SPEEDS & FEEDS

7 Flute - Chipbreaker Rougher - Variable Pitch

HEV-C-7

HEV-C-7 / HEV-C-RN-7

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	.0015	.0023	.0030	.0045	.0058	.0085	.0108
		75 - 98 HRB	445	.0011	.0017	.0022	.0033	.0042	.0062	.0079
		21 - 36 HRC	400	.0007	.0011	.0014	.0021	.0028	.0040	.0051
LOW ALLOY STEEL	13XX, 41XX, 43XX, 51XX, 86XX, 93XX	75 - 98 HRB	390	.0010	.0014	.0019	.0029	.0037	.0054	.0068
		21 - 36 HRC	340	.0007	.0011	.0014	.0021	.0027	.0040	.0051
		36 - 50 HRC	260	.0006	.0009	.0012	.0019	.0024	.0035	.0044
		> 50 HRC	155	.0005	.0007	.0010	.0015	.0019	.0028	.0035
TOOL STEEL	A2, H13, L6, P20, S7	75 - 98 HRB	340	.0010	.0014	.0019	.0029	.0037	.0054	.0068
		21 - 36 HRC	250	.0008	.0011	.0015	.0023	.0029	.0043	.0054
		36 - 50 HRC	145	.0006	.0009	.0012	.0018	.0023	.0033	.0042
		> 50 HRC	85	.0005	.0007	.0010	.0014	.0019	.0027	.0034
SPECIALTY STEEL	300M, Invar 36, Kovar, Maraging 200, Maraging 250, Maraging 300, Maraging 350	< 75 HRB	290	.0013	.0019	.0025	.0037	.0048	.0070	.0089
		75 - 98 HRB	255	.0009	.0013	.0017	.0026	.0033	.0048	.0061
		21 - 36 HRC	175	.0008	.0012	.0015	.0023	.0030	.0043	.0055
		36 - 50 HRC	150	.0007	.0011	.0014	.0021	.0027	.0039	.0049
		> 50 HRC	55	.0004	.0006	.0008	.0013	.0016	.0024	.0030
AUSTENITIC STAINLESS STEEL	Nitronic 50, Nitronic 60, 301, 303, 304, 304L, Incoloy 27-7MO, 316, 316L, 321, 347	75 - 98 HRB	265	.0009	.0014	.0019	.0028	.0036	.0052	.0066
		21 - 36 HRC	225	.0008	.0013	.0017	.0025	.0032	.0047	.0060
		36 - 50 HRC	180	.0007	.0010	.0013	.0020	.0026	.0038	.0048
MARTENSITIC & FERRITIC STAINLESS STEEL	403, 410, 416, 420, 440, 430, 446	75 - 98 HRB	300	.0010	.0015	.0019	.0029	.0037	.0054	.0068
		21 - 36 HRC	280	.0008	.0013	.0017	.0025	.0032	.0047	.0059
PH STAINLESS STEEL	15-5, 17-4, Carpenter 450, Carpenter 465	21 - 36 HRC	200	.0007	.0011	.0014	.0021	.0027	.0039	.0050
		36 - 50 HRC	145	.0006	.0009	.0012	.0018	.0024	.0034	.0044
GRAY CAST IRON	SAE J431, ASTM A48	75 - 98 HRB	410	.0016	.0024	.0031	.0046	.0060	.0087	.0111
		21 - 36 HRC	370	.0009	.0013	.0017	.0025	.0032	.0047	.0060
MALLEABLE CAST IRON	ASTM A47, ASTM A220, ASTM A602	75 - 98 HRB	345	.0010	.0015	.0019	.0029	.0038	.0055	.0070
		21 - 36 HRC	335	.0009	.0013	.0017	.0025	.0033	.0047	.0060
NODULAR (DUCTILE) CAST IRON	ASTM A536, ASTM 897	75 - 98 HRB	310	.0010	.0016	.0020	.0031	.0039	.0057	.0073
		21 - 36 HRC	260	.0007	.0010	.0013	.0020	.0026	.0038	.0048
		36 - 50 HRC	135	.0004	.0007	.0009	.0013	.0017	.0024	.0031
PURE NICKEL	Nickel 200, Nickel 201	< 75 HRB	285	.0013	.0020	.0026	.0039	.0051	.0074	.0094
		75 - 98 HRB	250	.0011	.0017	.0022	.0033	.0042	.0062	.0079
NICKEL ALLOY	Hastelloy C-22, Inconel 625, Waspaloy, René 41, Inconel 718, Incoloy 20	75 - 98 HRB	80	.0007	.0010	.0013	.0020	.0026	.0037	.0048
		21 - 36 HRC	75	.0007	.0010	.0013	.0019	.0025	.0036	.0046
		36 - 50 HRC	70	.0006	.0008	.0011	.0016	.0021	.0031	.0039
PURE TITANIUM	Ti Grade 1, Ti Grade 2, Ti Grade 3, Ti Grade 4, Ti Grade 7, Ti Grade 12	< 75 HRB	300	.0018	.0028	.0036	.0054	.0070	.0102	.0129
		75 - 98 HRB	275	.0015	.0023	.0030	.0045	.0059	.0085	.0108
		21 - 36 HRC	250	.0011	.0017	.0023	.0034	.0044	.0064	.0081
TITANIUM ALLOY	Ti 3Al-2.5V, Ti 6Al-4V, Ti 10V-2Fe-3Al	21 - 36 HRC	180	.0009	.0014	.0018	.0027	.0035	.0050	.0064
		36 - 50 HRC	160	.0008	.0012	.0016	.0025	.0032	.0046	.0058
COBALT ALLOY	ASTM F562, ASTM F90, ASTM F75, ASTM F799	75 - 98 HRB	210	.0008	.0012	.0015	.0023	.0029	.0043	.0054
		21 - 36 HRC	170	.0007	.0011	.0015	.0022	.0028	.0041	.0052
		36 - 50 HRC	65	.0005	.0008	.0010	.0015	.0019	.0028	.0036

Milling Process	Hardness	ADOC	RDOC
Rgh (Traditional Roughing)	< 35 HRC	Up to Max LOC	10%-20% 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. Values shown are for non-reached tools. For tools with reaches greater than 3xD, IPT should be reduced. For more accurate running parameters, please refer to Machining Advisor Pro.