

# Twister® Micro-Tuff®

## 305 Series Recommended Cutting Data - Inch 3-10xD, Solid Drilling

Workpiece Material Group	I S O	Hardness	Tool Series	T Y P E	vc - SFM	Drill Diameter (Inch)				
						1/64	1/32	1/16	3/32	1/8
						f - IPR				
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	●	300	.0004	.0008	.0015	.0023	.0030
			305AM		360					
Medium Carbon & High Carbon Steels, Alloy Steels & Easy to Machine Tool Steels: 1030, 1035, 1040, 1045, 1050, 1052, 1055, 1060, 1085, 1095, 1541, 1551, 9255, 2515, 3135, 3415, 4130, 4137, 4140, 4150, 4320, 4340, 4520, 5015, 5115, 5120, 5132, 5140, 5155, 6150, 8620, 9262, 9840, 52100, O1, O2, O6, S2, W1 to W310	P	28 to 38 Rc	305		225	.0004	.0008	.0015	.0023	.0030
			305AM		270					
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	28 to 44 Rc	305		200	.0004	.0008	.0015	.0023	.0030
			305AM		240					
Hardened Steels A2 / 52100	H	35-55 Rc	305	●	50	.0002	.0004	.0007	.0011	.0014
			305AM		60					
Free Machining Stainless	M	up to 28 Rc	305	●	175	.0004	.0008	.0015	.0023	.0030
			305AM		210					
Stainless Steel - Austenitic 304 / 316	M	up to 28 Rc	305		200	.0004	.0008	.0015	.0023	.0030
			305AM		240					
Stainless Steel - Ferritic / Martensitic	M	up to 28 Rc	305		100	.0004	.0008	.0015	.0023	.0030
			305AM		120					
Stainless Steel - Moderately Difficult: 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH	M	over 28 Rc	305	75	.0004	.0008	.0015	.0023	.0030	
			305AM	90						
Aluminum (<10% Si)	N		305	●	450	.0005	.0010	.0020	.0030	.0040
			305AM		-					
Aluminum (>10% Si)	N		305		325	.0005	.0010	.0020	.0030	.0040
			305AM		-					
Plastics	N		305		550	.0005	.0010	.0020	.0030	.0040
			305AM		-					
Composites / Fiber Reinforced Materials / Circuit Boards	N		305	650	.0005	.0010	.0020	.0030	.0040	
			305AM	-						
Cast Iron - Gray CG: 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	●	400	.0004	.0008	.0015	.0023	.0030
			305AM		480					
Cast Iron - Ductile & Malleable CG: 60-40-18, 65-45-12, D4018, D4512, D5506, 32510, 35108, M3210, M4504, M5503, 250, 300, 350, 400, 450	K	over 240 HB	305		350	.0004	.0008	.0015	.0023	.0030
			305AM		420					
Titanium 6Al-4V	S	up to 40 Rc	305		60	.0004	.0008	.0015	.0023	.0030
			305AM		70					
High Temp Alloys Inconel / Hastelloy / Waspeloy / Nickel Based Alloys-Monel	S	up to 40 Rc	305	50	.0002	.0004	.0007	.0011	.0014	
			305AM	60						

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Series 305

### 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.

# Twister® Micro-Tuff®

## 305 Series Recommended Cutting Data - Metric

### 3-10xD, Solid Drilling

Workpiece Material Group	I S O	Hardness	Tool Series	T Y P E	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, 1085, 1095, 1541, 1551, 9255, 2515, 3135, 3415, 4130, 4137, 4140, 4150, 4320, 4340, 4520, 5015, 5115, 5120, 5132, 5140, 5155, 6150, 8620, 9262, 9840, 52100, O1, O2, O6, S2, W1 to W310	P	28 to 38 Rc	305	●	70	.010	.020	.040	.060	.075
			305AM		84					
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	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 CG: 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, D5506, 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					
High Temp Alloys Inconel / Hastelloy / Waspeloy / Nickel Based Alloys-Monel	S	up to 40 Rc	305	●	15	.005	.010	.020	.030	.035
			305AM		18					

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### 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.