

General Solid Carbide Milling Guide

Fractional

Type	Rc Hardness	MILLING SFM (Vc)					CHIPLOAD PER FLUTE (Fz)				
		2 flute stub / std.	2 flute extra length	3 & 4 flute stub / std.	3 & 4 flute extra length	Diamond Coated	1/32" - 1/8" (.0312" - .1250")	1/8" - 1/4" (.1250" - .2500")	1/4" - 1/2" (.2500" - .5000")	1/2" - 1" (.5000" - 1.000")	1" - 1-1/4" (1.000" - 1.250")
COBALT BASE ALLOYS / Kobaltlegierungen / Aleaciones del cobalto / Alliages de cobalt / Leghe del cobalto / 钴基合金											
Powdered Metal, Stellite, Hs-21, Haynes 25/188, X-40, L-605	< 35 > 35	- -	- -	175 - 225 125 - 175	150 - 200 100 - 150	- -	.0005" - .0010" .0003" - .0005"	.0008" - .0020" .0005" - .0015"	.0010" - .0030" .0010" - .0020"	.0020" - .0040" .0010" - .0030"	.0030" - .0050" .0020" - .0040"
NICKEL BASE ALLOYS / Nickellegierungen / Aleaciones de níquel / Alliages de nickel / Leghe di nichel / 镍基合金											
Invar, Kovar, Inconel-625/718, Waspalloy, Rene, Hastalloy, A286	< 35 > 35	- -	- -	125 - 175 70 - 115	100 - 150 70 - 100	- -	.0005" - .0010" .0003" - .0005"	.0008" - .0020" .0005" - .0015"	.0010" - .0030" .0010" - .0020"	.0020" - .0040" .0010" - .0030"	.0030" - .0050" .0020" - .0040"
IRON BASE ALLOYS / Eisenlegierungen / Aleaciones ferrosas / Alliages ferreux / Leghe ferrose / 铁基合金											
Incoloy 800-802, Multimet N-155, Timkin 16-25-6, Carpenter 22-b3	< 35 > 35	- -	- -	175 - 225 125 - 175	150 - 200 100 - 150	- -	.0005" - .0010" .0003" - .0005"	.0008" - .0020" .0005" - .0015"	.0010" - .0030" .0010" - .0020"	.0020" - .0040" .0010" - .0030"	.0030" - .0050" .0020" - .0040"
MONEL / 铜-镍合金											
Monel - 65% Nickel		175 - 300	125 - 175	175 - 300	125 - 175	-	.0007" - .0015"	.0010" - .0025"	.0015" - .0040"	.0030" - .0050"	.0040" - .0060"
TITANIUM ALLOYS / Titanlegierungen / Aleaciones de Titanio / Alliages de Titane / Leghe di Titanio / 钛合金											
Commercially Pure, 6Al-4V, Astm 1/2/3, 6Al-25N-4Zr-2Mo-Si		200 - 300	125 - 250	200 - 300	125 - 250	-	.0007" - .0015"	.0010" - .0025"	.0015" - .0040"	.0030" - .0050"	.0040" - .0060"
5553 / Beta Titanium		-	-	175 - 225	150 - 200	-	.0005" - .0010"	.0008" - .0020"	.0010" - .0030"	.0020" - .0040"	.0030" - .0050"
STAINLESS STEELS / Rostfreie Stähle / Acero Inoxidable / Acier Inoxydable / Acciaio Inox / 不锈钢合金											
13/8, 15/5, 17-4, pH Types	< 35 > 35	- -	- -	150 - 250 125 - 175	100 - 150 80 - 150	- -	.0005" - .0010" .0003" - .0005"	.0008" - .0020" .0005" - .0015"	.0010" - .0030" .0010" - .0020"	.0020" - .0040" .0010" - .0030"	.0030" - .0050" .0020" - .0040"
Inox, 200 Series, 300 Series	< 35 > 35	- -	- -	200 - 250 150 - 200	125 - 175 100 - 150	- -	.0005" - .0010" .0003" - .0005"	.0008" - .0020" .0005" - .0015"	.0010" - .0030" .0010" - .0020"	.0020" - .0040" .0010" - .0030"	.0030" - .0050" .0020" - .0040"
304L, 316L, Nitronic 50, Inox	< 35 > 35	- -	- -	90 - 125 75 - 110	80 - 120 60 - 90	- -	.0005" - .0008" .0003" - .0005"	.0008" - .0015" .0005" - .0010"	.0010" - .0020" .0010" - .0015"	.0020" - .0040" .0010" - .0030"	.0030" - .0050" .0020" - .0040"
400 Series	< 35 > 35	- -	- -	150 - 250 125 - 175	100 - 150 80 - 150	- -	.0005" - .0010" .0003" - .0005"	.0008" - .0020" .0005" - .0015"	.0010" - .0030" .0010" - .0020"	.0020" - .0040" .0010" - .0030"	.0030" - .0050" .0020" - .0040"
HIGH STRENGTH TOOL STEELS / Hochfeste Werkzeugstähle / Herramienta aceros de alto dureza / Aciers à outils à haute résistance / Acciaio da utensili molto duro / 高强度工具钢											
4140, 4340, 6150, 5210, A2, D2, P20, H11, H13, S2, O1	< 30 30 - 38 > 38	- - -	- - -	150 - 225 90 - 125 60 - 90	125 - 175 80 - 120 50 - 80	- - -	.0005" - .0010" .0003" - .0005" .0002" - .0004"	.0008" - .0020" .0005" - .0015" .0003" - .0007"	.0010" - .0030" .0010" - .0020" .0008" - .0015"	.0020" - .0040" .0010" - .0030" .0010" - .0025"	.0030" - .0050" .0020" - .0040" .0015" - .0035"
MEDIUM ALLOY TOOL STEELS / Mittel Legierte Werkzeugstähle / Aceros herramienta medios de la aleación / Aciers à outils alliés / Acciaio da utensili di media durezza / 中碳合金钢											
200, 250, 300, 8620	< 35 > 35	- -	- -	175 - 250 100 - 175	150 - 200 100 - 150	- -	.0007" - .0015" .0005" - .0010"	.0010" - .0025" .0008" - .0020"	.0015" - .0040" .0010" - .0030"	.0030" - .0050" .0020" - .0040"	.0040" - .0060" .0030" - .0050"
CARBON STEELS / Kohlenstoffstahl / Acero de carbón / Acier du carbone / Acciaio al carbonio / 碳钢											
Platinum, A36, 12L14, 1000's, 1100's, 1300's	< 35 > 35	- -	- -	175 - 250 100 - 175	150 - 200 100 - 150	- -	.0007" - .0015" .0005" - .0010"	.0010" - .0025" .0008" - .0020"	.0015" - .0040" .0010" - .0030"	.0030" - .0050" .0020" - .0040"	.0040" - .0060" .0030" - .0050"
CAST MATERIAL / Gegossenes Material / Material bastidor vertidos / Materiaux fontes / Materiale fuso / 铸造件											
Steel		225 - 325	175 - 250	250 - 350	175 - 250	-	.0010" - .0020"	.0015" - .0040"	.0020" - .0060"	.0030" - .0100"	.0050" - .0100"
Ductile Iron		200 - 300	125 - 200	200 - 300	125 - 200	-	.0005" - .0015"	.0010" - .0030"	.0015" - .0040"	.0020" - .0060"	.0030" - .0080"
Gray Iron		225 - 325	175 - 250	250 - 350	175 - 250	-	.0010" - .0020"	.0015" - .0040"	.0020" - .0060"	.0030" - .0100"	.0050" - .0100"
Aluminum		250 - 350	250 - 350	250 - 350	250 - 350	-	.0010" - .0020"	.0015" - .0040"	.0020" - .0060"	.0030" - .0100"	.0050" - .0100"
ALUMINUM / Aluminium / Aluminio / Aluminium / Alluminio / 铝											
Aircraft Grade (6061, 7075)	Standard Speed High Speed	300 - 500	300 - 500	300 - 500	300 - 500	-	.0010" - .0020"	.0015" - .0040"	.0020" - .0060"	.0030" - .0100"	.0050" - .0150"
(SEE HIGH SPEED ALUMINUM CHART - PAGE 204)											
MAGNESIUM / Magnesium / Magnesio / Magnésium / Magnesio / 镁											
		300 - 500	300 - 500	300 - 500	300 - 500	-	.0010" - .0020"	.0015" - .0040"	.0020" - .0060"	.0030" - .0100"	.0050" - .0100"
COPPER / Kupfer / Cobre / Cuivre / Rame / 铜											
Copper Alloys		300 - 400	250 - 350	300 - 450	250 - 350	-	.0007" - .0015"	.0010" - .0025"	.0015" - .0035"	.0020" - .0080"	.0040" - .0100"
BRASS, BRONZE / Messing, Bronze / Latón, Bronce / Laiton, Bronze / Ottone, Bronzo / 黄铜, 青铜											
Brass, Aluminum/Bronze, Low Silicon Bronze		300 - 400	200 - 300	275 - 375	200 - 300	-	.0007" - .0015"	.0010" - .0025"	.0015" - .0035"	.0020" - .0080"	.0040" - .0100"
COMPOSITE MATERIAL / Verbundwerkstoffe / Material compuesto / Materiaux composites / Materiale composito / 复合材料											
Glass Epoxy, Fiberglass, Plastics		200 - 400	200 - 400	200 - 400	200 - 400	200 - 500	.0010" - .0020"	.0015" - .0040"	.0020" - .0060"	.0030" - .0100"	.0050" - .0100"
Graphite, G10		(SEE GRAPHITE CHART - PAGE 210)				300 - 1000	.0010" - .0020"	.0015" - .0040"	.0020" - .0060"	.0030" - .0100"	.0050" - .0100"

NOTE - ABOVE ARE STARTING PARAMETERS ONLY. HIGHER RESULTS MAY BE ACHIEVED WITH OPTIMUM CONDITIONS.