

General Purpose Variable Index & Helix Endmills

Our General Purpose Variable index and Helix endmills are designed to offer a better performing tool at the same price as a general purpose tool. A special combination of an unequal index and variable helix angle helps you increase speeds and feeds, improve finish through reduced vibration while controlling harmonics. This Tool Is the Perfect Combination of Performance and Value!

General Purpose Variable Index & Helix Endmills Speeds & Feeds

Material	Grades	Feed by Endmill Diameter (IPT)								
		SFM		1/8	1/4	3/8	1/2	5/8	3/4	1
		Uncoated	AlTiN	(.1250)	(.2500)	(.3750)	(.5000)	(.625)	(.7500)	(1.000)
P - Steels										
High Strength Tool Steel	A2, D2, P20, H11, H13, S2, 01	225-250	250-350	.0009	.0010	.0013	.0017	.0023	.0028	.0040
High Strength Tool Steel >32 HRC		170-225	225-325	.0009	.0010	.0013	.0017	.0023	.0028	.0040
Low Carbon	A36, 12L14, 12L15, 1005, 1018, 1020, 1108-1119, 1213-1215, 1513-1518, 4012, 5015, 9310	400-500	500-600	.0006	.0012	.0023	.0035	.0045	.0055	.0065
Low Carbon >32HRC		250-325	325-350	.0006	.0012	.0023	.0035	.0045	.0055	.0065
Medium Carbon	1040-1095, 1140-1151, 1330-1345, 1520-1572, 4023-4063, 4120-4161, 4330-4340, 4620-4640, 8620-8660, 8740-8750, 6150, 51000, 52100	225-300	350-425	.0006	.0012	.0023	.0035	.0045	.0055	.0065
Medium Carbon >32 HRC		200-250	275-325	.0006	.0012	.0023	.0035	.0045	.0055	.0065
M - Stainless Steels										
Austenitic	301-304L, 310, 316L, 321, 347	250-300	300-335	.0005	.0006	.0009	.0010	.0023	.0035	.0055
Austenitic >32 HRC		170-200	200-250	.0005	.0006	.0009	.0010	.0023	.0035	.0055
Martensitic	403, 410, 416, 420, 430, 431, 440	375-425	425-450	.0010	.0012	.0017	.0020	.0035	.0045	.0065
Martensitic >32 HRC		335-375	375-400	.0010	.0012	.0017	.0020	.0035	.0045	.0065
Precipitation Hardening	12/8, 15/5, 17/4, AM-350/355 /363, PH13-8MO, PH14-8/MO	375-425	425-450	.0010	.0012	.0017	.0020	.0035	.0045	.0065
Precipitation Hardening >32 HRC		335-375	375-400	.0010	.0012	.0017	.0020	.0035	.0045	.0065
K - Cast Irons										
Ductile	A536, J434, 60-40-18	250-400	375-550	.0007	.0012	.0020	.0035	.0045	.0055	.0090
Gray	A48, A436, A319, Class 20, G4000	250-400	375-550	.0007	.0012	.0020	.0035	.0045	.0055	.0090
Malleable	A220, A602, J158	170-250	250-335	.0010	.0012	.0017	.0020	.0035	.0045	.0065
N - Non-Ferrous										
Aluminum Alloys		1200-1450	N/A	.0020	.0023	.0035	.0045	.0055	.0065	.0090
Aluminum High Silicon		900-1200	N/A	.0010	.0015	.0025	.0035	.0045	.0055	.0075
Brass/Bronze	Aluminum Bronze, Low Silicon Bronze									
Composites	G-10, Fiberglass, Graphite, Graphite Epoxy, Plastics	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Copper		450-800	750-1000	.0020	.0023	.0028	.0035	.0045	.0055	.0080
Magnesium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S - High Temp Alloys										
Cobalt Base	Stellite, HS-21, Haynes 25/188,	300-350	325-375	.0007-.0009	.0008-.0010	.0013-.0017	.0018-.0023	.0023-.0028	.0030-.0034	.0040-.0045
Cobalt Base >32HRC	X40, L605	275-300	300-325	.0005-.0007	.0006-.0008	.0010-.0013	.0015-.0020	.0020-.0025	.0028-.0032	.0037-.0040
Iron Base	Incoloy 800-802, Multmet N-155	300-350	325-375	.0007-.0009	.0008-.0010	.0013-.0017	.0018-.0023	.0023-.0028	.0030-.0034	.0040-.0045
Iron Base >32HRC	Timkin 16-25-6, Carpenter 22-b3	275-300	300-325	.0005-.0007	.0006-.0008	.0010-.0013	.0015-.0020	.0020-.0025	.0028-.0032	.0037-.0040
Nickel Base	Inconel 625/718, Inco 700, 713C, 718	250-275	275-335	.0007-.0009	.0008-.0010	.0013-.0017	.0018-.0023	.0023-.0028	.0030-.0034	.0040-.0045
Nickel Base >32HRC	Monel 400-401, 404, K401, Rene, Rene 41 & 95 Hastelloy, Waspoloy, Udimet 500 & 700	110-150	150-200	.0005-.0007	.0006-.0008	.0010-.0013	.0015-.0020	.0020-.0025	.0028-.0032	.0037-.0040
Titanium	Commercially Pure, 6Al-4V, ASTM 1/2/3, 6Al-25N-4Zr-2Mo-Si, Ti-8Al-1Mo, Ti-8Al-4Mo	70-150	150-275	.0005-.0009	.0006-.0012	.0010-.0015	.0012-.0020	.0020-.0035	.0025-.0045	.0045-.0065

NOTE: Speeds and Feeds listed are estimated and will vary by application.

These General Purpose tools can be found on pages 141-149.