POWER BRUSH ENGINEERING GUIDE

Horsepower Required To Drive Brushes

Four Common Factors Governing the Horsepower Necessary to Drive a Power Brush

1. Brushing pressure required.
2. Resistance between work surface and brush (trim length).
3. Speed of the brush.
4. Brush face width.

Horsepower Approximation Guide
(Based upon the medium brushing action for 1" brush face)

Brush Dia.	Motor Size	RPM
4"	1/4 hp	3450
6"	1/2 hp	3450
8"	3/4 hp	3450
10"	1 hp	1750
12"	1 hp	1750
15"	1½ hp	1750

Wider face brushes require additional horsepower dependent upon the relative brush load. Long trim brushes can usually be operated with less horsepower than short trim brushes.

Recommended Surface Speeds for Brushing Applications

Application	Surface Ft. / Minute
Removing Burrs	5500 to 7500
Removing Scale	7500 to 10000
Cleaning Welds	7200 to 9400
Edging Blending	4700 to 7500
Cleaning DRY	4000 to 5000
Cleaning WET	1900 to 4000
Surface Polishing	6400 to 8000
Surface Blending	8000 to 10000

Brushing Action

There are many variables in Power Brushing conditions. In many cases, one or more Power Brushes may accomplish the same results; however, if one brush does not accomplish the desired results, follow the suggestions below:

Desired Change in Results
+ Suggested Change in Brush

Faster Action
+ Run brush faster
+ Use heavier wire or filament
+ Use brush with shorter trim length
+ Use larger diameter brush

Finer Finish
+ Use finer wire or filament
+ Try tampico or abrasive nylon filament brush

Reach Irregular Surface Area
+ Use Brush with longer trim length for greater flexibility

Longer Life
+ Use finer wire and longer trim

Remove Burr Instead Of Roughing or Preening It
+ Increase brush speed
+ Use brush with shorter trim
+ Check brushing pressure to determine if tips are cutting not wiping.

Note: The speed at which the brush rotates is an extremely important factor.
(See Table of Surface Speeds).

Portable Tools
The maximum recommended diameter brush to use with electric or air portable tools is 6".

Table of Surface Speeds (Peripheral Speed in Ft./Min.)

RPM	1" Dia	2" Dia	3" Dia	4" Dia	6" Dia	7" Dia	8" Dia	10" Dia	12" Dia	14" Dia	15" Dia
900	236	471	707	942	1414	1649	1885	2356	2827	3299	3534
1150	301	602	903	1204	1806	2107	2409	3011	3613	4215	4516
1200	314	628	942	1257	1885	2199	2513	3142	3770	4398	4712
1500	393	785	1178	1571	2356	2749	3142	3927	4712	5498	5891
1750	458	916	1374	1833	2749	3207	3665	4582	5498	6414	6872
2000	524	1047	1571	2094	3142	3665	4189	5236	6283	7330	7854
2400	628	1257	1885	2513	3770	4398	5027	6283	7540	8796	9425
2800	733	1466	2199	2932	4398	5131	5864	7330	8796	10263	10996
3000	785	1571	2356	3142	4712	5498	6283	7854	9425	10996	11781
3200	838	1676	2513	3351	5027	5864	6702	8378	10053	11729	12566
3400	890	1780	2670	3560	5341	6231	7121	8901	10681	12462	13352
3750	982	1964	2945	3927	5891	6872	7854	9818	11781	13745	
4000	1047	2094	3142	4189	6283	7330	8378	10472	12566		
4500	1178	2536	3534	4712	7069	8247	9425	11781	14137		
5000	1309	2618	3927	5236	7854	9163	10472	13090			
5400	1414	2827	4241	5655	8482	9896	11310				
6000	1571	3142	4712	6283	9425	10996	12566				