

GARR TOOL Drilling Guide

Fractional

Type	Rc Hardness	RECOMMENDED SFM BY SERIES				
		1/16" - 1/8"	1/8" - 1/4"	1/4" - 3/8"	3/8" - 1/2"	1/2" - 5/8"
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	.0004" - .0010" .0004" - .0010"	.0008" - .0020" .0005" - .0010"	.0015" - .0025" .0010" - .0015"	.0020" - .0040" .0010" - .0020"	.0025" - .0050" .0015" - .0030"
NICKEL BASE ALLOYS / Nickellegierungen / Aleaciones de níquel / Alliage de nickel / Leghe di nichel / 高镍基合金						
Invar, Kovar, Inconel-625/718, Waspalloy, Rene, Hastalloy, A286	< 35 > 35	.0005" - .0015" .0004" - .0010"	.0010" - .0015" .0008" - .0015"	.0015" - .0025" .0010" - .0015"	.0020" - .0040" .0015" - .0030"	.0025" - .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	.0010" - .0015" .0008" - .0015"	.0010" - .0020" .0010" - .0020"	.0015" - .0035" .0015" - .0025"	.0020" - .0050" .0020" - .0040"	.0030" - .0060" .0025" - .0050"
MONEL / 铜-镍合金						
Monel - 65% Nickel		.0004" - .0010"	.0008" - .0015"	.0010" - .0015"	.0015" - .0030"	.0020" - .0040"
TITANIUM ALLOYS / Titanlegierungen / Aleaciones de Titanio / Alliage de Titane / Leghe di Titanio / 钛合金						
Commercially Pure, 6Al-4V, Astm 1/2/3, 6Al-25N-4Zr-2Mo-Si		.0008" - .0015"	.0010" - .0020"	.0015" - .0030"	.0020" - .0040"	.0025" - .0050"
STAINLESS STEELS / Rostfreie Stähle / Acero Inoxidable / Acier Inoxydable / Acciaio Inox / 不锈钢合金						
(Precipitation) 13/8, 15/5, 17-4, pH Types	< 35 > 35	.0005" - .0015" .0004" - .0010"	.0010" - .0020" .0008" - .0015"	.0015" - .0035" .0010" - .0015"	.0020" - .0040" .0015" - .0030"	.0025" - .0050" .0020" - .0040"
(Austenitic) Inox, 200 Series, 300 Series	< 35 > 35	.0005" - .0015" .0004" - .0010"	.0010" - .0020" .0008" - .0015"	.0015" - .0035" .0010" - .0015"	.0020" - .0040" .0015" - .0030"	.0025" - .0050" .0020" - .0040"
(Austenitic) 304L, 316L, Nitronic 50, Inox	< 35 > 35	.0004" - .0010" .0003" - .0008"	.0008" - .0015" .0005" - .0010"	.0010" - .0015" .0010" - .0015"	.0015" - .0030" .0010" - .0020"	.0020" - .0040" .0015" - .0030"
(Martensitic) 400 Series	< 35 > 35	.0005" - .0015" .0004" - .0010"	.0010" - .0020" .0008" - .0015"	.0015" - .0035" .0010" - .0015"	.0020" - .0040" .0015" - .0030"	.0025" - .0050" .0020" - .0040"
HIGH STRENGTH TOOL STEELS / Hochfeste Werkzeugstähle / Herramienta aceros de alto dureza / Aciers à outils a haute résistance / Acciaio da utensili molto duro / 高强度工具钢						
4140, 4340, 6150, 5210, A2, D2, P20, H11, H13, S2, O1	< 35 > 35	.0005" - .0015" .0004" - .0010"	.0010" - .0020" .0010" - .0020"	.0015" - .0025" .0010" - .0020"	.0015" - .0030" .0015" - .0030"	.0020" - .0040" .0020" - .0040"
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	< 35 > 35	.0010" - .0015" .0005" - .0010"	.0015" - .0025" .0010" - .0020"	.0020" - .0030" .0010" - .0025"	.0020" - .0040" .0015" - .0030"	.0025" - .0050" .0020" - .0040"
CARBON STEELS / Kohlenstoffstahl / Acero de carbón / Acier du carbone / Acciaio al carbonio / 碳钢						
Platinum, A36, 1000's, 1100's, 1300's	< 35 > 35	.0010" - .0015" .0005" - .0010"	.0015" - .0025" .0010" - .0020"	.0020" - .0030" .0010" - .0025"	.0020" - .0040" .0015" - .0035"	.0025" - .0050" .0020" - .0040"
CAST MATERIAL / Gegossenes Material / Material bastidor vertidos / Matériaux fontes / Materiale fuso / 铸件						
Steel		.0008" - .0015"	.0010" - .0020"	.0015" - .0030"	.0020" - .0040"	.0025" - .0050"
Ductile Iron		.0010" - .0020"	.0010" - .0030"	.0015" - .0035"	.0025" - .0040"	.0030" - .0050"
Gray Iron		.0010" - .0020"	.0010" - .0030"	.0015" - .0035"	.0025" - .0040"	.0030" - .0050"
Aluminum		.0010" - .0020"	.0015" - .0040"	.0020" - .0050"	.0030" - .0060"	.0035" - .0070"
ALUMINUM / Aluminium / Aluminio / Aluminium / Alluminio / 铝						
Aircraft Grade (6061, 7075)		.0010" - .0020"	.0015" - .0040"	.0020" - .0050"	.0030" - .0060"	.0035" - .0070"
MAGNESIUM / Magnesium / Magnesio / Magnésium / Magnesio / 镁						
		.0010" - .0020"	.0010" - .0030"	.0015" - .0035"	.0025" - .0040"	.0030" - .0050"
COPPER / Kupfer / Cobre / Cuivre / Rame / 铜						
Copper Alloys		.0010" - .0020"	.0010" - .0030"	.0015" - .0035"	.0025" - .0040"	.0030" - .0050"
BRASS, BRONZE / Messing, Bronze / Latón, Bronce / Laiton, Bronze / Ottone, Bronzo / 黄铜, 青铜						
Brass, Aluminum/Bronze, Low Silicon Bronze		.0010" - .0020" .0008" - .0015"	.0010" - .0030" .0010" - .0020"	.0015" - .0035" .0015" - .0030"	.0025" - .0040" .0020" - .0040"	.0030" - .0050" .0025" - .0050"
COMPOSITE MATERIAL / Verbundwerkstoffe / Material compuesto / Matériaux composites / Materiale composito / 复合材料						
Glass Epoxy, Fiberglass, Plastics, Graphite, G10		.0010" - .0020"	.0010" - .0030"	.0015" - .0035"	.0025" - .0040"	.0030" - .0050"

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