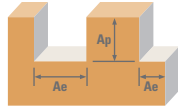


Compression

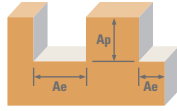


Series 25 Fractional	Ae x DC	Ap x DC	Vc (sfm)	DC • in					
				1/4	5/16	3/8	1/2		
CFRP, AFRP (CARBON FIBER, ARAMID FIBER)	Profile 	≤ 0.5	≤ 1.5	500	RPM	7640	6112	5093	3820
				(400-600)	Fz	0.0016	0.0030	0.0040	0.0048
				Feed (ipm)	49	73	122	147	
	HSM 	≤ 0.05	≤ 2	825	RPM	12606	10085	8404	6303
				(660-990)	Fz	0.0037	0.0069	0.0092	0.0110
				Feed (ipm)	187	278	464	555	
GFRP (FIBERGLASS)	Profile 	≤ 0.5	≤ 1.5	400	RPM	6112	4890	4075	3056
				(320-480)	Fz	0.0016	0.0030	0.0040	0.0048
				Feed (ipm)	39	59	98	117	
	HSM 	≤ 0.05	≤ 2	660	RPM	10085	8068	6723	5042
				(528-792)	Fz	0.0037	0.0069	0.0092	0.0110
				Feed (ipm)	149	223	371	444	
N CARBON, GRAPHITE	Profile 	≤ 0.5	≤ 1.5	600	RPM	9168	7334	6112	4584
				(480-720)	Fz	0.0020	0.0038	0.0050	0.0060
				Feed (ipm)	73	111	183	220	
	HSM 	≤ 0.05	≤ 2	990	RPM	15127	12102	10085	7564
				(792-1188)	Fz	0.0046	0.0086	0.0115	0.0138
				Feed (ipm)	278	416	696	835	
PLASTICS	Profile 	≤ 0.5	≤ 1.5	1000	RPM	15280	12224	10187	7640
				(800-1200)	Fz	0.0020	0.0038	0.0050	0.0060
				Feed (ipm)	122	186	306	367	
	HSM 	≤ 0.05	≤ 2	1650	RPM	25212	20170	16808	12606
				(1320-1980)	Fz	0.0046	0.0086	0.0115	0.0138
				Feed (ipm)	464	694	1160	1392	
MACHINABLE CERAMICS MACHINABLE GLASS	Profile 	≤ 0.5	≤ 1.5	50	RPM	764	611	509	382
				(40-60)	Fz	0.0008	0.0015	0.0020	0.0024
				Feed (ipm)	2.4	3.7	6.1	7.3	
	HSM 	≤ 0.05	≤ 2	85	RPM	1299	1039	866	649
				(68-102)	Fz	0.0018	0.0034	0.0046	0.0055
				Feed (ipm)	9.4	14.1	23.9	28.6	

HSM (high speed machining)
 $rpm = Vc \times 3.82 / DC$
 $ipm = Fz \times \text{number of flutes} \times rpm$
 adjust parameters based on resin type and fiber structure
 reduce speed when overheating causes melting or damage to resin
 reduce feed if delamination or fraying occur

finish cuts typically required reduced feed and cutting depths
 rates shown are for use without coolant; rates may be increased with coolant
 dust collection is vital when machining dry
 diamond coating will increase tool life in graphite and composite materials
 refer to the SGS Tool Wizard® for complete technical information
 (www.kyocera-sgstool.com)

Compression



Series 25M Metric	Ae x DC	Ap x DC	Vc (m/min)	DC • mm					
				6	8	10	12		
CFRP, AFRP (CARBON FIBER, ARAMID FIBER)	Profile 	≤ 0.5	≤ 1.5	150	RPM	7951	5963	4771	3976
				(96-164)	Fz	0.040	0.065	0.075	0.100
				Feed (mm/min)	1272	1550	2147	3181	
	HSM 	≤ 0.05	≤ 2	250	RPM	13252	9939	7951	6626
				(200-300)	Fz	0.095	0.145	0.175	0.235
				Feed (mm/min)	5036	5765	8349	12457	
GFRP (FIBERGLASS)	Profile 	≤ 0.5	≤ 1.5	120	RPM	6361	4771	3817	3181
				(96-164)	Fz	0.040	0.065	0.075	0.100
				Feed (mm/min)	1018	1240	1717	2544	
	HSM 	≤ 0.05	≤ 2	200	RPM	10602	7951	6361	5301
				(160-240)	Fz	0.095	0.145	0.175	0.235
				Feed (mm/min)	4029	4612	6679	9966	
N CARBON, GRAPHITE	Profile 	≤ 0.5	≤ 1.5	185	RPM	9807	7355	5884	4903
				(148-222)	Fz	0.050	0.080	0.095	0.125
				Feed (mm/min)	1961	2354	3354	4903	
	HSM 	≤ 0.05	≤ 2	300	RPM	15903	11927	9542	7951
				(240-360)	Fz	0.115	0.185	0.220	0.290
				Feed (mm/min)	7315	8826	12595	18447	
PLASTICS	Profile 	≤ 0.5	≤ 1.5	305	RPM	16168	12126	9701	8084
				(244-366)	Fz	0.050	0.080	0.095	0.125
				Feed (mm/min)	3234	3880	5529	8084	
	HSM 	≤ 0.05	≤ 2	505	RPM	26769	20077	16062	13385
				(404-606)	Fz	0.115	0.185	0.220	0.290
				Feed (mm/min)	12314	14857	21201	31052	
MACHINABLE CERAMICS MACHINABLE GLASS	Profile 	≤ 0.5	≤ 1.5	15	RPM	795	596	477	398
				(12-18)	Fz	0.020	0.035	0.045	0.050
				Feed (mm/min)	64	83	129	159	
	HSM 	≤ 0.05	≤ 2	25	RPM	1325	994	795	663
				(20-30)	Fz	0.045	0.075	0.085	0.115
				Feed (mm/min)	239	298	406	610	

HSM (high speed machining)
 $rpm = (Vc \times 1000) / (DC \times 3.14)$
 $mm/min = Fz \times \text{number of flutes} \times rpm$
 adjust parameters based on resin type and fiber structure
 reduce speed when overheating causes melting or damage to resin
 reduce feed if delamination or fraying occur

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