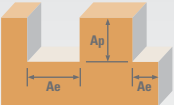


Speed & Feed Recommendations



Series 20, 31 Metric			Vc (m/min)		Diameter (D ₁) (mm)			
	Ae x D ₁	Ap x D ₁			6	8	10	12
CFRP, AFRP (CARBON FIBER, ARAMID FIBER)	 Slot 1 ≤ 1		120	RPM	6361	4771	3817	3181
			(96-164)	Fz	0.152	0.203	0.254	0.305
				Feed (mm/min)	970	970	970	970
	 Profile ≤ 0.5 ≤ 1.5		150	RPM	7951	5963	4771	3976
			(120-180)	Fz	0.153	0.203	0.254	0.305
				Feed (mm/min)	1213	1213	1213	1213
	 HSM ≤ 0.05 ≤ 2		250	RPM	13252	9939	7951	6626
			(200-300)	Fz	0.350	0.467	0.583	0.700
				Feed (mm/min)	4638	4638	4638	4638
GFRP (FIBERGLASS)	 Slot 1 ≤ 1		100	RPM	5301	3976	3181	2650
			(80-120)	Fz	0.152	0.203	0.254	0.305
				Feed (mm/min)	808	808	808	808
	 Profile ≤ 0.5 ≤ 1.5		120	RPM	6361	4771	3817	3181
			(96-164)	Fz	0.152	0.203	0.254	0.305
				Feed (mm/min)	970	970	970	970
	 HSM ≤ 0.05 ≤ 2		200	RPM	10602	7951	6361	5301
			(160-240)	Fz	0.350	0.467	0.583	0.700
				Feed (mm/min)	3711	3711	3711	3711
CARBON, GRAPHITE	 Slot 1 ≤ 1		145	RPM	7686	5765	4612	3843
			(116-174)	Fz	0.190	0.253	0.317	0.380
				Feed (mm/min)	1460	1460	1460	1460
	 Profile ≤ 0.5 ≤ 1.5		185	RPM	9807	7355	5884	4903
			(148-222)	Fz	0.190	0.253	0.317	0.380
				Feed (mm/min)	1863	1863	1863	1863
	 HSM ≤ 0.05 ≤ 2		300	RPM	15903	11927	9542	7951
			(240-360)	Fz	0.437	0.583	0.729	0.875
				Feed (mm/min)	6957	6957	6957	6957
PLASTICS	 Slot 1 ≤ 1		245	RPM	12987	9740	7792	6494
			(196-294)	Fz	0.075	0.100	0.125	0.150
				Feed (mm/min)	974	974	974	974
	 Profile ≤ 0.5 ≤ 1.5		305	RPM	16168	12126	9701	8084
			(244-366)	Fz	0.075	0.100	0.125	0.150
				Feed (mm/min)	1213	1213	1213	1213
	 HSM ≤ 0.05 ≤ 2		505	RPM	26769	20077	16062	13385
			(404-606)	Fz	0.175	0.233	0.292	0.350
				Feed (mm/min)	4685	4685	4685	4685

$$\text{rpm} = (1000 \times \text{m/min}) / (3.14 \times D_1)$$

$$\text{mm/min} = (\text{mm/revolution}) \times \text{rpm}$$

HSM (high speed machining)

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 ()