to this table for Crimped and Knot Wire Wheel Brushes. Table does not apply to wide face wheels.

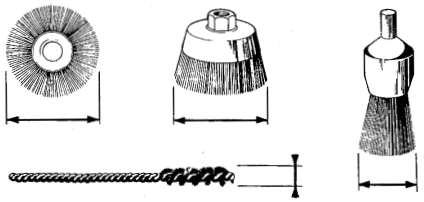
Desired Arbor Hole Dia.	Change Last Digit of Item Number to:
1/2-3/8	3
5/8-1/2	4
5/8-11 Nut	5
3/4	6
7/8	0-31
1 w/1/4 x 1/8 Dkwy	0-36
1-1/4 w/1/4 x 1/8 Dkwy	0-38
1-1/4 w/5/16 x 5/32 Dkwy	0-39
1-1/2	0-40
1-1/2 w/3/8 x 3/16 Dkwy	0-41
1-3/4 w/3/8 x 3/16 Dkwy	0-45
2 w/1/2 x 1/4 Dkwy	0-46
2-1/2 w/1/2 x 1/4 Dkwy	0-52
3 w/3/4 x 3/8 Dkwy	0-55
1-1/4 w/5/16 x 3/16 Dkwy	0-66
2 w/1/4 x 1/8 Dkwy	0-69

If a different arbor hole size is required (other than the size listed in the product tables), change the last digit of the Item Number to conform with the "Change Last Digit" Number listed in this table.

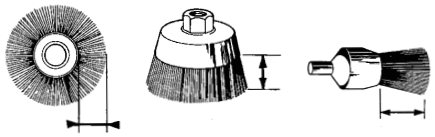
Example: Item Number 03314 has a standard size arbor hole of 5/8. If a 1-1/4 arbor hole is desired, ***drop the 4*** from 03314 and **add 0-39**. The Item Number with the desired 1-1/4 arbor hole is 03310-39.

Power Brush Terminology

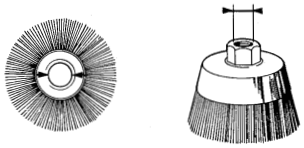
Outside Diameter



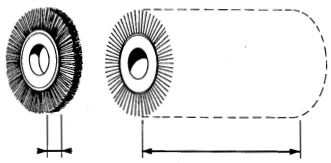
Trim Length



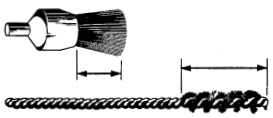
Arbor Hole



Face Width



Brush Length



Metric Conversion Charts

Arbor Hole Size

Inches	Millimeters
1/4	6.4
3/8	9.5
1/2	12.7
5/8	15.9
3/4	19.0
7/8	22.2
1	25.4
1-1/8	28.6
1-1/4	31.8
1-1/2	38.1
1-3/4	44.5
2	50.8

Brush Diameter

Inches	Millimeters
2-3/4	70
3	76
3-1/2	89
4	102
5	127
6	152
7	178
8	203
10	254
12	305
14	356
15	381
16	406

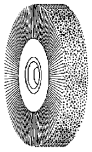
Trim Length

Long trim brushes are more conformable and are able to follow contoured surfaces.

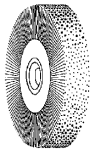
Short trim brushes are faster acting and suited for more severe brushing action.

Fill Density

High density brushes produce faster brushing action, longer brush life and finer surface finishes.



Low density brushes offer greater flexibility for surface cleaning operations on irregular surfaces.



Brush Correction Guide

Desired Changes	Suggested Brush Change
Slower action	• Smaller diameter brush • Run brush slower • Brush with thinner wire • Brush with longer trim length • Narrower brush face
Faster action	• Larger diameter brush • Run brush faster • Brush with heavier wire • Brush with shorter trim length • Wider brush face
Finer finish desired	• Run brush faster • Brush with longer filaments • Brush with thinner wire • Try an Anderlon abrasive nylon filament brush
Coarser finish desired	• Run brush slower • Brush with shorter filaments • Brush with heavier wire
Remove burr instead of rolling or peening it	• Brush with shorter trim length • Wider brush face • Brush with heavier wire • Run brush faster
Filaments break off	• Reduce pressure • Brush with thinner wire
Short brush life	• Brush with thinner wire • Reduce pressure • Wider brush face