

Recommended Cutting Data 305 Micro-Tuff® - Inch

Workpiece Material Group	ISO	Hardness	Tool Series	TYPE	vc - SFM	Drill Diameter				
						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					
			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					
			305AM		240					
Hardened Steels A2 / 52100	H	35-55 Rc	305	50						
			305AM	60						
Free Machining Stainless	M	up to 28 Rc	305	175						
			305AM	210						
Stainless Steel - Austenitic 304 / 316	M	up to 28 Rc	305	200						
			305AM	240						
Stainless Steel - Ferritic / Martensitic	M	up to 28 Rc	305	100						
			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						
			305AM	90						
Aluminum (<10% Si)	N		305	450						
			305AM	-						
Aluminum (>10% Si)	N		305	325						
			305AM	-						
Plastics	N		305	550						
			305AM	-						
Composites / Fiber Reinforced Materials / Circuit Boards	N		305	650						
			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						
			305AM	480						
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	350						
			305AM	420						
Titanium 6Al-4V	S	up to 40 Rc	305	60						
			305AM	70						
High Temp Alloys Inconel / Hastelloy / Waspeloy / Nickel Based Alloys-Monel	S	up to 40 Rc	305	50						
			305AM	60						

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, 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							

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.