

Series 27 Fractional			Ae x D_1	Ap x D_1	Vc (sfm)		Diameter (D_1) (inch) 1/4	3/8	1/2	3/4
N	CFRP, AFRP (CARBON FIBER, ARAMID FIBER)	Slot	1	≤ 1	400	RPM	6112	4075	3056	2037
					(320-480)	Fz	0.0016	0.0030	0.0040	0.0048
						Feed (ipm)	39	49	49	39
		Profile	≤ 0.5	≤ 1.5	500	RPM	7640	5093	3820	2547
					(400-600)	Fz	0.0016	0.0030	0.0040	0.0048
						Feed (ipm)	49	61	61	49
		HSM	≤ 0.5	≤ 2	825	RPM	12606	8404	6303	4202
					(660-990)	Fz	0.0037	0.0069	0.0092	0.0110
						Feed (ipm)	187	232	232	185
	GFRP (FIBERGLASS)	Slot	1	≤ 1	320	RPM	4890	3260	2445	1630
					(256-384)	Fz	0.0016	0.0030	0.0040	0.0048
						Feed (ipm)	31	39	39	31
		Profile	≤ 0.5	≤ 1.5	400	RPM	6112	4075	3056	2037
					(320-480)	Fz	0.0016	0.0030	0.0040	0.0048
						Feed (ipm)	39	49	49	39
		HSM	≤ 0.5	≤ 2	660	RPM	10085	6723	5042	3362
					(528-792)	Fz	0.0037	0.0069	0.0092	0.0110
						Feed (ipm)	149	186	186	148
	CARBON, GRAPHITE	Slot	1	≤ 1	480	RPM	7334	4890	3667	2445
					(384-576)	Fz	0.0020	0.0038	0.0050	0.0060
						Feed (ipm)	59	74	73	59
		Profile	≤ 0.5	≤ 1.5	600	RPM	9168	6112	4584	3056
					(480-720)	Fz	0.0020	0.0038	0.0050	0.0060
						Feed (ipm)	73	93	92	73
		HSM	≤ 0.5	≤ 2	990	RPM	15127	10085	7564	5042
					(792-1188)	Fz	0.0046	0.0086	0.0115	0.0138
						Feed (ipm)	278	347	348	278
	PLASTICS	Slot	1	≤ 1	800	RPM	12224	8149	6112	4075
					(640-690)	Fz	0.0020	0.0038	0.0050	0.0060
						Feed (ipm)	98	124	122	98
		Profile	≤ 0.5	≤ 1.5	1000	RPM	15280	10187	7640	5093
					(800-1200)	Fz	0.0020	0.0038	0.0050	0.0060
						Feed (ipm)	122	155	153	122
		HSM	≤ 0.5	≤ 2	1650	RPM	25212	16808	12606	8404
					(1320-1980)	Fz	0.0046	0.0086	0.0115	0.0138
						Feed (ipm)	464	578	580	464
	MACHINABLE CERAMICS MACHINABLE GLASS	Slot	1	≤ 1	40	RPM	611	407	306	204
					(32-48)	Fz	0.0008	0.0015	0.0020	0.0024
						Feed (ipm)	2.0	2.4	2.4	2.0
		Profile	≤ 0.5	≤ 1.5	50	RPM	764	509	382	255
					(40-60)	Fz	0.0008	0.0015	0.0020	0.0024
						Feed (ipm)	2.4	3.1	3.1	2.4
		HSM	≤ 0.5	≤ 2	85	RPM	1299	866	649	433
					(68-102)	Fz	0.0018	0.0034	0.0046	0.0055
						Feed (ipm)	9.4	11.8	11.9	9.5

HSM (High Speed Machining)
rpm = Vc x 3.82 / D_1
ipm = Fz x 4 x 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 KYOCERA SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)