



Tool material

Solid Carbide

Surface



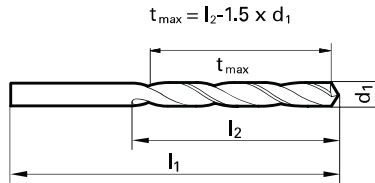
P	Steel	●
M	Stainless steel	○
K	Cast iron	●
N	Aluminum	○
S	Titanium alloys	○
H	Hardened steel	○

●=Optimal

○=Limited

web thinning $\geq \varnothing 3.000$ • facet point grinding • main cutting edge form straight • optimized cutting geometry

structural and case hardened steels • free-cutting steels, heat-treatable steels • alloyed steels up to 1200 N/mm² • cast materials • bronze, brass • high-alloyed AISi-alloys



Speeds and feeds information on pg. 534

Shank diameter = cut diameter

Diameter (d1)			l1 mm	t _{max} mm	l2 mm	EDP #
inch	wire/ltr	mm				
0.1181	1/8	3.00	46.00	11.50	16.00	9012420030000
0.1220		3.10	49.00	13.35	18.00	9012420031000
0.1248		3.17	49.00	13.25	18.00	9012420031700
0.1260		3.20	49.00	13.20	18.00	9012420032000
0.1299	9/64	3.30	49.00	13.05	18.00	9012420033000
0.1339		3.40	52.00	14.90	20.00	9012420034000
0.1378		3.50	52.00	14.75	20.00	9012420035000
0.1406		3.57	52.00	14.65	20.00	9012420035700
0.1417	#28	3.60	52.00	14.60	20.00	9012420036000
0.1457		3.70	52.00	14.45	20.00	9012420037000
0.1496		3.80	55.00	16.30	22.00	9012420038000
0.1535		3.90	55.00	16.15	22.00	9012420039000
0.1563	5/32	3.97	55.00	16.05	22.00	9012420039700
0.1575		4.00	55.00	16.00	22.00	9012420040000
0.1614		4.10	55.00	15.85	22.00	9012420041000
0.1654		4.20	55.00	15.70	22.00	9012420042000
0.1693	11/64	4.30	58.00	17.55	24.00	9012420043000
0.1720		4.37	58.00	17.45	24.00	9012420043700
0.1732		4.40	58.00	17.40	24.00	9012420044000
0.1772		4.50	58.00	17.25	24.00	9012420045000
0.1811	#16	4.60	58.00	17.10	24.00	9012420046000
0.1850		4.70	58.00	16.95	24.00	9012420047000
0.1874		4.76	62.00	18.86	26.00	9012420047600
0.1890		4.80	62.00	18.80	26.00	9012420048000
0.1929	3/16	4.90	62.00	18.65	26.00	9012420049000
0.1969		5.00	62.00	18.50	26.00	9012420050000
0.2008		5.10	62.00	18.35	26.00	9012420051000
0.2031		5.16	62.00	18.26	26.00	9012420051600
0.2047	7/32	5.20	62.00	18.20	26.00	9012420052000
0.2087		5.30	62.00	18.05	26.00	9012420053000
0.2126		5.40	66.00	19.90	28.00	9012420054000
0.2165		5.50	66.00	19.75	28.00	9012420055000
0.2189	15/64	5.56	66.00	19.66	28.00	9012420055600
0.2205		5.60	66.00	19.60	28.00	9012420056000
0.2244		5.70	66.00	19.45	28.00	9012420057000
0.2283		5.80	66.00	19.30	28.00	9012420058000
0.2323	1/2	5.90	66.00	19.15	28.00	9012420059000
0.2343		5.95	66.00	19.08	28.00	9012420059500
0.2362		6.00	66.00	19.00	28.00	9012420060000
0.2402		6.10	70.00	21.85	31.00	9012420061000
0.2441	3/4	6.20	70.00	21.70	31.00	9012420062000
0.2480		6.30	70.00	21.55	31.00	9012420063000

Diameter (d1)			l1 mm	t _{max} mm	l2 mm	EDP #
inch	wire/ltr	mm				
0.2500	1/4	E 6.35	70.00	21.48	31.00	9012420063500
0.2520		6.40	70.00	21.40	31.00	9012420064000
0.2559		6.50	70.00	21.25	31.00	9012420065000
0.2598		6.60	70.00	21.10	31.00	9012420066000
0.2638	17/64	6.70	70.00	20.95	31.00	9012420067000
0.2657		H 6.75	74.00	23.88	34.00	9012420067500
0.2677		6.80	74.00	23.80	34.00	9012420068000
0.2717		I 6.90	74.00	23.65	34.00	9012420069000
0.2756	9/32	7.00	74.00	23.50	34.00	9012420070000
0.2795		7.10	74.00	23.35	34.00	9012420071000
0.2811		K 7.14	74.00	23.29	34.00	9012420071400
0.2835		7.20	74.00	23.20	34.00	9012420072000
0.2874	19/64	7.30	74.00	23.05	34.00	9012420073000
0.2913		7.40	74.00	22.90	34.00	9012420074000
0.2953		7.50	74.00	22.75	34.00	9012420075000
0.2969		7.54	79.00	25.69	37.00	9012420075400
0.2992	5/16	7.60	79.00	25.60	37.00	9012420076000
0.3031		7.70	79.00	25.45	37.00	9012420077000
0.3071		7.80	79.00	25.30	37.00	9012420078000
0.3110		7.90	79.00	25.15	37.00	9012420079000
0.3126	3/8	7.94	79.00	25.09	37.00	9012420079400
0.3150		8.00	79.00	25.00	37.00	9012420080000
0.3189		8.10	79.00	24.85	37.00	9012420081000
0.3228		P 8.20	79.00	24.70	37.00	9012420082000
0.3268	21/64	8.30	79.00	24.55	37.00	9012420083000
0.3280		8.33	79.00	24.51	37.00	9012420083300
0.3307		8.40	79.00	24.40	37.00	9012420084000
0.3346		8.50	79.00	24.25	37.00	9012420085000
0.3386	11/32	8.60	84.00	27.10	40.00	9012420086000
0.3425		8.70	84.00	26.95	40.00	9012420087000
0.3437		8.73	84.00	26.91	40.00	9012420087300
0.3465		8.80	84.00	26.80	40.00	9012420088000
0.3504	23/64	8.90	84.00	26.65	40.00	9012420089000
0.3543		9.00	84.00	26.50	40.00	9012420090000
0.3583		9.10	84.00	26.35	40.00	9012420091000
0.3594		9.13	84.00	26.31	40.00	9012420091300
0.3622	3/4	9.20	84.00	26.20	40.00	9012420092000
0.3661		9.30	84.00	26.05	40.00	9012420093000
0.3701		9.40	84.00	25.90	40.00	9012420094000
0.3740		9.50	84.00	25.75	40.00	9012420095000
0.3748	1 1/4	9.52	89.00	28.72	43.00	9012420095200
0.3780		9.60	89.00	28.60	43.00	9012420096000

Diameter (d1)			l1 mm	t _{max} mm	l2 mm	EDP #
inch	wire/ltr	mm				
0.3819	W	9.70	89.00	28.45	43.00	9012420097000
0.3858		9.80	89.00	28.30	43.00	9012420098000
0.3898		9.90	89.00	28.15	43.00	9012420099000
0.3906	25/64	9.92	89.00	28.12	43.00	9012420099200
0.3937		10.00	89.00	28.00	43.00	9012420100000
0.3976		10.10	89.00	27.85	43.00	9012420101000
0.4016	13/32	10.20	89.00	27.70	43.00	9012420102000
0.4055		10.30	89.00	27.55	43.00	9012420103000
0.4063		10.32	89.00	27.52	43.00	9012420103200
0.4094		10.40	89.00	27.40	43.00	9012420104000
0.4134		10.50	89.00	27.25	43.00	9012420105000
0.4173		10.60	89.00	27.10	43.00	9012420106000
0.4213	27/64	10.70	95.00	30.95	47.00	9012420107000
0.4220		10.72	95.00	30.92	47.00	9012420107200
0.4252		10.80	95.00	30.80	47.00	9012420108000
0.4291		10.90	95.00	30.65	47.00	9012420109000
0.4331		11.00	95.00	30.50	47.00	9012420110000
0.4370		11.10	95.00	30.35	47.00	9012420111000
0.4374	7/16	11.11	95.00	30.34	47.00	9012420111100
0.4409		11.20	95.00	30.20	47.00	9012420112000

Diameter (d1)			l1 mm	t _{max} mm	l2 mm	EDP #
inch	wire/ltr	mm				
0.4449		11.30	95.00	30.05	47.00	9012420113000
0.4488		11.40	95.00	29.90	47.00	9012420114000
0.4528		11.50	95.00	29.75	47.00	9012420115000
0.4531	29/64	11.51	95.00	29.74	47.00	9012420115100
0.4567		11.60	95.00	29.60	47.00	9012420116000
0.4606		11.70	95.00	29.45	47.00	9012420117000
0.4646	15/32	11.80	95.00	29.30	47.00	9012420118000
0.4685		11.90	102.00	33.15	51.00	9012420119000
0.4689		11.91	102.00	33.14	51.00	9012420119100
0.4724		12.00	102.00	33.00	51.00	9012420120000
0.4921		12.50	102.00	32.25	51.00	9012420125000
0.5000		12.70	102.00	31.95	51.00	9012420127000
0.5118	1/2	13.00	102.00	31.50	51.00	9012420130000
0.5315		13.50	107.00	33.75	54.00	9012420135000
0.5512		14.00	107.00	33.00	54.00	9012420140000
0.5709		14.50	111.00	34.25	56.00	9012420145000
0.5906		15.00	111.00	33.50	56.00	9012420150000
0.6102		15.50	115.00	34.75	58.00	9012420155000
0.6299		16.00	115.00	34.00	58.00	9012420160000

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	330 280		0.0050 0.0040	0.0080 0.0065	0.0100 0.0080	0.0125 0.0100	0.0140 0.0110	0.0160 0.0125			
Free-cutting steels	≤ 25 ≤ 32	≤ 255 ≤ 301	360 280		0.0065 0.0050	0.0100 0.0080	0.0125 0.0100	0.0160 0.0125	0.0180 0.0140	0.0200 0.0160			
Unalloyed heat-treatable steels	≤ 20 ≤ 25 ≤ 32	≤ 220 ≤ 255 ≤ 301	260 280 260		0.0050 0.0050 0.0050	0.0080 0.0080 0.0080	0.0100 0.0100 0.0100	0.0125 0.0125 0.0125	0.0140 0.0140 0.0140	0.0160 0.0160 0.0160			
Alloyed heat-treatable steels	≤ 32 ≤ 43	≤ 301 ≤ 402	260 245		0.0050 0.0040	0.0080 0.0065	0.0100 0.0080	0.0125 0.0100	0.0140 0.0110	0.0160 0.0125			
Unalloyed case hardened steels	≤ 25	≤ 255	330		0.0065	0.0100	0.0125	0.0160	0.0180	0.0200			
Alloyed case hardened steels	≤ 32 ≤ 43	≤ 301 ≤ 402	295 215		0.0050 0.0030	0.0080 0.0050	0.0100 0.0065	0.0125 0.0080	0.0140 0.0090	0.0160 0.0100			
Nitriding steels	≤ 32 ≤ 43	≤ 301 ≤ 402	245 230		0.0040 0.0030	0.0065 0.0050	0.0080 0.0065	0.0100 0.0080	0.0110 0.0090	0.0125 0.0100			
Tool steels	≤ 25 ≤ 43	≤ 255 ≤ 402	165 130		0.0050 0.0030	0.0080 0.0050	0.0100 0.0065	0.0125 0.0080	0.0140 0.0090	0.0160 0.0100			
High speed steels	≤ 43	≤ 402											
Spring steels	≤ 38	≤ 354	115		0.0020	0.0030	0.0040	0.0050	0.0055	0.0065			
Hardened steels	≤ 48 ≤ 66	≤ 460 -											
Stainless steels, sulphured austenitic martensitic	≤ 28 ≤ 36 ≤ 46	≤ 273 ≤ 337 ≤ 435	95 90 90		0.0025 0.0025 0.0020	0.0040 0.0040 0.0030	0.0050 0.0050 0.0040	0.0065 0.0065 0.0050	0.0065 0.0065 0.0050	0.0080 0.0080 0.0065			
Cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354	525 395		0.0065 0.0050	0.0100 0.0080	0.0125 0.0100	0.0160 0.0125	0.0180 0.0140	0.0200 0.0160			
Spheroidal graphite iron and malleable cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354	395 310		0.0050 0.0050	0.0080 0.0080	0.0100 0.0100	0.0125 0.0125	0.0140 0.0140	0.0160 0.0160			
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											
Ti and Ti-alloys	≤ 25 ≤ 43	≤ 255 ≤ 402											
Aluminium and Al-alloys	-	≤ 120	655		0.0080	0.0125	0.0160	0.0200	0.0220	0.0245			
Al wrought alloys	-	≤ 200	655		0.0080	0.0125	0.0160	0.0200	0.0220	0.0245			
Al cast alloys ≤ 10 % Si	-	≤ 180	560		0.0080	0.0125	0.0160	0.0200	0.0220	0.0245			
≤ 24 % Si	-	≤ 180	460		0.0065	0.0100	0.0125	0.0160	0.0180	0.0200			
Magnesium alloys	-	≤ 120											
Copper, low-alloyed	-	≤ 150											
Brass, short-chipping	-	≤ 180											
long-chipping	-	≤ 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	330 280		0.0050 0.0040	0.0080 0.0065	0.0100 0.0080	0.0125 0.0100	0.0140 0.0110	0.0160 0.0125			
Free-cutting steels	≤ 25 ≤ 32	≤ 255 ≤ 301	360 280		0.0065 0.0050	0.0100 0.0080	0.0125 0.0100	0.0160 0.0125	0.0180 0.0140	0.0200 0.0160			
Unalloyed heat-treatable steels	≤ 20 ≤ 25 ≤ 32	≤ 220 ≤ 255 ≤ 301	260 280 260		0.0050 0.0050 0.0050	0.0080 0.0080 0.0080	0.0100 0.0100 0.0100	0.0125 0.0125 0.0125	0.0140 0.0140 0.0140	0.0160 0.0160 0.0160			
Alloyed heat-treatable steels	≤ 32 ≤ 43	≤ 301 ≤ 402	260 245		0.0050 0.0040	0.0080 0.0065	0.0100 0.0080	0.0125 0.0100	0.0140 0.0110	0.0160 0.0125			
Unalloyed case hardened steels	≤ 25	≤ 255	330		0.0065	0.0100	0.0125	0.0160	0.0180	0.0200			
Alloyed case hardened steels	≤ 32 ≤ 43	≤ 301 ≤ 402	295 215		0.0050 0.0030	0.0080 0.0050	0.0100 0.0065	0.0125 0.0080	0.0140 0.0090	0.0160 0.0100			
Nitriding steels	≤ 32 ≤ 43	≤ 301 ≤ 402	245 230		0.0040 0.0030	0.0065 0.0050	0.0080 0.0065	0.0100 0.0080	0.0110 0.0090	0.0125 0.0100			
Tool steels	≤ 25 ≤ 43	≤ 255 ≤ 402	165 130		0.0050 0.0030	0.0080 0.0050	0.0100 0.0065	0.0125 0.0080	0.0140 0.0090	0.0160 0.0100			
High speed steels	≤ 43	≤ 402											
Spring steels	≤ 38	≤ 354	115		0.0020	0.0030	0.0040	0.0050	0.0055	0.0065			
Hardened steels	≤ 48 ≤ 66	≤ 460 -											
Stainless steels, sulphured austenitic martensitic	≤ 28 ≤ 36 ≤ 46	≤ 273 ≤ 337 ≤ 435	95 90 90		0.0025 0.0025 0.0020	0.0040 0.0040 0.0030	0.0050 0.0050 0.0040	0.0065 0.0065 0.0050	0.0065 0.0065 0.0050	0.0080 0.0080 0.0065			
Cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354	525 395		0.0065 0.0050	0.0100 0.0080	0.0125 0.0100	0.0160 0.0125	0.0180 0.0140	0.0200 0.0160			
Spheroidal graphite iron and malleable cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354	395 310		0.0050 0.0050	0.0080 0.0080	0.0100 0.0100	0.0125 0.0125	0.0140 0.0140	0.0160 0.0160			
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											
Ti and Ti-alloys	≤ 25 ≤ 43	≤ 255 ≤ 402											
Aluminium and Al-alloys	-	≤ 120	655		0.0080	0.0125	0.0160	0.0200	0.0220	0.0245			
Al wrought alloys	-	≤ 200	655		0.0080	0.0125	0.0160	0.0200	0.0220	0.0245			
Al cast alloys ≤ 10 % Si	-	≤ 180	560		0.0080	0.0125	0.0160	0.0200	0.0220	0.0245			
≤ 24 % Si	-	≤ 180	460		0.0065	0.0100	0.0125	0.0160	0.0180	0.0200			
Magnesium alloys	-	≤ 120											
Copper, low-alloyed	-	≤ 150											
Brass, short-chipping	-	≤ 180											
long-chipping	-	≤ 180											
Bronze, short-chipping	-	≤ 180											
Bronze, long-chipping	≤ 25 ≤ 32	≤ 255 ≤ 301											
Duroplastics													
Thermoplastics													
Reinforced plastics - Kevlar													
Reinforced plastics - GFK / CFK													