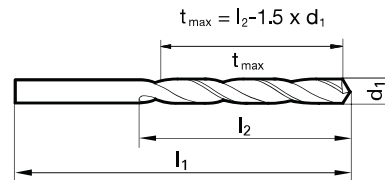


P	Steel	•	web thinning ≥ Ø 1.000 • relieved cone • wide flutes • especially for drilling depths > 3xD
M	Stainless steel		
K	Cast iron	•	
N	Aluminum	•	
S	Titanium alloys		
H	Hardened steel		

•=Optimal
○=Limited

grey cast iron • steels up to 1000 N/mm² • Not recommended for: CrNi steels, stainless steels



Speeds and feeds information on pg. 499

Shank diameter = cut diameter

Diameter (d ₁)		l ₁ mm	t _{max} mm	l ₂ mm	EDP #	
inch	wire/ltr					
0.0394		1.00	34.00	10.50	12.00	9005500010000
0.0512		1.30	38.00	14.05	16.00	9005500013000
0.0520	#55	1.32	38.00	14.02	16.00	9005500013200
0.0531		1.35	40.00	15.98	18.00	9005500013500
0.0551	#54	1.40	40.00	15.90	18.00	9005500014000
0.0571		1.45	40.00	15.83	18.00	9005500014500
0.0587		1.49	40.00	15.77	18.00	9005500014900
0.0591		1.50	40.00	15.75	18.00	9005500015000
0.0594	#53	1.51	43.00	17.74	20.00	9005500015100
0.0610		1.55	43.00	17.68	20.00	9005500015500
0.0622		1.58	43.00	17.63	20.00	9005500015800
0.0626	1/16	1.59	43.00	17.62	20.00	9005500015900
0.0630		1.60	43.00	17.60	20.00	9005500016000
0.0650		1.65	43.00	17.53	20.00	9005500016500
0.0657		1.67	43.00	17.50	20.00	9005500016700
0.0669	#51	1.70	43.00	17.45	20.00	9005500017000
0.0689		1.75	46.00	19.38	22.00	9005500017500
0.0701	#50	1.78	46.00	19.33	22.00	9005500017800
0.0709		1.80	46.00	19.30	22.00	9005500018000
0.0728	#49	1.85	46.00	19.23	22.00	9005500018500
0.0748		1.90	46.00	19.15	22.00	9005500019000
0.0768		1.95	49.00	21.08	24.00	9005500019500
0.0780	5/64	1.98	49.00	21.03	24.00	9005500019800
0.0783	#47	1.99	49.00	21.02	24.00	9005500019900
0.0787		2.00	49.00	21.00	24.00	9005500020000
0.0807		2.05	49.00	20.93	24.00	9005500020500
0.0819	#45	2.08	49.00	20.88	24.00	9005500020800
0.0827		2.10	49.00	20.85	24.00	9005500021000
0.0846		2.15	53.00	23.78	27.00	9005500021500
0.0866		2.20	53.00	23.70	27.00	9005500022000
0.0886		2.25	53.00	23.63	27.00	9005500022500
0.0890	#43	2.26	53.00	23.61	27.00	9005500022600
0.0906		2.30	53.00	23.55	27.00	9005500023000
0.0917		2.33	53.00	23.51	27.00	9005500023300
0.0925		2.35	53.00	23.48	27.00	9005500023500
0.0933	#42	2.37	57.00	26.45	30.00	9005500023700
0.0937	3/32	2.38	57.00	26.43	30.00	9005500023800
0.0945		2.40	57.00	26.40	30.00	9005500024000
0.0980	#40	2.49	57.00	26.27	30.00	9005500024900
0.0984		2.50	57.00	26.25	30.00	9005500025000
0.0996	#39	2.53	57.00	26.21	30.00	9005500025300

Diameter (d ₁)		l ₁ mm	t _{max} mm	l ₂ mm	EDP #	
inch	wire/ltr					
0.1004		2.55	57.00	26.18	30.00	9005500025500
0.1016	#38	2.58	57.00	26.13	30.00	9005500025800
0.1024		2.60	57.00	26.10	30.00	9005500026000
0.1039	#37	2.64	57.00	26.04	30.00	9005500026400
0.1043		2.65	57.00	26.03	30.00	9005500026500
0.1051		2.67	61.00	29.00	33.00	9005500026700
0.1063		2.70	61.00	28.95	33.00	9005500027000
0.1083		2.75	61.00	28.88	33.00	9005500027500
0.1094	7/64	2.78	61.00	28.83	33.00	9005500027800
0.1098	#35	2.79	61.00	28.82	33.00	9005500027900
0.1102		2.80	61.00	28.80	33.00	9005500028000
0.1110	#34	2.82	61.00	28.77	33.00	9005500028200
0.1130	#33	2.87	61.00	28.70	33.00	9005500028700
0.1142		2.90	61.00	28.65	33.00	9005500029000
0.1161	#32	2.95	61.00	28.58	33.00	9005500029500
0.1181		3.00	61.00	28.50	33.00	9005500030000
0.1189		3.02	65.00	31.47	36.00	9005500030200
0.1201	#31	3.05	65.00	31.43	36.00	9005500030500
0.1220		3.10	65.00	31.35	36.00	9005500031000
0.1240		3.15	65.00	31.28	36.00	9005500031500
0.1248	1/8	3.17	65.00	31.25	36.00	9005500031700
0.1260		3.20	65.00	31.20	36.00	9005500032000
0.1280		3.25	65.00	31.13	36.00	9005500032500
0.1283	#30	3.26	65.00	31.11	36.00	9005500032600
0.1299		3.30	65.00	31.05	36.00	9005500033000
0.1319		3.35	65.00	30.98	36.00	9005500033500
0.1339		3.40	70.00	33.90	39.00	9005500034000
0.1358	#29	3.45	70.00	33.83	39.00	9005500034500
0.1378		3.50	70.00	33.75	39.00	9005500035000
0.1406	9/64	3.57	70.00	33.65	39.00	9005500035700
0.1417		3.60	70.00	33.60	39.00	9005500036000
0.1441	#27	3.66	70.00	33.51	39.00	9005500036600
0.1457		3.70	70.00	33.45	39.00	9005500037000
0.1476		3.75	70.00	33.38	39.00	9005500037500
0.1496	#25	3.80	75.00	37.30	43.00	9005500038000
0.1516		3.85	75.00	37.23	43.00	9005500038500
0.1520	#24	3.86	75.00	37.21	43.00	9005500038600
0.1535		3.90	75.00	37.15	43.00	9005500039000
0.1563	5/32	3.97	75.00	37.05	43.00	9005500039700
0.1571	#22	3.99	75.00	37.02	43.00	9005500039900
0.1575		4.00	75.00	37.00	43.00	9005500040000

Diameter (d ₁)			l ₁ mm	t _{max} mm	l ₂ mm	EDP #	
inch	wire/ltr	mm					
0.1591	#21	4.04	75.00	36.94	43.00	9005500040400	
0.1614		4.10	75.00	36.85	43.00	9005500041000	
0.1654		4.20	75.00	36.70	43.00	9005500042000	
0.1693	#18	4.30	80.00	40.55	47.00	9005500043000	
0.1713		4.35	80.00	40.48	47.00	9005500043500	
0.1720	11/64	4.37	80.00	40.45	47.00	9005500043700	
0.1732		4.40	80.00	40.40	47.00	9005500044000	
0.1752		4.45	80.00	40.33	47.00	9005500044500	
0.1772	#16	4.50	80.00	40.25	47.00	9005500045000	
0.1811		4.60	80.00	40.10	47.00	9005500046000	
0.1819	#14	4.62	80.00	40.07	47.00	9005500046200	
0.1850	#13	4.70	80.00	39.95	47.00	9005500047000	
0.1874	3/16	4.76	86.00	44.86	52.00	9005500047600	
0.1890	#12	4.80	86.00	44.80	52.00	9005500048000	
0.1909	#11	4.85	86.00	44.73	52.00	9005500048500	
0.1929		4.90	86.00	44.65	52.00	9005500049000	
0.1961	#9	4.98	86.00	44.53	52.00	9005500049800	
0.1969		5.00	86.00	44.50	52.00	9005500050000	
0.1992	#8	5.06	86.00	44.41	52.00	9005500050600	
0.2008		5.10	86.00	44.35	52.00	9005500051000	
0.2031	13/64	5.16	86.00	44.26	52.00	9005500051600	
0.2047		5.20	86.00	44.20	52.00	9005500052000	
0.2087		5.30	86.00	44.05	52.00	9005500053000	
0.2126		5.40	93.00	48.90	57.00	9005500054000	
0.2165		5.50	93.00	48.75	57.00	9005500055000	
0.2189	7/32	5.56	93.00	48.66	57.00	9005500055600	
0.2205		5.60	93.00	48.60	57.00	9005500056000	
0.2244		5.70	93.00	48.45	57.00	9005500057000	
0.2264		5.75	93.00	48.38	57.00	9005500057500	
0.2280	#1	5.79	93.00	48.32	57.00	9005500057900	
0.2283		5.80	93.00	48.30	57.00	9005500058000	
0.2323		5.90	93.00	48.15	57.00	9005500059000	
0.2343	15/64	5.95	93.00	48.08	57.00	9005500059500	
0.2362		6.00	93.00	48.00	57.00	9005500060000	
0.2382		6.05	101.00	53.93	63.00	9005500060500	
0.2402		6.10	101.00	53.85	63.00	9005500061000	
0.2441		6.20	101.00	53.70	63.00	9005500062000	
0.2461	D	6.25	101.00	53.63	63.00	9005500062500	
0.2480		6.30	101.00	53.55	63.00	9005500063000	
0.2500	1/4	E	6.35	101.00	53.48	63.00	9005500063500
0.2520		6.40	101.00	53.40	63.00	9005500064000	
0.2559		6.50	101.00	53.25	63.00	9005500065000	
0.2598		6.60	101.00	53.10	63.00	9005500066000	
0.2638		6.70	101.00	52.95	63.00	9005500067000	
0.2657	17/64	H	6.75	109.00	58.88	69.00	9005500067500
0.2677		6.80	109.00	58.80	69.00	9005500068000	
0.2717	I	6.90	109.00	58.65	69.00	9005500069000	
0.2756		7.00	109.00	58.50	69.00	9005500070000	
0.2795		7.10	109.00	58.35	69.00	9005500071000	

Diameter (d ₁)			l ₁ mm	t _{max} mm	l ₂ mm	EDP #	
inch	wire/ltr	mm					
0.2811	9/32	K	7.14	109.00	58.29	69.00	9005500071400
0.2835			7.20	109.00	58.20	69.00	9005500072000
0.2874			7.30	109.00	58.05	69.00	9005500073000
0.2913			7.40	109.00	57.90	69.00	9005500074000
0.2953			7.50	109.00	57.75	69.00	9005500075000
0.2969	19/64		7.54	117.00	63.69	75.00	9005500075400
0.2992			7.60	117.00	63.60	75.00	9005500076000
0.3031			7.70	117.00	63.45	75.00	9005500077000
0.3071			7.80	117.00	63.30	75.00	9005500078000
0.3110			7.90	117.00	63.15	75.00	9005500079000
0.3126	5/16		7.94	117.00	63.09	75.00	9005500079400
0.3150			8.00	117.00	63.00	75.00	9005500080000
0.3189			8.10	117.00	62.85	75.00	9005500081000
0.3228		P	8.20	117.00	62.70	75.00	9005500082000
0.3268			8.30	117.00	62.55	75.00	9005500083000
0.3280	21/64		8.33	117.00	62.51	75.00	9005500083300
0.3307			8.40	117.00	62.40	75.00	9005500084000
0.3346			8.50	117.00	62.25	75.00	9005500085000
0.3386			8.60	125.00	68.10	81.00	9005500086000
0.3425			8.70	125.00	67.95	81.00	9005500087000
0.3437	11/32		8.73	125.00	67.91	81.00	9005500087300
0.3465			8.80	125.00	67.80	81.00	9005500088000
0.3504			8.90	125.00	67.65	81.00	9005500089000
0.3543			9.00	125.00	67.50	81.00	9005500090000
0.3594	23/64		9.13	125.00	67.31	81.00	9005500091300
0.3622			9.20	125.00	67.20	81.00	9005500092000
0.3661			9.30	125.00	67.05	81.00	9005500093000
0.3701			9.40	125.00	66.90	81.00	9005500094000
0.3740			9.50	125.00	66.75	81.00	9005500095000
0.3748	3/8		9.52	133.00	72.72	87.00	9005500095200
0.3780			9.60	133.00	72.60	87.00	9005500096000
0.3819			9.70	133.00	72.45	87.00	9005500097000
0.3858		W	9.80	133.00	72.30	87.00	9005500098000
0.3898			9.90	133.00	72.15	87.00	9005500099000
0.3937			10.00	133.00	72.00	87.00	9005500100000
0.3976			10.10	133.00	71.85	87.00	9005500101000
0.4016			10.20	133.00	71.70	87.00	9005500102000
0.4055			10.30	133.00	71.55	87.00	9005500103000
0.4134			10.50	133.00	71.25	87.00	9005500105000
0.4252			10.80	142.00	77.80	94.00	9005500108000
0.4331			11.00	142.00	77.50	94.00	9005500110000
0.4370			11.10	142.00	77.35	94.00	9005500111000
0.4374	7/16		11.11	142.00	77.34	94.00	9005500111100
0.4528			11.50	142.00	76.75	94.00	9005500115000
0.4606			11.70	142.00	76.45	94.00	9005500117000
0.4724			12.00	151.00	83.00	101.00	9005500120000
0.4921			12.50	151.00	82.25	101.00	9005500125000
0.5000	1/2		12.70	151.00	81.95	101.00	9005500127000

Jobber Length

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	100	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 32	≤ 301	80	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Free-cutting steels	≤ 25	≤ 255	100	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 32	≤ 301	80	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Unalloyed heat-treatable steels	≤ 20	≤ 220	100	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
	≤ 25	≤ 255	80	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Alloyed heat-treatable steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Unalloyed case hardened steels	≤ 25	≤ 255	100	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Alloyed case hardened steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Nitriding steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Tool steels	≤ 25	≤ 255	50	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
High speed steels	≤ 43	≤ 402											
	≤ 38	≤ 354											
Hardened steels	≤ 48	≤ 460											
	≤ 66	-											
Stainless steels, sulphured austenitic martensitic	≤ 28	≤ 273											
	≤ 36	≤ 337											
Cast iron	≤ 23	≤ 242	100	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 38	≤ 354	80	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	90	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 38	≤ 354	65	0.0017	0.0050	0.0080	0.0100	0.0125	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	260	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160				
Al wrought alloys	-	≤ 200	260	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160				
Al cast alloys ≤ 10 % Si ≤ 24 % Si	-	≤ 180	205	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160				
	-	≤ 180	130	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Magnesium alloys	-	≤ 120	260	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Copper, low-alloyed	-	≤ 150	100	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Brass, short-chipping long-chipping	-	≤ 180											
	-	≤ 180	130	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Bronze, short-chipping	-	≤ 180											
	≤ 25	≤ 255											
Bronze, long-chipping	≤ 25	≤ 255	80	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
	≤ 32	≤ 301											
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK			50	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				

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	100	0.0017	0.0050	0.0080	0.0100	0.0125					
	≤ 32	≤ 301	80	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Free-cutting steels	≤ 25	≤ 255	100	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 32	≤ 301	80	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Unalloyed heat-treatable steels	≤ 20	≤ 220	100	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
	≤ 25	≤ 255	80	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Alloyed heat-treatable steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Unalloyed case hardened steels	≤ 25	≤ 255	100	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Alloyed case hardened steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Nitriding steels	≤ 32	≤ 301											
	≤ 43	≤ 402											
Tool steels	≤ 25	≤ 255	50	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
High speed steels	≤ 43	≤ 402											
	≤ 38	≤ 354											
Hardened steels	≤ 48	≤ 460											
	≤ 66	-											
Stainless steels, sulphured austenitic martensitic	≤ 28	≤ 273											
	≤ 36	≤ 337											
Cast iron	≤ 23	≤ 242	100	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 38	≤ 354	80	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	90	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
	≤ 38	≤ 354	65	0.0017	0.0050	0.0080	0.0100	0.0125	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	260	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160				
Al wrought alloys	-	≤ 200	260	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160				
Al cast alloys ≤ 10 % Si ≤ 24 % Si	-	≤ 180	205	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160				
	-	≤ 180	160	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Magnesium alloys	-	≤ 120	260	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125				
Copper, low-alloyed	-	≤ 150	100	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Brass, short-chipping long-chipping	-	≤ 180											
	-	≤ 180	130	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100				
Bronze, short-chipping	-	≤ 180											
	≤ 25	≤ 255											
Bronze, long-chipping	≤ 25	≤ 255	80	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				
	≤ 32	≤ 301											
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK			50	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080				