



Tool material

Solid Carbide

Surface



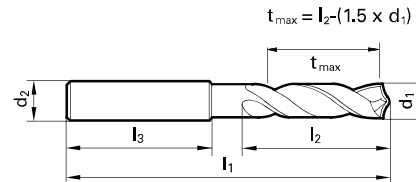
P	Steel	●
M	Stainless steel	
K	Cast iron	
N	Aluminum	
S	Titanium alloys	●
H	Hardened steel	○

●=Optimal

○=Limited

web thinning $\geq \varnothing 3.000$ • relieved cone • main cutting edge is slightly concave • optimized cutting geometry

alloyed and high tensile steels up to 1600 N/mm² • Inconel, Hastelloy, Monel • Titanium and Titanium alloys



Speeds and feeds information on pg. 575

Diameter (d1)			d2	l1	t _{max}	l2	EDP #
inch	wire/ltr	mm	mm	mm	mm	mm	
0.1181		3.00	6.00	62.00	15.50	20.00	9085240030000
0.1220		3.10	6.00	62.00	15.35	20.00	9085240031000
0.1248	1/8	3.17	6.00	62.00	15.25	20.00	9085240031700
0.1260		3.20	6.00	62.00	15.20	20.00	9085240032000
0.1280		3.25	6.00	62.00	15.13	20.00	9085240032500
0.1299		3.30	6.00	62.00	15.05	20.00	9085240033000
0.1339		3.40	6.00	62.00	14.90	20.00	9085240034000
0.1378		3.50	6.00	62.00	14.75	20.00	9085240035000
0.1406	9/64	3.57	6.00	62.00	14.65	20.00	9085240035700
0.1417		3.60	6.00	62.00	14.60	20.00	9085240036000
0.1457		3.70	6.00	62.00	14.45	20.00	9085240037000
0.1496	#25	3.80	6.00	66.00	18.30	24.00	9085240038000
0.1535		3.90	6.00	66.00	18.15	24.00	9085240039000
0.1563	5/32	3.97	6.00	66.00	18.05	24.00	9085240039700
0.1575		4.00	6.00	66.00	18.00	24.00	9085240040000
0.1614		4.10	6.00	66.00	17.85	24.00	9085240041000
0.1654		4.20	6.00	66.00	17.70	24.00	9085240042000
0.1693	#18	4.30	6.00	66.00	17.55	24.00	9085240043000
0.1720	11/64	4.37	6.00	66.00	17.45	24.00	9085240043700
0.1732		4.40	6.00	66.00	17.40	24.00	9085240044000
0.1772	#16	4.50	6.00	66.00	17.25	24.00	9085240045000
0.1811		4.60	6.00	66.00	17.10	24.00	9085240046000
0.1831		4.65	6.00	66.00	17.03	24.00	9085240046500
0.1850	#13	4.70	6.00	66.00	16.95	24.00	9085240047000
0.1874	3/16	4.76	6.00	66.00	20.86	28.00	9085240047600
0.1890	#12	4.80	6.00	66.00	20.80	28.00	9085240048000
0.1929		4.90	6.00	66.00	20.65	28.00	9085240049000
0.1969		5.00	6.00	66.00	20.50	28.00	9085240050000
0.2008		5.10	6.00	66.00	20.35	28.00	9085240051000
0.2031	13/64	5.16	6.00	66.00	20.26	28.00	9085240051600
0.2047		5.20	6.00	66.00	20.20	28.00	9085240052000
0.2087		5.30	6.00	66.00	20.05	28.00	9085240053000
0.2126		5.40	6.00	66.00	19.90	28.00	9085240054000
0.2165		5.50	6.00	66.00	19.75	28.00	9085240055000
0.2185		5.55	6.00	66.00	19.68	28.00	9085240055500
0.2189	7/32	5.56	6.00	66.00	19.66	28.00	9085240055600
0.2205		5.60	6.00	66.00	19.60	28.00	9085240056000
0.2244		5.70	6.00	66.00	19.45	28.00	9085240057000
0.2283		5.80	6.00	66.00	19.30	28.00	9085240058000
0.2323		5.90	6.00	66.00	19.15	28.00	9085240059000
0.2343	15/64	5.95	6.00	66.00	19.08	28.00	9085240059500
0.2362		6.00	6.00	66.00	19.00	28.00	9085240060000

Diameter (d1)			d2	l1	t _{max}	l2	EDP #	
inch	wire/ltr	mm	mm	mm	mm	mm		
0.2402	1/4	E	6.10	8.00	79.00	24.85	34.00	9085240061000
0.2441			6.20	8.00	79.00	24.70	34.00	9085240062000
0.2480			6.30	8.00	79.00	24.55	34.00	9085240063000
0.2500			6.35	8.00	79.00	24.48	34.00	9085240063500
0.2520			6.40	8.00	79.00	24.40	34.00	9085240064000
0.2559	17/64	H	6.50	8.00	79.00	24.25	34.00	9085240065000
0.2598			6.60	8.00	79.00	24.10	34.00	9085240066000
0.2638			6.70	8.00	79.00	23.95	34.00	9085240067000
0.2657			6.75	8.00	79.00	23.88	34.00	9085240067500
0.2677			6.80	8.00	79.00	23.80	34.00	9085240068000
0.2717	9/32	I	6.90	8.00	79.00	23.65	34.00	9085240069000
0.2756			7.00	8.00	79.00	23.50	34.00	9085240070000
0.2795			7.10	8.00	79.00	30.35	41.00	9085240071000
0.2811			7.14	8.00	79.00	30.29	41.00	9085240071400
0.2835			7.20	8.00	79.00	30.20	41.00	9085240072000
0.2874	19/64	K	7.30	8.00	79.00	30.05	41.00	9085240073000
0.2913			7.40	8.00	79.00	29.90	41.00	9085240074000
0.2953			7.50	8.00	79.00	29.75	41.00	9085240075000
0.2969			7.54	8.00	79.00	29.69	41.00	9085240075400
0.2992			7.60	8.00	79.00	29.60	41.00	9085240076000
0.3031	5/16	P	7.70	8.00	79.00	29.45	41.00	9085240077000
0.3071			7.80	8.00	79.00	29.30	41.00	9085240078000
0.3110			7.90	8.00	79.00	29.15	41.00	9085240079000
0.3125			7.94	8.00	79.00	29.09	41.00	9085240079400
0.3150			8.00	8.00	79.00	29.00	41.00	9085240080000
0.3189	21/64		8.10	10.00	89.00	34.85	47.00	9085240081000
0.3228			8.20	10.00	89.00	34.70	47.00	9085240082000
0.3268			8.30	10.00	89.00	34.55	47.00	9085240083000
0.3280			8.33	10.00	89.00	34.51	47.00	9085240083300
0.3307			8.40	10.00	89.00	34.40	47.00	9085240084000
0.3346	11/32		8.50	10.00	89.00	34.25	47.00	9085240085000
0.3386			8.60	10.00	89.00	34.10	47.00	9085240086000
0.3425			8.70	10.00	89.00	33.95	47.00	9085240087000
0.3437			8.73	10.00	89.00	33.91	47.00	9085240087300
0.3465			8.80	10.00	89.00	33.80	47.00	9085240088000
0.3504	23/64		8.90	10.00	89.00	33.65	47.00	9085240089000
0.3543			9.00	10.00	89.00	33.50	47.00	9085240090000
0.3583			9.10	10.00	89.00	33.35	47.00	9085240091000
0.3594			9.13	10.00	89.00	33.31	47.00	9085240091300
0.3622			9.20	10.00	89.00	33.20	47.00	9085240092000
0.3642			9.25	10.00	89.00	33.13	47.00	9085240092500
0.3661			9.30	10.00	89.00	33.05	47.00	9085240093000

Diameter (d1)			d2	l1	t _{max}	l2	EDP #
inch	wire/ltr	mm	mm	mm	mm	mm	
0.3701		9.40	10.00	89.00	32.90	47.00	9085240094000
0.3740		9.50	10.00	89.00	32.75	47.00	9085240095000
0.3748	3/8	9.52	10.00	89.00	32.72	47.00	9085240095200
0.3780		9.60	10.00	89.00	32.60	47.00	9085240096000
0.3819		9.70	10.00	89.00	32.45	47.00	9085240097000
0.3858	W	9.80	10.00	89.00	32.30	47.00	9085240098000
0.3898		9.90	10.00	89.00	32.15	47.00	9085240099000
0.3906	25/64	9.92	10.00	89.00	32.12	47.00	9085240099200
0.3937		10.00	10.00	89.00	32.00	47.00	9085240100000
0.3976		10.10	12.00	102.00	39.85	55.00	9085240101000
0.4016		10.20	12.00	102.00	39.70	55.00	9085240102000
0.4055		10.30	12.00	102.00	39.55	55.00	9085240103000
0.4063	13/32	10.32	12.00	102.00	39.52	55.00	9085240103200
0.4094		10.40	12.00	102.00	39.40	55.00	9085240104000
0.4134		10.50	12.00	102.00	39.25	55.00	9085240105000
0.4173		10.60	12.00	102.00	39.10	55.00	9085240106000
0.4213		10.70	12.00	102.00	38.95	55.00	9085240107000
0.4220	27/64	10.72	12.00	102.00	38.92	55.00	9085240107200
0.4252		10.80	12.00	102.00	38.80	55.00	9085240108000
0.4291		10.90	12.00	102.00	38.65	55.00	9085240109000
0.4331		11.00	12.00	102.00	38.50	55.00	9085240110000
0.4370		11.10	12.00	102.00	38.35	55.00	9085240111000
0.4374	7/16	11.11	12.00	102.00	38.34	55.00	9085240111100
0.4409		11.20	12.00	102.00	38.20	55.00	9085240112000
0.4449		11.30	12.00	102.00	38.05	55.00	9085240113000
0.4488		11.40	12.00	102.00	37.90	55.00	9085240114000
0.4528		11.50	12.00	102.00	37.75	55.00	9085240115000
0.4531	29/64	11.51	12.00	102.00	37.74	55.00	9085240115100
0.4567		11.60	12.00	102.00	37.60	55.00	9085240116000
0.4606		11.70	12.00	102.00	37.45	55.00	9085240117000
0.4646		11.80	12.00	102.00	37.30	55.00	9085240118000
0.4685		11.90	12.00	102.00	37.15	55.00	9085240119000
0.4689	15/32	11.91	12.00	102.00	37.14	55.00	9085240119100
0.4724		12.00	12.00	102.00	37.00	55.00	9085240120000
0.4803		12.20	14.00	107.00	41.70	60.00	9085240122000
0.4843	31/64	12.30	14.00	107.00	41.55	60.00	9085240123000

Diameter (d1)			d2	l1	t _{max}	l2	EDP #
inch	wire/ltr	mm	mm	mm	mm	mm	
0.4921		12.50	14.00	107.00	41.25	60.00	9085240125000
0.5000	1/2	12.70	14.00	107.00	40.95	60.00	9085240127000
0.5039		12.80	14.00	107.00	40.80	60.00	9085240128000
0.5118		13.00	14.00	107.00	40.50	60.00	9085240130000
0.5236		13.30	14.00	107.00	40.05	60.00	9085240133000
0.5311	17/32	13.49	14.00	107.00	39.77	60.00	9085240134900
0.5315		13.50	14.00	107.00	39.75	60.00	9085240135000
0.5394		13.70	14.00	107.00	39.45	60.00	9085240137000
0.5512		14.00	14.00	107.00	39.00	60.00	9085240140000
0.5591		14.20	16.00	115.00	43.70	65.00	9085240142000
0.5626	9/16	14.29	16.00	115.00	43.57	65.00	9085240142900
0.5630		14.30	16.00	115.00	43.55	65.00	9085240143000
0.5709		14.50	16.00	115.00	43.25	65.00	9085240145000
0.5787		14.70	16.00	115.00	42.95	65.00	9085240147000
0.5906		15.00	16.00	115.00	42.50	65.00	9085240150000
0.5984		15.20	16.00	115.00	42.20	65.00	9085240152000
0.6024		15.30	16.00	115.00	42.05	65.00	9085240153000
0.6102		15.50	16.00	115.00	41.75	65.00	9085240155000
0.6181		15.70	16.00	115.00	41.45	65.00	9085240157000
0.6248	5/8	15.87	16.00	115.00	41.20	65.00	9085240158700
0.6299		16.00	16.00	115.00	41.00	65.00	9085240160000
0.6417		16.30	18.00	123.00	48.55	73.00	9085240163000
0.6496		16.50	18.00	123.00	48.25	73.00	9085240165000
0.6654		16.90	18.00	123.00	47.65	73.00	9085240169000
0.6693		17.00	18.00	123.00	47.50	73.00	9085240170000
0.6811		17.30	18.00	123.00	47.05	73.00	9085240173000
0.6890		17.50	18.00	123.00	46.75	73.00	9085240175000
0.7087		18.00	18.00	123.00	46.00	73.00	9085240180000
0.7283		18.50	20.00	131.00	51.25	79.00	9085240185000
0.7441		18.90	20.00	131.00	50.65	79.00	9085240189000
0.7480		19.00	20.00	131.00	50.50	79.00	9085240190000
0.7500	3/4	19.05	20.00	131.00	50.43	79.00	9085240190500
0.7598		19.30	20.00	131.00	50.05	79.00	9085240193000
0.7677		19.50	20.00	131.00	49.75	79.00	9085240195000
0.7874		20.00	20.00	131.00	49.00	79.00	9085240200000

Material group	Hardness		SFM	Feed Rate - IPR									
	HRc	Bhn		1/16 in. 1.590 mm	1/8 in. 3.170 mm	1/4 in. 6.350 mm	3/8 in. 9.520 mm	1/2 in. 12.700 mm	5/8 in. 15.870 mm	3/4 in. 19.050 mm	1 in. 25.400 mm	1 1/4 in. 31.750 mm	1 1/2 in. 38.100 mm
Common structural steels	- ≤ 32	≤ 150 ≤ 301	475 395	0.0160 0.0007	0.0040 0.0031	0.0060 0.0049	0.0100 0.0075	0.0100 0.0079	0.0120 0.0098	0.0160 0.0124	0.0200 0.0157		
Free-cutting steels	≤ 25 ≤ 32	≤ 255 ≤ 301	560 475	0.0028 0.0028	0.0049 0.0049	0.0079 0.0079	0.0124 0.0124	0.0124 0.0124	0.0157 0.0157	0.0197 0.0197	0.0248 0.0248		
Unalloyed heat-treatable steels	≤ 20 ≤ 25 ≤ 32	≤ 220 ≤ 255 ≤ 301	425 410 395	0.0028 0.0016 0.0016	0.0049 0.0039 0.0039	0.0079 0.0063 0.0063	0.0124 0.0098 0.0098	0.0124 0.0098 0.0098	0.0157 0.0124 0.0124	0.0197 0.0157 0.0157	0.0248 0.0197 0.0197		
Alloyed heat-treatable steels	≤ 32 ≤ 43	≤ 301 ≤ 402	395 345	0.0016 0.0016	0.0039 0.0039	0.0063 0.0063	0.0098 0.0098	0.0098 0.0098	0.0124 0.0124	0.0157 0.0157	0.0197 0.0197		
Unalloyed case hardened steels	≤ 25	≤ 255	475	0.0028	0.0049	0.0079	0.0124	0.0124	0.0157	0.0197	0.0248		
Alloyed case hardened steels	≤ 32 ≤ 43	≤ 301 ≤ 402	395 280	0.0016 0.0007	0.0039 0.0025	0.0063 0.0039	0.0098 0.0059	0.0098 0.0063	0.0124 0.0079	0.0157 0.0098	0.0197 0.0124		
Nitriding steels	≤ 32 ≤ 43	≤ 301 ≤ 402	360 345	0.0016 0.0007	0.0039 0.0025	0.0063 0.0039	0.0098 0.0059	0.0098 0.0063	0.0124 0.0079	0.0157 0.0098	0.0197 0.0124		
Tool steels	≤ 25 ≤ 43	≤ 255 ≤ 402	260 215	0.0007 0.0007	0.0031 0.0025	0.0049 0.0039	0.0075 0.0059	0.0079 0.0063	0.0098 0.0079	0.0124 0.0098	0.0157 0.0124		
High speed steels	≤ 43	≤ 402	195	0.0008	0.0020	0.0031	0.0049	0.0049	0.0063	0.0079	0.0098		
Spring steels	≤ 38	≤ 354	195	0.0004	0.0016	0.0025	0.0039	0.0039	0.0049	0.0063	0.0079		
Hardened steels	≤ 48 ≤ 66	≤ 460 -	180 115	0.0004 0.0007	0.0016 0.0013	0.0025 0.0020	0.0039 0.0031	0.0039 0.0031	0.0049 0.0039	0.0063 0.0049	0.0079 0.0063		
Stainless steels, sulphured austenitic martensitic	≤ 28 ≤ 36 ≤ 46	≤ 273 ≤ 337 ≤ 435											
Cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354											
Spheroidal graphite iron and malleable cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354											
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20 ≤ 32	≤ 220 ≤ 301											
New cast materials ADI	≤ 32 ≤ 43	≤ 301 ≤ 402											
Special alloys	≤ 54	≤ 549	115	0.0008	0.0020	0.0031	0.0049	0.0049	0.0063	0.0079	0.0098		
Ti and Ti-alloys	≤ 25 ≤ 43	≤ 255 ≤ 402	150 130	0.0008 0.0008	0.0020 0.0020	0.0031 0.0031	0.0049 0.0049	0.0049 0.0049	0.0063 0.0063	0.0079 0.0079	0.0098 0.0098		
Aluminium and Al-alloys	-	≤ 120											
Al wrought alloys	-	≤ 200											
Al cast alloys ≤ 10 % Si ≤ 24 % Si	- -	≤ 180 ≤ 180											
Magnesium alloys	-	≤ 120											
Copper, low-alloyed	-	≤ 150											
Brass, short-chipping long-chipping	- -	≤ 180 ≤ 180											
Bronze, short-chipping	-	≤ 180											
Bronze, long-chipping	≤ 25 ≤ 32	≤ 255 ≤ 301											
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK													

Material group	Hardness		SFM	Feed Rate - IPR									
	HRc	Bhn		1/16 in. 1.590 mm	1/8 in. 3.170 mm	1/4 in. 6.350 mm	3/8 in. 9.520 mm	1/2 in. 12.700 mm	5/8 in. 15.870 mm	3/4 in. 19.050 mm	1 in. 25.400 mm	1 1/4 in. 31.750 mm	1 1/2 in. 38.100 mm
Common structural steels	- ≤ 32	≤ 150 ≤ 301	425 360	0.0028 0.0016	0.0050 0.0039	0.0080 0.0063	0.0120 0.0098	0.0120 0.0098	0.0160 0.0124	0.0200 0.0157	0.0250 0.0197		
Free-cutting steels	≤ 25 ≤ 32	≤ 255 ≤ 301	475 360	0.0011 0.0031	0.0063 0.0049	0.0098 0.0079	0.0150 0.0124	0.0157 0.0124	0.0197 0.0157	0.0248 0.0197	0.0315 0.0248		
Unalloyed heat-treatable steels	≤ 20 ≤ 25 ≤ 32	≤ 220 ≤ 255 ≤ 301	395 360 345	0.0031 0.0028 0.0028	0.0049 0.0049 0.0049	0.0079 0.0079 0.0079	0.0124 0.0124 0.0124	0.0124 0.0214 0.0157	0.0157 0.0157 0.0157	0.0197 0.0197 0.0197	0.0248 0.0248 0.0248		
Alloyed heat-treatable steels	≤ 32 ≤ 43	≤ 301 ≤ 402	345 330	0.0028 0.0025	0.0049 0.0039	0.0079 0.0063	0.0124 0.0098	0.0124 0.0098	0.0157 0.0124	0.0197 0.0157	0.0248 0.0197		
Unalloyed case hardened steels	≤ 25	≤ 255	425	0.0011	0.0063	0.0098	0.0150	0.0157	0.0124	0.0248	0.0315		
Alloyed case hardened steels	≤ 32 ≤ 43	≤ 301 ≤ 402	395 280	0.0028 0.0007	0.0049 0.0031	0.0079 0.0049	0.0124 0.0075	0.0124 0.0079	0.0157 0.0098	0.0197 0.0124	0.0248 0.0157		
Nitriding steels	≤ 32 ≤ 43	≤ 301 ≤ 402	330 295	0.0025 0.0007	0.0039 0.0031	0.0063 0.0049	0.0098 0.0075	0.0098 0.0079	0.0124 0.0098	0.0157 0.0124	0.0197 0.0157		
Tool steels	≤ 25 ≤ 43	≤ 255 ≤ 402	215 180	0.0016 0.0007	0.0039 0.0031	0.0063 0.0049	0.0098 0.0075	0.0098 0.0079	0.0124 0.0098	0.0157 0.0124	0.0197 0.0157		
High speed steels	≤ 43	≤ 402	180	0.0007	0.0025	0.0039	0.0059	0.0063	0.0079	0.0098	0.0124		
Spring steels	≤ 38	≤ 354	150	0.0008	0.0020	0.0031	0.0049	0.0049	0.0063	0.0079	0.0098		
Hardened steels	≤ 48 ≤ 66	≤ 460 -	150 80	0.0008 0.0004	0.0020 0.0016	0.0031 0.0025	0.0049 0.0039	0.0049 0.0039	0.0063 0.0049	0.0079 0.0063	0.0098 0.0079		
Stainless steels, sulphured austenitic martensitic	≤ 28 ≤ 36 ≤ 46	≤ 273 ≤ 337 ≤ 435											
Cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354											
Spheroidal graphite iron and malleable cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354											
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20 ≤ 32	≤ 220 ≤ 301											
New cast materials ADI	≤ 32 ≤ 43	≤ 301 ≤ 402											
Special alloys	≤ 54	≤ 549	80	0.0007	0.0025	0.0039	0.0059	0.0063	0.0079	0.0098	0.0124		
Ti and Ti-alloys	≤ 25 ≤ 43	≤ 255 ≤ 402	130 115	0.0013 0.0008	0.0020 0.0020	0.0031 0.0031	0.0049 0.0049	0.0049 0.0049	0.0063 0.0063	0.0079 0.0079	0.0098 0.0098		
Aluminium and Al-alloys	-	≤ 120											
Al wrought alloys	-	≤ 200											
Al cast alloys ≤ 10 % Si ≤ 24 % Si	- -	≤ 180 ≤ 180											
Magnesium alloys	-	≤ 120											
Copper, low-alloyed	-	≤ 150											
Brass, short-chipping long-chipping	- -	≤ 180 ≤ 180											
Bronze, short-chipping	-	≤ 180											
Bronze, long-chipping	≤ 25 ≤ 32	≤ 255 ≤ 301											
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK													