

Tube Honing - Selection Guide

APPENDIX D: Microfinishes

Microfinishes

This Chart gives the approximate microinch (μin) and micrometer (μm) readings to be expected on a variety of materials with specific grain sizes.

Material	Abrasive Type	Grit Size								
		80	100	120	150	180	220	240	320	400
Hard Steel	Aluminum Oxide/ Silicon Carbide	70-80 (1,8 -2,0)	60-70 (1,5-1,8)	40-60 (1,0-1,5)	40-50 (1,0-1,3)	- -	- -	15-30 (0,4-0,8)	- -	5-10 (0,1-0,3)
	CBN	60-80 (1,5-2,0)	- -	- -	30-40 (0,9-1,0)	- -	25-35 (0,6-0,9)	- -	- -	14-30 (0,4-0,8)
Soft Steel	Aluminum Oxide/ Silicon Carbide	80-100 (2,0-2,5)	70-90 (1,8-2,3)	60-80 (1,5-2,0)	50-70 (1,3-1,8)	- -	- -	20-30 (0,5-0,8)	- -	5-20 (0,1-0,5)
	CBN	60-110 (1,5-2,5)	- -	- -	40-60 (0,9-1,0)	- -	30-45 (0,8-1,3)	- -	- -	20-40 (0,5-1,0)
Carbide	Diamond	60-80 (1,5-2,0)	- -	- -	30-40 (0,8-1,0)	- -	25-35 (0,6-0,9)	- -	- -	15-25 (0,4-0,6)
Cast Iron	Silicon Carbide	80-100 (2,0-2,5)	80-90 (2,0-2,3)	60-80 (1,5-2,0)	60-70 (1,5-1,8)	- -	40-50 (1,0-1,3)	20-40 (0,5-1,0)	- -	5-20 (0,1-0,5)
	Diamond	80-120 (2,0-3,0)	- -	- -	40-60 (1,0-1,5)	- -	30-40 (0,8-1,0)	- -	- -	20-30 (0,5-0,8)
Chrome	Diamond	75-90 (1,9-2,3)	- -	- -	50-65 (1,3-1,6)	- -	35-50 (0,9-1,3)	- -	- -	20-35 (0,5-0,9)
Ceramic	Diamond	80-100 (2,0-2,5)	- -	- -	40-55 (1,0-1,4)	- -	35-45 (0,9-1,3)	- -	- -	25-35 (0,6-0,9)
Aluminum, Brass, Bronze	Silicon Carbide	80-100 (2,0-2,5)	80-90 (2,0-2,3)	60-80 (1,5-2,0)	60-70 (1,5-1,8)	- -	20-40 (0,5-1,0)	20-30 (0,5-0,8)	- -	5-20 (0,1-0,5)

GENERAL NOTES

In some cases, stones other than the RECOMMENDED STONES may hone faster or last longer. For long or repetitive production runs, it may be economical to choose a stone slightly harder or softer, coarser or finer. As a general rule, hard materials require soft stones; soft materials require hard stones; rough holes require hard stones.

Additional diamond or Borazon/CBN stones are available to hone difficult materials that cannot be honed with conventional superabrasive stones. Contact Abrasive Engineering for recommendations.

← Stone orders involving large quantities or unusual requirements available 2 - 4 weeks after receipt of order.

