Technical Data

Stone Code Explanation Chart & Surface Finish Guide

K8 — A 5 7	Abrasive Types	Grit Size	Hardness
Series — **Abrasive Type** — **Grit Size** — **Hard-ness**	**A** - Aluminum Oxide **C, J** - Silicon Carbide **DM, DR, DV** - Diamond **NM, NR** - CBN	**1-** 70 **8-** 400 **2-** 80 **9-** 500 **3-** 100 **0-** 600 **4-** 150 **80-** 800 **5-** 220 **90-** 900 **6-** 280 **10-** 1000 **7-** 320 **00-** 1200	**1-** Soft **3-** **5-** **7-** **9-** **11-** **13-** **15-** Hard

Note: For special abrasive needs, contact your Sunnen Field Engineer.

Approximate Surface Finish in Micrometers (µm)R_a

Material	Abrasive Type	Grit Size 80	100	150	220	280	320	400	500	600	1200
Hard Steel	Aluminum Oxide/ Silicon Carbide	0,65	-	0,50	0,45	0,30	0,25	0,12	0,08	0,03	
	CBN	-	1,40*2,00	1,15	1,00	0,70	-	0,50	-	0,18	0,05
Soft Steel	Aluminum Oxide/ Silicon Carbide	2,00	-	0,90*1,40	0,65	0,50*0,90	0,40	0,18*0,25	0,10*0,20	0,05	
	CBN	-	1,60*2,50	-	1,25*2,00	-	-	0,65	-	0,40	0,12
Cast Iron	Silicon Carbide	2,50	-	0,75*1,00	0,50	0,30	0,25	0,15	0,12	0,08	
	Diamond	-	-	-	2,00	-	-	1,27	-	0,50	0,30
Aluminum, Brass, Bronze	Silicon Carbide	4,30	-	2,00	1,40	0,85	0,70	0,40	0,30	0,05	
Carbide	Diamond	-	-	0,75	0,50	-	-	0,18	-	0,08	0,03
Ceramic	Diamond	-	-	1,27	1,00	-	-	0,50	-	0,40	0,25
Glass	Diamond	-	-	2,40	1,80	-	-	0,75	-	0,40	0,20

Surface Finish Conversions: Millimeter to Inch—To convert one unit of measure to the other use the following formulas.

Micrometer to microinch: Micrometer x 40 = Microinch

Formulas for determining minimum stock removal required on diameter to achieve desired surface finish.

Surface Finish in Micrometers—(µm) R_a

$$\frac{\text{Existing Finish - Desired Finish}}{100} = \text{Required Stock Removal}$$

Example: Existing Finish = 1.25 µm; Desired Finish = 0.25 µm

$$\frac{1.25 - 0.25}{100} = 0.01 \text{ mm}$$

Approximate Surface Finish in Microinches (µ in)R_a

Material	Abrasive Type	Grit Size 80	100	150	220	280	320	400	500	600	1200
Hard Steel	Aluminum Oxide/ Silicon Carbide	25	-	20	18	12	10	5	3	1	
	CBN	-	55*80	45	40	28	-	20	-	7	2
Soft Steel	Aluminum Oxide/ Silicon Carbide	80	-	35*55	25	20*35	16	7*10	4*8	2	
	CBN	-	65*100	-	50*80	-	-	25	-	16	5
Cast Iron	Silicon Carbide	100	-	30*40	20	12	10	6	5	3	
	Diamond	-	-	-	80	-	-	50	-	20	12
Aluminum, Brass, Bronze	Silicon Carbide	170	-	80	55	33	27	16	12	2	
Carbide	Diamond	-	-	30	20	-	-	7	-	3	1
Ceramic	Diamond	-	-	50	40	-	-	20	-	15	10
Glass	Diamond	-	-	95	70	-	-	30	-	15	8

Surface Finish Conversions: Inch to Millimeter—To convert one unit of measure to the other use the following formulas.

Microinch to micrometer: Microinch ÷ 40 = Micrometer

*If two values are shown: the first number is for small parts, honed on machines with one horsepower or less; the second number is for large parts, honed on machines with two or more horsepower.

Formulas for determining minimum stock removal required on diameter to achieve desired surface finish.

Surface Finish in Microinches—(µ") R_a

$$\frac{\text{Existing Finish - Desired Finish}}{100{,}000} = \text{Required Stock Removal}$$

Example: Existing Finish = 50 µm"; Desired Finish = 10 µm"

$$\frac{50 - 10}{100{,}000} = 0.0004 \text{ inch}$$