



Tool material

Solid Carbide

Surface

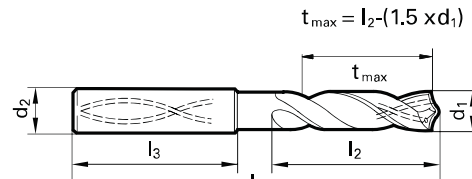


P	Steel
M	Stainless steel
K	Cast iron ★
N	Aluminum
S	Titanium alloys
H	Hardened steel

web thinning $\geq \varnothing 4.000$ • patented radius point grind • main cutting edge form straight (after correction)

vermicular cast iron GGV and ADI, CDI • grey cast iron, malleable and spheroidal iron

- ★ = 1st choice
- = Optimal suitability
- = Limited suitability



Speeds and feeds information on pg. 570

Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	EDP #
inch	wire/ltr	mm					
0.1575		4.00	6.00	75.00	31.50	38.00	9065020040000
0.1614		4.10	6.00	75.00	31.35	38.00	9065020041000
0.1654		4.20	6.00	75.00	31.20	38.00	9065020042000
0.1693	#18	4.30	6.00	85.00	38.55	45.00	9065020043000
0.1720	11/64	4.37	6.00	85.00	38.45	45.00	9065020043700
0.1732		4.40	6.00	85.00	38.40	45.00	9065020044000
0.1772	#16	4.50	6.00	85.00	38.25	45.00	9065020045000
0.1811		4.60	6.00	85.00	38.10	45.00	9065020046000
0.1831		4.65	6.00	85.00	38.03	45.00	9065020046500
0.1850	#13	4.70	6.00	85.00	37.95	45.00	9065020047000
0.1874	3/16	4.76	6.00	90.00	42.86	50.00	9065020047600
0.1890	#12	4.80	6.00	90.00	42.80	50.00	9065020048000
0.1929		4.90	6.00	90.00	42.65	50.00	9065020049000
0.1969		5.00	6.00	90.00	42.50	50.00	9065020050000
0.2008		5.10	6.00	90.00	42.35	50.00	9065020051000
0.2031	13/64	5.16	6.00	90.00	42.26	50.00	9065020051600
0.2047		5.20	6.00	90.00	42.20	50.00	9065020052000
0.2087		5.30	6.00	90.00	42.05	50.00	9065020053000
0.2126		5.40	6.00	97.00	48.90	57.00	9065020054000
0.2165		5.50	6.00	97.00	48.75	57.00	9065020055000
0.2185		5.55	6.00	97.00	48.68	57.00	9065020055500
0.2189	7/32	5.56	6.00	97.00	48.66	57.00	9065020055600
0.2205		5.60	6.00	97.00	48.60	57.00	9065020056000
0.2244		5.70	6.00	97.00	48.45	57.00	9065020057000
0.2283		5.80	6.00	97.00	48.30	57.00	9065020058000
0.2323		5.90	6.00	97.00	48.15	57.00	9065020059000
0.2343	15/64	5.95	6.00	97.00	48.08	57.00	9065020059500
0.2362		6.00	6.00	97.00	48.00	57.00	9065020060000
0.2402		6.10	8.00	106.00	56.85	66.00	9065020061000
0.2441		6.20	8.00	106.00	56.70	66.00	9065020062000
0.2480		6.30	8.00	106.00	56.55	66.00	9065020063000
0.2500	1/4	6.35	8.00	106.00	56.48	66.00	9065020063500
0.2520		6.40	8.00	106.00	56.40	66.00	9065020064000
0.2559		6.50	8.00	106.00	56.25	66.00	9065020065000
0.2598		6.60	8.00	106.00	56.10	66.00	9065020066000
0.2638		6.70	8.00	106.00	55.95	66.00	9065020067000
0.2657	17/64	6.75	8.00	106.00	55.88	66.00	9065020067500
0.2677		6.80	8.00	106.00	55.80	66.00	9065020068000
0.2717	I	6.90	8.00	116.00	65.65	76.00	9065020069000
0.2756		7.00	8.00	116.00	65.50	76.00	9065020070000
0.2795		7.10	8.00	116.00	65.35	76.00	9065020071000
0.2811	9/32	7.14	8.00	116.00	65.29	76.00	9065020071400

Diameter (d1)			d2 mm	l1 mm	t _{max} mm	l2 mm	EDP #
inch	wire/ltr	mm					
0.2835		7.20	8.00	116.00	65.20	76.00	9065020072000
0.2874		7.30	8.00	116.00	65.05	76.00	9065020073000
0.2913		7.40	8.00	116.00	64.90	76.00	9065020074000
0.2953		7.50	8.00	116.00	64.75	76.00	9065020075000
0.2969	19/64	7.54	8.00	116.00	64.69	76.00	9065020075400
0.2992		7.60	8.00	116.00	64.60	76.00	9065020076000
0.3031		7.70	8.00	116.00	64.45	76.00	9065020077000
0.3071		7.80	8.00	116.00	64.30	76.00	9065020078000
0.3110		7.90	8.00	116.00	64.15	76.00	9065020079000
0.3126	5/16	7.94	8.00	116.00	64.09	76.00	9065020079400
0.3150		8.00	8.00	116.00	64.00	76.00	9065020080000
0.3189		8.10	10.00	131.00	74.85	87.00	9065020081000
0.3228	P	8.20	10.00	131.00	74.70	87.00	9065020082000
0.3268		8.30	10.00	131.00	74.55	87.00	9065020083000
0.3280	21/64	8.33	10.00	131.00	74.51	87.00	9065020083300
0.3307		8.40	10.00	131.00	74.40	87.00	9065020084000
0.3346		8.50	10.00	131.00	74.25	87.00	9065020085000
0.3386		8.60	10.00	131.00	74.10	87.00	9065020086000
0.3425		8.70	10.00	131.00	73.95	87.00	9065020087000
0.3437	11/32	8.73	10.00	131.00	73.91	87.00	9065020087300
0.3465		8.80	10.00	131.00	73.80	87.00	9065020088000
0.3504		8.90	10.00	131.00	73.65	87.00	9065020089000
0.3543		9.00	10.00	131.00	73.50	87.00	9065020090000
0.3583		9.10	10.00	139.00	81.35	95.00	9065020091000
0.3594	23/64	9.13	10.00	139.00	81.31	95.00	9065020091300
0.3622		9.20	10.00	139.00	81.20	95.00	9065020092000
0.3642		9.25	10.00	139.00	81.13	95.00	9065020092500
0.3661		9.30	10.00	139.00	81.05	95.00	9065020093000
0.3701		9.40	10.00	139.00	80.90	95.00	9065020094000
0.3740		9.50	10.00	139.00	80.75	95.00	9065020095000
0.3748	3/8	9.52	10.00	139.00	80.72	95.00	9065020095200
0.3780		9.60	10.00	139.00	80.60	95.00	9065020096000
0.3819		9.70	10.00	139.00	80.45	95.00	9065020097000
0.3858	W	9.80	10.00	139.00	80.30	95.00	9065020098000
0.3898		9.90	10.00	139.00	80.15	95.00	9065020099000
0.3906	25/64	9.92	10.00	139.00	80.12	95.00	9065020099200
0.3937		10.00	10.00	139.00	80.00	95.00	9065020100000
0.3976		10.10	12.00	155.00	90.85	106.00	9065020101000
0.4016		10.20	12.00	155.00	90.70	106.00	9065020102000
0.4055		10.30	12.00	155.00	90.55	106.00	9065020103000
0.4063	13/32	10.32	12.00	155.00	90.52	106.00	9065020103200
0.4094		10.40	12.00	155.00	90.40	106.00	9065020104000

Diameter (d1)			d2	l1	t _{max}	l2	EDP #
inch	wire/ltr	mm	mm	mm	mm	mm	
0.4134		10.50	12.00	155.00	90.25	106.00	9065020105000
0.4173		10.60	12.00	155.00	90.10	106.00	9065020106000
0.4213		10.70	12.00	155.00	89.95	106.00	9065020107000
0.4220	27/64	10.72	12.00	155.00	89.92	106.00	9065020107200
0.4252		10.80	12.00	155.00	89.80	106.00	9065020108000
0.4291		10.90	12.00	155.00	89.65	106.00	9065020109000
0.4331		11.00	12.00	155.00	89.50	106.00	9065020110000
0.4370		11.10	12.00	163.00	97.35	114.00	9065020111000
0.4374	7/16	11.11	12.00	163.00	97.34	114.00	9065020111100
0.4409		11.20	12.00	163.00	97.20	114.00	9065020112000
0.4449		11.30	12.00	163.00	97.05	114.00	9065020113000
0.4488		11.40	12.00	163.00	96.90	114.00	9065020114000
0.4528		11.50	12.00	163.00	96.75	114.00	9065020115000
0.4567		11.60	12.00	163.00	96.60	114.00	9065020116000
0.4606		11.70	12.00	163.00	96.45	114.00	9065020117000
0.4646		11.80	12.00	163.00	96.30	114.00	9065020118000
0.4685		11.90	12.00	163.00	96.15	114.00	9065020119000
0.4689	15/32	11.91	12.00	163.00	96.14	114.00	9065020119100
0.4724		12.00	12.00	163.00	96.00	114.00	9065020120000
0.4764		12.10	14.00	182.00	114.85	133.00	9065020121000
0.4803		12.20	14.00	182.00	114.70	133.00	9065020122000
0.4843	31/64	12.30	14.00	182.00	114.55	133.00	9065020123000
0.4882		12.40	14.00	182.00	114.40	133.00	9065020124000
0.4921		12.50	14.00	182.00	114.25	133.00	9065020125000
0.4961		12.60	14.00	182.00	114.10	133.00	9065020126000
0.5000	1/2	12.70	14.00	182.00	113.95	133.00	9065020127000
0.5039		12.80	14.00	182.00	113.80	133.00	9065020128000
0.5079		12.90	14.00	182.00	113.65	133.00	9065020129000
0.5118		13.00	14.00	182.00	113.50	133.00	9065020130000
0.5157	33/64	13.10	14.00	182.00	113.35	133.00	9065020131000
0.5236		13.30	14.00	182.00	113.05	133.00	9065020133000
0.5276		13.40	14.00	182.00	112.90	133.00	9065020134000
0.5315		13.50	14.00	182.00	112.75	133.00	9065020135000
0.5394		13.70	14.00	182.00	112.45	133.00	9065020137000

Diameter (d1)			d2	l1	t _{max}	l2	EDP #
inch	wire/ltr	mm	mm	mm	mm	mm	
0.5433		13.80	14.00	182.00	112.30	133.00	9065020138000
0.5472		13.90	14.00	182.00	112.15	133.00	9065020139000
0.5512		14.00	14.00	182.00	112.00	133.00	9065020140000
0.5551		14.10	16.00	204.00	130.85	152.00	9065020141000
0.5591		14.20	16.00	204.00	130.70	152.00	9065020142000
0.5626	9/16	14.29	16.00	204.00	130.57	152.00	9065020142900
0.5630		14.30	16.00	204.00	130.55	152.00	9065020143000
0.5669		14.40	16.00	204.00	130.40	152.00	9065020144000
0.5709		14.50	16.00	204.00	130.25	152.00	9065020145000
0.5748		14.60	16.00	204.00	130.10	152.00	9065020146000
0.5787		14.70	16.00	204.00	129.95	152.00	9065020147000
0.5866		14.90	16.00	204.00	129.65	152.00	9065020149000
0.5906		15.00	16.00	204.00	129.50	152.00	9065020150000
0.5945		15.10	16.00	204.00	129.35	152.00	9065020151000
0.5984		15.20	16.00	204.00	129.20	152.00	9065020152000
0.6024		15.30	16.00	204.00	129.05	152.00	9065020153000
0.6063		15.40	16.00	204.00	128.90	152.00	9065020154000
0.6102		15.50	16.00	204.00	128.75	152.00	9065020155000
0.6142		15.60	16.00	204.00	128.60	152.00	9065020156000
0.6181		15.70	16.00	204.00	128.45	152.00	9065020157000
0.6220		15.80	16.00	204.00	128.30	152.00	9065020158000
0.6248	5/8	15.87	16.00	204.00	128.20	152.00	9065020158700
0.6260		15.90	16.00	204.00	128.15	152.00	9065020159000
0.6299		16.00	16.00	204.00	128.00	152.00	9065020160000
0.6496		16.50	18.00	223.00	146.25	171.00	9065020165000
0.6563	21/32	16.67	18.00	223.00	146.00	171.00	9065020166700
0.6693		17.00	18.00	223.00	145.50	171.00	9065020170000
0.6890		17.50	18.00	223.00	144.75	171.00	9065020175000
0.7087		18.00	18.00	223.00	144.00	171.00	9065020180000
0.7283		18.50	20.00	244.00	162.25	190.00	9065020185000
0.7480		19.00	20.00	244.00	161.50	190.00	9065020190000
0.7677		19.50	20.00	244.00	160.75	190.00	9065020195000
0.7874		20.00	20.00	244.00	160.00	190.00	9065020200000

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											
Free-cutting steels	≤ 25 ≤ 32	≤ 255 ≤ 301											
Unalloyed heat-treatable steels	≤ 20 ≤ 25 ≤ 32	≤ 220 ≤ 255 ≤ 301											
Alloyed heat-treatable steels	≤ 32 ≤ 43	≤ 301 ≤ 402											
Unalloyed case hardened steels	≤ 25	≤ 255											
Alloyed case hardened steels	≤ 32 ≤ 43	≤ 301 ≤ 402											
Nitriding steels	≤ 32 ≤ 43	≤ 301 ≤ 402											
Tool steels	≤ 25 ≤ 43	≤ 255 ≤ 402											
High speed steels	≤ 43	≤ 402											
Spring steels	≤ 38	≤ 354											
Hardened steels	≤ 48 ≤ 66	≤ 460 -											
Stainless steels, sulphured austenitic martensitic	≤ 28 ≤ 36 ≤ 46	≤ 273 ≤ 337 ≤ 435											
Cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354	685 520		0.0060 0.0060	0.0100 0.0100	0.0160 0.0160	0.0160 0.0160	0.0200 0.0200	0.0250 0.0250			
Spheroidal graphite iron and malleable cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354	520 425		0.0060 0.0050	0.0100 0.0080	0.0160 0.0125	0.0160 0.0125	0.0200 0.0160	0.0250 0.0200			
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20 ≤ 32	≤ 220 ≤ 301	425 330	0.0010 0.0010	0.0050 0.0050	0.0080 0.0080	0.0125 0.0125	0.0125 0.0125	0.0155 0.0155	0.0195 0.0195	0.0250 0.0250	0.0250 0.0250	0.0315 0.0315
New cast materials ADI	≤ 32 ≤ 43	≤ 301 ≤ 402	260 195	0.0010 0.0010	0.0050 0.0050	0.0080 0.0080	0.0125 0.0125	0.0125 0.0125	0.0155 0.0155	0.0195 0.0195	0.0250 0.0250	0.0250 0.0250	0.0315 0.0315
Special alloys	≤ 54	≤ 549											
Ti and Ti-alloys	≤ 25 ≤ 43	≤ 255 ≤ 402	425 325		0.0050 0.0050	0.0080 0.0080	0.0120 0.0120	0.0125 0.0125	0.0160 0.0160	0.0200 0.0200			
Aluminium and Al-alloys	-	≤ 120	260		0.0050	0.0080	0.0120	0.0125	0.0160	0.0200			
Al wrought alloys	-	≤ 200	195		0.0050	0.0080	0.0120	0.0125	0.0160	0.0200			
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	360 360	0.0040 0.0040	0.0060 0.0060	0.0100 0.0100	0.0140 0.0140	0.0160 0.0160	0.0200 0.0200				
Free-cutting steels	≤ 25 ≤ 32	≤ 255 ≤ 301	395 395	0.0040 0.0040	0.0060 0.0060	0.0100 0.0100	0.0140 0.0140	0.0160 0.0160	0.0200 0.0200				
Unalloyed heat-treatable steels	≤ 20 ≤ 25 ≤ 32	≤ 220 ≤ 255 ≤ 301	360 360 330	0.0030 0.0040 0.0030	0.0040 0.0060 0.0050	0.0060 0.0100 0.0080	0.0090 0.0140 0.0110	0.0100 0.0160 0.0120	0.0120 0.0200 0.0160				
Alloyed heat-treatable steels	≤ 32 ≤ 43	≤ 301 ≤ 402	360 360	0.0030 0.0030	0.0050 0.0040	0.0080 0.0060	0.0110 0.0090	0.0120 0.0100	0.0160 0.0120				
Unalloyed case hardened steels	≤ 25	≤ 255	360	0.0040	0.0060	0.0100	0.0140	0.0160	0.0200				
Alloyed case hardened steels	≤ 32 ≤ 43	≤ 301 ≤ 402	360 360	0.0030 0.0030	0.0050 0.0040	0.0080 0.0060	0.0110 0.0090	0.0120 0.0100	0.0160 0.0120				
Nitriding steels	≤ 32 ≤ 43	≤ 301 ≤ 402	330 260	0.0020 0.0020	0.0030 0.0030	0.0050 0.0050	0.0070 0.0070	0.0080 0.0080	0.0100 0.0100				
Tool steels	≤ 25 ≤ 43	≤ 255 ≤ 402	330 260	0.0030 0.0020	0.0040 0.0030	0.0060 0.0050	0.0090 0.0070	0.0100 0.0080	0.0120 0.0100				
High speed steels	≤ 43	≤ 402	165	0.0020	0.0030	0.0050	0.0070	0.0080	0.0100				
Spring steels	≤ 38	≤ 354	165	0.0020	0.0030	0.0050	0.0070	0.0080	0.0100				
Hardened steels	≤ 48 ≤ 66	≤ 460 -	165 165	0.0020 0.0010	0.0020 0.0020	0.0040 0.0040	0.0060 0.0060	0.0060 0.0060	0.0080 0.0080				
Stainless steels, sulphured austenitic martensitic	≤ 28 ≤ 36 ≤ 46	≤ 273 ≤ 337 ≤ 435	330 230 330	0.0020 0.0010 0.0020	0.0030 0.0020 0.0030	0.0050 0.0020 0.0050	0.0070 0.0040 0.0070	0.0080 0.0040 0.0080	0.0100 0.0050 0.0100				
Cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354	460 330	0.0040 0.0040	0.0060 0.0060	0.0100 0.0100	0.0140 0.0140	0.0160 0.0160	0.0200 0.0200				
Spheroidal graphite iron and malleable cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354	460 330	0.0040 0.0040	0.0060 0.0060	0.0100 0.0100	0.0140 0.0140	0.0160 0.0160	0.0200 0.0200				
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20 ≤ 32	≤ 220 ≤ 301	330 330	0.0005 0.0005	0.0040 0.0040	0.0065 0.0065	0.0100 0.0100	0.0100 0.0100	0.0125 0.0125				
New cast materials ADI	≤ 32 ≤ 43	≤ 301 ≤ 402	295	0.0010	0.0065	0.0100	0.0155	0.0155	0.0195				
Special alloys	≤ 54	≤ 549	100	0.0040	0.0020	0.0020	0.0040	0.0040	0.0050				
Ti and Ti-alloys	≤ 25 ≤ 43	≤ 255 ≤ 402											
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	395		0.0010	0.0020	0.0030	0.0030	0.0040				
Brass, short-chipping long-chipping	- -	≤ 180 ≤ 180	395	0.0040	0.0060	0.0100	0.0140	0.0160	0.0200				
Bronze, short-chipping	-	≤ 180											
Bronze, long-chipping	≤ 25 ≤ 32	≤ 255 ≤ 301											
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK													