Jobber length drills

Series no. **1223**

Tool material **HSCO**

Surface **A**

~5xD Cutting depth | DIN 338 Standard | GT 100 Type | 130° Point angle | h8 Tolerance on Ø | Web Thinning | Cyl Shank form | R Cutting direction

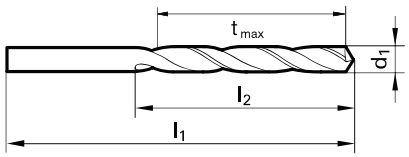
P	Steel	○
M	Stainless steel	
K	Cast iron	●
N	Aluminum	○
S	Titanium alloys	
H	Hardened steel	

●=Optimal
○=Limited

web thinning ≥ Ø 3.000 • relieved cone • Co-alloyed high speed steel • wide flutes • increased wear resistance • especially for drilling depths > 3xD

alloyed and unalloyed steel • cast materials over 800 N/mm² • hot and cold rolled steels • antifriction bearing steels • high-alloyed steels • heat treatable and case hardened steels

$t_{max} = l_2 - 1.5 \times d_1$



Speeds and feeds information on pg. 533

Shank diameter = cut diameter

Diameter (d_1) inch	wire/ltr	mm	l_1 mm	t_{max} mm	l_2 mm	EDP #
0.1181		3.00	61.00	28.50	33.00	9012230030000
0.1201	#31	3.05	65.00	31.43	36.00	9012230030500
0.1220		3.10	65.00	31.35	36.00	9012230031000
0.1248	1/8	3.17	65.00	31.25	36.00	9012230031700
0.1260		3.20	65.00	31.20	36.00	9012230032000
0.1299		3.30	65.00	31.05	36.00	9012230033000
0.1339		3.40	70.00	33.90	39.00	9012230034000
0.1358	#29	3.45	70.00	33.83	39.00	9012230034500
0.1378		3.50	70.00	33.75	39.00	9012230035000
0.1417		3.60	70.00	33.60	39.00	9012230036000
0.1457		3.70	70.00	33.45	39.00	9012230037000
0.1496	#25	3.80	75.00	37.30	43.00	9012230038000
0.1535		3.90	75.00	37.15	43.00	9012230039000
0.1563	5/32	3.97	75.00	37.05	43.00	9012230039700
0.1575		4.00	75.00	37.00	43.00	9012230040000
0.1587		4.03	75.00	36.96	43.00	9012230040300
0.1591	#21	4.04	75.00	36.94	43.00	9012230040400
0.1594		4.05	75.00	36.93	43.00	9012230040500
0.1614		4.10	75.00	36.85	43.00	9012230041000
0.1654		4.20	75.00	36.70	43.00	9012230042000
0.1693	#18	4.30	80.00	40.55	47.00	9012230043000
0.1720	11/64	4.37	80.00	40.45	47.00	9012230043700
0.1732		4.40	80.00	40.40	47.00	9012230044000
0.1772	#16	4.50	80.00	40.25	47.00	9012230045000
0.1811		4.60	80.00	40.10	47.00	9012230046000
0.1850	#13	4.70	80.00	39.95	47.00	9012230047000
0.1874	3/16	4.76	86.00	44.86	52.00	9012230047600
0.1890	#12	4.80	86.00	44.80	52.00	9012230048000
0.1929		4.90	86.00	44.65	52.00	9012230049000
0.1937	#10	4.92	86.00	44.62	52.00	9012230049200
0.1961	#9	4.98	86.00	44.53	52.00	9012230049800
0.1969		5.00	86.00	44.50	52.00	9012230050000
0.2008		5.10	86.00	44.35	52.00	9012230051000
0.2031	13/64	5.16	86.00	44.26	52.00	9012230051600
0.2047		5.20	86.00	44.20	52.00	9012230052000
0.2087		5.30	86.00	44.05	52.00	9012230053000
0.2126		5.40	93.00	48.90	57.00	9012230054000
0.2165		5.50	93.00	48.75	57.00	9012230055000
0.2189	7/32	5.56	93.00	48.66	57.00	9012230055600
0.2205		5.60	93.00	48.60	57.00	9012230056000
0.2244		5.70	93.00	48.45	57.00	9012230057000
0.2283		5.80	93.00	48.30	57.00	9012230058000

Diameter (d_1) inch	wire/ltr		mm	l_1 mm	t_{max} mm	l_2 mm	EDP #
0.2323			5.90	93.00	48.15	57.00	9012230059000
0.2343	15/64		5.95	93.00	48.08	57.00	9012230059500
0.2362			6.00	93.00	48.00	57.00	9012230060000
0.2402			6.10	101.00	53.85	63.00	9012230061000
0.2441			6.20	101.00	53.70	63.00	9012230062000
0.2480			6.30	101.00	53.55	63.00	9012230063000
0.2500	1/4	E	6.35	101.00	53.48	63.00	9012230063500
0.2520			6.40	101.00	53.40	63.00	9012230064000
0.2559			6.50	101.00	53.25	63.00	9012230065000
0.2598			6.60	101.00	53.10	63.00	9012230066000
0.2638			6.70	101.00	52.95	63.00	9012230067000
0.2677			6.80	109.00	58.80	69.00	9012230068000
0.2717		I	6.90	109.00	58.65	69.00	9012230069000
0.2756			7.00	109.00	58.50	69.00	9012230070000
0.2795			7.10	109.00	58.35	69.00	9012230071000
0.2811	9/32	K	7.14	109.00	58.29	69.00	9012230071400
0.2835			7.20	109.00	58.20	69.00	9012230072000
0.2874			7.30	109.00	58.05	69.00	9012230073000
0.2913			7.40	109.00	57.90	69.00	9012230074000
0.2953			7.50	109.00	57.75	69.00	9012230075000
0.2992			7.60	117.00	63.60	75.00	9012230076000
0.3071			7.80	117.00	63.30	75.00	9012230078000
0.3110			7.90	117.00	63.15	75.00	9012230079000
0.3126	5/16		7.94	117.00	63.09	75.00	9012230079400
0.3150			8.00	117.00	63.00	75.00	9012230080000
0.3189			8.10	117.00	62.85	75.00	9012230081000
0.3228		P	8.20	117.00	62.70	75.00	9012230082000
0.3268			8.30	117.00	62.55	75.00	9012230083000
0.3307			8.40	117.00	62.40	75.00	9012230084000
0.3346			8.50	117.00	62.25	75.00	9012230085000
0.3386			8.60	125.00	68.10	81.00	9012230086000
0.3425			8.70	125.00	67.95	81.00	9012230087000
0.3437	11/32		8.73	125.00	67.91	81.00	9012230087300
0.3465			8.80	125.00	67.80	81.00	9012230088000
0.3504			8.90	125.00	67.65	81.00	9012230089000
0.3543			9.00	125.00	67.50	81.00	9012230090000
0.3594	23/64		9.13	125.00	67.31	81.00	9012230091300
0.3622			9.20	125.00	67.20	81.00	9012230092000
0.3740			9.50	125.00	66.75	81.00	9012230095000
0.3748	3/8		9.52	133.00	72.72	87.00	9012230095200
0.3752			9.53	133.00	72.71	87.00	9012230095300
0.3858		W	9.80	133.00	72.30	87.00	9012230098000

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Series no. **1223**

Diameter (d_1) inch	wire/ltr	mm	l_1 mm	t_{max} mm	l_2 mm	EDP #
0.3898		9.90	133.00	72.15	87.00	**9012230099000**
0.3906	25/64	9.92	133.00	72.12	87.00	**9012230099200**
0.3937		10.00	133.00	72.00	87.00	**9012230100000**
0.3976		10.10	133.00	71.85	87.00	**9012230101000**
0.4016		10.20	133.00	71.70	87.00	**9012230102000**
0.4055		10.30	133.00	71.55	87.00	**9012230103000**
0.4063	13/32	10.32	133.00	71.52	87.00	**9012230103200**
0.4134		10.50	133.00	71.25	87.00	**9012230105000**
0.4213		10.70	142.00	77.95	94.00	**9012230107000**

Diameter (d_1) inch	wire/ltr	mm	l_1 mm	t_{max} mm	l_2 mm	EDP #
0.4220	27/64	10.72	142.00	77.92	94.00	**9012230107200**
0.4252		10.80	142.00	77.80	94.00	**9012230108000**
0.4331		11.00	142.00	77.50	94.00	**9012230110000**
0.4374	7/16	11.11	142.00	77.34	94.00	**9012230111100**
0.4409		11.20	142.00	77.20	94.00	**9012230112000**
0.4528		11.50	142.00	76.75	94.00	**9012230115000**
0.4606		11.70	142.00	76.45	94.00	**9012230117000**
0.4689	15/32	11.91	151.00	83.14	101.00	**9012230119100**
0.4724		12.00	151.00	83.00	101.00	**9012230120000**

Series # 1221

Material group	Hardness HRc	Hardness Bhn	SFM	Feed Rate - IPR 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	130	0.0017	0.0050	0.0080	0.0100	0.0125					
Unalloyed heat-treatable steels	≤ 20 ≤ 25 ≤ 32	≤ 220 ≤ 255 ≤ 301	70	0.0015	0.0040	0.0065	0.0080	0.0100					
Alloyed heat-treatable steels	≤ 32 ≤ 43	≤ 301 ≤ 402	85 65	0.0015 0.0012	0.0040 0.0030	0.0065 0.0050	0.0080 0.0065	0.0100 0.0080					
Unalloyed case hardened steels	≤ 25	≤ 255	180	0.0020	0.0065	0.0100	0.0125	0.0160					
Alloyed case hardened steels	≤ 32 ≤ 43	≤ 301 ≤ 402	70 55	0.0015 0.0012	0.0040 0.0030	0.0065 0.0050	0.0080 0.0065	0.0100 0.0080					
Nitriding steels	≤ 32 ≤ 43	≤ 301 ≤ 402	65 45	0.0015 0.0012	0.0040 0.0030	0.0065 0.0050	0.0080 0.0065	0.0100 0.0080					
Tool steels	≤ 25 ≤ 43	≤ 255 ≤ 402	85 45	0.0015 0.0012	0.0040 0.0030	0.0065 0.0050	0.0080 0.0065	0.0100 0.0080					
High speed steels	≤ 43	≤ 402	45	0.0012	0.0030	0.0050	0.0065	0.0080					
Spring steels	≤ 38	≤ 354	35	0.0010	0.0025	0.0040	0.0050	0.0065					
Hardened steels	≤ 48 ≤ 66	≤ 460 -											
Stainless steels, sulphured austenitic martensitic	≤ 28 ≤ 36 ≤ 46	≤ 273 ≤ 337 ≤ 435	65 55	0.0015 0.0012	0.0040 0.0030	0.0065 0.0050	0.0080 0.0065	0.0100 0.0080					
Cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354											
Spheroidal graphite iron and malleable cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354											
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											
Al wrought alloys	-	≤ 200											
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	- ≤ 25	≤ 180 ≤ 255											
Bronze, long-chipping	≤ 25 ≤ 32	≤ 255 ≤ 301											
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK													

Series # 1223

Material group	Hardness HRc	Hardness Bhn	SFM	Feed Rate - IPR 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	130		0.0040	0.0065	0.0080	0.0100					
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	180 130		0.0065 0.0065	0.0100 0.0100	0.0125 0.0125	0.0160 0.0160					
Spheroidal graphite iron and malleable cast iron	≤ 23 ≤ 38	≤ 242 ≤ 354	120 100		0.0065 0.0065	0.0100 0.0100	0.0125 0.0125	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	345		0.0080	0.0125	0.0160	0.0200					
Al wrought alloys	-	≤ 200	260		0.0080	0.0125	0.0160	0.0200					
Al cast alloys ≤ 10 % Si ≤ 24 % Si	- -	≤ 180 ≤ 180	340 260		0.0065 0.0065	0.0100 0.0100	0.0125 0.0125	0.0160 0.0160					
Magnesium alloys	-	≤ 120	345		0.0065	0.0100	0.0125	0.0160					
Copper, low-alloyed	-	≤ 150	180		0.0050	0.0080	0.0100	0.0125					
Brass, short-chipping long-chipping	- -	≤ 180 ≤ 180											
Bronze, short-chipping	- ≤ 25	≤ 180 ≤ 255											
Bronze, long-chipping	≤ 25 ≤ 32	≤ 255 ≤ 301	130 100		0.0040 0.0040	0.0065 0.0065	0.0080 0.0080	0.0100 0.0100					
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK			85		0.0040	0.0065	0.0080	0.0100					