

Jobber Length • Screw Machine Length • Taper Length

Operating Parameters – General Application Cobalt and HSS Drills

Material	Hardness	Speeds (SFM) Drill Finish				Feed Rate (IPR)			
		Bright or Steam Oxide	Straw	TiN	TiCN TiAlN	1/8" 3.17mm	1/4" 6.35mm	3/8" 9.52mm	1/2" 12.70mm
Ferrous									
low carbon steel	85-125 Bhn	90	125	135	-	.0040	.0065	.0080	.0100
medium carbon steel	125-175 Bhn	90	125	135	-	.0040	.0065	.0080	.0100
high carbon steel	175-225 Bhn	90	125	135	-	.0030	.0050	.0065	.0080
alloyed steel	200-300 Bhn	60	80	90	-	.0025	.0040	.0050	.0065
heat-treatable steel and forgings	370-420 Bhn	40	50	60	70	.0025	.0040	.0050	.0065
tool steels	< 24 HRc	60	80	90	110	.0030	.0050	.0065	.0080
	> 24-30 HRc	30	40	45	55	.0025	.0040	.0050	.0065
high-speed steels	14-30 HRc	35	50	55	60	.0025	.0040	.0050	.0065
gray cast iron	240 Bhn	115	160	175	-	.0050	.0080	.0100	.0125
	<300 Bhn	90	125	135	-	.0050	.0080	.0100	.0125
malleable cast iron	<300 Bhn	70	95	105	-	.0050	.0080	.0100	.0125
chilled cast iron	<350 Bhn	25	35	40	-	.0025	.0040	.0050	.0065
stainless steel									
300 series (Austenitic)	120-200 Bhn	60	80	90	100	.0025	.0040	.0050	.0065
400 series (Martensitic)	200-300 Bhn	40	50	60	80	.0025	.0040	.0050	.0065
sulphurized	> 25 HRc	45	65	70	80	.0025	.0040	.0050	.0065
spring steel	400 Bhn	25	35	40	45	.0020	.0030	.0040	.0050
Nonferrous									
aluminum and aluminum alloys	40-100 Bhn	180	-	-	-	.0050	.0080	.0100	.0125
cast aluminum									
< 10% Si	200 Bhn	200	275	-	-	.0050	.0080	.0100	.0125
> 10% Si	200 Bhn	180	225	-	250	.0040	.0065	.0080	.0100
brass, long chipping	190-210 Bhn	150	-	-	-	.0040	.0065	.0080	.0100
bronze, long chipping	150-200 Bhn	90	115	-	130	.0030	.0050	.0065	.0080
copper, low alloy	65-100 Bhn	120	145	-	-	.0040	.0065	.0080	.0100
plastics, duraplastics	N/A	55	75	80	-	.0030	.0050	.0065	.0080

The speeds and feeds listed here are conservative recommendations for initial setup. In actual use, depending on the machine environment and workpiece material, significantly higher speeds and feeds may be achievable. Use these

speeds and feeds as a starting point. Cutting conditions can be gradually adjusted until the optimum settings for the application are found. Questions? Contact Technical Support at 800.892.4281.

Drill Definitions

- RPM = revolutions per minute
- SFM = surface feet per minute
- FR = feed rate in inches per minute
- IPR = inches per revolution

Drill Formulas

- $RPM = 3.82 \times SFM / \text{drill diameter}$
- $SFM = .262 \times RPM \times \text{drill diameter}$
- $FR = RPM \times IPR$



Style 2012 • High-Helix

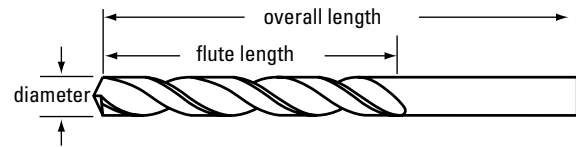
FEATURES



APPLICATIONS



Style 2012 Bright



Improved chip lifting in soft materials.

Operating parameters on page 23.

Diameter Fract Wire	Decimal Equiv.	Metric Equiv.	Flute Length in mm	Overall Length in mm	Order Number
80	.0135	0.34	.188 4.76	.750 19.05	C02881
79	.0145	0.37	.188 4.76	.750 19.05	C02883
78	.0160	0.41	.188 4.76	.875 22.23	C02887
77	.0180	0.46	.188 4.76	.875 22.23	C02890
76	.0200	0.51	.188 4.76	.875 22.23	C02893
75	.0210	0.53	.250 6.35	1.000 25.40	C02894
74	.0225	0.57	.250 6.35	1.000 25.40	C02896
73	.0240	0.61	.313 7.94	1.125 28.58	C02898
72	.0250	0.64	.313 7.94	1.125 28.58	C02899
71	.0260	0.66	.375 9.53	1.250 31.75	C02901
70	.0280	0.71	.375 9.53	1.250 31.75	C02903
69	.0292	0.74	.500 12.70	1.375 34.93	C02904
68	.0310	0.79	.500 12.70	1.375 34.93	C02906
1/32	.0312	0.79	.500 12.70	1.375 34.93	C02907
67	.0320	0.81	.500 12.70	1.375 34.93	C02909
66	.0330	0.84	.500 12.70	1.375 34.93	C02910
65	.0350	0.89	.625 15.88	1.500 38.10	C02912
64	.0360	0.91	.625 15.88	1.500 38.10	C02914
63	.0370	0.94	.625 15.88	1.500 38.10	C02915
62	.0380	0.97	.625 15.88	1.500 38.10	C02917
61	.0390	0.99	.688 17.46	1.625 41.28	C02918
60	.0400	1.02	.688 17.46	1.625 41.28	C02920
59	.0410	1.04	.688 17.46	1.625 41.28	C02921
58	.0420	1.07	.688 17.46	1.625 41.28	C02923
57	.0430	1.09	.750 19.05	1.750 44.45	C02924
56	.0465	1.18	.750 19.05	1.750 44.45	C02927
3/64	.0469	1.19	.750 19.05	1.750 44.45	C02928
55	.0520	1.32	.875 22.23	1.875 47.63	C02932
54	.0550	1.40	.875 22.23	1.875 47.63	C02934
53	.0595	1.51	.875 22.23	1.875 47.63	C02938
1/16	.0625	1.59	.875 22.23	1.875 47.63	C02940
52	.0635	1.61	.875 22.23	1.875 47.63	C02942
51	.0670	1.70	1.000 25.40	2.000 50.80	C02945
50	.0700	1.78	1.000 25.40	2.000 50.80	C02947

Diameter Fract Wire	Decimal Equiv.	Metric Equiv.	Flute Length in mm	Overall Length in mm	Order Number
49	.0730	1.85	1.000 25.40	2.000 50.80	C02950
48	.0760	1.93	1.000 25.40	2.000 50.80	C02952
5/64	.0781	1.98	1.000 25.40	2.000 50.80	C02954
47	.0785	1.99	1.000 25.40	2.000 50.80	C02955
46	.0810	2.06	1.125 28.58	2.125 53.98	C02958
45	.0820	2.08	1.125 28.58	2.125 53.98	C02959
44	.0860	2.18	1.125 28.58	2.125 53.98	C02962
43	.0890	2.26	1.250 31.75	2.250 57.15	C02965
42	.0935	2.38	1.250 31.75	2.250 57.15	C02968
3/32	.0938	2.38	1.250 31.75	2.250 57.15	C02969
41	.0960	2.44	1.375 34.93	2.375 60.33	C02971
40	.0980	2.49	1.375 34.93	2.375 60.33	C02973
39	.0995	2.53	1.375 34.93	2.375 60.33	C02975
38	.1015	2.58	1.438 36.51	2.500 63.50	C02976
37	.1040	2.64	1.438 36.51	2.500 63.50	C02978
36	.1065	2.71	1.438 36.51	2.500 63.50	C02980
7/64	.1094	2.78	1.500 38.10	2.625 66.68	C02982
35	.1100	2.79	1.500 38.10	2.625 66.68	C02983
34	.1110	2.82	1.500 38.10	2.625 66.68	C02985
33	.1130	2.87	1.500 38.10	2.625 66.68	C02986
32	.1160	2.95	1.625 41.28	2.750 69.85	C02988
31	.1200	3.05	1.625 41.28	2.750 69.85	C02990
	.1250	3.18	1.625 41.28	2.750 69.85	C02992
30	.1285	3.26	1.625 41.28	2.750 69.85	C02995
29	.1360	3.45	1.750 44.45	2.875 73.03	C02998
28	.1405	3.57	1.750 44.45	2.875 73.03	C03000
9/64	.1406	3.57	1.750 44.45	2.875 73.03	C03001
27	.1440	3.66	1.875 47.63	3.000 76.20	C03003
26	.1470	3.73	1.875 47.63	3.000 76.20	C03005
25	.1495	3.80	1.875 47.63	3.000 76.20	C03007
24	.1520	3.86	2.000 50.80	3.125 79.38	C03009
23	.1540	3.91	2.000 50.80	3.125 79.38	C03011
5/32	.1562	3.97	2.000 50.80	3.125 79.38	C03012
22	.1570	3.99	2.000 50.80	3.125 79.38	C03013

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Jobber Length

Style 2012 • High-Helix (continued)

DRILLING

HOLE FINISHING

THREADING

MILLING

OTHER TOOLS

Diameter Fract	Diameter W/L	Decimal Equiv.	Metric Equiv.	Flute Length in	Flute Length mm	Overall Length in	Overall Length mm	Order Number
	21	.1590	4.04	2.125	53.98	3.250	82.55	C03015
	20	.1610	4.09	2.125	53.98	3.250	82.55	C03016
	19	.1660	4.22	2.125	53.98	3.250	82.55	C03019
	18	.1695	4.31	2.125	53.98	3.250	82.55	C03022
11/64		.1719	4.37	2.125	53.98	3.250	82.55	C03023
	17	.1730	4.39	2.188	55.56	3.375	85.73	C03024
	16	.1770	4.50	2.188	55.56	3.375	85.73	C03026
	15	.1800	4.57	2.188	55.56	3.375	85.73	C03028
	14	.1820	4.62	2.188	55.56	3.375	85.73	C03030
	13	.1850	4.70	2.313	58.74	3.500	88.90	C03031
3/16		.1875	4.76	2.313	58.74	3.500	88.90	C03034
	12	.1890	4.80	2.313	58.74	3.500	88.90	C03035
	11	.1910	4.85	2.313	58.74	3.500	88.90	C03037
	10	.1935	4.92	2.438	61.91	3.625	92.08	C03039
	9	.1960	4.98	2.438	61.91	3.625	92.08	C03040
	8	.1990	5.06	2.438	61.91	3.625	92.08	C03042
	7	.2010	5.11	2.438	61.91	3.625	92.08	C03044
13/64		.2031	5.16	2.438	61.91	3.625	92.08	C03045
	6	.2040	5.18	2.500	63.50	3.750	95.25	C03046
	5	.2055	5.22	2.500	63.50	3.750	95.25	C03048
	4	.2090	5.31	2.500	63.50	3.750	95.25	C03051
	3	.2130	5.41	2.500	63.50	3.750	95.25	C03053
7/32		.2188	5.56	2.500	63.50	3.750	95.25	C03055
	2	.2210	5.61	2.625	66.68	3.875	98.43	C03057
	1	.2280	5.79	2.625	66.68	3.875	98.43	C03060
	A	.2340	5.94	2.625	66.68	3.875	98.43	C03063
15/64		.2344	5.95	2.625	66.68	3.875	98.43	C03064
	B	.2380	6.05	2.750	69.85	4.000	101.60	C03066
	C	.2420	6.15	2.750	69.85	4.000	101.60	C03068
	D	.2460	6.25	2.750	69.85	4.000	101.60	C03070
1/4		.2500	6.35	2.750	69.85	4.000	101.60	C03073
	F	.2570	6.53	2.875	73.03	4.125	104.78	C03077
	G	.2610	6.63	2.875	73.03	4.125	104.78	C03079
17/64		.2656	6.75	2.875	73.03	4.125	104.78	C03081

Diameter Fract	Diameter W/L	Decimal Equiv.	Metric Equiv.	Flute Length in	Flute Length mm	Overall Length in	Overall Length mm	Order Number
	H	.2660	6.76	2.875	73.03	4.125	104.78	C03083
	I	.2720	6.91	2.875	73.03	4.125	104.78	C03086
	J	.2770	7.04	2.875	73.03	4.125	104.78	C03088
	L	.2900	7.37	2.938	74.61	4.250	107.95	C03094
9/32		.2812	7.14	2.938	74.61	4.250	107.95	C03095
	M	.2950	7.49	3.063	77.79	4.375	111.13	C03097
19/64		.2969	7.54	3.063	77.79	4.375	111.13	C03099
	N	.3020	7.67	3.063	77.79	4.375	111.13	C03101
5/16		.3125	7.94	3.188	80.96	4.500	114.30	C03106
	O	.3160	8.03	3.188	80.96	5.750	146.05	C03108
	P	.3230	8.20	3.313	84.14	4.625	117.48	C03111
21/64		.3281	8.33	3.313	84.14	4.625	117.48	C03114
	Q	.3320	8.43	3.438	87.31	4.750	120.65	C03116
	R	.3390	8.61	3.438	87.31	4.750	120.65	C03119
11/32		.3438	8.73	3.438	87.31	4.750	120.65	C03121
	S	.3480	8.84	3.500	88.90	4.875	123.83	C03124
	T	.3580	9.09	3.500	88.90	4.875	123.83	C03127
23/64		.3594	9.13	3.500	88.90	4.875	123.83	C03129
	U	.3680	9.35	3.625	92.08	5.000	127.00	C03133
3/8		.3750	9.53	3.625	92.08	5.000	127.00	C03136
	V	.3770	9.58	3.625	92.08	5.000	127.00	C03137
	W	.3860	9.80	3.750	95.25	5.125	130.18	C03142
25/64		.3906	9.92	3.750	95.25	5.125	130.18	C03144
	X	.3970	10.08	3.750	95.25	5.125	130.18	C03146
	Y	.4040	10.26	3.875	98.43	5.250	133.35	C03148
13/32		.4062	10.32	3.875	98.43	5.250	133.35	C03149
	Z	.4130	10.49	3.875	98.43	5.250	133.35	C03150
27/64		.4219	10.72	3.938	100.01	5.375	136.53	C03152
7/16		.4375	11.11	4.063	103.19	5.500	139.70	C03155
29/64		.4531	11.51	4.188	106.36	5.625	142.88	C03158
15/32		.4688	11.91	4.313	109.54	5.750	146.05	C03160
31/64		.4844	12.30	4.375	111.13	5.875	149.23	C03163
1/2		.5000	12.70	4.500	114.30	6.000	152.40	C03165

