

Recommended Cutting Data 305 Micro-Tuff® - Inch

Workpiece Material Group	I S O	Hardness	Tool Series	T Y P E	vc - SFM	Drill Diameter				
						1/64	1/32	1/16	3/32	1/8
						f - IPR				
Free Machining & Low Carbon Steels: 1008, 1008, 1015, 1018, 1020, 1022, 1025, 1117, 1140, 1141, 11L08, 11L14, 12L13, 12L13, 12L14, 1215, 1330	P	up to 28 Rc	305 305AM		300 360	.0004	.0008	.0015	.0023	.0030
Medium Carbon & High Carbon Steels, Alloy Steels & Easy to Machine Tool Steels: 1030, 1035, 1040, 1045, 1050, 1052, 1055, 1060, 1065, 1065, 1041, 1051, 1255, 2515, 3135, 3415, 4130, 4137, 4140, 4150, 4320, 4340, 4520, 5015, 5115, 5120, 5132, 5140, 5155, 5150, 5620, 9262, 9640, 52100, O1, O2, O6, S2, W1 to W310	P	26 to 38 Rc	305 305AM		225 270	.0004	.0008	.0015	.0023	.0030
Tool Steels & Die Steels: O7, M1, M2, M3, M4, M7, T1, T2, T4, T5, T8, T15, A2, A3, A6, A7, H10, H11, H12, H13, H19, H21, L3, L6, L7, P2, P20, S1, S5, S7, 52100, A128, D2, D3, D4, D5, D7	P	26 to 44 Rc	305 305AM		200 240	.0004	.0008	.0015	.0023	.0030
Hardened Steels A2 / 52100	H	35-55 Rc	305 305AM		50 60	.0002	.0004	.0007	.0011	.0014
Free Machining Stainless	M	up to 28 Rc	305 305AM		175 210	.0004	.0008	.0015	.0023	.0030
Stainless Steel - Austenitic 304 / 316	M	up to 28 Rc	305 305AM		200 240	.0004	.0008	.0015	.0023	.0030
Stainless Steel - Ferritic / Martensitic	M	up to 28 Rc	305 305AM		100 120	.0004	.0008	.0015	.0023	.0030
Stainless Steel - Moderately Difficult: 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH	M	over 28 Rc	305 305AM		75 90	.0004	.0008	.0015	.0023	.0030
Aluminum (<10% Si)	N		305 305AM		450 -	.0005	.0010	.0020	.0030	.0040
Aluminum (>10% Si)	N		305 305AM		325 -	.0005	.0010	.0020	.0030	.0040
Plastics	N		305 305AM		550 -	.0005	.0010	.0020	.0030	.0040
Composites / Fiber Reinforced Materials / Circuit Boards	N		305 305AM		650 -	.0005	.0010	.0020	.0030	.0040
Cast Iron - Gray CGI: ASTM A48, CLASS 20, 25, 30, 35, SAE J431C, GRADES G1800, G3000, G3500; GG 10, 15, 20, 25, 30, 35, 40	K	up to 240 HB	305 305AM		400 480	.0004	.0008	.0015	.0023	.0030
Cast Iron - Ductile & Malleable CGI: 60-40-18, 65-45-12, D4018, D4512, D5506, 32510, 35108, M3210, M4504, M5503, 250, 300, 350, 400, 450	K	over 240 HB	305 305AM		350 420	.0004	.0008	.0015	.0023	.0030
Titanium 6Al-4V	S	up to 40 Rc	305 305AM		60 70	.0004	.0008	.0015	.0023	.0030
High Temp Alloys Inconel / Hastelloy / Waspeloy / Nickel Based Alloys-Monel	S	up to 40 Rc	305 305AM		50 60	.0002	.0004	.0007	.0011	.0014

Recommended Peck Depths by Diameter*

Diameter	Peck Depth
1/64	.2 x Diameter
1/32	.3 x Diameter
1/16	.6 x Diameter
5/64	.8 x Diameter
3/32	1.0 x Diameter
1/8	1.2 x Diameter

*Peck depths can vary by material type.

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

Recommended Cutting Data 305 Micro-Tuff® - Metric

Workpiece Material Group	ISO	Hardness	Tool Series	TYPE	vc - m/min	Drill Diameter (mm)				
						0.5	1	2	2.5	3
						f - mm/Rev				
Free Machining & Low Carbon Steels: 1006, 1008, 1015, 1018, 1020, 1022, 1025, 1117, 1140, 1141, 11L08, 11L14, 1213, 12L13, 12L14, 1215, 1330	P	up to 28 Rc	305	●	90	.010	.020	.040	.060	.075
			305AM		110					
Medium Carbon & High Carbon Steels, Alloy Steels & Easy to Machine Tool Steels: 1030, 1035, 1040, 1045, 1050, 1052, 1055, 1060, 1065, 1095, 1541, 1551, 9255, 2515, 3135, 3415, 4130, 4137, 4140, 4150, 4320, 4340, 4520, 5015, 5115, 5120, 5132, 5140, 5155, 8150, 8620, 9262, 9640, 52100, 01, 02, 06, 52, W1 to W310	P	28 to 38 Rc	305		70	.010	.020	.040	.060	.075
			305AM		84					
Tool Steels & Die Steels: 07, M1, M2, M3, M4, M7, T1, T2, T4, T5, T8, T15, A2, A3, A6, A7, H10, H11, H12, H13, H19, H21, L3, L6, L7, P2, P20, S1, S5, S7, 52100, A128, D2, D3, D4, D5, D7	P	28 to 44 Rc	305		60	.010	.020	.040	.060	.075
			305AM		72					
Hardened Steels A2 / 52100	H	35-55 Rc	305		15	.005	.010	.020	.025	.035
			305AM		18					
Free Machining Stainless	M	up to 28 Rc	305	●	55	.010	.020	.040	.060	.075
			305AM		66					
Stainless Steel - Austenitic 304 / 316	M	up to 28 Rc	305		60	.010	.020	.040	.060	.075
			305AM		72					
Stainless Steel - Ferritic / Martensitic	M	up to 28 Rc	305		30	.010	.020	.040	.060	.075
			305AM		36					
Stainless Steel - Moderately Difficult: 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH	M	over 28 Rc	305		25	.010	.020	.040	.060	.075
			305AM		30					
Aluminum (<10% Si)	N		305	●	140	.015	.025	.050	.075	.100
			305AM		-	-	-	-	-	-
Aluminum (>10% Si)	N		305		100	.015	.025	.050	.075	.100
			305AM		-	-	-	-	-	-
Plastics	N		305		170	.015	.025	.050	.075	.100
			305AM		-	-	-	-	-	-
Composites / Fiber Reinforced Materials / Circuit Boards	N		305		200	.015	.025	.050	.075	.100
			305AM		-	-	-	-	-	-
Cast Iron - Gray CGI: ASTM A48, CLASS 20, 25, 30, 35, SAE J431C, GRADES G1800, G3000, G3500, GG 10, 15, 20, 25, 30, 35, 40	K	up to 240 HB	305	●	120	.010	.020	.040	.060	.075
			305AM		144					
Cast Iron - Ductile & Malleable CGI: 60-40-18, 65-45-12, D4018, D4512, D5508, 32510, 35108, M3210, M4504, M5503, 250, 300, 350, 400, 450	K	over 240 HB	305	●	110	.010	.020	.040	.060	.075
			305AM		132					
Titanium 6Al-4V	S	up to 40 Rc	305	●	20	.010	.020	.040	.060	.075
			305AM		24					
			305		15					
High Temp Alloys Inconel / Hastelloy / Waspeloy / Nickel Based Alloys-Monel	S	up to 40 Rc	305AM		18	.005	.010	.020	.030	.035

Recommended Peck Depths by Diameter*

Diameter	Peck Depth
0.5 mm	.2 x Diameter
1.0 mm	.4 x Diameter
1.5 mm	.6 x Diameter
2.0 mm	.8 x Diameter
2.5 mm	1.0 x Diameter
3.0 mm	1.2 x Diameter

*Peck depths can vary by material type.

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

For product information, call your local distributor.

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Twister® HP

Technical Information