



## 6-Flute, XHP Multi-Application Endmills - Square and Corner Radius, **Chip Control**, Variable Index & Helix



- RedLine XHP Variable 6-Flute tools offer optimum metal removal rates. By controlling the vibration and chatter through a unique dampening geometry, and through the application of our advanced heat resistant coating over a fine micro-grain carbide substrate, our tools can handle faster speeds and feeds with excellent tool life in even the most difficult to machine materials like Stainless and Titanium.
- These tools can be optimized by using High Efficiency Machining technology.
- Used to ramp, plunge, slot, rough and finish profiles.

### XHP Variable Index 6-Flute Endmills Speeds & Feeds

Material	Grades	Cut	Axial	Radial	SFM AITISN	Feed by Endmill Diameter (IPT)								
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
						(.1250)	(.1875)	(.2500)	(.3125)	(.3750)	(.4375)	(.5000)	(.6250)	(.7500)
<b>P - Steels</b>														
Tool & Die Steels	A2, D2, O1, S7, P20, H13	Peripheral - Rough	1.25 x D	.4 x D	315	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036
		Peripheral - Finish	3 x D	.012 x D	315	.0007	.0010	.0013	.0016	.0020	.0023	.0026	.0033	.0039
		Peripheral - HEM	3 x D	.07 x D	347	.0011	.0016	.0022	.0027	.0032	.0038	.0043	.0054	.0065
		Slotting - Traditional	.625 x D	1 x D	248	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026
		Rough Facing	.35 x D	.65 x D	347	.0006	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0033
		Finish Facing	.02 x D	.65 x D	331	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036
		Helical Entry	2 x D	12 deg.	270	.0003	.0005	.0007	.0008	.0010	.0012	.0013	.0017	.0020
		Straight Line Ramp	.63 x D	16 deg.	285	.0003	.0005	.0006	.0007	.0009	.0010	.0012	.0015	.0018
		Zig Zag Pocket	.625 x D	.55 x D	248	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026
Low Carbon	1018, 1020, 12L14, 5120, 8620	Peripheral - Rough	2 x D	.55 x D	361	.0008	.0012	.0016	.0020	.0024	.0028	.0032	.0040	.0048
		Peripheral - Finish	3 x D	.015 x D	380	.0009	.0013	.0018	.0022	.0026	.0031	.0035	.0044	.0053
		Peripheral - HEM	3 x D	.09 x D	418	.0015	.0023	.0031	.0039	.0046	.0054	.0062	.0077	.0093
		Slotting - Traditional	1 x D	1 x D	309	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036
		Rough Facing	.375 x D	.7 x D	397	.0007	.0011	.0015	.0018	.0022	.0025	.0029	.0036	.0044
		Finish Facing	.02 x D	.7 x D	399	.0009	.0013	.0017	.0021	.0026	.0030	.0034	.0043	.0051
		Helical Entry	3 x D	25 deg.	371	.0005	.0007	.0009	.0012	.0014	.0016	.0018	.0023	.0028
		Straight Line Ramp	1 x D	20 deg.	380	.0004	.0006	.0008	.0009	.0011	.0013	.0015	.0019	.0023
		Zig Zag Pocket	1 x D	.625 x D	309	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036
Medium Carbon	1045, 4140, 4340, 5140	Peripheral - Rough	2 x D	.55 x D	356	.0008	.0011	.0015	.0019	.0023	.0027	.0030	.0038	.0046
		Peripheral - Finish	3 x D	.015 x D	356	.0008	.0012	.0016	.0020	.0024	.0028	.0032	.0040	.0048
		Peripheral - HEM	3 x D	.09 x D	380	.0014	.0021	.0028	.0034	.0041	.0048	.0055	.0069	.0083
		Slotting - Traditional	1 x D	1 x D	285	.0006	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0033
		Rough Facing	.375 x D	.7 x D	392	.0007	.0010	.0014	.0017	.0021	.0024	.0027	.0034	.0041
		Finish Facing	.02 x D	.7 x D	374	.0008	.0012	.0016	.0020	.0023	.0027	.0031	.0039	.0047
		Helical Entry	3 x D	25 deg.	356	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0025
		Straight Line Ramp	1 x D	20 deg.	380	.0004	.0005	.0007	.0009	.0010	.0012	.0014	.0017	.0021
		Zig Zag Pocket	1 x D	.625 x D	285	.0006	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0033
<b>M - Stainless Steels</b>														
Austenitic	303, 304, 316, Invar, Kovar	Peripheral - Rough	2 x D	.25 x D	356	.0007	.0011	.0015	.0019	.0022	.0026	.0030	.0037	.0045
		Peripheral - Finish	3 x D	.012 x D	315	.0007	.0011	.0014	.0017	.0021	.0024	.0028	.0035	.0042
		Peripheral - HEM	3 x D	.2 x D	356	.0010	.0014	.0019	.0024	.0028	.0033	.0038	.0047	.0057
		Slotting - Traditional	.75 x D	1 x D	248	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Rough Facing	.35 x D	.65 x D	361	.0007	.0011	.0014	.0018	.0021	.0025	.0028	.0035	.0043
		Finish Facing	.02 x D	.65 x D	331	.0006	.0009	.0012	.0014	.0017	.0020	.0023	.0029	.0035
		Helical Entry	3 x D	7 deg.	292	.0002	.0004	.0005	.0006	.0007	.0008	.0010	.0012	.0014
		Straight Line Ramp	.63 x D	4 deg.	248	.0004	.0006	.0008	.0010	.0011	.0013	.0015	.0019	.0023
		Zig Zag Pocket	.75 x D	.55 x D	248	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
Martensitic & Ferritic	410, 416, 440	Peripheral - Rough	2.25 x D	.25 x D	329	.0007	.0011	.0014	.0018	.0022	.0025	.0029	.0036	.0043
		Peripheral - Finish	3 x D	.012 x D	338	.0008	.0012	.0015	.0019	.0023	.0027	.0031	.0038	.0046
		Peripheral - HEM	3 x D	.2 x D	360	.0010	.0015	.0019	.0024	.0029	.0034	.0039	.0048	.0058
		Slotting - Traditional	.75 x D	1 x D	248	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Rough Facing	.35 x D	.65 x D	361	.0007	.0010	.0013	.0016	.0019	.0023	.0026	.0032	.0039
		Finish Facing	.02 x D	.65 x D	345	.0006	.0010	.0013	.0016	.0019	.0022	.0025	.0032	.0038
		Helical Entry	3 x D	7 deg.	297	.0002	.0004	.0005	.0006	.0007	.0008	.0009	.0012	.0014
		Straight Line Ramp	.63 x D	4 deg.	248	.0004	.0006	.0008	.0010	.0011	.0013	.0015	.0019	.0023
		Zig Zag Pocket	.75 x D	.55 x D	248	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024

D = tool diameter. Reduce feed rates by 20% when using long length tools. Starting parameters shown.

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

## XHP Variable Index 6-Flute Endmills Speeds & Feeds (Cont'd)

Material	Grades	Cut	Axial	Radial	SFM AITISN	Feed by Endmill Diameter (IPT)								
						1/8 (.1250)	3/16 (.1875)	1/4 (.2500)	5/16 (.3125)	3/8 (.3750)	7/16 (.4375)	1/2 (.5000)	5/8 (.6250)	3/4 (.7500)
<b>P - Stainless Steels</b>														
Precipitation Hardening Stainless Steel	17-4, 15-5, 13-8	Peripheral - Rough	2 x D	.28 x D	351	.0007	.0010	.0013	.0017	.0020	.0023	.0027	.0034	.0040
		Peripheral - Finish	3 x D	.015 x D	309	.0006	.0009	.0012	.0015	.0019	.0022	.0025	.0031	.0037
		Peripheral - HEM	3 x D	.2 x D	347	.0008	.0013	.0017	.0021	.0025	.0029	.0033	.0042	.0050
		Slotting - Traditional	.75 x D	1 x D	238	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Rough Facing	.375 x D	.7 x D	376	.0006	.0009	.0012	.0015	.0019	.0022	.0025	.0031	.0037
		Finish Facing	.02 x D	.7 x D	324	.0005	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0032
		Helical Entry	3 x D	7 deg.	285	.0003	.0004	.0005	.0006	.0007	.0009	.0010	.0012	.0015
		Straight Line Ramp	.63 x D	5 deg.	243	.0004	.0005	.0007	.0009	.0011	.0012	.0014	.0018	.0021
Zig Zag Pocket	.75 x D	.625 x D	238	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024		
<b>K - Cast Irons</b>														
Ductile	A536, J434, 60-40-18	Peripheral - Rough	1.5 x D	.3 x D	315	.0006	.0010	.0013	.0016	.0019	.0022	.0025	.0032	.0038
		Peripheral - Finish	3 x D	.01 x D	315	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036
		Peripheral - HEM	3 x D	.07 x D	351	.0017	.0025	.0034	.0042	.0051	.0059	.0068	.0084	.0101
		Slotting - Traditional	.5 x D	1 x D	234	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026
		Rough Facing	.35 x D	.65 x D	347	.0006	.0009	.0011	.0014	.0017	.0020	.0023	.0028	.0034
		Finish Facing	.02 x D	.65 x D	331	.0005	.0008	.0010	.0013	.0015	.0018	.0020	.0026	.0031
		Helical Entry	3 x D	18 deg.	260	.0004	.0006	.0008	.0010	.0012	.0015	.0017	.0021	.0025
		Straight Line Ramp	.5 x D	13 deg.	234	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026
Zig Zag Pocket	.5 x D	.55 x D	234	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026		
Gray	ATSM-A48 Class 20, 25, 30, 35 & 40	Peripheral - Rough	1.5 x D	.3 x D	352	.0007	.0011	.0014	.0018	.0021	.0025	.0029	.0036	.0043
		Peripheral - Finish	3 x D	.015 x D	356	.0007	.0010	.0014	.0017	.0021	.0024	.0028	.0034	.0041
		Peripheral - HEM	3 x D	.08 x D	361	.0017	.0025	.0033	.0042	.0050	.0058	.0067	.0083	.0100
		Slotting - Traditional	.625 x D	1 x D	285	.0005	.0008	.0010	.0012	.0015	.0017	.0020	.0025	.0030
		Rough Facing	.375 x D	.7 x D	387	.0006	.0010	.0013	.0016	.0019	.0022	.0026	.0032	.0038
		Finish Facing	.020 x D	.7 x D	374	.0006	.0010	.0013	.0016	.0019	.0022	.0025	.0032	.0038
		Helical Entry	3 x D	18 deg.	309	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Straight Line Ramp	.630 x D	11 deg.	285	.0005	.0007	.0009	.0011	.0014	.0016	.0018	.0023	.0028
Zig Zag Pocket	.625 x D	.625 x D	285	.0005	.0008	.0010	.0012	.0015	.0017	.0020	.0025	.0030		
Malleable	A220, A602, J158	Peripheral - Rough	1.5 x D	.3 x D	315	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036
		Peripheral - Finish	3 x D	.01 x D	315	.0006	.0009	.0012	.0015	.0018	.0020	.0023	.0029	.0035
		Peripheral - HEM	3 x D	.07 x D	351	.0017	.0025	.0033	.0042	.0050	.0058	.0067	.0083	.0100
		Slotting - Traditional	.5 x D	1 x D	239	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Rough Facing	.35 x D	.65 x D	347	.0006	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0033
		Finish Facing	.02 x D	.65 x D	331	.0005	.0007	.0010	.0012	.0015	.0017	.0020	.0025	.0030
		Helical Entry	3 x D	18 deg.	256	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Straight Line Ramp	.5 x D	13 deg.	239	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
Zig Zag Pocket	.5 x D	.55 x D	239	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024		
<b>N- Non Ferrous</b>														
Bronze, High Tin	Bronze, Manganese Bronze, Work Hardened Bronze, 201-277 Bhn	Peripheral - Rough	1.5 x D	.3 x D	338	.0005	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0032
		Peripheral - Finish	3 x D	.012 x D	342	.0005	.0008	.0010	.0013	.0016	.0018	.0021	.0026	.0031
		Peripheral - HEM	2.25 x D	.1 x D	351	.0010	.0014	.0019	.0024	.0028	.0033	.0038	.0047	.0057
		Slotting - Traditional	.7 x D	1 x D	252	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Rough Facing	.35 x D	.65 x D	371	.0004	.0006	.0008	.0011	.0013	.0015	.0017	.0021	.0025
		Finish Facing	.02 x D	.7 x D	376	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026
		Helical Entry	2.5 x D	10 deg.	270	.0004	.0006	.0008	.0010	.0012	.0013	.0015	.0019	.0023
		Straight Line Ramp	.75 x D	18 deg.	269	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
Zig Zag Pocket	.7 x D	.55 x D	252	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024		
Aluminum Alloys	0-T6 2024, 6061, 7075	Peripheral - Rough	2.25 x D	.6 x D	500	.0018	.0026	.0035	.0044	.0053	.0061	.0070	.0088	.0105
		Peripheral - Finish	3 x D	.02 x D	750	.0006	.0009	.0013	.0016	.0019	.0022	.0025	.0031	.0038
		Peripheral - HEM	3 x D	.25 x D	700	.0018	.0026	.0035	.0044	.0053	.0061	.0070	.0088	.0105
		Slotting - Traditional	1 x D	1 x D	375	.0008	.0012	.0016	.0020	.0024	.0028	.0032	.0040	.0048
		Rough Facing	.375 x D	.7 x D	550	.0014	.0022	.0029	.0036	.0043	.0051	.0058	.0072	.0087
		Finish Facing	.02 x D	.7 x D	784	.0005	.0008	.0010	.0013	.0015	.0018	.0020	.0025	.0030
		Helical Entry	3 x D	10 deg.	500	.0006	.0010	.0013	.0016	.0019	.0022	.0025	.0032	.0038
		Straight Line Ramp	.5 x D	10 deg.	463	.0006	.0009	.0012	.0016	.0019	.0022	.0025	.0031	.0037
Zig Zag Pocket	1 x D	.45 x D	375	.0008	.0012	.0016	.0020	.0024	.0028	.0032	.0040	.0048		

D = tool diameter. Reduce feed rates by 20% when using long length tools. Starting parameters shown.  
 NOTE: Speeds and Feeds listed are estimated and will vary by application.

**XHP Variable Index 6-Flute Endmills Speeds & Feeds (Cont'd)**

Material	Grades	Cut	Axial	Radial	SFM AITISN	Feed by Endmill Diameter (IPT)								
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
						(.1250)	(.1875)	(.2500)	(.3125)	(.3750)	(.4375)	(.5000)	(.6250)	(.7500)
<b>N- Non Ferrous</b>														
Composites, Plastics, Fiberglass	Fiberglass, Graphite, Graphite Epoxy	Peripheral - Rough	1.5 x D	.5 x D	428	.0007	.0011	.0014	.0018	.0021	.0025	.0029	.0036	.0043
		Peripheral - Finish	3 x D	.015 x D	447	.0007	.0010	.0014	.0017	.0021	.0024	.0028	.0034	.0041
		Peripheral - HEM	2.25 x D	.12 x D	475	.0012	.0018	.0024	.0030	.0036	.0042	.0048	.0059	.0071
		Slotting - Traditional	1 x D	1 x D	380	.0007	.0010	.0013	.0017	.0020	.0023	.0027	.0033	.0040
		Rough Facing	.375 x D	.7 x D	495	.0006	.0009	.0012	.0015	.0017	.0020	.0023	.0029	.0035
		Finish Facing	.02 x D	.7 x D	491	.0006	.0009	.0012	.0015	.0018	.0020	.0023	.0029	.0035
		Helical Entry	3 x D	20 deg.	400	.0007	.0010	.0013	.0017	.0020	.0023	.0027	.0033	.0040
		Straight Line Ramp	1 x D	25 deg.	400	.0006	.0010	.0013	.0016	.0019	.0022	.0025	.0032	.0038
Zig Zag Pocket	1 x D	.625 x D	400	.0007	.0011	.0014	.0018	.0021	.0025	.0028	.0035	.0042		
Copper, Brass 111-170 Bhn		Peripheral - Rough	2 x D	.3 x D	361	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036
		Peripheral - Finish	3 x D	.015 x D	366	.0006	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0033
		Peripheral - HEM	2.25 x D	.1 x D	380	.0011	.0016	.0021	.0027	.0032	.0037	.0043	.0053	.0064
		Slotting - Traditional	.75 x D	1 x D	276	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026
		Rough Facing	.375 x D	.7 x D	418	.0005	.0007	.0010	.0012	.0015	.0017	.0019	.0024	.0029
		Finish Facing	.02 x D	.7 x D	402	.0005	.0007	.0009	.0012	.0014	.0016	.0019	.0023	.0028
		Helical Entry	3 x D	12 deg.	304	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026
		Straight Line Ramp	1 x D	20 deg.	300	.0004	.0007	.0009	.0011	.0013	.0015	.0018	.0022	.0026
Zig Zag Pocket	.75 x D	.625 x D	290	.0005	.0007	.0009	.0011	.0014	.0016	.0018	.0023	.0027		
Magnesium Alloys 47-140 Bhn		Peripheral - Rough	1.5 x D	.3 x D	342	.0006	.0008	.0011	.0014	.0017	.0020	.0023	.0028	.0034
		Peripheral - Finish	2.25 x D	.6 x D	500	.0018	.0026	.0035	.0044	.0053	.0061	.0070	.0088	.0105
		Peripheral - HEM	3 x D	.02 x D	750	.0006	.0009	.0013	.0016	.0019	.0022	.0025	.0031	.0038
		Peripheral - HEM	3 x D	.25 x D	665	.0017	.0025	.0033	.0042	.0050	.0058	.0067	.0083	.0100
		Slotting - Traditional	1 x D	1 x D	375	.0008	.0012	.0016	.0020	.0024	.0028	.0032	.0040	.0048
		Rough Facing	.375 x D	.7 x D	550	.0014	.0022	.0029	.0036	.0043	.0051	.0058	.0072	.0087
		Finish Facing	.02 x D	.7 x D	784	.0005	.0008	.0010	.0013	.0015	.0018	.0020	.0025	.0030
		Helical Entry	3 x D	10 deg.	500	.0006	.0010	.0013	.0016	.0019	.0022	.0025	.0032	.0038
Straight Line Ramp	.5 x D	10 deg.	488	.0006	.0009	.0012	.0016	.0019	.0022	.0025	.0031	.0037		
Zig Zag Pocket	1 x D	.45 x D	375	.0008	.0012	.0016	.0020	.0024	.0028	.0032	.0040	.0048		
<b>S - High Temp Alloys</b>														
Nickel Based Super Alloys	400-401, 404, K401, Rene, Rene 41 & 95 Hastelloy, Waspoloy, Udimet 500 & 700	Peripheral - Rough	1 x D	.2 x D	81	.0004	.0005	.0007	.0009	.0011	.0013	.0014	.0018	.0022
		Peripheral - Finish	3 x D	.01 x D	180	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Peripheral - HEM	2 x D	.075 x D	99	.0014	.0020	.0027	.0034	.0041	.0047	.0054	.0068	.0081
		Slotting - Traditional	.25 x D	1 x D	54	.0003	.0005	.0006	.0008	.0009	.0011	.0012	.0015	.0018
		Rough Facing	.28 x D	.65 x D	89	.0003	.0005	.0006	.0008	.0010	.0011	.0013	.0016	.0019
		Finish Facing	.02 x D	.7 x D	188	.0003	.0005	.0007	.0009	.0010	.0012	.0014	.0017	.0021
		Helical Entry	2.5 x D	10 deg.	108	.0005	.0007	.0009	.0011	.0013	.0016	.0018	.0022	.0027
		Straight Line Ramp	.5 x D	3 deg.	52	.0003	.0005	.0006	.0008	.0009	.0011	.0012	.0015	.0018
Zig Zag Pocket	.25 x D	.55 x D	54	.0003	.0005	.0006	.0008	.0009	.0011	.0012	.0015	.0018		
Titanium Alloys	Commercially Pure, 6Al-4V, ASTM 1/2/3, 6Al-25N-4Zr-2Mo-Si, Ti-8Al-1Mo, Ti-8Al-4Mo, 32-36 HRC	Peripheral - Rough	1.5 x D	.25 x D	248	.0006	.0008	.0011	.0014	.0017	.0020	.0023	.0028	.0034
		Peripheral - Finish	3 x D	.012 x D	270	.0006	.0008	.0011	.0014	.0017	.0020	.0023	.0028	.0034
		Peripheral - HEM	3 x D	.2 x D	365	.0009	.0014	.0018	.0023	.0027	.0032	.0036	.0045	.0054
		Slotting - Traditional	.75 x D	1 x D	225	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Rough Facing	.35 x D	.65 x D	272	.0005	.0008	.0010	.0013	.0015	.0018	.0020	.0025	.0030
		Finish Facing	.02 x D	.65 x D	290	.0005	.0007	.0010	.0012	.0015	.0017	.0020	.0025	.0029
		Helical Entry	3 x D	18 deg.	360	.0003	.0005	.0007	.0008	.0010	.0012	.0013	.0017	.0020
		Straight Line Ramp	.75 x D	22 deg.	338	.0004	.0006	.0007	.0009	.0011	.0013	.0015	.0019	.0022
Zig Zag Pocket	.75 x D	.55 x D	225	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024		

D = tool diameter. Reduce feed rates by 20% when using long length tools. Starting parameters shown.  
 NOTE: Speeds and Feeds listed are estimated and will vary by application.



## XHP Endmill Tolerances

### XHP Endmills Tolerances (Inch)

Size	Shank (H6)	Diameter	Radius
.0000-.1181	+0/-.00024	+0.000, -0.002	+0.0015, -0.0015
.1182-.2362	+0/-.00031	+0.000, -0.002	+0.0015, -0.0015
.2363-.3937	+0/-.00035	+0.000, -0.002	+0.0015, -0.0015
.3938-.7087	+0/-.00043	+0.000, -0.002	+0.0015, -0.0015
.7088-1.1810	+0/-.00051	+0.000, -0.002	+0.0015, -0.0015
1.182-1.9680	+0/-.00063	+0.000, -0.002	+0.0015, -0.0015

# RedLine Tools Tool Coating Application Guide

Coatings play a crucial part in the performance of your cutting tools, however, tool geometry is just as important to be successful. Although we do not offer all of these coatings, this helpful guide shows most of the coatings in use today and what materials they are designed to be used with.

P - Steels		
Best Coatings:	AlCrN	Aluminum Chromium Nitride
	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
	AlTiSN	Aluminum Titanium Silicon Nitride
Alternatives:	TiCN	Titanium Carbo-Nitride
	TiN	Titanium Nitride
	CrC	Chromium Carbide
M - Stainless Steels		
Best Coatings:	AlCrN	Aluminum Chromium Nitride
	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
	AlTiSN	Aluminum Titanium Silicon Nitride
Alternatives:	TiCN	Titanium Carbo-Nitride
	CrC	Chromium Carbide
K - Cast Irons		
Best Coatings:	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
	AlTiSN	Aluminum Titanium Silicon Nitride
Alternatives:	AlCrN	Aluminum Chromium Nitride
	TiCN	Titanium Carbo-Nitride
	TiN	Titanium Nitride
N - Non Ferrous		
Best Coatings:	ZrN	Zirconium Nitride
	TiCN	Titanium Carbo-Nitride
	TiB2	Titanium Diboride
	DLC	Diamond Like Carbide
Alternatives:	AlTiSN	Aluminum Titanium Silicon Nitride
S - High Temp Alloys		
Best Coatings:	AlCrN	Aluminum Chromium Nitride
	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
	AlTiSN	Aluminum Titanium Silicon Nitride
Alternatives:	TiCN	Titanium Carbo-Nitride
	CrC	Chromium Carbide