



Tool material **HSS**

Surface

P Steel web thinning $\geq \varnothing 14.500$ • relieved cone

M Stainless steel

K Cast iron hard and crumbly materials • brass, magnesium alloys • bronze, phosphor bronze • slate, mica, pertinax

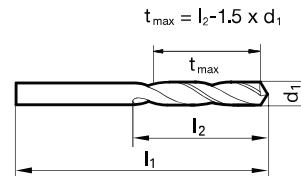
N Aluminum •

S Titanium alloys

H Hardened steel

●=Optimal

○=Limited



Speeds and feeds information on pg. 479

Shank diameter = cut diameter

Diameter (d ₁)			d ₂ h ₆	l ₁	t _{max}	l ₂	EDP #
inch	wire/ltr	mm	mm	mm	mm	mm	
0.0354		0.90	0.90	25.00	4.15	5.50	9002240009000
0.0394		1.00	1.00	26.00	4.50	6.00	9002240010000
0.0433		1.10	1.10	28.00	5.35	7.00	9002240011000
0.0472		1.20	1.20	30.00	6.20	8.00	9002240012000
0.0512		1.30	1.30	30.00	6.05	8.00	9002240013000
0.0551	#54	1.40	1.40	32.00	6.90	9.00	9002240014000
0.0591		1.50	1.50	32.00	6.75	9.00	9002240015000
0.0610		1.55	1.55	34.00	7.68	10.00	9002240015500
0.0626	1/16	1.59	1.59	34.00	7.62	10.00	9002240015900
0.0630		1.60	1.60	34.00	7.60	10.00	9002240016000
0.0669	#51	1.70	1.70	34.00	7.45	10.00	9002240017000
0.0701	#50	1.78	1.78	36.00	8.33	11.00	9002240017800
0.0709		1.80	1.80	36.00	8.30	11.00	9002240018000
0.0748		1.90	1.90	36.00	8.15	11.00	9002240019000
0.0780	5/64	1.98	1.98	38.00	9.03	12.00	9002240019800
0.0787		2.00	2.00	38.00	9.00	12.00	9002240020000
0.0827		2.10	2.10	38.00	8.85	12.00	9002240021000
0.0866		2.20	2.20	40.00	9.70	13.00	9002240022000
0.0906		2.30	2.30	40.00	9.55	13.00	9002240023000
0.0937	3/32	2.38	2.38	43.00	10.43	14.00	9002240023800
0.0945		2.40	2.40	43.00	10.40	14.00	9002240024000
0.0965		2.45	2.45	43.00	10.33	14.00	9002240024500
0.0984		2.50	2.50	43.00	10.25	14.00	9002240025000
0.1004		2.55	2.55	43.00	10.18	14.00	9002240025500
0.1024		2.60	2.60	43.00	10.10	14.00	9002240026000
0.1043		2.65	2.65	43.00	10.03	14.00	9002240026500
0.1063		2.70	2.70	46.00	11.95	16.00	9002240027000
0.1094	7/64	2.78	2.78	46.00	11.83	16.00	9002240027800
0.1102		2.80	2.80	46.00	11.80	16.00	9002240028000
0.1142		2.90	2.90	46.00	11.65	16.00	9002240029000
0.1161	#32	2.95	2.95	46.00	11.58	16.00	9002240029500
0.1181		3.00	3.00	46.00	11.50	16.00	9002240030000
0.1220		3.10	3.10	49.00	13.35	18.00	9002240031000
0.1248	1/8	3.17	3.17	49.00	13.25	18.00	9002240031700
0.1260		3.20	3.20	49.00	13.20	18.00	9002240032000
0.1299		3.30	3.30	49.00	13.05	18.00	9002240033000
0.1319		3.35	3.35	49.00	12.98	18.00	9002240033500
0.1339		3.40	3.40	52.00	14.90	20.00	9002240034000
0.1378		3.50	3.50	52.00	14.75	20.00	9002240035000
0.1406	9/64 #28	3.57	3.57	52.00	14.65	20.00	9002240035700

Diameter (d ₁)			d ₂ h ₆	l ₁	t _{max}	l ₂	EDP #
inch	wire/ltr	mm	mm	mm	mm	mm	
0.1417		3.60	3.60	52.00	14.60	20.00	9002240036000
0.1457		3.70	3.70	52.00	14.45	20.00	9002240037000
0.1496	#25	3.80	3.80	55.00	16.30	22.00	9002240038000
0.1516		3.85	3.85	55.00	16.23	22.00	9002240038500
0.1535		3.90	3.90	55.00	16.15	22.00	9002240039000
0.1563	5/32	3.97	3.97	55.00	16.05	22.00	9002240039700
0.1575		4.00	4.00	55.00	16.00	22.00	9002240040000
0.1614		4.10	4.10	55.00	15.85	22.00	9002240041000
0.1654		4.20	4.20	55.00	15.70	22.00	9002240042000
0.1693	#18	4.30	4.30	58.00	17.55	24.00	9002240043000
0.1720	11/64	4.37	4.37	58.00	17.45	24.00	9002240043700
0.1732		4.40	4.40	58.00	17.40	24.00	9002240044000
0.1772	#16	4.50	4.50	58.00	17.25	24.00	9002240045000
0.1811		4.60	4.60	58.00	17.10	24.00	9002240046000
0.1850	#13	4.70	4.70	58.00	16.95	24.00	9002240047000
0.1874	3/16	4.76	4.76	62.00	18.86	26.00	9002240047600
0.1890	#12	4.80	4.80	62.00	18.80	26.00	9002240048000
0.1929		4.90	4.90	62.00	18.65	26.00	9002240049000
0.1969		5.00	5.00	62.00	18.50	26.00	9002240050000
0.2008		5.10	5.10	62.00	18.35	26.00	9002240051000
0.2031	13/64	5.16	5.16	62.00	18.26	26.00	9002240051600
0.2047		5.20	5.20	62.00	18.20	26.00	9002240052000
0.2087		5.30	5.30	62.00	18.05	26.00	9002240053000
0.2126		5.40	5.40	66.00	19.90	28.00	9002240054000
0.2165		5.50	5.50	66.00	19.75	28.00	9002240055000
0.2189	7/32	5.56	5.56	66.00	19.66	28.00	9002240055600
0.2205		5.60	5.60	66.00	19.60	28.00	9002240056000
0.2244		5.70	5.70	66.00	19.45	28.00	9002240057000
0.2283		5.80	5.80	66.00	19.30	28.00	9002240058000
0.2323		5.90	5.90	66.00	19.15	28.00	9002240059000
0.2343	15/64	5.95	5.95	66.00	19.08	28.00	9002240059500
0.2362		6.00	6.00	66.00	19.00	28.00	9002240060000
0.2441		6.20	6.20	70.00	21.70	31.00	9002240062000
0.2480		6.30	6.30	70.00	21.55	31.00	9002240063000
0.2500	1/4 E	6.35	6.35	70.00	21.48	31.00	9002240063500
0.2520		6.40	6.40	70.00	21.40	31.00	9002240064000
0.2559		6.50	6.50	70.00	21.25	31.00	9002240065000
0.2598		6.60	6.60	70.00	21.10	31.00	9002240066000
0.2657	17/64 H	6.75	6.75	74.00	23.88	34.00	9002240067500
0.2677		6.80	6.80	74.00	23.80	34.00	9002240068000

Diameter (d ₁)			d ₂ h ₆	l ₁	t _{max}	l ₂	EDP #
inch	wire/ltr	mm	mm	mm	mm	mm	
0.2756		7.00	7.00	74.00	23.50	34.00	9002240070000
0.2811	9/32 K	7.14	7.14	74.00	23.29	34.00	9002240071400
0.2854		7.25	7.25	74.00	23.13	34.00	9002240072500
0.2953		7.50	7.50	74.00	22.75	34.00	9002240075000
0.3126	5/16	7.94	7.94	79.00	25.09	37.00	9002240079400
0.3150		8.00	8.00	79.00	25.00	37.00	9002240080000
0.3161	0	8.03	8.03	79.00	24.96	37.00	9002240080300
0.3189		8.10	8.10	79.00	24.85	37.00	9002240081000
0.3280	21/64	8.33	8.33	79.00	24.51	37.00	9002240083300
0.3346		8.50	8.50	79.00	24.25	37.00	9002240085000
0.3543		9.00	9.00	84.00	26.50	40.00	9002240090000
0.3740		9.50	9.50	84.00	25.75	40.00	9002240095000
0.3748	3/8	9.52	9.52	89.00	28.72	43.00	9002240095200
0.3858	W	9.80	9.80	89.00	28.30	43.00	9002240098000
0.3906	25/64	9.92	9.92	89.00	28.12	43.00	9002240099200
0.3937		10.00	10.00	89.00	28.00	43.00	9002240100000
0.4016		10.20	10.20	89.00	27.70	43.00	9002240102000
0.4063	13/32	10.32	10.32	89.00	27.52	43.00	9002240103200
0.4134		10.50	10.50	89.00	27.25	43.00	9002240105000
0.4220	27/64	10.72	10.72	95.00	30.92	47.00	9002240107200

Diameter (d ₁)			d ₂ h ₆	l ₁	t _{max}	l ₂	EDP #
inch	wire/ltr	mm	mm	mm	mm	mm	
0.4331		11.00	11.00	95.00	30.50	47.00	9002240110000
0.4374	7/16	11.11	11.11	95.00	30.34	47.00	9002240111100
0.4528		11.50	11.50	95.00	29.75	47.00	9002240115000
0.4689	15/32	11.91	11.91	102.00	33.14	51.00	9002240119100
0.4724		12.00	12.00	102.00	33.00	51.00	9002240120000
0.4843	31/64	12.30	12.30	102.00	32.55	51.00	9002240123000
0.4921		12.50	12.50	102.00	32.25	51.00	9002240125000
0.5000	1/2	12.70	12.70	102.00	31.95	51.00	9002240127000
0.5118		13.00	13.00	102.00	31.50	51.00	9002240130000
0.5315		13.50	13.50	107.00	33.75	54.00	9002240135000
0.5512		14.00	14.00	107.00	33.00	54.00	9002240140000
0.5906		15.00	15.00	111.00	33.50	56.00	9002240150000
0.6299		16.00	16.00	115.00	34.00	58.00	9002240160000
0.6693		17.00	17.00	119.00	34.50	60.00	9002240170000
0.7087		18.00	18.00	123.00	35.00	62.00	9002240180000
0.7480		19.00	19.00	127.00	35.50	64.00	9002240190000
0.7874		20.00	20.00	131.00	36.00	66.00	9002240200000
0.8268		21.00	21.00	136.00	36.50	68.00	9002240210000
0.8661		22.00	22.00	141.00	37.00	70.00	9002240220000

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	225	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
Al wrought alloys	-	≤ 200	225	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
Al cast alloys ≤ 10 % Si	-	≤ 180	180	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160	0.0180			
≤ 24 % Si	-	≤ 180											
Magnesium alloys	-	≤ 120											
Copper, low-alloyed	-	≤ 150	90	0.0015	0.004	0.0065	0.0080	0.0100	0.0100	0.0110			
Brass, short-chipping	-	≤ 180											
long-chipping	-	≤ 180											
Bronze, short-chipping	-	≤ 180											
	≤ 25	≤ 255											
Bronze, long-chipping	≤ 25	≤ 255											
	≤ 32	≤ 301											
Duroplastics			70	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100	0.0110			
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											
	≤ 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	260	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160	0.0180	0.0180		
Al wrought alloys	-	≤ 200	260	0.0020	0.0065	0.0100	0.0125	0.0160	0.0160	0.0180	0.0180		
Al cast alloys ≤ 10 % Si	-	≤ 180	205	0.002	0.0065	0.0100	0.0125	0.0160	0.0160	0.0180	0.0180		
≤ 24 % Si	-	≤ 180											
Magnesium alloys	-	≤ 120	295	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125	0.0140	0.0160		
Copper, low-alloyed	-	≤ 150											
Brass, short-chipping	-	≤ 180	225	0.0017	0.0050	0.0080	0.0100	0.0125	0.0125	0.0140	0.0160		
long-chipping	-	≤ 180											
Bronze, short-chipping	-	≤ 180	115	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080	0.0090	0.0100		
	≤ 25	≤ 255											
Bronze, long-chipping	≤ 25	≤ 255											
	≤ 32	≤ 301											
Duroplastics			55	0.0012	0.0030	0.0050	0.0065	0.0080	0.0080	0.0090	0.0100		
Thermoplastics			90	0.0015	0.0040	0.0065	0.0080	0.0100	0.0100	0.0110	0.0125		
Reinforced plastics - Kevlar													
Reinforced plastics - GFK / CFK													