

## SPEEDS & FEEDS

### 6 Flute - Variable Pitch



## HEV-6

## HEV-6 / HEV-RN-6

Material Guide		Hardness	SFM															
				1/8		3/16		1/4		3/8		1/2		3/4		1		
				Rgh	Fin	Rgh	Fin	Rgh	Fin	Rgh	Fin	Rgh	Fin	Rgh	Fin	Rgh	Fin	
CARBON STEEL	10XX, 11XX, 12XX, 12LXX, ASTM A27, ASTM A36	< 75 HRB	455	.0014	.0017	.0020	.0019	.0028	.0022	.0041	.0025	.0054	.0029	.0077	.0034	.0099	.0042	
		75 - 98 HRB	445	.0010	.0014	.0015	.0016	.0020	.0018	.0030	.0021	.0039	.0025	.0056	.0029	.0072	.0036	
		21 - 36 HRC	400	.0007	.0012	.0010	.0013	.0013	.0015	.0020	.0017	.0025	.0020	.0036	.0024	.0047	.0029	
LOW ALLOY STEEL	13XX, 41XX, 43XX, 51XX, 86XX, 93XX	75 - 98 HRB	390	.0009	.0013	.0013	.0015	.0018	.0017	.0026	.0020	.0034	.0023	.0049	.0027	.0063	.0033	
		21 - 36 HRC	340	.0007	.0011	.0010	.0013	.0013	.0015	.0019	.0017	.0025	.0020	.0036	.0023	.0047	.0028	
		36 - 50 HRC	260	.0006	.0011	.0008	.0012	.0011	.0014	.0017	.0016	.0022	.0018	.0032	.0022	.0041	.0027	
TOOL STEEL	A2, H13, L6, P20, S7	> 50 HRC	155	.0005	.0010	.0007	.0011	.0009	.0012	.0013	.0014	.0017	.0016	.0032	.0025	.0019	.0032	.0024
		75 - 98 HRB	340	.0009	.0013	.0013	.0015	.0018	.0017	.0026	.0020	.0034	.0023	.0049	.0027	.0063	.0033	
		21 - 36 HRC	250	.0007	.0012	.0010	.0013	.0014	.0015	.0021	.0017	.0027	.0020	.0039	.0024	.0050	.0029	
SPECIALTY STEEL	300M, Invar 36, Kovar, Maraging 200, Maraging 250, Maraging 300, Maraging 350	36 - 50 HRC	145	.0006	.0011	.0008	.0012	.0011	.0014	.0016	.0015	.0021	.0018	.0030	.0022	.0039	.0026	
		75 - 98 HRB	290	.0012	.0015	.0017	.0017	.0023	.0020	.0034	.0022	.0045	.0026	.0064	.0031	.0082	.0038	
		21 - 36 HRC	255	.0008	.0013	.0012	.0014	.0016	.0016	.0023	.0019	.0031	.0022	.0044	.0026	.0056	.0031	
AUSTENITIC STAINLESS STEEL	Nitronic 50, Nitronic 60, 301, 303, 304, 304L, Incoloy 27-7MO, 316, 316L, 321, 347	75 - 98 HRB	265	.0009	.0013	.0013	.0015	.0017	.0017	.0025	.0019	.0033	.0023	.0048	.0027	.0061	.0033	
		21 - 36 HRC	225	.0008	.0013	.0011	.0014	.0015	.0016	.0023	.0018	.0030	.0021	.0043	.0026	.0055	.0031	
		36 - 50 HRC	180	.0006	.0011	.0009	.0012	.0012	.0014	.0018	.0016	.0024	.0019	.0034	.0023	.0044	.0028	
MARTENSITIC & FERRITIC STAINLESS STEEL	403, 410, 416, 420, 440, 430, 446	75 - 98 HRB	300	.0009	.0013	.0013	.0015	.0018	.0017	.0026	.0020	.0034	.0023	.0049	.0027	.0063	.0033	
		21 - 36 HRC	280	.0008	.0013	.0011	.0014	.0015	.0016	.0023	.0018	.0030	.0021	.0043	.0025	.0055	.0031	
PH STAINLESS STEEL	15-5, 17-4, Carpenter 450, Carpenter 465	21 - 36 HRC	200	.0007	.0011	.0010	.0013	.0013	.0015	.0019	.0017	.0025	.0020	.0036	.0023	.0046	.0028	
		36 - 50 HRC	145	.0006	.0011	.0008	.0012	.0011	.0014	.0017	.0016	.0022	.0018	.0031	.0022	.0040	.0027	
GRAY CAST IRON	SAE J431, ASTM A48	75 - 98 HRB	410	.0014	.0017	.0021	.0019	.0029	.0022	.0042	.0025	.0055	.0029	.0079	.0035	.0102	.0042	
		21 - 36 HRC	370	.0008	.0013	.0011	.0014	.0015	.0016	.0023	.0018	.0030	.0021	.0043	.0025	.0055	.0031	
MALLEABLE CAST IRON	ASTM A47, ASTM A220, ASTM A602	75 - 98 HRB	345	.0009	.0014	.0013	.0015	.0018	.0017	.0027	.0020	.0035	.0023	.0050	.0028	.0065	.0034	
		21 - 36 HRC	335	.0008	.0013	.0011	.0014	.0016	.0016	.0023	.0018	.0030	.0021	.0043	.0026	.0056	.0031	
NODULAR (DUCTILE) CAST IRON	ASTM A536, ASTM 897	75 - 98 HRB	310	.0009	.0014	.0014	.0015	.0019	.0018	.0028	.0020	.0036	.0024	.0052	.0028	.0067	.0034	
		21 - 36 HRC	260	.0006	.0011	.0009	.0013	.0012	.0014	.0019	.0017	.0024	.0019	.0035	.0023	.0044	.0028	
		36 - 50 HRC	135	.0004	.0009	.0006	.0010	.0008	.0011	.0012	.0013	.0015	.0015	.0022	.0018	.0028	.0022	
PURE NICKEL	Nickel 200, Nickel 201	< 75 HRB	285	.0012	.0016	.0018	.0018	.0024	.0020	.0036	.0023	.0047	.0027	.0067	.0032	.0086	.0039	
		75 - 98 HRB	250	.0010	.0014	.0015	.0016	.0020	.0018	.0030	.0021	.0039	.0025	.0056	.0029	.0072	.0036	
NICKEL ALLOY	Hastelloy C-22, Inconel 625, Waspaloy, René 41, Inconel 718, Incoloy 20	75 - 98 HRB	80	.0006	.0011	.0009	.0013	.0012	.0014	.0018	.0016	.0024	.0019	.0034	.0023	.0044	.0028	
		21 - 36 HRC	75	.0006	.0011	.0009	.0012	.0012	.0014	.0017	.0016	.0023	.0019	.0033	.0023	.0042	.0027	
		36 - 50 HRC	70	.0005	.0010	.0007	.0011	.0010	.0013	.0015	.0015	.0020	.0017	.0028	.0021	.0036	.0025	
PURE TITANIUM	Ti Grade 1, Ti Grade 2, Ti Grade 3, Ti Grade 4, Ti Grade 7, Ti Grade 12	< 75 HRB	300	.0017	.0019	.0024	.0021	.0033	.0024	.0049	.0027	.0065	.0032	.0093	.0038	.0119	.0046	
		75 - 98 HRB	275	.0014	.0017	.0021	.0019	.0028	.0022	.0041	.0025	.0054	.0029	.0078	.0035	.0100	.0042	
		21 - 36 HRC	250	.0011	.0015	.0015	.0017	.0021	.0019	.0031	.0022	.0041	.0025	.0058	.0030	.0075	.0036	
TITANIUM ALLOY	Ti 3Al-2.5V, Ti 6Al-4V, Ti 10V-2Fe-3Al	21 - 36 HRC	180	.0009	.0013	.0012	.0015	.0017	.0017	.0024	.0019	.0032	.0022	.0046	.0027	.0059	.0032	
		36 - 50 HRC	160	.0008	.0012	.0011	.0014	.0015	.0016	.0022	.0018	.0029	.0021	.0042	.0025	.0054	.0031	
COBALT ALLOY	ASTM F562, ASTM F90, ASTM F75, ASTM F799	75 - 98 HRB	210	.0007	.0012	.0010	.0013	.0014	.0015	.0021	.0018	.0027	.0021	.0039	.0024	.0050	.0030	
		21 - 36 HRC	170	.0007	.0012	.0010	.0013	.0014	.0015	.0020	.0017	.0026	.0020	.0038	.0024	.0048	.0029	
		36 - 50 HRC	65	.0005	.0010	.0007	.0011	.0009	.0012	.0014	.0014	.0018	.0017	.0025	.0020	.0033	.0024	

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
Fin (Finishing)	N/A	Up to Max LOC	4%-6% 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.