

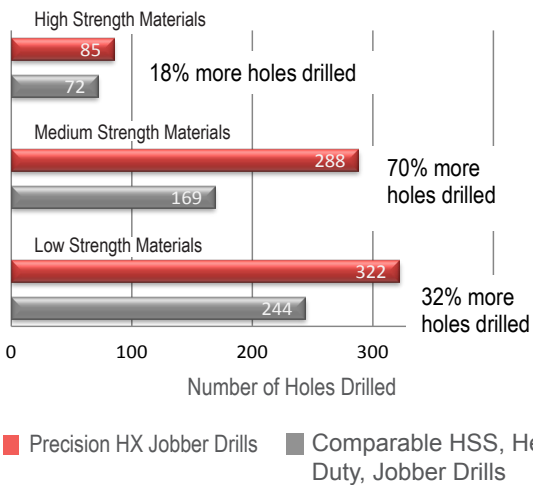


JOBBER DRILL

The HX Jobber Drill Series combines the strength of HSS with a 135° Split Point to allow lower thrust requirements, improved cutting action and reduced walking.

HX

HX Drills Make Up To 70% More Holes



Benefits:

- **Reduced** walking
- Stronger – lasts longer
- Runs faster
- Better chip control

Improved Flute Geometry For Effective Chip Evacuation

Unique Purple/Bronze Oxide Coating Provides Increased Wear Resistance

135° Split Point, Self-Centering

HX10 - Fractional Sizes

HX15 - Letter Sizes

HX18 - Wire Gauge Sizes

Size	Decimal Equivalent	Flute Length	Overall Length	Pack Qty	HX10 HX15 HX18
1/16	0.0625	7/8	1.7/8	12	022004
52	0.0635	7/8	1.7/8	12	022152
51	0.0670	1"	2"	12	022151
50	0.0700	1"	2"	12	022150
49	0.0730	1"	2"	12	022149
48	0.0760	1"	2"	12	022148
5/64	0.0781	1"	2"	12	022005
47	0.0785	1"	2"	12	022147
46	0.0810	1.1/8	2.1/8	12	022146
45	0.0820	1.1/8	2.1/8	12	022145
44	0.0860	1.1/8	2.1/8	12	022144
43	0.0890	1.1/4	2.1/4	12	022143
42	0.0935	1.1/4	2.1/4	12	022142
3/32	0.0938	1.1/4	2.1/4	12	022006
41	0.0960	1.3/8	2.3/8	12	022141
40	0.0980	1.3/8	2.3/8	12	022140
39	0.0995	1.3/8	2.3/8	12	022139
38	0.1015	1.7/16	2.1/2	12	022138
37	0.1040	1.7/16	2.1/2	12	022137
36	0.1065	1.7/16	2.1/2	12	022136
7/64	0.1094	1.1/2	2.5/8	12	022007

Size	Decimal Equivalent	Flute Length	Overall Length	Pack Qty	HX10 HX15 HX18
35	0.1100	1.1/2	2.5/8	12	022135
34	0.1110	1.1/2	2.5/8	12	022134
33	0.1130	1.1/2	2.5/8	12	022133
32	0.1160	1.5/8	2.3/4	12	022132
31	0.1200	1.5/8	2.3/4	12	022131
1/8	0.1250	1.5/8	2.3/4	12	022008
30	0.1285	1.5/8	2.3/4	12	022130
29	0.1360	1.3/4	2.7/8	12	022129
28	0.1405	1.3/4	2.7/8	12	022128
9/64	0.1406	1.3/4	2.7/8	12	022009
27	0.1440	1.7/8	3"	12	022127
26	0.1470	1.7/8	3"	12	022126
25	0.1495	1.7/8	3"	12	022125
24	0.1520	2"	3.1/8	12	022124
23	0.1540	2"	3.1/8	12	022123
5/32	0.1563	2"	3.1/8	12	022010
22	0.1570	2"	3.1/8	12	022122
21	0.1590	2.1/8	3.1/4	12	022121
20	0.1610	2.1/8	3.1/4	12	022120
19	0.1660	2.1/8	3.1/4	12	022119

Size	Decimal Equivalent	Flute Length	Overall Length	Pack Qty	HX10 HX15 HX18
18	0.1695	2.1/8	3.1/4	12	022118
11/64	0.1719	2.1/8	3.1/4	12	022011
17	0.1730	2.3/16	3.3/8	12	022117
16	0.1770	2.3/16	3.3/8	12	022116
15	0.1800	2.3/16	3.3/8	12	022115
14	0.1820	2.3/16	3.3/8	12	022114
13	0.1850	2.5/16	3.1/2	12	022113
3/16	0.1875	2.5/16	3.1/2	12	022012
12	0.1890	2.5/16	3.1/2	12	022112
11	0.1910	2.5/16	3.1/2	12	022111
10	0.1935	2.7/16	3.5/8	12	022110
9	0.1960	2.7/16	3.5/8	12	022109
8	0.1990	2.7/16	3.5/8	12	022108
7	0.2010	2.7/16	3.5/8	12	022107
13/64	0.2031	2.7/16	3.5/8	12	022013
6	0.2040	2.1/2	3.3/4	12	022106
5	0.2055	2.1/2	3.3/4	12	022105
4	0.2090	2.1/2	3.3/4	12	022104
3	0.2130	2.1/2	3.3/4	12	022103
7/32	0.2188	2.1/2	3.3/4	12	022014
2	0.2210	2.5/8	3.7/8	12	022102
1	0.2280	2.5/8	3.7/8	12	022101
A	0.2340	2.5/8	3.7/8	12	022201
15/64	0.2344	2.5/8	3.7/8	12	022015
B	0.2374	2.3/4	4"	12	022202
C	0.2421	2.3/4	4"	12	022203
D	0.2461	2.3/4	4"	12	022204
E	0.2500	2.3/4	4"	12	022205
1/4	0.2500	2.3/4	4"	12	022016
F	0.2571	2.7/8	4.1/8	12	022206
G	0.2610	2.7/8	4.1/8	12	022207
17/64	0.2656	2.7/8	4.1/8	12	022017
H	0.2661	2.7/8	4.1/8	12	022208

Size	Decimal Equivalent	Flute Length	Overall Length	Pack Qty	HX10 HX15 HX18
I	0.2720	2.7/8	4.1/8	12	022209
J	0.2772	2.7/8	4.1/8	12	022210
K	0.2811	2.15/16	4.1/4	12	022211
9/32	0.2813	2.15/16	4.1/4	12	022018
L	0.2902	2.15/16	4.1/4	12	022212
M	0.2949	3.1/16	4.3/8	12	022213
19/64	0.2969	3.1/16	4.3/8	12	022019
N	0.3020	3.1/16	4.3/8	12	022214
5/16	0.3125	3.3/16	4.1/2	6	022020
O	0.3161	3.3/16	4.1/2	6	022215
P	0.3228	3.5/16	4.5/8	6	022216
21/64	0.3281	3.5/16	4.5/8	6	022021
Q	0.3319	3.7/16	4.3/4	6	022217
R	0.3390	3.7/16	4.3/4	6	022218
11/32	0.3437	3.7/16	4.3/4	6	022022
S	0.3480	3.1/2	4.7/8	6	022219
T	0.3580	3.1/2	4.7/8	6	022220
23/64	0.3594	3.1/2	4.7/8	6	022023
U	0.3680	3.5/8	5"	6	022221
3/8	0.3750	3.5/8	5"	6	022024
V	0.3772	3.5/8	5"	6	022222
W	0.3858	3.3/4	5.1/8	6	022223
25/64	0.3906	3.3/4	5.1/8	6	022025
X	0.3969	3.3/4	5.1/8	6	022224
Y	0.4039	3.7/8	5.1/4	6	022225
13/32	0.4063	3.7/8	5.1/4	6	022026
Z	0.4130	3.7/8	5.1/4	6	022226
27/64	0.4219	3.15/16	5.3/8	6	022027
7/16	0.4375	4.1/16	5.1/2	6	022028
29/64	0.4531	4.3/16	5.5/8	6	022029
15/32	0.4687	4.5/16	5.3/4	6	022030
31/64	0.4844	4.3/8	5.7/8	6	022031
1/2	0.5000	4.1/2	6"	6	022032

HSS



ANSI

4XD

HX OPERATING PARAMETERS

MATERIAL GROUP	BHN HARDNESS	NORMAL CHIP FORM	SFM/ALPHA SYMBOL
1. STEEL			
1.1 Magnetic Soft Steel, Lead Steels	≤120	Extra Long	115D
1.2 Structural Steel, Case Carburizing Steel	≤ 200	Medium/Long	70D
1.3 Plain Carbon Steel Low, Medium Carbon	≤ 250	Long	75E
1.4 Alloyed Steel, Medium Carbon, Tool Steel, Wrought	≤ 250	Long	70D
1.5 Alloyed Steel, Hardened and Tempered Steel, Tool Steel	≥ 250 ≤ 350	Long	55C
1.6 alloyed Steel, Hardened and Tempered Steel, Tool Steel	> 350 ≤ 400	Long	—
2. STAINLESS STEEL			
2.1 Free Machining Stainless Steel	≤ 250	Medium	150E
2.2 Austenitic	≤ 250	Long	60D
2.3 Ferritic + Austenitic, Ferritic, Martensitic	≤ 300	Long	55C
2.4 Precipitation Hardened	≤ 300	Long	—
3. CAST IRON			
3.1 Soft Gray Cast, Ferritic	≤ 150	Extra Short	170F
3.2 Soft Gray Cast, Pearlitic	> 150 ≤ 260	Extra Short	90E
3.3 Nodular Graphite, Malleable Cast Iron	> 150 ≤ 250	Medium/Short	95D
3.4 Nodular Graphite, Malleable Cast Iron	> 250 ≤ 320	Medium/Short	60C
4. TITANIUM			
4.1 Titanium, Unalloyed	≤ 200	Extra Long	95D
4.2 Titanium Alloy, Cast	≤ 270	Medium/Short	75D
4.3 Titanium Alloys	> 270 ≤ 350	Medium/Short	—
5. NICKEL			
5.1 Nickel, Unalloyed	≤ 150	Extra Long	60D

ALPHA SYMBOL CHART

	1/16	1/8	3/16	1/4	5/16	3/8	1/2
C	.0015	.0030	.0030	.0040	.0060	.0060	.0080
D	.0020	.0040	.0050	.0060	.0080	.0090	.0110
E	.0020	.0050	.0060	.0080	.0100	.0130	.0160
F	.0030	.0060	.0080	.0100	.0130	.0160	.0200

Ask your sales person
about our (29) piece
Fractional set
1/16 - 1/2 x 64ths
C29HX10SET

EDP#

091010



To use this chart

- Select Material Group to Determine the SFM
- Using the chart below, match the Alpha symbol with your drill to find the IPR
- Calculate RPM (SFM/D x 3.82) and IPM (IPR x RPM)



GENERAL PURPOSE SETS

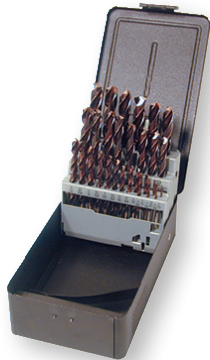


C26R15

26pc.

Includes: A - Z
EDP# 099983

- Manufactured from premium quality High Speed Steel
- Steam Oxide
- For general purpose applications in a wide range of Material Groups (AMG's)



C29HX10

29pc.

Includes; 1/16-1/2 X 1/64
EDP# 091010

- Manufactured from premium quality High Speed Steel
- 135° Split Point
- For general purpose applications in a wide range of Material Groups (AMG's)

Drill & Tap set

- Includes UNC tap styles 1500 & 1528, the most versatile taps for hand or machine use.
- Conveniently packaged with corresponding general purpose drills, styles R10P & R18P
- For general purpose applications in a wide range of Material Groups (AMG's)

229C

18pc.

EDP# 4111502



**UNION
BUTTERFIELD®**

- All sets below are manufactured from premium quality High Speed Steel
- 118° conventional point
- For general purpose applications in a wide range of Material Groups (AMG's)

C29R10

29pc.

Includes; 1/16-1/2 X 1/64
EDP# 099977



C60R18

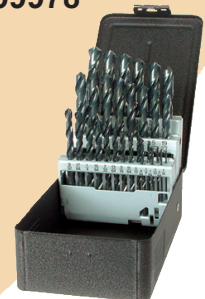
60pc.

Includes: N1-N60
EDP# 099976

C15R10

15pc.

Includes; 1/16-1/2 X 1/32
EDP# 099978





REDUCED SHANK DRILLS

Silver and Deming • 6" Length • 1/2" Reduced Shank

R56

- Features a 1/2" diameter round shank suitable for use with 1/2" chuck portable drills
- Common flute & overall length for minimal adjustment in drill presses
- Ideal for drilling a wide range of materials of low to medium tensile strength

R57

- Features 3 Flats on the 1/2" diameter shank for a more positive non-slip hold

R56CO

- Manufactured from Premium Cobalt Steel for increased hardness, toughness, wear resistance & heat resistance
- Features 118 degree Self-Centering Split Point - reduces 'wandering' & drilling effort
- Recommended for drilling tough, high tensile strength materials that generate higher cutting temperatures
- Typical materials would include high alloy steels, ferrous castings, stainless & other difficult to drill materials

Sets available for all styles above

Diameter Inch	Diameter Decimal	Flute Length	OAL	Shank Diameter	R56 EDP #	R57 EDP#	R56CO EDP#
17/32	.5312	3"	6"	1/2	091434	091534	092334
9/16	.5625	3"	6"	1/2	091436	091536	092336
19/32	.5938	3"	6"	1/2	091438	091538	092338
5/8	.6250	3"	6"	1/2	091440	091540	092340
21/32	.6562	3"	6"	1/2	091442	091542	092342
11/16	.6875	3"	6"	1/2	091444	091544	092344
23/32	.7188	3"	6"	1/2	091446	091546	092346
3/4	.7500	3"	6"	1/2	091448	091548	092348
25/32	.7812	3"	6"	1/2	091450	091550	092350
13/16	.8125	3"	6"	1/2	091452	091552	092352
27/32	.8438	3"	6"	1/2	091454	091554	092354
7/8	.8750	3"	6"	1/2	091456	091556	092356
29/32	.9062	3"	6"	1/2	091458	091558	092358
15/16	.9375	3"	6"	1/2	091460	091560	092360
31/32	0.9688	3"	6"	1/2"	091462	091562	092362
1"	1.0000	3"	6"	1/2"	091464	091564	092364