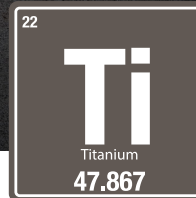




3 1 1 6 / 6 FLUTE



INDUSTRY EXCLUSIVE TITANIUM DESIGN.

CONSISTENT CUTTING EDGES that resist fatigue and micro-chipping.

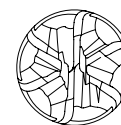
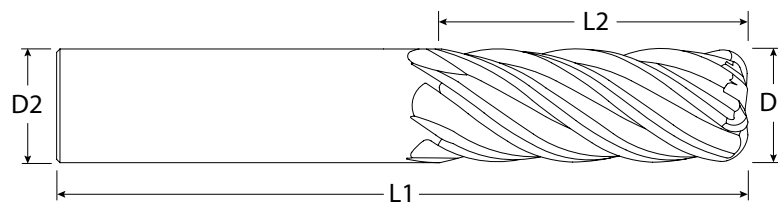
CUTTING EDGES PERFORM at higher speeds with longer times in-cut for added value.

PRODUCES IMPROVED SURFACE FINISHES, higher quality parts, and stable cutting permitting more aggressive feeds and speeds.

INCREASED CORE FOR STRENGTH AND STABILITY in-cut. Maximum edge strength and high flute count make it a durable and long-lasting tool.

UNSURPASSED PERFORMANCE in High Efficiency Milling (HEM)

CENTER CUTTING



CUTTER TOLERANCE
+.000"/-.002
+0.000MM/-0.050MM
h6 shank tolerance

D1	L2	D2	L1	SQ	.010 R	.020 R	.030 R	.060 R	.120 R
1/4	3/8	1/4	2 1/2	29134		29100			
	3/4	1/4	2 1/2	29000		29101	29102	29103	
3/8	1/2	3/8	2 1/2			29104	29105	29106	29107
	1	3/8	3	29001	29108	29109	29110	29111	
1/2	5/8	1/2	2 1/2				29112	29113	
	1	1/2	3	29002		29114	29115	29116	29117
	1 1/4	1/2	4				29118	29119	29120
5/8	3/4	5/8	3				29133		
	1 1/2	5/8	3 1/2	29003			29121	29122	29123
3/4	1	3/4	4				29124	29125	29126
	1 5/8	3/4	4	29004			29127	29128	29129
1	2	1	4 1/2	29005			29130	29131	29132



SQUARE



CORNER RADIUS



CENTER CUTTING



COATING



TOOL LENGTH



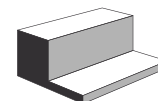
6



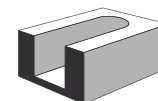
		TITANIUM		
		Rough Profile	HEM	Finish
SFM (ft/min)		400	400	400
Axial Depth		< (2xD)	< (2xD)	< (2xD)
Radial Width		(.25-.3)xD	(.1-.25)xD	(.05-.08)xD
1/8"	3mm	.0003	.0003	.0004
1/4"	6mm	.0008	.0008	.0010
3/8"	10mm	.0010	.0010	.0015
1/2"	12mm	.0015	.0015	.0020
3/4"	20mm	.0020	.0020	.0025
1"	25mm	.0032	.0032	.0035

Examples:

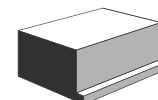
Ti Grade 1
Ti Grade 2
Ti Grade 3
Ti Grade 4
Ti Grade 7
Ti Grade 12



Rough Profile



HEM



Finish

		TITANIUM		
		Rough Profile	HEM	Finish
SFM (ft/min)		300	325	325
Axial Depth		< (2xD)	< (2xD)	< (2xD)
Radial Width		(.25-.3)xD	(.1-.25)xD	(.05-.08)xD
1/8"	3mm	.0003	.0003	.0004
1/4"	6mm	.0008	.0008	.0010
3/8"	10mm	.0010	.0010	.0015
1/2"	12mm	.0015	.0015	.0020
3/4"	20mm	.0020	.0020	.0025
1"	25mm	.0032	.0032	.0035

Examples:

Ti 3Al-2.5V
Ti 6Al-4V
Ti 10V-2Fe-3Al
(with the exception of β Ti)

Multiply by 25.4 for metric.

3116 Series TiMILL designed to excel in titanium.

Not Recommended for High Si Aluminum (>10%), Low Si Aluminum (<10%), Composites, Plastics, Brass & Copper, or Graphite.

The parameters listed for tool series that are stocked uncoated are based on running an uncoated tool. If a coating is applied to the tools, the SFM can be increased by approximately 25%. All speed and feed recommendations should be considered only as a starting point. Start with conservative speeds and feeds while analyzing the rigidity of the process. Then cautiously progress incrementally to achieve optimum performance.