



Tool material

HSS

Surface



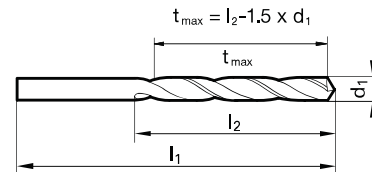
P	Steel	○
M	Stainless steel	
K	Cast iron	
N	Aluminum	●
S	Titanium alloys	
H	Hardened steel	

●=Optimal

○=Limited

web thinning ≥ Ø 2.380 • relieved cone • for extremely deep holes

soft, long chipping materials up to 500 N/mm² • mild steels • aluminum, Al-alloys (long-chipping) • zinc, refined copper, silumin, Elektron • zamak, argalium, soft plastics, wood



Speeds and feeds information on pg. 496

Shank diameter = cut diameter

Diameter (d ₁)			l ₁ mm	t _{max} mm	l ₂ mm	EDP #
inch	wire/ltr	mm				
0.0787		2.00	125.00	82.00	85.00	9005240020000
0.0827		2.10	125.00	81.85	85.00	9005240021000
0.0866		2.20	135.00	86.70	90.00	9005240022000
0.0906		2.30	135.00	86.55	90.00	9005240023000
0.0925		2.35	135.00	86.48	90.00	9005240023500
0.0937	3/32	2.38	140.00	91.43	95.00	9005240023800
0.0945		2.40	140.00	91.40	95.00	9005240024000
0.0965		2.45	140.00	91.33	95.00	9005240024500
0.0984		2.50	140.00	91.25	95.00	9005240025000
0.1024		2.60	140.00	91.10	95.00	9005240026000
0.1094	7/64	2.78	150.00	95.83	100.00	9005240027800
0.1102		2.80	150.00	95.80	100.00	9005240028000
0.1142		2.90	150.00	95.65	100.00	9005240029000
0.1161	#32	2.95	150.00	95.58	100.00	9005240029500
0.1181		3.00	150.00	95.50	100.00	9005240030000
0.1220		3.10	155.00	100.35	105.00	9005240031000
0.1248	1/8	3.17	155.00	100.25	105.00	9005240031700
0.1260		3.20	155.00	100.20	105.00	9005240032000
0.1299		3.30	155.00	100.05	105.00	9005240033000
0.1319		3.35	155.00	99.98	105.00	9005240033500
0.1339		3.40	165.00	109.90	115.00	9005240034000
0.1358	#29	3.45	165.00	109.83	115.00	9005240034500
0.1378		3.50	165.00	109.75	115.00	9005240035000
0.1390		3.53	165.00	109.71	115.00	9005240035300
0.1406	9/64	3.57	165.00	109.65	115.00	9005240035700
0.1417	#28	3.60	165.00	109.60	115.00	9005240036000
0.1457		3.70	165.00	109.45	115.00	9005240037000
0.1496	#25	3.80	175.00	114.30	120.00	9005240038000
0.1535		3.90	175.00	114.15	120.00	9005240039000
0.1563	5/32	3.97	175.00	114.05	120.00	9005240039700
0.1575		4.00	175.00	114.00	120.00	9005240040000
0.1614		4.10	175.00	113.85	120.00	9005240041000
0.1654		4.20	175.00	113.70	120.00	9005240042000
0.1673		4.25	175.00	113.63	120.00	9005240042500
0.1693	#18	4.30	185.00	118.55	125.00	9005240043000
0.1720	11/64	4.37	185.00	118.45	125.00	9005240043700
0.1732		4.40	185.00	118.40	125.00	9005240044000
0.1772	#16	4.50	185.00	118.25	125.00	9005240045000
0.1811		4.60	185.00	118.10	125.00	9005240046000
0.1850	#13	4.70	185.00	117.95	125.00	9005240047000
0.1874	3/16	4.76	195.00	127.86	135.00	9005240047600
0.1890	#12	4.80	195.00	127.80	135.00	9005240048000
0.1969		5.00	195.00	127.50	135.00	9005240050000
0.2008		5.10	195.00	127.35	135.00	9005240051000
0.2031	13/64	5.16	195.00	127.26	135.00	9005240051600
0.2047		5.20	195.00	127.20	135.00	9005240052000

Diameter (d ₁)			l ₁ mm	t _{max} mm	l ₂ mm	EDP #
inch	wire/ltr	mm				
0.2087		5.30	195.00	127.05	135.00	9005240053000
0.2126		5.40	205.00	131.90	140.00	9005240054000
0.2165		5.50	205.00	131.75	140.00	9005240055000
0.2189	7/32	5.56	205.00	131.66	140.00	9005240055600
0.2283		5.80	205.00	131.30	140.00	9005240058000
0.2343	15/64	5.95	205.00	131.08	140.00	9005240059500
0.2362		6.00	205.00	131.00	140.00	9005240060000
0.2402		6.10	215.00	140.85	150.00	9005240061000
0.2500	1/4	6.35	215.00	140.48	150.00	9005240063500
0.2520		6.40	215.00	140.40	150.00	9005240064000
0.2559		6.50	215.00	140.25	150.00	9005240065000
0.2598		6.60	215.00	140.10	150.00	9005240066000
0.2638		6.70	215.00	139.95	150.00	9005240067000
0.2657	17/64	6.75	225.00	144.88	155.00	9005240067500
0.2677		6.80	225.00	144.80	155.00	9005240068000
0.2756		7.00	225.00	144.50	155.00	9005240070000
0.2874		7.30	225.00	144.05	155.00	9005240073000
0.2953		7.50	225.00	143.75	155.00	9005240075000
0.2969	19/64	7.54	240.00	153.69	165.00	9005240075400
0.2992		7.60	240.00	153.60	165.00	9005240076000
0.3071		7.80	240.00	153.30	165.00	9005240078000
0.3110		7.90	240.00	153.15	165.00	9005240079000
0.3126	5/16	7.94	240.00	153.09	165.00	9005240079400
0.3150		8.00	240.00	153.00	165.00	9005240080000
0.3189		8.10	240.00	152.85	165.00	9005240081000
0.3228	P	8.20	240.00	152.70	165.00	9005240082000
0.3280	21/64	8.33	240.00	152.51	165.00	9005240083300
0.3346		8.50	240.00	152.25	165.00	9005240085000
0.3386		8.60	250.00	162.10	175.00	9005240086000
0.3437	11/32	8.73	250.00	161.91	175.00	9005240087300
0.3504		8.90	250.00	161.65	175.00	9005240089000
0.3543		9.00	250.00	161.50	175.00	9005240090000
0.3594	23/64	9.13	250.00	161.31	175.00	9005240091300
0.3622		9.20	250.00	161.20	175.00	9005240092000
0.3740		9.50	250.00	160.75	175.00	9005240095000
0.3748	3/8	9.52	265.00	170.72	185.00	9005240095200
0.3937		10.00	265.00	170.00	185.00	9005240100000
0.4063	13/32	10.32	265.00	169.52	185.00	9005240103200
0.4134		10.50	265.00	169.25	185.00	9005240105000
0.4331		11.00	280.00	178.50	195.00	9005240110000
0.4374	7/16	11.11	280.00	178.34	195.00	9005240111100
0.4528		11.50	280.00	177.75	195.00	9005240115000
0.4689	15/32	11.91	295.00	187.14	205.00	9005240119100
0.4724		12.00	295.00	187.00	205.00	9005240120000
0.5000	1/2	12.70	295.00	185.95	205.00	9005240127000

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	-	≤ 150											
	≤ 32	≤ 301											
Free-cutting steels	≤ 25	≤ 255											
	≤ 32	≤ 301											
Unalloyed heat-treatable steels	≤ 20	≤ 220											
	≤ 25	≤ 255											
	≤ 32	≤ 301											
Alloyed heat-treatable steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Unalloyed case hardened steels	≤ 25	≤ 255											
Alloyed case hardened steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Nitriding steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Tool steels	≤ 25	≤ 255											
	≤ 43	≤ 402											
High speed steels	≤ 43	≤ 402											
Spring steels	≤ 38	≤ 354											
Hardened steels	≤ 48	≤ 460											
	≤ 66	-											
Stainless steels, sulphured	≤ 28	≤ 273											
austenitic	≤ 36	≤ 337											
martensitic	≤ 46	≤ 435											
Cast iron	≤ 23	≤ 242											
	≤ 38	≤ 354											
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242											
	≤ 38	≤ 354											
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20	≤ 220											
	≤ 32	≤ 301											
New cast materials ADI	≤ 32	≤ 301											
	≤ 43	≤ 402											
Special alloys	≤ 54	≤ 549											
Ti and Ti-alloys	≤ 25	≤ 255											
	≤ 43	≤ 402											
Aluminium and Al-alloys	-	≤ 120	180	0.0017	0.0050	0.0080	0.0100	0.0125					
Al wrought alloys	-	≤ 200	180	0.0017	0.0050	0.0080	0.0100	0.0125					
Al cast alloys ≤ 10 % Si	-	≤ 180											
≤ 24 % Si	-	≤ 180											
Magnesium alloys	-	≤ 120	180	0.0015	0.0040	0.0065	0.0080	0.0100					
Copper, low-alloyed	-	≤ 150	105	0.0017	0.0050	0.0080	0.0100	0.0125					
Brass, short-chipping	-	≤ 180											
long-chipping	-	≤ 180											
Bronze, short-chipping	-	≤ 180											
	≤ 25	≤ 255											
Bronze, long-chipping	≤ 25	≤ 255											
	≤ 32	≤ 301											
Duroplastics			55	0.0012	0.0030	0.0050	0.0065	0.0080					
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	-	≤ 150	70				0.0080	0.0100	0.0100	0.0110	0.0125		
	≤ 32	≤ 301	55				0.0065	0.0080	0.0080	0.0090	0.0100		
Free-cutting steels	≤ 25	≤ 255	70				0.0080	0.0100	0.0100	0.0110	0.0125		
	≤ 32	≤ 301	55				0.0065	0.0080	0.0080	0.0090	0.0100		
Unalloyed heat-treatable steels	≤ 20	≤ 220	70				0.0065	0.0080	0.0080	0.0090	0.0100		
	≤ 25	≤ 255	55				0.0065	0.0080	0.0080	0.0090	0.0100		
	≤ 32	≤ 301											
Alloyed heat-treatable steels	≤ 32	≤ 301	35				0.0050	0.0065	0.0065	0.0070	0.0080		
	≤ 43	≤ 402											
Unalloyed case hardened steels	≤ 25	≤ 255	70				0.0080	0.0100	0.0100	0.0110	0.0125		
Alloyed case hardened steels	≤ 32	≤ 301	30				0.0050	0.0065	0.0065	0.0070	0.0080		
	≤ 43	≤ 402											
Nitriding steels	≤ 32	≤ 301	25				0.0050	0.0065	0.0065	0.0070	0.0080		
	≤ 43	≤ 402											
Tool steels	≤ 25	≤ 255	35				0.0050	0.0065	0.0065	0.0070	0.0080		
	≤ 43	≤ 402	15				0.0040	0.0050	0.0050	0.0055	0.0065		
High speed steels	≤ 43	≤ 402	15				0.0040	0.0050	0.0050	0.0055	0.0065		
Spring steels	≤ 38	≤ 354											
Hardened steels	≤ 48	≤ 460											
	≤ 66	-											
Stainless steels, sulphured	≤ 28	≤ 273	25				0.0050	0.0065	0.0065	0.0070	0.0080		
austenitic	≤ 36	≤ 337											
martensitic	≤ 46	≤ 435											
Cast iron	≤ 23	≤ 242	70				0.0080	0.0100	0.0100	0.0110	0.0125		
	≤ 38	≤ 354	55				0.0080	0.0100	0.0100	0.0110	0.0125		
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	65				0.0080	0.0100	0.0100	0.0110	0.0125		
	≤ 38	≤ 354	45				0.0080	0.0100	0.0100	0.0110	0.0125		
Chilled cast iron	≤ 38	≤ 354											
New cast materials GGV	≤ 20	≤ 220											
	≤ 32	≤ 301											
New cast materials ADI	≤ 32	≤ 301											
	≤ 43	≤ 402											
Special alloys	≤ 54	≤ 549											
Ti and Ti-alloys	≤ 25	≤ 255											
	≤ 43	≤ 402											
Aluminium and Al-alloys	-	≤ 120											
Al wrought alloys	-	≤ 200											
Al cast alloys ≤ 10 % Si	-	≤ 180	145				0.0100	0.0125	0.0125	0.0140	0.0160		
≤ 24 % Si	-	≤ 180	115				0.0080	0.0100	0.0100	0.0110	0.0125		
Magnesium alloys	-	≤ 120	180				0.0080	0.0100	0.0100	0.0110	0.0125		
Copper, low-alloyed	-	≤ 150	70				0.0065	0.0080	0.0080	0.0090	0.0100		
Brass, short-chipping	-	≤ 180											
long-chipping	-	≤ 180	90				0.0065	0.0080	0.0080	0.0090	0.0100		
Bronze, short-chipping	-	≤ 180	70				0.0050	0.0065	0.0065	0.0070	0.0080		
	≤ 25	≤ 255	65				0.0050	0.0065	0.0065	0.0070	0.0080		
Bronze, long-chipping	≤ 25	≤ 255	55				0.0050	0.0065	0.0065	0.0070	0.0080		
	≤ 32	≤ 301											
Duroplastics			35				0.0050	0.0065	0.0065	0.0070	0.0080		
Thermoplastics			55				0.0065	0.0080	0.0080	0.0090	0.0100		
Reinforced plastics - Kevlar													
Reinforced plastics - GFK / CFK													