

Chamfer Mills

3HC / 5HC Recommended Cutting Data - Inch

Workpiece Material Group	ISO	Hardness	Vc - SFM		fz - in/tooth by Cutter Diameter				
			Uncoated	ALtima® Blaze	1/8	3/16	1/4	3/8	1/2
Low Carbon Steels 12L14, 1018, A36	P	≤ 28 HRC	805	1150	.0015	.0023	.0030	.0045	.0060
Medium Carbon & High Carbon Steels 1045, 1050, 1070		≤ 38 HRC	630	900	.0010	.0015	.0020	.0030	.0040
Alloy Steels 4130, 4140, 4340		≤ 45 HRC	590	840	.0010	.0015	.0020	.0030	.0040
Die / Tool Steels A2, D2, H13, P20		≤ 45 HRC	510	725	.0009	.0013	.0018	.0026	.0035
Stainless Steel - Easy to Machine 303, 400 Series	M	≤ 28 HRC	380	545	.0009	.0013	.0018	.0026	.0035
Stainless Steel - Moderately Difficult Austenitic 304, 316		≤ 45 HRC	300	430	.0008	.0011	.0015	.0023	.0030
Stainless Steel - Difficult to Machine A286, Duplex, Nitronics, Cobalt Chrome		≤ 45 HRC	140	200	.0006	.0009	.0013	.0019	.0025
PH Stainless Steel 15-5, 17-4		≤ 45 HRC	300	430	.0008	.0011	.0015	.0023	.0030
High Temp Alloys Inconel, Hastelloy, Monel	S	≤ 42 HRC	105	150	.0006	.0009	.0013	.0019	.0025
Titanium Alloys 6AL-4V		≤ 42 HRC	245	350	.0008	.0011	.0015	.0023	.0030
Cast Irons - Gray	K	≤ 240 HB	910	1300	.0018	.0026	.0035	.0053	.0070
Cast Irons - Ductile & Malleable		> 240 HB	380	540	.0013	.0019	.0025	.0038	.0050
Wrought Aluminum Alloys 6061, 7050, 7075	N	-	2000	2500	.0020	.0030	.0040	.0060	.0080
Cast Aluminum Alloys		-	1500	2000	.0015	.0023	.0030	.0045	.0060
Brass & Copper Alloys		-	900	1200	.0011	.0017	.0023	.0034	.0045

Decreased feeds and/or a finish pass may be necessary to reach desired surface finish requirements.
Decreased speeds and feeds may be necessary for slotting / heavy duty cutting.
Cutting speed (Vc) should be calculated off of the Effective cutting diameter.

Effective Cutting Diameter = 2 x Chosen "Z" depth x tan (Included Angle/2) + Tip Diameter

Example:

Tool: 5HC050003B
Included Angle = 90°
Tip Diameter = .080"
Length of Cut = .210"
Chosen "Z" Depth = .180"

Calculation:

$2 \times .180" \times \tan(90^\circ/2) + .080"$
Effective Cutting Diameter = .440"

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.