Recommended Speeds & Feeds for Carbide Chamfer Mills

Material	Hardness R/C	Parameters for Edge break up to 20% of tool dia.									Parameters for chamfer larger than 20% of tool dia.								
		Starting SFM	Chamfer Mill Diameter								Starting SFM	Chamfer Mill Diameter							
			Feed rate, IPT (Inch per Tooth)									Feed rate, IPT (Inch per Tooth)							
Low Carbon Steel 1006, 1008, 1018, 1020, 1022, 1025, 1117, 1140, 1215, 1330	Up to 30	650	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	600-500	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.001	.0017	.002	.0025	.0035	.0042	.005	.007		.0006	.0013	.0015	.0018	.0025	.0031	.004	.0052
Medium Carbon and High Carbon, Steels 1030, 1040, 1050, 1060, 1085, 1095, 1541, 1551, 9255, 3135, 3415, 4130, 4140, 4150, 4320, 4520, 5015, 5120, 5140, 8620	30-40 RC	450	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	400-300	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0007	.0015	.0018	.0023	.0031	.0037	.0045	.006		.0005	.0011	.0014	.0017	.0023	.0028	.0034	.0045
Tool Steels T1, T2, T15, A2, A7, H13, P20, S7, D2	30-44 RC	350	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	300-200	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0008	.0015	.002	.0025	.0032	.004	.005	.0065		.0006	.0013	.0015	.002	.0025	.003	.004	.005
Hardened Steels Hardened Carbon Steels and Tool steels	42-54 RC	200	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	150-100	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0005	.0011	.0016	.0021	.0027	.0034	.0042	.005		.0003	.0008	.0012	.0017	.0022	.003	.0038	.0045
	54-62 RC	150	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	150-100	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0004	.0008	.0011	.0016	.002	.0025	.003	.0035									
Stainless Steel 430F, 301, 303, 410, 416, 420F, 430, 430F	Up to 30 RC	500	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	450-350	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0008	.0015	.002	.0025	.0032	.004	.005	.0065		.0006	.0011	.0016	.0021	.0028	.0033	.0041	.0055
Stainless Steel 301, 302, 303, 304, 305, 420, 15-5PH, 17-4PH, 17-7PH	Up to 30 RC	250	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	200-150	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0005	.001	.0012	.0015	.002	.0025	.003	.0035		.0002	.0007	.001	.0012	.0016	.002	.0024	.003
Stainless Steel 302B, 304B, 309, 310, 316, 316B, 316L, 317, 317L, 321, Nitronic	Over 30 RC	350	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	300-200	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0008	.0015	.002	.0025	.003	.0036	.0043	.006		.0006	.0012	.0016	.0019	.0025	.003	.0037	.0048
High Temp alloys Inconel, Monel, Hastelloy	Up to 42 RC	75	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	50	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0004	.0009	.001	.0014	.0018	.0023	.0027	.0036		.0002	.0005	.0007	.0009	.0011	.0014	.0017	.0023
Titanium	Up to 42 RC	150	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	125-100	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0005	.0009	.0012	.0015	.002	.0025	.003	.0038		.0003	.0006	.0008	.0009	.0012	.0015	.0018	.0025
Gray Cast iron ASTM A48, Class 20,25,30,35, SAE J431C, Grades G1800,G3000,G3500, GG10,15,20,25,30,35,40	———	1200	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	1100-900	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.002	.004	.005	.006	.0075	.0095	.012	.015		.0012	.0025	.003	.0035	.005	.006	.007	.009
Ductile Cast Iron 60-40-18, 65-45-12, D40148, D4512, 32510, 35108, M3210, M4504, M5503, 2502, 300, 350, 400, 450	———	750	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	700-500	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0015	.0035	.0042	.0052	.0062	.0072	.0095	.011		.001	.002	.0025	.003	.004	.005	.0065	.0075
Aluminum 2024, 6061, 7075, 1050, 6351, 5005, 2017, 7075	Up to 3% Si	1100	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	1000	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.002	.004	.005	.006	.0075	.0095	.012	.015		.0012	.0025	.003	.0035	.005	.006	.007	.009
Cast Aluminum High Silicon A380, Castings	Over 3% Si	750	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	700	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0018	.0035	.0043	.0052	.007	.0085	.010	.0135		.0014	.0028	.0035	.0042	.0055	.007	.0085	.011
Magnesium	———	1500	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	1500	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.002	.004	.005	.0055	.0075	.0095	.011	.015		.0012	.0025	.003	.0035	.0045	.006	.007	.0095
Non Ferrous Copper, Brass, Bronze	Up to 30 RC	600	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1	500	1/8	1/4	5/16	3/8	1/2	5/8	3/4	1
			.0015	.003	.004	.0045	.006	.0075	.009	.012		.001	.002	.0025	.003	.004	.005	.006	.007