SPEEDS & FEEDS

6 Flute - Chipbreaker Rougher - Variable Pitch

HEV-C-6

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Material Guide		Hardness	SFM	1/8	3/16	1/4	3/8	1/2	3/4	1
				Rgh	Rgh	Rgh	Rgh	Rgh	Rgh	Rgh
CARBON STEEL	10XX, 11XX, 12XX, 12LXX, ASTM A27, ASTM A36	< 75 HRB	455	.0014	.0020	.0028	.0041	.0054	.0077	.0099
		75 - 98 HRB	445	.0010	.0015	.0020	.0030	.0040	.0057	.0073
		21 - 36 HRC	400	.0007	.0010	.0013	.0020	.0026	.0037	.0047
LOW ALLOY STEEL	13XX, 41XX, 43XX, 51XX, 86XX, 93XX	75 - 98 HRB	390	.0009	.0013	.0018	.0026	.0034	.0049	.0063
		21 - 36 HRC	340	.0007	.0010	.0013	.0020	.0026	.0037	.0047
		36 - 50 HRC	260	.0006	.0008	.0011	.0017	.0022	.0032	.0041
		> 50 HRC	155	.0005	.0007	.0009	.0014	.0018	.0025	.0033
TOOL STEEL	A2, H13, L6, P20, S7	75 - 98 HRB	340	.0009	.0013	.0018	.0026	.0034	.0049	.0063
		21 - 36 HRC	250	.0007	.0010	.0014	.0021	.0027	.0039	.0050
		36 - 50 HRC	145	.0006	.0008	.0011	.0016	.0021	.0031	.0040
		> 50 HRC	85	.0005	.0007	.0009	.0013	.0017	.0025	.0032
SPECIALTY STEEL	300M, Invar 36, Kovar, Maraging 200, Maraging 250, Maraging 300, Maraging 350	< 75 HRB	290	.0012	.0017	.0023	.0034	.0045	.0064	.0082
		75 - 98 HRB	255	.0008	.0012	.0016	.0023	.0031	.0044	.0056
		21 - 36 HRC	175	.0007	.0010	.0014	.0021	.0027	.0039	.0051
		36 - 50 HRC	150	.0006	.0009	.0013	.0019	.0025	.0035	.0046
		> 50 HRC	55	.0004	.0006	.0008	.0012	.0015	.0022	.0028
AUSTENITIC STAINLESS STEEL	Nitronic 50, Nitronic 60, 301, 303, 304, 304L, Incoloy 27-7MO, 316, 316L, 321, 347	75 - 98 HRB	265	.0009	.0013	.0017	.0025	.0033	.0048	.0061
		21 - 36 HRC	225	.0008	.0011	.0015	.0023	.0030	.0043	.0055
		36 - 50 HRC	180	.0006	.0009	.0012	.0018	.0024	.0034	.0044
MARTENSITIC & FERRITIC STAINLESS STEEL	403, 410, 416, 420, 440, 430, 446	75 - 98 HRB	300	.0009	.0013	.0018	.0026	.0034	.0049	.0064
		21 - 36 HRC	280	.0008	.0011	.0015	.0023	.0030	.0043	.0055
PH STAINLESS STEEL	15-5, 17-4, Carpenter 450, Carpenter 465	21 - 36 HRC	200	.0007	.0010	.0013	.0019	.0025	.0036	.0047
		36 - 50 HRC	145	.0006	.0008	.0011	.0017	.0022	.0031	.0040
GRAY CAST IRON	SAE J431, ASTM A48	75 - 98 HRB	410	.0014	.0021	.0029	.0042	.0056	.0080	.0103
		21 - 36 HRC	370	.0008	.0011	.0016	.0023	.0030	.0043	.0056
MALLEABLE CAST IRON	ASTM A47, ASTM A220, ASTM A602	75 - 98 HRB	345	.0009	.0013	.0018	.0027	.0035	.0051	.0065
		21 - 36 HRC	335	.0008	.0012	.0016	.0023	.0030	.0043	.0056
NODULAR (DUCTILE) CAST IRON	ASTM A536, ASTM 897	75 - 98 HRB	310	.0010	.0014	.0019	.0028	.0037	.0052	.0068
		21 - 36 HRC	260	.0006	.0009	.0012	.0019	.0024	.0035	.0045
		36 - 50 HRC	135	.0004	.0006	.0008	.0012	.0015	.0022	.0029
PURE NICKEL	Nickel 200, Nickel 201	< 75 HRB	285	.0012	.0018	.0024	.0036	.0047	.0067	.0087
		75 - 98 HRB	250	.0010	.0015	.0020	.0030	.0039	.0057	.0073
NICKEL ALLOY	Hastelloy C-22, Inconel 625, Waspaloy, René 41, Inconel 718, Incoloy 20	75 - 98 HRB	80	.0006	.0009	.0012	.0018	.0024	.0034	.0044
		21 - 36 HRC	75	.0006	.0009	.0012	.0017	.0023	.0033	.0042
		36 - 50 HRC	70	.0005	.0007	.0010	.0015	.0020	.0028	.0036
PURE TITANIUM	Ti Grade 1, Ti Grade 2, Ti Grade 3, Ti Grade 4, Ti Grade 7, Ti Grade 12	< 75 HRB	300	.0017	.0025	.0033	.0050	.0065	.0093	.0120
		75 - 98 HRB	275	.0014	.0021	.0028	.0042	.0055	.0078	.0101
		21 - 36 HRC	250	.0011	.0015	.0021	.0031	.0041	.0059	.0076
TITANIUM ALLOY	Ti 3Al-2.5V, Ti 6Al-4V, Ti 10V-2Fe-3Al	21 - 36 HRC	180	.0009	.0012	.0017	.0025	.0032	.0046	.0060
		36 - 50 HRC	160	.0008	.0011	.0015	.0022	.0029	.0042	.0054
COBALT ALLOY	ASTM F562, ASTM F90, ASTM F75, ASTM F799	75 - 98 HRB	210	.0007	.0010	.0014	.0021	.0027	.0039	.0051
		21 - 36 HRC	170	.0007	.0010	.0014	.0020	.0026	.0038	.0049
		36 - 50 HRC	65	.0005	.0007	.0009	.0014	.0018	.0026	.0033

Milling Process	Hardness	ADOC	RDOC
Rgh (Traditional Roughing)	< 35 HRC	Up to Max LOC	15%-25% Diameter
	≥ 35 HRC	Up to Max LOC	10%-20% Diameter

NOTES:

Hardness Scales: HRB = Rockwell B
HRC = Rockwell C

IPT values shown are for 2.5xD length of cut tools, and should be adjusted for longer or shorter lengths of cut. For more accurate running parameters, please refer to Machining Advisor Pro.