

Jobber Length Drills

High Speed Steel & Cobalt

General Purpose High Speed Steel – Black Oxide



- 118° point
- Oxide finish creates a porous layer that holds cutting oil which provides abrasion resistance and improved chip flow
- Sets supplied in metal indexed storage case

Heavy Duty Super Cobalt



- 135° split point
- Type J

High Speed Steel Gold-P Coated



Tolerance of D	up to 1/8(.1250)
	0~ -.0005
	over 1/8(.1250) ~ up to 1/4(.2500)
	0~ -.0007
	over 1/4(.2500) ~ up to 1/2(.5000)
	0~ -.0010

- Straight shank
- Flute Geometry: right hand spiral with wider flutes
- Point Angle: 135° split point on sizes 0.059" diameter and over
- Surface treatment: bright body with TiN coating on working part
- Application: drilling in steel, cast steel (alloyed and non-alloyed), grey cast iron, graphite, and malleable cast iron

Fractional Sizes

Size (Inch)	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	High Speed Steel Black Oxide	Super Cobalt	High Speed Steel Gold-P Coated
				Code	Code	Code
1/64	0.0156	3/16	3/4	752002	606755	-
1/32	0.0312	1/2	1-3/8	752003	606756	-
3/64	0.0469	3/4	1-3/4	752004	751006	883020
1/16	0.0625	7/8	1-7/8	752005	751010	883021
5/64	0.0781	1	2	752006	751016	883022
3/32	0.0938	1-1/4	2-1/4	752007	751023	883023
7/64	0.1094	1-1/2	2-5/8	752008	751030	883024
1/8	0.1250	1-5/8	2-3/4	752009	751036	883025
9/64	0.1406	1-3/4	2-7/8	752010	751040	883026
5/32	0.1562	2	3-1/8	752011	751046	883027
11/64	0.1719	2-1/8	3-1/4	752012	751052	883028
3/16	0.1875	2-5/16	3-1/2	752013	751058	883029
13/64	0.2031	2-7/16	3-5/8	752014	751065	883030
7/32	0.2188	2-1/2	3-3/4	752015	751070	883031
15/64	0.2344	2-5/8	3-7/8	752017	751074	883032
1/4	0.2500	2-3/4	4	752020	751078	883033
17/64	0.2656	2-7/8	4-1/8	752023	751081	883034
9/32	0.2812	2-15/16	4-1/4	752028	751086	883035
19/64	0.2969	3-1/16	4-3/8	752031	751089	883036
5/16	0.3125	3-3/16	4-1/2	752033	751091	883037
21/64	0.3281	3-5/16	4-5/8	752036	751094	883038
11/32	0.3438	3-7/16	4-3/4	752039	751097	883039
23/64	0.3594	3-1/2	4-7/8	752042	751100	883040
3/8	0.3750	3-5/8	5	752044	751102	883041
25/64	0.3906	3-3/4	5-1/8	752047	751105	883042
13/32	0.4062	3-7/8	5-1/4	752050	751108	883043
27/64	0.4219	3-15/16	5-3/8	752052	751110	883044
7/16	0.4375	4-1/16	5-1/2	752053	751111	883045
29/64	0.4531	4-3/16	5-5/8	752054	751112	883046
15/32	0.4688	4-5/16	5-3/4	752055	751113	883047
31/64	0.4844	4-3/8	5-7/8	752056	751114	883048
1/2	0.5000	4-1/2	6	752057	751115	883049
33/64	0.5156	4-13/16	6-5/8	752058	606787	-
17/32	0.5312	4-13/16	6-5/8	752059	606788	-
35/64	0.5469	4-13/16	6-5/8	752060	606789	-

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Fractional Sizes (continued)

Size (Inch)	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	High Speed Steel Black Oxide	Super Cobalt	High Speed Steel Gold-P Coated
				Code	Code	Code
9/16	0.5625	4-13/16	6-5/8	752061	606790	–
37/64	0.5781	4-13/16	6-5/8	752062	606791	–
19/32	0.5938	5-3/16	7-1/8	752063	606792	–
39/64	0.6094	5-3/16	7-1/8	752064	606793	–
5/8	0.6250	5-3/16	7-1/8	752065	606794	–
41/64	0.6406	5-3/16	7-1/8	752066	606795	–
21/32	0.6562	5-3/16	7-1/8	752067	606796	–
43/64	0.6719	5-5/8	7-5/8	752068	606797	–
11/16	0.6875	5-5/8	7-5/8	752069	606798	–
23/32	0.7188	5-5/8	7-5/8	606583	–	–
3/4	0.7500	5-5/8	7-5/8	606584	–	–

Letter Sizes

Size	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	High Speed Steel Black Oxide	Super Cobalt	High Speed Steel Gold-P Coated
				Code	Code	Code
A	0.2340	2-5/8	3-7/8	752016	751073	883108
B	0.2380	2-3/4	4	752018	751075	883109
C	0.2420	2-3/4	4	606587	751076	883110
D	0.2460	2-3/4	4	752019	751077	883111
E	0.2500	2-3/4	4	752020	751078	883112
F	0.2570	2-7/8	4-1/8	752021	751079	883113
G	0.2610	2-7/8	4-1/8	752022	751080	883114
H	0.2660	2-7/8	4-1/8	752024	751082	883115
I	0.2720	2-7/8	4-1/8	752025	751083	883116
J	0.2770	2-7/8	4-1/8	752026	751084	883117
K	0.2810	2-15/16	4-1/4	752027	751085	883118
L	0.2900	2-15/16	4-1/4	752029	751087	883119
M	0.2950	3-1/16	4-3/8	752030	751088	883120
N	0.3020	3-1/16	4-3/8	752032	751090	883121
O	0.3160	3-3/16	4-1/2	752034	751092	883122
P	0.3230	3-5/16	4-5/8	752035	751093	883123
Q	0.3320	3-7/16	4-3/4	752037	751095	883124
R	0.3390	3-7/16	4-3/4	752038	751096	883125
S	0.3480	3-1/2	4-7/8	752040	751098	883126
T	0.3580	3-1/2	4-7/8	752041	751099	883127
U	0.3680	3-5/8	5	752043	751101	883128
V	0.3770	3-5/8	5	752045	751103	883129
W	0.3860	3-3/4	5-1/8	752046	751104	883130
X	0.3970	3-3/4	5-1/8	752048	751106	883131
Y	0.4040	3-7/8	5-1/4	752049	751107	883132
Z	0.4130	3-7/8	5-1/4	752051	751109	883133

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Wire Gage Sizes

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Black Oxide	Super Cobalt	HSS Gold-P Coated	Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Black Oxide	Super Cobalt	HSS Gold-P Coated
				Code	Code	Code					Code	Code	Code
1	0.2280	2-5/8	3-7/8	754684	751072	883241	42	0.0935	1-1/4	2-1/4	754643	751022	883200
2	0.2210	2-5/8	3-7/8	754683	751071	883240	43	0.0890	1-1/4	2-1/4	754642	751021	883199
3	0.2130	2-1/2	3-3/4	754682	751069	883239	44	0.0860	1-1/8	2-1/8	754641	751020	883198
4	0.2090	2-1/2	3-3/4	754681	751068	883238	45	0.0820	1-1/8	2-1/8	754640	751019	883197
5	0.2055	2-1/2	3-3/4	754680	751067	883237	46	0.0810	1-1/8	2-1/8	754639	751018	883196
6	0.2040	2-1/2	3-3/4	754679	751066	883236	47	0.0785	1	2	754638	751017	883195
7	0.2010	2-7/16	3-5/8	754678	751064	883235	48	0.0760	1	2	754637	751015	883194
8	0.1990	2-7/16	3-5/8	754677	751063	883234	49	0.0730	1	2	754636	751014	883193
9	0.1960	2-7/16	3-5/8	754676	751062	883233	50	0.0700	1	2	754635	751013	883192
10	0.1935	2-7/16	3-5/8	754675	751061	883232	51	0.0670	1	2	754634	751012	883191
11	0.1910	2-5/16	3-1/2	754674	751060	883231	52	0.0635	7/8	1-7/8	754633	751011	883190
12	0.1890	2-5/16	3-1/2	754673	751059	883230	53	0.0595	7/8	1-7/8	754632	751009	883189
13	0.1850	2-5/16	3-1/2	754672	751057	883229	54	0.0550	7/8	1-7/8	754631	751008	883188
14	0.1820	2-3/16	3-3/8	754671	751056	883228	55	0.0520	7/8	1-7/8	754630	751007	883187
15	0.1800	2-3/16	3-3/8	754670	751055	883227	56	0.0465	3/4	1-3/4	754629	751005	883186
16	0.1770	2-3/16	3-3/8	754669	751054	883226	57	0.0430	3/4	1-3/4	754628	751004	-
17	0.1730	2-3/16	3-3/8	754668	751053	883225	58	0.0420	11/16	1-5/8	754627	751003	-
18	0.1695	2-1/8	3-1/4	754667	751051	883224	59	0.0410	11/16	1-5/8	754626	751002	-
19	0.1660	2-1/8	3-1/4	754666	751050	883223	60	0.0400	11/16	1-5/8	754625	751001	-
20	0.1610	2-1/8	3-1/4	754665	751049	883222	61	0.0390	11/16	1-5/8	754624	606884	-
21	0.1590	2-1/8	3-1/4	754664	751048	883221	62	0.0380	5/8	1-1/2	754623	606885	-
22	0.1570	2	3-1/8	754663	751047	883220	63	0.0370	5/8	1-1/2	754622	606886	-
23	0.1540	2	3-1/8	754662	751045	883219	64	0.0360	5/8	1-1/2	754621	606887	-
24	0.1520	2	3-1/8	754661	751044	883218	65	0.0350	5/8	1-1/2	754620	606888	-
25	0.1495	1-7/8	3	754660	751043	883217	66	0.0330	1/2	1-3/8	754619	606889	-
26	0.1470	1-7/8	3	754659	751042	883216	67	0.0320	1/2	1-3/8	754618	606890	-
27	0.1440	1-7/8	3	754658	751041	883215	68	0.0310	1/2	1-3/8	754617	606891	-
28	0.1405	1-3/4	2-7/8	754657	751039	883214	69	0.0292	1/2	1-3/8	754616	606892	-
29	0.1360	1-3/4	2-7/8	754656	751038	883213	70	0.0280	3/8	1-1/4	754615	606893	-
30	0.1285	1-5/8	2-3/4	754655	751037	883212	71	0.0260	3/8	1-1/4	754614	606894	-
31	0.1200	1-5/8	2-3/4	754654	751035	883211	72	0.0250	5/16	1-1/8	754613	606895	-
32	0.1160	1-5/8	2-3/4	754653	751034	883210	73	0.0240	5/16	1-1/8	754612	606896	-
33	0.1130	1-1/2	2-5/8	754652	751033	883209	74	0.0225	1/4	1	754611	606897	-
34	0.1110	1-1/2	2-5/8	754651	751032	883208	75	0.0210	1/4	1	754610	606898	-
35	0.1100	1-1/2	2-5/8	754650	751031	883207	76	0.0200	3/16	7/8	754609	606899	-
36	0.1065	1-7/16	2-1/2	754649	751029	883206	77	0.0180	3/16	7/8	754608	606900	-
37	0.1040	1-7/16	2-1/2	754648	751028	883205	78	0.0160	3/16	7/8	754607	606901	-
38	0.1015	1-7/16	2-1/2	754647	751027	883204	79	0.0145	1/8	3/4	754606	606902	-
39	0.0995	1-3/8	2-3/8	754646	751026	883203	80	0.0135	1/8	3/4	754605	606903	-
40	0.0980	1-3/8	2-3/8	754645	751025	883202							
41	0.0960	1-3/8	2-3/8	754644	751024	883201							

Metric Jobber Length Drills

General Purpose – High Speed Steel – Black Oxide



• 118° point

Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
0.15	0.0059	3/64	3/4	*615400	2.05	0.0807	1-1/8	2-1/8	615458	6.60	0.2598	2-7/8	4-1/8	615516
0.16	0.0063	3/64	3/4	*615401	2.10	0.0827	1-1/8	2-1/8	615459	6.70	0.2638	2-7/8	4-1/8	615517
0.17	0.0067	1/16	3/4	*615402	2.15	0.0846	1-1/8	2-1/8	615460	6.75	0.2657	2-7/8	4-1/8	615518
0.18	0.0071	1/16	3/4	*615403	2.20	0.0866	1-1/4	2-1/4	615461	6.80	0.2677	2-7/8	4-1/8	615519
0.19	0.0075	1/16	3/4	*615404	2.25	0.0886	1-1/4	2-1/4	615462	6.90	0.2717	2-7/8	4-1/8	615520
0.20	0.0079	1/16	3/4	*615405	2.30	0.0906	1-1/4	2-1/4	615463	7.00	0.2756	2-7/8	4-1/8	615521
0.21	0.0083	3/32	3/4	*615406	2.35	0.0925	1-1/4	2-1/4	615464	7.10	0.2795	2-15/16	4-1/4	615522
0.22	0.0087	1/16	3/4	*615407	2.40	0.0945	1-3/8	2-3/8	615465	7.20	0.2835	2-15/16	4-1/4	615523
0.23	0.0091	3/32	3/4	*615408	2.45	0.0965	1-3/8	2-3/8	615466	7.25	0.2854	2-15/16	4-1/4	615524
0.24	0.0094	3/32	3/4	*615409	2.50	0.0984	1-3/8	2-3/8	615467	7.30	0.2874	2-15/16	4-1/4	615525
0.25	0.0098	5/64	3/4	*615410	2.60	0.1024	1-7/16	2-1/2	615468	7.40	0.2913	3-1/16	4-3/8	615526
0.26	0.0102	5/64	3/4	*615411	2.70	0.1063	1-7/16	2-1/2	615469	7.50	0.2953	3-1/16	4-3/8	615527
0.27	0.0106	5/64	3/4	*615412	2.75	0.1083	1-1/2	2-5/8	615470	7.60	0.2992	3-1/16	4-3/8	615528
0.28	0.0110	5/64	3/4	*615413	2.80	0.1102	1-1/2	2-5/8	615471	7.70	0.3031	3-3/16	4-1/2	615529
0.29	0.0114	5/64	3/4	*615414	2.90	0.1142	1-5/8	2-3/4	615472	7.75	0.3051	3-3/16	4-1/2	615530
0.30	0.0118	3/32	3/4	*615415	3.00	0.1181	1-5/8	2-3/4	615473	7.80	0.3071	3-3/16	4-1/2	615531
0.32	0.0126	3/32	3/4	*615416	3.10	0.1220	1-5/8	2-3/4	615474	7.85	0.3091	3-3/16	4-1/2	615532
0.34	0.0134	5/32	3/4	*615417	3.20	0.1260	1-5/8	2-3/4	615475	7.90	0.3110	3-3/16	4-1/2	615533
0.35	0.0138	1/8	3/4	*615418	3.25	0.1280	1-5/8	2-3/4	615476	8.00	0.3150	3-3/16	4-1/2	615534
0.36	0.0142	5/32	3/4	*615419	3.30	0.1299	1-3/4	2-7/8	615477	8.10	0.3189	3-5/16	4-5/8	615535
0.38	0.0150	3/16	3/4	*615420	3.40	0.1339	1-3/4	2-7/8	615478	8.20	0.3228	3-5/16	4-5/8	615536
0.40	0.0158	3/16	7/8	*615421	3.50	0.1378	1-3/4	2-7/8	615479	8.25	0.3248	3-5/16	4-5/8	615537
0.42	0.0165	3/16	7/8	*615422	3.60	0.1417	1-7/8	3	615480	8.30	0.3268	3-5/16	4-5/8	615538
0.44	0.0173	3/16	7/8	*615423	3.70	0.1457	1-7/8	3	615481	8.40	0.3307	3-7/16	4-3/4	615539
0.45	0.0177	3/16	7/8	*615424	3.75	0.1476	1-7/8	3	615482	8.50	0.3346	3-7/16	4-3/4	615540
0.46	0.0181	3/16	7/8	*615425	3.80	0.1496	1-7/8	3	615483	8.60	0.3386	3-7/16	4-3/4	615541
0.48	0.0189	3/16	7/8	*615426	3.90	0.1535	2	3-1/8	615484	8.70	0.3425	3-7/16	4-3/4	615542
0.50	0.0197	3/16	7/8	*615427	4.00	0.1575	2-1/8	3-1/4	615485	8.75	0.3445	3-1/2	4-7/8	615543
0.55	0.0217	1/4	1	*615428	4.10	0.1614	2-1/8	3-1/4	615486	8.80	0.3465	3-1/2	4-7/8	615544
0.60	0.0236	5/16	1-1/8	*615429	4.20	0.1654	2-1/8	3-1/4	615487	8.90	0.3504	3-1/2	4-7/8	615545
0.65	0.0256	3/8	1-1/4	*615430	4.25	0.1673	2-1/8	3-1/4	615488	9.00	0.3543	3-1/2	4-7/8	615546
0.70	0.0276	3/8	1-1/4	*615431	4.30	0.1693	2-1/8	3-1/4	615489	9.10	0.3583	3-1/2	4-7/8	615547
0.75	0.0295	1/2	1-3/8	*615432	4.40	0.1732	2-3/16	3-3/8	615490	9.20	0.3622	3-5/8	5	615548
0.80	0.0315	1/2	1-3/8	*615433	4.50	0.1772	2-3/16	3-3/8	615491	9.25	0.3642	3-5/8	5	615549
0.85	0.0335	5/8	1-1/2	*615434	4.60	0.1811	2-3/16	3-3/8	615492	9.30	0.3661	3-5/8	5	615550
0.90	0.0355	5/8	1-1/2	*615435	4.70	0.1850	2-5/16	3-1/2	615493	9.40	0.3701	3-5/8	5	615551
0.95	0.0374	5/8	1-1/2	*615436	4.75	0.1870	2-5/16	3-1/2	615494	9.50	0.3740	3-5/8	5	615552
1.00	0.0394	11/16	1-5/8	*615437	4.80	0.1890	2-5/16	3-1/2	615495	9.60	0.3780	3-3/4	5-1/8	615553
1.05	0.0413	11/16	1-5/8	*615438	4.90	0.1929	2-7/16	3-5/8	615496	9.70	0.3819	3-3/4	5-1/8	615554
1.10	0.0433	3/4	1-3/4	*615439	5.00	0.1968	2-7/16	3-5/8	615497	9.75	0.3839	3-3/4	5-1/8	615555
1.15	0.0453	3/4	1-3/4	*615440	5.10	0.2008	2-7/16	3-5/8	615498	9.80	0.3858	3-3/4	5-1/8	615556
1.20	0.0472	7/8	1-7/8	*615441	5.20	0.2047	2-1/2	3-3/4	615499	9.90	0.3898	3-3/4	5-1/8	615557
1.25	0.0492	7/8	1-7/8	*615442	5.25	0.2067	2-1/2	3-3/4	615500	10.00	0.3937	3-3/4	5-1/8	615558
1.30	0.0512	7/8	1-7/8	*615443	5.30	0.2087	2-1/2	3-3/4	615501	10.10	0.3976	3-3/4	5-1/4	615559
1.35	0.0531	7/8	1-7/8	*615444	5.40	0.2126	2-1/2	3-3/4	615502	10.20	0.4016	3-7/8	5-1/4	615560
1.40	0.0551	7/8	1-7/8	*615445	5.50	0.2165	2-1/2	3-3/4	615503	10.30	0.4055	3-7/8	5-1/4	615561
1.45	0.0571	7/8	1-7/8	*615446	5.60	0.2205	2-5/8	3-7/8	615504	10.40	0.4094	3-7/8	5-1/4	615562
1.50	0.0591	7/8	1-7/8	*615447	5.70	0.2244	2-5/8	3-7/8	615505	10.50	0.4134	3-15/16	5-3/8	615563
1.55	0.0610	7/8	1-7/8	*615448	5.75	0.2264	2-5/8	3-7/8	615506	10.70	0.4213	3-15/16	5-3/8	615564
1.60	0.0630	7/8	1-7/8	*615449	5.80	0.2283	2-5/8	3-7/8	615507	10.80	0.4252	4-1/16	5-1/2	615565
1.65	0.0650	1	2	*615450	5.90	0.2323	2-5/8	3-7/8	615508	10.90	0.4291	4-1/16	5-1/2	615566
1.70	0.0669	1	2	615451	6.00	0.2362	2-3/4	4	615509	11.00	0.4331	4-1/16	5-1/2	615567
1.75	0.0689	1	2	615452	6.10	0.2402	2-3/4	4	615510	11.10	0.4370	4-1/16	5-1/2	615568
1.80	0.0709	1	2	615453	6.20	0.2441	2-3/4	4	615511	11.20	0.4409	4-3/16	5-5/8	615569
1.85	0.0728	1	2	615454	6.25	0.2461	2-3/4	4	615512	11.25	0.4429	4-3/16	5-5/8	615570
1.90	0.0748	1	2	615455	6.30	0.2480	2-3/4	4	615513	11.30	0.4449	4-3/16	5-5/8	615571
1.95	0.0768	1	2	615456	6.40	0.2520	2-7/8	4-1/8	615514	11.40	0.4488	4-3/16	5-5/8	615572
2.00	0.0787	1	2-1/8	615457	6.50	0.2559	2-7/8	4-1/8	615515	11.50	0.4528	4-3/16	5-5/8	615573

*Cobalt sizes smaller than 1.70 mm are not split point

Metric Jobber Length Drills

General Purpose – High Speed Steel – Black Oxide (continued)



• 118° point

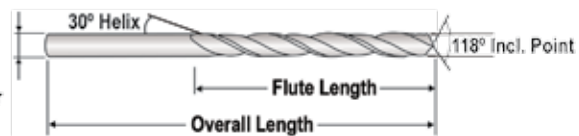
Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
11.60	0.4567	4-3/16	5-5/8	615574	12.70	0.5000	4-1/2	6	615586	15.25	0.6004	5-3/16	7-1/8	615596
11.70	0.4606	4-3/16	5-5/8	615575	12.75	0.5020	4-1/2	6	615587	15.50	0.6102	5-3/16	7-1/8	615597
11.80	0.4646	4-3/16	5-5/8	615576	12.80	0.5039	4-1/2	6	615588	16.00	0.6299	5-3/16	7-1/8	615598
11.90	0.4685	4-3/16	5-5/8	615577	12.90	0.5079	4-1/2	6	615589	16.50	0.6490	5-3/16	7-1/8	615599
12.00	0.4724	4-3/8	5-7/8	615578	13.00	0.5118	4-1/2	6	615590	17.00	0.6693	5-5/8	7-5/8	615600
12.10	0.4764	4-3/8	5-7/8	615579	13.50	0.5315	4-13/16	6-5/8	615591	17.50	0.6890	5-5/8	7-5/8	615601
12.20	0.4803	4-3/8	5-7/8	615580	13.80	0.5433	4-13/16	6-5/8	615592	18.00	0.7087	5-5/8	7-5/8	615602
12.25	0.4823	4-3/8	5-7/8	615581	14.00	0.5512	4-13/16	6-5/8	615593	19.00	0.7480	5-5/8	7-5/8	615603
12.30	0.4843	4-3/8	5-7/8	615582	14.50	0.5709	4-13/16	6-5/8	615594	19.50	0.7677	5-5/8	7-5/8	615604
12.40	0.4882	4-3/8	5-7/8	615583	15.00	0.5906	5-3/16	7-1/8	615595	20.00	0.7874	5-5/8	7-5/8	615605
12.50	0.4921	4-1/2	6	615584										
12.60	0.4961	4-1/2	6	615585										

Jobber Length Drills



Inch, Metric, Wire Gage & Letter Sizes – Solid Carbide – 118° Point

• For use on carbon steel, alloy steel, cast iron, aluminum, and mild steel



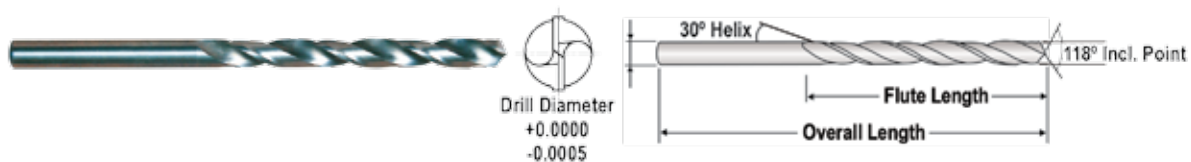
Size	Decimal Equivalent (Inch)	Flute Length	Overall Length	Code
1/32	0.0312	5/16	1-1/4	952088
1 mm	0.0394	15.9 mm	38.1 mm	952640
60	0.0400	3/4	1-1/2	952336
59	0.0410	3/4	1-1/2	952334
58	0.0420	3/4	1-1/2	952332
57	0.0430	3/4	1-1/2	952330
56	0.0465	3/4	1-1/2	952328
3/64	0.0469	3/4	1-1/2	952090
55	0.0520	3/4	1-1/2	952326
54	0.0550	3/4	1-1/2	952324
1.5 mm	0.0591	19.1 mm	38.1 mm	952642
53	0.0595	3/4	1-1/2	952322
1/16	0.0625	3/4	1-1/2	952092
52	0.0635	3/4	1-1/2	952320
51	0.0670	3/4	1-1/2	952318
50	0.0700	7/8	1-3/4	952316
49	0.0730	7/8	1-3/4	952314
48	0.0760	7/8	1-3/4	952312
5/64	0.0781	7/8	1-3/4	952094
47	0.0785	7/8	1-3/4	952310
2 mm	0.0787	22.2 mm	44.5 mm	952644
46	0.0810	7/8	1-3/4	952308
45	0.0820	1	1-3/4	952306
44	0.0860	1	2	952304
43	0.0890	1	2	952302
42	0.0935	1	2	952300
3/32	0.0938	1	2	952096
41	0.0960	1	2	952298

Size	Decimal Equivalent (Inch)	Flute Length	Overall Length	Code
40	0.0980	1	2	952296
2.5 mm	0.0984	25.4 mm	50.8 mm	952646
39	0.0995	1-1/4	2-1/4	952294
38	0.1015	1-1/4	2-1/4	952292
37	0.1040	1-1/4	2-1/4	952290
36	0.1065	1-1/4	2-1/4	952288
7/64	0.1094	1-1/4	2-1/4	952098
35	0.1100	1-1/4	2-1/4	952286
34	0.1110	1-1/4	2-1/4	952284
33	0.1130	1-1/4	2-1/4	952282
32	0.1160	1-1/4	2-1/4	952280
3 mm	0.1181	31.8 mm	57.2 mm	952648
31	0.1200	1-1/4	2-1/4	952278
1/8	0.1250	1-1/4	2-1/4	952100
30	0.1285	1-1/4	2-1/4	952276
29	0.1360	1-3/8	2-1/2	952274
3.5 mm	0.1378	34.9 mm	63.5 mm	952650
28	0.1405	1-3/8	2-1/2	952272
9/64	0.1406	1-3/8	2-1/2	952102
27	0.1440	1-3/8	2-1/2	952270
26	0.1470	1-3/8	2-1/2	952268
25	0.1495	1-3/8	2-1/2	952266
24	0.1520	1-3/8	2-1/2	952264
23	0.1540	1-3/8	2-1/2	952262
5/32	0.1563	1-3/8	2-1/2	952104
22	0.1570	1-3/8	2-1/2	952260
4 mm	0.1575	34.9 mm	63.5 mm	952652
21	0.1590	1-3/8	2-1/2	952258



Jobber Length Drills

Inch, Metric & Wire Gage Sizes – Solid Carbide – 118° Point (continued)



Size	Decimal Equivalent (Inch)	Flute Length	Overall Length	Code	Size	Decimal Equivalent (Inch)	Flute Length	Overall Length	Code
20	0.1610	1-3/8	2-1/2	952256	J	0.2770	2-1/8	3-1/2	952176
19	0.1660	1-5/8	2-3/4	952254	K	0.2810	2-1/8	3-1/2	952178
18	0.1695	1-5/8	2-3/4	952252	9/32	0.2812	2-1/8	3-1/2	952120
11/64	0.1719	1-5/8	2-3/4	952106	L	0.2900	2-1/8	3-1/2	952180
17	0.1730	1-5/8	2-3/4	952250	M	0.2950	2-3/8	3-3/4	952182
16	0.1770	1-5/8	2-3/4	952248	7.5 mm	0.2953	60.3 mm	101.6 mm	952666
4.5 mm	0.1772	41.3 mm	69.9 mm	952654	19/64	0.2969	2-3/8	3-3/4	952122
15	0.1800	1-5/8	2-3/4	952246	N	0.3020	2-3/8	3-3/4	952184
14	0.1820	1-5/8	2-3/4	952244	5/16	0.3125	2-3/8	3-3/4	952124
13	0.1850	1-5/8	2-3/4	952242	8 mm	0.3150	60.3 mm	101.6 mm	952668
3/16	0.1875	1-5/8	2-3/4	952108	O	0.3160	2-3/8	3-3/4	952186
12	0.1890	1-5/8	2-3/4	952240	P	0.3230	2-3/8	3-3/4	952188
11	0.1910	1-5/8	2-3/4	952238	21/64	0.3281	2-1/2	4	952126
10	0.1935	1-5/8	2-3/4	952236	Q	0.3320	2-1/2	4	952190
9	0.1960	1-3/4	3	952234	8.5 mm	0.3346	63.5 mm	101.6 mm	952670
5 mm	0.1969	44.5 mm	76.2 mm	952656	R	0.3390	2-1/2	4	952192
8	0.1990	1-3/4	3	952232	11/32	0.3438	2-1/2	4	952128
7	0.2010	1-3/4	3	952230	S	0.3480	2-1/2	4	952194
13/64	0.2031	1-3/4	3	952110	9 mm	0.3543	69.9 mm	108 mm	952672
6	0.2040	1-3/4	3	952228	T	0.3580	2-3/4	4-1/4	952196
5	0.2055	1-3/4	3	952226	23/64	0.3594	2-3/4	4-1/4	952130
4	0.2090	1-3/4	3	952224	U	0.3680	2-3/4	4-1/4	952198
3	0.2130	1-3/4	3	952222	9.5 mm	0.3740	69.9 mm	108 mm	952674
5.5 mm	0.2165	44.5 mm	76.2 mm	952658	3/8	0.3750	2-3/4	4-1/4	952132
7/32	0.2188	1-3/4	3	952112	V	0.3770	2-3/4	4-1/4	952200
2	0.2210	1-3/4	3	952220	W	0.3860	2-7/8	4-1/2	952202
1	0.2280	1-3/4	3	952218	25/64	0.3906	2-7/8	4-1/2	952134
A	0.2340	2	3-1/4	952158	10 mm	0.3937	73.0 mm	114.3 mm	952676
15/64	0.2344	2	3-1/4	952114	X	0.3970	2-7/8	4-1/2	952204
6 mm	0.2362	50.8 mm	82.6 mm	952660	Y	0.4040	2-7/8	4-1/2	952206
B	0.2380	2	3-1/4	952160	13/32	0.4062	2-7/8	4-1/2	952136
C	0.2420	2	3-1/4	952162	Z	0.4130	2-7/8	4-1/2	952208
D	0.2460	2	3-1/4	952164	10.5 mm	0.4134	73.0 mm	114.3 mm	952678
1/4 (E)	0.2500	2	3-1/4	952116	27/64	0.4219	2-7/8	4-1/2	952138
E	0.2500	2	3-1/4	952166	11 mm	0.4331	73.0 mm	114.3 mm	952680
6.5 mm	0.2559	50.8 mm	82.6 mm	952662	7/16	0.4375	2-7/8	4-1/2	952140
F	0.2570	2	3-1/4	952168	11.5 mm	0.4528	76.2 mm	120.7 mm	952682
G	0.2610	2-1/8	3-1/2	952170	29/64	0.4531	3	4-3/4	952142
17/64	0.2656	2-1/8	3-1/2	952118	15/32	0.4688	3	4-3/4	952144
H	0.2660	2-1/8	3-1/2	952172	12 mm	0.4724	76.2 mm	120.7 mm	952684
I	0.2720	2-1/8	3-1/2	952174	31/64	0.4844	3	4-3/4	952146
7 mm	0.2756	54.0 mm	88.9 mm	952664	1/2	0.5000	3	4-3/4	952148

NOTE: See Reference section for recommended cutting conditions for standard carbide drills

Jobber Length Drills

Inch, Metric & Wire Gage Sizes – Carbide Tipped – 118° Point



- Designed for production drilling of cast iron, non-ferrous metals, composites, plastics, and non-metals (Not normally recommended for drilling steels)
- Carbide tips are high temperature brazed to hardened high speed steel bodies
- Choose carbide tipped design when setup rigidity is difficult to maintain and where cost control is indicated and regrind life is not a significant factor

Size	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
32	0.1160	1-5/8	2-3/4	555101	15/64	0.2344	2-3/4	4	555141
31	0.1200	1-5/8	2-3/4	555102	B	0.2380	2-3/4	4	555142
1/8	0.1250	1-5/8	2-3/4	555103	C	0.2420	2-3/4	4	555143
30	0.1285	1-5/8	2-3/4	555104	D	0.2460	2-3/4	4	555144
29	0.1360	2	3-1/8	555105	1/4 & E	0.2500	2-3/4	4	555146
28	0.1405	2	3-1/8	555106	F	0.2570	2-15/16	4-1/4	555147
9/64	0.1406	2	3-1/8	555107	G	0.2610	2-15/16	4-1/4	555148
27	0.1440	2	3-1/8	555108	17/64	0.2656	2-15/16	4-1/4	555149
26	0.1470	2	3-1/8	555109	H	0.2660	2-15/16	4-1/4	555150
25	0.1495	2	3-1/8	555110	I	0.2720	2-15/16	4-1/4	555151
24	0.1520	2	3-1/8	555111	J	0.2770	2-15/16	4-1/4	555152
23	0.1540	2	3-1/8	555112	K	0.2810	2-15/16	4-1/4	555153
5/32	0.1562	2	3-1/8	555113	9/32	0.2812	2-15/16	4-1/4	555154
22	0.1570	2	3-1/8	555114	L	0.2900	3-3/16	4-1/2	555155
21	0.1590	2	3-1/8	555115	M	0.2950	3-3/16	4-1/2	555156
20	0.1610	2-5/16	3-1/2	555116	19/64	0.2969	3-3/16	4-1/2	555157
19	0.1660	2-5/16	3-1/2	555117	N	0.3020	3-3/16	4-1/2	555158
18	0.1695	2-5/16	3-1/2	555118	5/16	0.3125	3-3/16	4-1/2	555159
11/64	0.1719	2-5/16	3-1/2	555119	O	0.3160	3-3/16	4-1/2	555160
17	0.1730	2-5/16	3-1/2	555120	P	0.3230	3-7/16	4-3/4	555161
16	0.1770	2-5/16	3-1/2	555121	21/64	0.3281	3-7/16	4-3/4	555162
15	0.1800	2-5/16	3-1/2	555122	R	0.3390	3-7/16	4-3/4	555164
14	0.1820	2-5/16	3-1/2	555123	11/32	0.3438	3-7/16	4-3/4	555165
13	0.1850	2-5/16	3-1/2	555124	S	0.3480	3-5/8	5	555166
3/16	0.1875	2-5/16	3-1/2	555125	T	0.3580	3-5/8	5	555167
12	0.1890	2-5/16	3-1/2	555126	23/64	0.3594	3-5/8	5	555168
11	0.1910	2-5/16	3-1/2	555127	U	0.3680	3-5/8	5	555169
10	0.1935	2-1/2	3-3/4	555128	3/8	0.3750	3-5/8	5	555170
9	0.1960	2-1/2	3-3/4	555129	V	0.3770	3-5/8	5	555171
8	0.1990	2-1/2	3-3/4	555130	W	0.3860	3-7/8	5-1/4	555172
7	0.2010	2-1/2	3-3/4	555131	25/64	0.3906	3-7/8	5-1/4	555173
13/64	0.2031	2-1/2	3-3/4	555132	X	0.3970	3-7/8	5-1/4	555174
6	0.2040	2-1/2	3-3/4	555133	Y	0.4040	3-7/8	5-1/4	555175
5	0.2055	2-1/2	3-3/4	555134	13/32	0.4062	3-7/8	5-1/4	555176
4	0.2090	2-1/2	3-3/4	555135	Z	0.4130	4-1/16	5-1/2	555177
3	0.2130	2-1/2	3-3/4	555136	27/64	0.4219	4-1/16	5-1/2	555178
7/32	0.2188	2-1/2	3-3/4	555137	7/16	0.4375	4-1/16	5-1/2	555179
2	0.2210	2-1/2	3-3/4	555138	29/64	0.4531	4-5/16	5-3/4	555180
1	0.2280	2-3/4	4	555139	15/32	0.4688	4-5/16	5-3/4	555181
A	0.2340	2-3/4	4	555140	31/64	0.4844	4-1/2	6	555182
					1/2	0.5000	4-1/2	6	555183

Left Hand Jobber Length Drills

High Speed Steel



- 118° point
- For use in left hand spindle rotation on screw machines and drill heads
- May be used as screw extractor for drilling out broken studs or fasteners
- Sets supplied in metal indexed storage case

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
1/64	0.0156	3/16	3/4	607600	3/64	0.0469	3/4	1-3/4	607602	5/64	0.0781	1	2	751202
1/32	0.0312	1/2	1-3/8	607601	1/16	0.0625	7/8	1-7/8	751201	3/32	0.0938	1-1/4	2-1/4	751203

Left Hand Jobber Length Drills

High Speed Steel (continued)

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
7/64	0.1094	1-1/2	2-5/8	751204	17/64	0.2656	2-7/8	4-1/8	751212	25/64	0.3906	3-3/4	5-1/8	751220
1/8	0.1250	1-5/8	2-3/4	751205	9/32	0.2812	2-15/16	4-1/4	751213	13/32	0.4062	3-7/8	5-1/4	751221
9/64	0.1406	1-3/4	2-7/8	751206	19/64	0.2969	3-1/16	4-3/8	751214	27/64	0.4219	3-15/16	5-3/8	751222
5/32	0.1562	2	3-1/8	751207	5/16	0.3125	3-3/16	4-1/2	751215	7/16	0.4375	4-1/16	5-1/2	751223
11/64	0.1719	2-1/8	3-1/4	607610	21/64	0.3281	3-5/16	4-5/8	751216	29/64	0.4531	4-3/16	5-5/8	751224
3/16	0.1875	2-5/16	3-1/2	751208	11/32	0.3438	3-7/16	4-3/4	751217	15/32	0.4688	4-5/16	5-3/4	751225
13/64	0.2031	2-7/16	3-5/8	751209	23/64	0.3594	3-1/2	4-7/8	751218	31/64	0.4844	4-3/8	5-7/8	751226
7/32	0.2188	2-1/2	3-3/4	751210	3/8	0.3750	3-5/8	5	751219	1/2	0.5000	4-1/2	6	751227
15/64	0.2344	2-5/8	3-7/8	751211										
1/4	0.2500	2-3/4	4	607615										

Screw Machine Length Drills

High Speed Steel & Cobalt

General Purpose
High Speed Steel – Bright Finish



Drill Size	Shank Diameter
Up to 1"	Same as drill diameter
Over 1" to 1-1/4"	1"
Over 1-1/4" to 1-1/2"	1-1/4"
Over 1-1/2" to 2-1/2"	1-1/2"

- 118° standard point
- Popular drills in the automotive and construction industries
- Short flute and overall length provides maximum rigidity
- Often used in screw machine set-ups where spindle clearance is limited

Heavy Duty
Cobalt



- 135° split point
- Short flute length and overall length provides maximum rigidity drilling in stainless and other tough alloys, castings and forgings
- Sets supplied in metal indexed storage case

Fractional Sizes

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Bright Finish	Cobalt	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Bright Finish	Cobalt
				Code	Code					Code	Code
3/64	0.0469	1/2	1-3/8	607900	*752771	27/64	0.4219	2	3-3/8	752408	752783
1/16	0.0625	5/8	1-5/8	752308	752708	7/16	0.4375	2-1/16	3-7/16	752409	752784
5/64	0.0781	11/16	1-11/16	752314	752714	29/64	0.4531	2-1/8	3-9/16	752410	752785
3/32	0.0938	3/4	1-3/4	752321	752721	15/32	0.4688	2-1/8	3-5/8	752411	752786
7/64	0.1094	13/16	1-13/16	752328	752728	31/64	0.4844	2-3/16	3-11/16	752412	752787
1/8	0.1250	7/8	1-7/8	752334	752734	1/2	0.5000	2-1/4	3-3/4	752413	752788
9/64	0.1406	15/16	1-15/16	752338	752738	33/64	0.5156	2-3/8	3-7/8	607930	608480
5/32	0.1562	1	2-1/16	752344	752744	17/32	0.5312	2-3/8	3-7/8	607931	608481
11/64	0.1719	1-1/16	2-1/8	752350	752750	35/64	0.5469	2-1/2	4	607932	608482
3/16	0.1875	1-1/8	2-3/16	752356	752756	9/16	0.5625	2-1/2	4	607933	608483
13/64	0.2031	1-3/16	2-1/4	752363	752763	37/64	0.5781	2-5/8	4-1/8	607934	608484
7/32	0.2188	1-1/4	2-3/8	752368	752768	19/32	0.5938	2-5/8	4-1/8	607935	608485
15/64	0.2344	1-5/16	2-7/16	752372	752771	39/64	0.6094	2-3/4	4-1/4	607936	608486
1/4	0.2500	1-3/8	2-1/2	752376	752772	5/8	0.6250	2-3/4	4-1/4	607937	608487
17/64	0.2656	1-7/16	2-5/8	752379	752773	41/64	0.6406	2-7/8	4-1/2	607938	608488
9/32	0.2812	1-1/2	2-11/16	752384	752774	21/32	0.6562	2-7/8	4-1/2	607939	608489
19/64	0.2969	1-9/16	2-3/4	752387	752775	43/64	0.6719	2-7/8	4-5/8	607940	608490
5/16	0.3125	1-5/8	2-13/16	752389	752776	11/16	0.6875	2-7/8	4-5/8	607941	608491
21/64	0.3281	1-11/16	2-15/16	752392	752777	45/64	0.7031	3	4-3/4	607942	608492
11/32	0.3438	1-11/16	3	752395	752778	23/32	0.7188	3	4-3/4	607943	608493
23/64	0.3594	1-3/4	3-1/16	752398	752779	47/64	0.7344	3-1/8	5	607944	608494
3/8	0.3750	1-13/16	3-1/8	752400	752780	3/4	0.7500	3-1/8	5	607945	608495
25/64	0.3906	1-7/8	3-1/4	752403	752781	49/64	0.7656	3-1/4	5-1/8	607946	608496
13/32	0.4062	1-15/16	3-5/16	752406	752782	25/32	0.7812	3-1/4	5-1/8	607947	608497

*Cobalt sizes under 1/16" are **not** split point

Screw Machine Length Drills

High Speed Steel & Cobalt



Fractional Sizes (continued)

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Bright Finish	Cobalt	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Bright Finish	Cobalt
				Code	Code					Code	Code
51/64	0.7969	3-3/8	5-1/4	607948	608498	59/64	0.9219	3-3/4	5-3/4	607956	608506
13/16	0.8125	3-3/8	5-1/4	607949	608499	15/16	0.9375	3-3/4	5-3/4	607957	608507
53/64	0.8281	3-1/2	5-3/8	607950	608500	61/64	0.9531	3-7/8	5-7/8	607958	608508
27/32	0.8438	3-1/2	5-3/8	607951	608501	31/32	0.9688	3-7/8	5-7/8	607959	608509
55/64	0.8594	3-1/2	5-1/2	607952	608502	63/64	0.9844	4	6	607960	608510
7/8	0.8750	3-1/2	5-1/2	607953	608503	1	1.0000	4	6	607961	608016
57/64	0.8906	3-5/8	5-5/8	607954	608504	1-3/8	1.3750	4-1/2	7-1/8	-	608017
29/32	0.9062	3-5/8	5-5/8	607955	608505						

NOTE: Sizes over 1/2" furnished with notched point

Letter Sizes

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Bright Finish	Cobalt	Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Bright Finish	Cobalt
				Code	Code					Code	Code
A	0.2340	1-5/16	2-7/16	752371	608511	O	0.3160	1-11/16	2-15/16	752390	608524
B	0.2380	1-3/8	2-1/2	752373	608512	P	0.3230	1-11/16	2-15/16	752391	608525
C	0.2420	1-3/8	2-1/2	752374	608513	Q	0.3320	1-11/16	3	752393	608526
D	0.2460	1-3/8	2-1/2	752375	608514	R	0.3390	1-11/16	3	752394	608527
E	0.2500	1-3/8	2-1/2	752376	752772	S	0.3480	1-3/4	3-1/16	752396	608528
F	0.2570	1-7/16	2-5/8	752377	608515	T	0.3580	1-3/4	3-1/16	752397	608529
G	0.2610	1-7/16	2-5/8	752378	608516	U	0.3680	1-13/16	3-1/8	752399	608530
H	0.2660	1-1/2	2-11/16	752380	608517	V	0.3770	1-7/8	3-1/4	752401	608531
I	0.2720	1-1/2	2-11/16	752381	608518	W	0.3860	1-7/8	3-1/4	752402	608532
J	0.2770	1-1/2	2-11/16	752382	608519	X	0.3970	1-15/16	3-5/16	752404	608533
K	0.2810	1-1/2	2-11/16	752383	608520	Y	0.4040	1-15/16	3-5/16	752405	608534
L	0.2900	1-9/16	2-3/4	752385	608521	Z	0.4130	2	3-3/8	752407	608535
M	0.2950	1-9/16	2-3/4	752386	608522						
N	0.3020	1-5/8	2-13/16	752388	608523						

Wire Gage Sizes

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Bright Finish	Cobalt	Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Bright Finish	Cobalt
				Code	Code					Code	Code
1	0.2280	1-5/16	2-7/16	752370	752770	17	0.1730	1-1/8	2-3/16	752351	752751
2	0.2210	1-5/16	2-7/16	752369	752769	18	0.1695	1-1/16	2-1/8	752349	752749
3	0.2130	1-1/4	2-3/8	752367	752767	19	0.1660	1-1/16	2-1/8	752348	752748
4	0.2090	1-1/4	2-3/8	752366	752766	20	0.1610	1-1/16	2-1/8	752347	752747
5	0.2055	1-1/4	2-3/8	752365	752765	21	0.1590	1-1/16	2-1/8	752346	752746
6	0.2040	1-1/4	2-3/8	752364	752764	22	0.1570	1-1/16	2-1/8	752345	752745
7	0.2010	1-3/16	2-1/4	752362	752762	23	0.1540	1	2-1/16	752343	752743
8	0.1990	1-3/16	2-1/4	752361	752761	24	0.1520	1	2-1/16	752342	752742
9	0.1960	1-3/16	2-1/4	752360	752760	25	0.1495	1	2-1/16	752341	752741
10	0.1935	1-3/16	2-1/4	752359	752759	26	0.1470	1	2-1/16	752340	752740
11	0.1910	1-3/16	2-1/4	752358	752758	27	0.1440	1	2-1/16	752339	752737
12	0.1890	1-3/16	2-1/4	752357	752757	28	0.1405	15/16	1-15/16	752337	752737
13	0.1850	1-1/8	2-3/16	752355	752755	29	0.1360	15/16	1-15/16	752336	752736
14	0.1820	1-1/8	2-3/16	752354	752754	30	0.1285	15/16	1-15/16	752335	752735
15	0.1800	1-1/8	2-3/16	752353	752753	31	0.1200	7/8	1-7/8	752333	752733
16	0.1770	1-1/8	2-3/16	752352	752752	32	0.1160	7/8	1-7/8	752332	752732

Screw Machine Length Drills

High Speed Steel & Cobalt



Wire Gage Sizes (continued)

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Bright Finish	Cobalt	Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Bright Finish	Cobalt
				Code	Code					Code	Code
33	0.1130	7/8	1-7/8	752331	752731	47	0.0785	3/4	1-3/4	752315	752715
34	0.1110	7/8	1-7/8	752330	752730	48	0.0760	11/16	1-11/16	752313	752713
35	0.1100	7/8	1-7/8	752329	752729	49	0.0730	11/16	1-11/16	752312	752712
36	0.1065	13/16	1-13/16	752327	752727	50	0.0700	11/16	1-11/16	752311	752711
37	0.1040	13/16	1-13/16	752326	752726	51	0.0670	11/16	1-11/16	752310	752710
38	0.1015	13/16	1-13/16	752325	752725	52	0.0635	11/16	1-11/16	752309	752709
39	0.0995	13/16	1-13/16	752324	752724	53	0.0595	5/8	1-5/8	752307	* 752707
40	0.0980	13/16	1-13/16	752323	752723	54	0.0550	5/8	1-5/8	752306	* 752706
41	0.0960	13/16	1-13/16	752322	752722	55	0.0520	5/8	1-5/8	752305	* 752705
42	0.0935	3/4	1-3/4	752320	752720	56	0.0465	1/2	1-3/8	752304	* 752704
43	0.0890	3/4	1-3/4	752319	752719	57	0.0430	1/2	1-3/8	752303	* 752703
44	0.0860	3/4	1-3/4	752318	752718	58	0.0420	1/2	1-3/8	752302	* 752702
45	0.0820	3/4	1-3/4	752317	752717	59	0.0410	1/2	1-3/8	752301	* 752701
46	0.0810	3/4	1-3/4	752316	752716	60	0.0400	1/2	1-3/8	752300	* 752700

*Cobalt sizes 53 to 60 are not split point

Metric Screw Machine Length Drills

Heavy Duty – Cobalt



• 135° split point

Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
1.00	0.0394	1/2	1-3/8	*608596	4.20	0.1654	7/8	2-5/32	608610	7.90	0.3110	1-15/32	3-1/8	608624
1.40	0.0551	1/2	1-3/8	*608597	4.30	0.1693	15/16	2-9/32	608611	8.00	0.3150	1-15/32	3-1/8	608625
1.50	0.0591	1/2	1-3/8	*608598	4.40	0.1732	15/16	2-9/32	608612	8.20	0.3228	1-15/32	3-1/8	608626
1.70	0.0669	7/16	1-3/8	608599	4.50	0.1772	15/16	2-9/32	608613	8.40	0.3307	1-15/32	3-1/8	608627
1.75	0.0689	7/16	1-7/16	608600	5.00	0.1969	1-1/32	2-7/16	608614	8.50	0.3346	1-15/32	3-1/8	608628
2.00	0.0787	15/32	1-1/2	608601	5.40	0.2126	1-3/32	2-19/32	608615	9.00	0.3543	1-9/16	3-5/16	608629
2.05	0.0807	15/32	1-1/2	608602	5.80	0.2283	1-3/32	2-19/32	608616	9.10	0.3583	1-9/16	3-5/16	608630
2.50	0.0984	1/2	1-9/16	608603	6.00	0.2362	1-3/32	2-19/32	608617	9.90	0.3898	1-11/16	3-1/2	608631
2.70	0.1063	5/8	1-13/16	608604	6.50	0.2559	1-7/32	2-3/4	608618	10.00	0.3937	1-11/16	3-1/2	608632
2.80	0.1102	5/8	1-13/16	608605	7.00	0.2756	1-11/32	2-29/32	608619	10.50	0.4134	1-11/16	3-1/2	608633
3.00	0.1181	5/8	1-13/16	608606	7.10	0.2795	1-11/32	2-29/32	608620	11.50	0.4528	1-7/8	3-3/4	608634
3.20	0.1260	23/32	1-13/16	608607	7.40	0.2913	1-11/32	2-29/32	608621	11.80	0.4646	1-7/8	3-3/4	608635
3.50	0.1378	25/32	2-1/16	608608	7.50	0.2953	1-11/32	2-29/32	608622	12.20	0.4803	2-1/64	4-1/64	608636
4.00	0.1575	7/8	2-5/32	608609	7.60	0.2992	1-15/32	3-1/8	608623	12.50	0.4921	2-1/64	4-1/64	608637

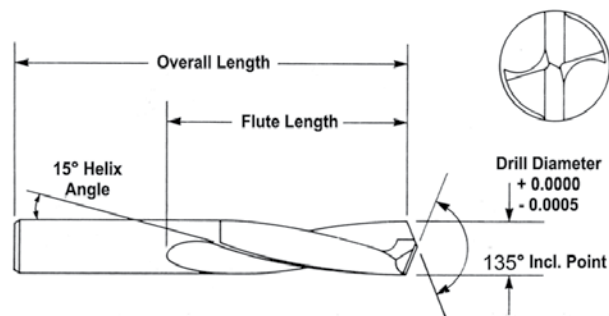
*Cobalt sizes 1.00mm to 1.50mm are not split point

Screw Machine Length Drills

Inch, Metric, Wire Gage & Letter Sizes – Solid Carbide – 135° Split Point



- For use on work hardening and gummy materials, titanium, inconel, cast iron, and stainless steel



Size	Decimal Equivalent (Inch)	Flute Length	Overall Length	Code
60	0.0400	3/8	1-1/2	952630
59	0.0410	3/8	1-1/2	952628
58	0.0420	3/8	1-1/2	952626
57	0.0430	3/8	1-1/2	952624
56	0.0465	3/8	1-1/2	952622
55	0.0520	3/8	1-1/2	952620
54	0.0550	3/8	1-1/2	952618
1.5 mm	0.0591	9.5 mm	38.1 mm	952702
53	0.0595	3/8	1-1/2	952616
1/16	0.0625	3/8	1-1/2	952386
52	0.0635	3/8	1-1/2	952614
51	0.0670	3/8	1-1/2	952612
50	0.0700	3/8	1-1/2	952610
49	0.0730	3/8	1-1/2	952608
48	0.0760	1/2	1-1/2	952606
5/64	0.0781	1/2	1-1/2	952388
47	0.0785	1/2	1-1/2	952604
2 mm	0.0787	12.7 mm	38.1 mm	952704
46	0.0810	1/2	1-1/2	952602
45	0.0820	1/2	1-1/2	952600
44	0.0860	1/2	2	952598
43	0.0890	1/2	2	952596
42	0.0935	1/2	2	952594
3/32	0.0938	1/2	2	952390
41	0.0960	1/2	2	952592
40	0.0980	5/8	2	952590
2.5 mm	0.0984	15.9 mm	50.8 mm	952706
39	0.0995	5/8	2	952588
38	0.1015	5/8	2	952586
37	0.1040	5/8	2	952584
36	0.1065	5/8	2	952582
7/64	0.1094	5/8	2	952392
35	0.1100	5/8	2	952580
34	0.1110	5/8	2	952578
33	0.1130	5/8	2	952576
32	0.1160	5/8	2	952574
3 mm	0.1181	15.9 mm	50.8 mm	952708
31	0.1200	5/8	2	952572
1/8	0.1250	5/8	2	952394
30	0.1285	5/8	2	952570
29	0.1360	5/8	2	952568
3.5 mm	0.1378	15.9 mm	50.8 mm	952710
28	0.1405	5/8	2	952566
9/64	0.1406	5/8	2	952396
27	0.1440	5/8	2	952564
26	0.1470	5/8	2	952562
25	0.1495	5/8	2	952560
24	0.1520	5/8	2	952558

Size	Decimal Equivalent (Inch)	Flute Length	Overall Length	Code
23	0.1540	5/8	2	952556
5/32	0.1563	3/4	2	952398
22	0.1570	3/4	2	952554
4 mm	0.1575	19.1 mm	50.8 mm	952712
21	0.1590	3/4	2	952552
20	0.1610	3/4	2	952550
19	0.1660	3/4	2-1/8	952548
18	0.1695	3/4	2-1/8	952546
11/64	0.1719	3/4	2-1/8	952400
17	0.1730	3/4	2-1/8	952544
16	0.1770	3/4	2-1/8	952542
4.5 mm	0.1772	19.1 mm	54 mm	952714
15	0.1800	3/4	2-3/16	952540
14	0.1820	3/4	2-3/16	952538
13	0.1850	3/4	2-3/16	952536
3/16	0.1875	3/4	2-3/16	952402
12	0.1890	3/4	2-3/16	952534
11	0.1910	3/4	2-3/16	952532
10	0.1935	3/4	2-3/16	952530
9	0.1960	3/4	2-1/4	952528
5 mm	0.1969	19.1 mm	57.2 mm	952716
8	0.1990	3/4	2-1/4	952526
7	0.2010	3/4	2-1/4	952524
13/64	0.2031	3/4	2-1/4	952404
6	0.2040	3/4	2-1/4	952522
5	0.2055	3/4	2-1/4	952520
4	0.2090	3/4	2-1/4	952518
3	0.2130	1	2-1/2	952516
5.5 mm	0.2165	25.4 mm	63.5 mm	952718
7/32	0.2188	1	2-1/2	952406
2	0.2210	1	2-1/2	952514
1	0.2280	1	2-1/2	952512
A	0.2340	1	2-1/2	952452
15/64	0.2344	1	2-1/2	952408
6 mm	0.2362	5.4 mm	63.5 mm	952720
B	0.2380	1	2-1/2	952454
C	0.2420	1	2-1/2	952456
D	0.2460	1	2-1/2	952458
1/4 (E)	0.2500	1	2-1/2	952410
E	0.2500	1	2-1/2	952460
6.5 mm	0.2559	25.4 mm	63.5 mm	952722
F	0.2570	1	2-1/2	952462
G	0.2610	1	2-1/2	952464
17/64	0.2656	1	2-1/2	952412
H	0.2660	1	2-1/2	952466
I	0.2720	1	2-1/2	952468
7 mm	0.2756	25.4 mm	63.5 mm	952724
J	0.2770	1	2-1/2	952470

Screw Machine Length Drills

Inch, Metric, Wire Gage & Letter Sizes – Solid Carbide – 135° Split Point (continued)

Size	Decimal Equivalent (Inch)	Flute Length	Overall Length	Code	Size	Decimal Equivalent (Inch)	Flute Length	Overall Length	Code
K	0.2810	1	2-1/2	952472	U	0.3680	1-1/4	2-1/2	952492
9/32	0.2813	1	2-1/2	952414	9.5 mm	0.3740	31.8 mm	63.5 mm	952734
L	0.2900	1	2-1/2	952474	3/8	0.3750	1-1/4	2-1/2	952426
M	0.2950	1-1/4	2-1/2	952476	V	0.3770	1-1/4	2-1/2	952494
7.5 mm	0.2953	31.8 mm	63.5 mm	952726	W	0.3860	1-1/4	2-3/4	952496
19/64	0.2969	1-1/4	2-1/2	952416	25/64	0.3906	1-1/4	2-3/4	952428
N	0.3020	1-1/4	2-1/2	952478	10 mm	0.3937	31.8 mm	69.9 mm	952736
5/16	0.3125	1-1/4	2-1/2	952418	X	0.3970	1-1/4	2-3/4	952498
8 mm	0.3150	31.8 mm	63.5 mm	952728	Y	0.4040	1-1/4	2-3/4	952500
O	0.3160	1-1/4	2-1/2	952480	13/32	0.4063	1-1/4	2-3/4	952430
P	0.3230	1-1/4	2-1/2	952482	Z	0.4130	1-1/4	2-3/4	952502
21/64	0.3281	1-1/4	2-1/2	952420	10.5 mm	0.4134	31.8 mm	69.9 mm	952738
Q	0.3320	1-1/4	2-1/2	952484	27/64	0.4219	1-1/4	2-3/4	952432
8.5 mm	0.3346	31.8 mm	63.5 mm	952730	11 mm	0.4331	31.8 mm	69.9 mm	952740
R	0.3390	1-1/4	2-1/2	952486	7/16	0.4375	1-1/4	2-3/4	952434
11/32	0.3438	1-1/4	2-1/2	952422	11.5 mm	0.4528	31.8 mm	76.2 mm	952742
S	0.3480	1-1/4	2-1/2	952488	29/64	0.4531	1-1/4	3	952436
9 mm	0.3543	31.8 mm	63.5 mm	952732	15/32	0.4688	1-1/4	3	952438
T	0.3580	1-1/4	2-1/2	952490	12 mm	0.4724	31.8 mm	76.2 mm	952744
23/64	0.3594	1-1/4	2-1/2	952424	31/64	0.4844	1-1/4	3	952440
					1/2	0.5000	1-1/4	3	952442

Taper Length Drills

High Speed Steel & Cobalt

General Purpose
High Speed Steel – Black Oxide



- 118° point for general purpose applications
- Used where a longer overall length and flute length are required
- Used in production drilling, they have the same flute length as taper shank drills
- Sets supplied in metal indexed storage case

Heavy Duty
Super Cobalt – Bronze Finish



- 135° split point, super cobalt, heavy duty for stainless steel and other tough alloy steels, castings, and forgings
- Used where a longer overall length and flute length are required
- Used in production drilling, they have the same flute length as taper shank drills
- Sets supplied in metal indexed storage case

Fractional Sizes

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Black Oxide	Super Cobalt	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Black Oxide	Super Cobalt
				Code	Code					Code	Code
1/64	0.0156	5/16	1-1/2	609100	609500	13/64	0.2031	3-5/8	6	752864	609512
1/32	0.0312	3/4	2	609101	609501	7/32	0.2188	3-5/8	6	752869	609513
3/64	0.0469	1-1/8	2-1/4	752805	609502	15/64	0.2344	3-3/4	6-1/8	752873	609514
1/16	0.0625	1-3/4	3	752809	609503	1/4	0.2500	3-3/4	6-1/8	752877	609515
5/64	0.0781	2	3-3/4	752815	609504	17/64	0.2656	3-7/8	6-1/4	752880	609516
3/32	0.0938	2-1/4	4-1/4	752822	609505	9/32	0.2812	3-7/8	6-1/4	752885	609517
7/64	0.1094	2-1/2	4-5/8	752829	609506	19/64	0.2969	4	6-3/8	752888	609518
1/8	0.1250	2-3/4	5-1/8	752835	609507	5/16	0.3125	4	6-3/8	752890	609519
9/64	0.1406	3	5-3/8	752839	609508	21/64	0.3281	4-1/8	6-1/2	752893	609520
5/32	0.1562	3	5-3/8	752845	609509	11/32	0.3438	4-1/8	6-1/2	752896	609521
11/64	0.1719	3-3/8	5-3/4	752851	609510	23/64	0.3594	4-1/4	6-3/4	752899	609522
3/16	0.1875	3-3/8	5-3/4	752857	609511	3/8	0.3750	4-1/4	6-3/4	752901	609523

Taper Length Drills

High Speed Steel & Cobalt



Fractional Sizes (continued)

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Black Oxide	Super Cobalt	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	HSS Black Oxide	Super Cobalt
				Code	Code					Code	Code
25/64	0.3906	4-3/8	7	752904	609524	61/64	0.9531	6-3/8	11	752943	609560
13/32	0.4062	4-3/8	7	752907	609525	31/32	0.9688	6-3/8	11	752944	609561
27/64	0.4219	4-5/8	7-1/4	752909	609526	63/64	0.9844	6-3/8	11	752945	609562
7/16	0.4375	4-5/8	7-1/4	752910	609527	1	1.0000	6-3/8	11	752946	609563
29/64	0.4531	4-3/4	7-1/2	752911	609528	1-1/64	1.0156	6-1/2	11-1/8	752947	-
15/32	0.4688	4-3/4	7-1/2	752912	609529	1-1/32	1.0312	6-1/2	11-1/8	752948	-
31/64	0.4844	4-3/4	7-3/4	752913	609530	1-3/64	1.0469	6-5/8	11-1/4	752949	-
1/2	0.5000	4-3/4	7-3/4	752914	609531	1-1/16	1.0625	6-5/8	11-1/4	752950	-
33/64	0.5156	4-3/4	8	752915	609532	1-5/64	1.0781	6-7/8	11-1/2	752951	-
17/32	0.5312	4-3/4	8	752916	609533	1-3/32	1.0938	6-7/8	11-1/2	752952	-
35/64	0.5469	4-7/8	8-1/4	752917	609534	1-7/64	1.1094	7-1/8	11-3/4	752953	-
9/16	0.5625	4-7/8	8-1/4	752918	609535	1-1/8	1.1250	7-1/8	11-3/4	752954	-
37/64	0.5781	4-7/8	8-3/4	752919	609536	1-9/64	1.1406	7-1/4	11-7/8	752955	-
19/32	0.5938	4-7/8	8-3/4	752920	609537	1-5/32	1.1562	7-1/4	11-7/8	752956	-
39/64	0.6094	4-7/8	8-3/4	752921	609538	1-11/64	1.1719	7-3/8	12	752957	-
5/8	0.6250	4-7/8	8-3/4	752922	609539	1-3/16	1.1875	7-3/8	12	752958	-
41/64	0.6406	5-1/8	9	752923	609540	1-13/64	1.2031	7-1/2	12-1/8	752959	-
21/32	0.6562	5-1/8	9	752924	609541	1-7/32	1.2188	7-1/2	12-1/8	752960	-
43/64	0.6719	5-3/8	9-1/4	752924	609542	1-15/64	1.2344	7-7/8	12-1/2	752961	-
11/16	0.6875	5-3/8	9-1/4	752926	609543	1-1/4	1.2500	7-7/8	12-1/2	752962	-
45/64	0.7031	5-5/8	9-1/2	752927	609544	1-9/32	1.2812	8-1/2	14-1/8	752963	-
23/32	0.7188	5-5/8	9-1/2	752928	609545	1-5/16	1.3125	8-5/8	14-1/4	752964	-
47/64	0.7344	5-7/8	9-3/4	752929	609546	1-11/32	1.3438	8-3/4	14-3/8	752965	-
3/4	0.7500	5-7/8	9-3/4	752930	609547	1-3/8	1.3750	8-7/8	14-1/2	752966	-
49/64	0.7656	6	9-7/8	752931	609548	1-13/32	1.4062	9	14-5/8	752967	-
25/32	0.7812	6	9-7/8	752932	609549	1-7/16	1.4375	9-1/8	14-3/4	752968	-
51/64	0.7969	6-1/8	10	752933	609550	1-15/32	1.4688	9-1/4	14-7/8	752969	-
13/16	0.8125	6-1/8	10	752934	609551	1-1/2	1.5000	9-3/8	15	752970	-
53/64	0.8281	6-1/8	10	752935	609552	1-9/16	1.5625	9-5/8	15-1/4	752971	-
27/32	0.8438	6-1/8	10	752936	609553	1-5/8	1.6250	9-7/8	15-5/8	752972	-
55/64	0.8594	6-1/8	10	752937	609554	1-11/16	1.6875	10-1/8	16	609190	-
7/8	0.8750	6-1/8	10	752938	609555	1-3/4	1.7500	10-1/2	16-1/4	752973	-
57/64	0.8906	6-1/8	10	752939	609556	1-13/16	1.8125	10-1/2	16-1/4	609192	-
29/32	0.9062	6-1/8	10	752940	609557	1-7/8	1.8700	10-5/8	16-1/4	609193	-
59/64	0.9219	6-1/8	10-3/4	752941	609558	1-15/16	1.9375	10-3/4	16-5/8	609194	-
15/16	0.9375	6-1/8	10-3/4	752942	609559	2	2.0000	10-3/4	17-1/4	609195	-

NOTE: Sizes over 1/2" furnished with notched point

Wire Gage Sizes

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	High Speed Steel Bright Finish	Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	High Speed Steel Bright Finish
				Code					Code
1	0.2280	3-3/4	6-1/8	752871	13	0.1850	3-3/8	5-3/4	752858
2	0.2210	3-3/4	6-1/8	752870	14	0.1820	3-3/8	5-3/4	752855
3	0.2130	3-5/8	6	752868	15	0.1800	3-3/8	5-3/4	752854
4	0.2090	3-5/8	6	752867	16	0.1770	3-3/8	5-3/4	752853
5	0.2055	3-5/8	6	752866	17	0.1730	3-3/8	5-3/4	752852
6	0.2040	3-5/8	6	752865	18	0.1695	3-3/8	5-3/4	752850
7	0.2010	3-5/8	6	752863	19	0.1660	3-3/8	5-3/4	752849
8	0.1990	3-5/8	6	752862	20	0.1610	3-3/8	5-3/4	752848
9	0.1960	3-5/8	6	752861	21	0.1590	3-3/8	5-3/4	752847
10	0.1935	3-5/8	6	752860	22	0.1570	3-3/8	5-3/4	752846
11	0.1910	3-5/8	6	752859	23	0.1540	3	5-3/8	752844
12	0.1890	3-5/8	6	752858	24	0.1520	2	5-3/8	752843

Taper Length Drills

High Speed Steel & Cobalt



Wire Gage Sizes (continued)

Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	High Speed Steel Bright Finish	Size	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	High Speed Steel Bright Finish
				Code					Code
25	0.1495	2	5-3/8	752842	53	0.0595	1-3/4	3	752808
26	0.1470	2	5-3/8	752841	54	0.0550	1-3/4	3	752807
27	0.1440	2	5-3/8	752840	55	0.0520	1-3/4	3	752806
28	0.1405	2	5-3/8	752838	56	0.0465	1-1/8	2-1/4	752804
29	0.1360	2	5-3/8	752837	57	0.0430	1-1/8	2-1/4	752803
30	0.1285	2	5-3/8	752836	58	0.0420	1-1/8	2-1/4	752802
31	0.1200	2-3/4	5-1/8	752834	59	0.0410	1-1/8	2-1/4	752801
32	0.1160	2-3/4	5-1/8	752833	60	0.0400	1-1/8	2-1/4	752800
33	0.1130	2-3/4	5-1/8	752832	61	0.0390	1-1/8	2-1/4	609256
34	0.1110	2-3/4	5-1/8	752831	62	0.0380	3/4	2	609257
35	0.1100	2-3/4	5-1/8	752830	63	0.0370	3/4	2	609258
36	0.1065	2-1/2	4-5/8	752828	64	0.0360	3/4	2	609259
37	0.1040	2-1/2	4-5/8	752827	65	0.0350	3/4	2	609260
38	0.1015	2-1/2	4-5/8	752826	66	0.0330	3/4	2	609261
39	0.0995	2-1/2	4-5/8	752825	67	0.0320	3/4	2	609262
40	0.0980	2-1/2	4-5/8	752824	68	0.0310	3/4	2	609263
41	0.0960	2-1/2	4-5/8	752823	69	0.0292	3/4	2	609264
42	0.0935	2-1/4	4-1/4	752821	70	0.0280	3/4	2	609265
43	0.0890	2-1/4	4-1/4	752820	71	0.0260	3/4	2	609266
44	0.0860	2-1/4	4-1/4	752819	72	0.0250	5/16	1-1/2	609267
45	0.0820	2-1/4	4-1/4	752818	73	0.0240	5/16	1-1/2	609268
46	0.0810	2-1/4	4-1/4	752817	74	0.0225	5/16	1-1/2	609269
47	0.0785	2-1/4	4-1/4	752816	75	0.0210	5/16	1-1/2	609270
48	0.0760	2	3-3/4	752814	76	0.0200	5/16	1-1/2	609271
49	0.0730	2	3-3/4	752813	77	0.0180	5/16	1-1/2	609272
50	0.0700	2	3-3/4	752812	78	0.0160	5/16	1-1/2	609273
51	0.0670	2	3-3/4	752811	79	0.0145	5/16	1-1/2	609274
52	0.0635	2	3-3/4	752810	80	0.0135	5/16	1-1/2	609275

Metric Taper Length Drills

General Purpose – High Speed Steel



- 118° point
- Longer flute and overall length than jobber length drills

Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
1.00	0.0394	1-1/8	2-1/4	609301	1.60	0.0630	2	3-3/4	609313	2.20	0.0866	2-1/4	4-1/4	609325
1.05	0.0413	1-1/8	2-1/4	609302	1.65	0.0650	2	3-3/4	609314	2.25	0.0886	2-1/4	4-1/4	609326
1.10	0.0433	1-1/8	2-1/4	609303	1.70	0.0669	2	3-3/4	609315	2.30	0.0906	2-1/4	4-1/4	609327
1.15	0.0453	1-1/8	2-1/4	609304	1.75	0.0689	2	3-3/4	609316	2.35	0.0925	2-1/4	4-1/4	609328
1.20	0.0472	1-3/4	3	609305	1.80	0.0709	2	3-3/4	609317	2.40	0.0945	2-1/2	4-5/8	609329
1.25	0.0492	1-3/4	3	609306	1.85	0.0728	2	3-3/4	609318	2.45	0.0965	2-1/2	4-5/8	609330
1.30	0.0512	1-3/4	3	609307	1.90	0.0748	2	3-3/4	609319	2.50	0.0984	2-1/2	4-5/8	609331
1.35	0.0531	1-3/4	3	609308	1.95	0.0768	2	3-3/4	609320	2.60	0.1024	2-1/2	4-5/8	609332
1.40	0.0551	1-3/4	3	609309	2.00	0.0787	2-1/4	4-1/4	609321	2.70	0.1063	2-1/2	4-5/8	609333
1.45	0.0571	1-3/4	3	609310	2.05	0.0807	2-1/4	4-1/4	609322	2.80	0.1102	2-3/4	5-1/8	609334
1.50	0.0591	1-3/4	3	609311	2.10	0.0827	2-1/4	4-1/4	609323	2.90	0.1142	2-3/4	5-1/8	609335
1.55	0.0610	1-3/4	3	609312	2.15	0.0846	2-1/4	4-1/4	609324	3.00	0.1181	2-3/4	5-1/8	609336

Metric Taper Length Drills

General Purpose – High Speed Steel *(continued)*



Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
3.10	0.1220	2-3/4	5-1/8	609337	8.20	0.3228	4-1/8	6-1/2	609378	18.50	0.7283	5-7/8	9-3/4	609418
3.20	0.1260	3	5-3/8	609338	8.50	0.3346	4-1/8	6-1/2	609379	19.00	0.7480	5-7/8	9-3/4	609419
3.30	0.1299	3	5-3/8	609339	8.80	0.3465	4-1/4	6-3/4	609380	19.50	0.7677	6	9-7/8	609420
3.40	0.1339	3	5-3/8	609340	9.00	0.3543	4-1/4	6-3/4	609381	20.00	0.7874	6-1/8	10	609421
3.50	0.1378	3	5-3/8	609341	9.20	0.3622	4-1/4	6-3/4	609382	20.50	0.8071	6-1/8	10	609422
3.60	0.1417	3	5-3/8	609342	9.50	0.3740	4-1/4	6-3/4	609383	21.00	0.8268	6-1/8	10	609423
3.70	0.1457	3	5-3/8	609343	9.80	0.3858	4-3/8	7	609384	21.50	0.8465	6-1/8	10	609424
3.80	0.1496	3	5-3/8	609344	10.00	0.3937	4-3/8	7	609385	22.00	0.8661	6-1/8	10	609425
3.90	0.1535	3	5-3/8	609345	10.20	0.4016	4-3/8	7	609386	22.50	0.8858	6-1/8	10	609426
4.00	0.1575	3-3/8	5-3/4	609346	10.50	0.4134	4-5/8	7-1/4	609387	23.00	0.9055	6-1/8	10	609427
4.10	0.1614	3-3/8	5-3/4	609347	10.80	0.4252	4-5/8	7-1/4	609388	23.50	0.9252	6-1/8	10-3/4	609428
4.20	0.1654	3-3/8	5-3/4	609348	11.00	0.4331	4-5/8	7-1/4	609389	24.00	0.9449	6-3/8	11	609429
4.30	0.1693	3-3/8	5-3/4	609349	11.20	0.4409	4-3/4	7-1/2	609390	24.50	0.9646	6-3/8	11	609430
4.40	0.1732	3-3/8	5-3/4	609350	11.50	0.4528	4-3/4	7-1/2	609391	25.00	0.9843	6-3/8	11	609431
4.50	0.1772	3-3/8	5-3/4	609351	11.80	0.4646	4-3/4	7-1/2	609392	25.50	1.0039	6-1/2	11-1/8	609457
4.60	0.1811	3-3/8	5-3/4	609352	12.00	0.4724	4-3/4	7-3/4	609393	26.00	1.0236	6-1/2	11-1/8	609432
4.70	0.1850	3-3/8	5-3/4	609353	12.20	0.4803	4-3/4	7-3/4	609394	26.50	1.0433	6-5/8	11-1/4	609433
4.80	0.1890	3-5/8	6	609354	12.50	0.4921	4-3/4	7-3/4	609395	27.00	1.0630	6-5/8	11-1/4	609434
4.90	0.1929	3-5/8	6	609355	12.80	0.5039	4-3/4	8	609396	27.50	1.0827	6-7/8	11-1/2	609435
5.00	0.1968	3-5/8	6	609356	13.00	0.5118	4-3/4	8	609397	28.00	1.1024	7-1/8	11-3/4	609436
5.10	0.2008	3-5/8	6	609357	13.20	0.5197	4-3/4	8	609398	28.50	1.1220	7-1/8	11-3/4	609437
5.20	0.2047	3-5/8	6	609358	13.50	0.5315	4-3/4	8	609399	29.00	1.1417	7-1/4	11-7/8	609438
5.30	0.2087	3-5/8	6	609359	13.80	0.5433	4-7/8	8-1/4	609400	29.50	1.1614	7-3/8	12	609439
5.40	0.2126	3-5/8	6	609360	14.00	0.5512	4-7/8	8-1/4	609401	30.00	1.1811	7-3/8	12	609440
5.50	0.2165	3-5/8	6	609361	14.25	0.5610	4-7/8	8-1/4	609402	30.50	1.2008	7-1/2	12-1/8	609441
5.70	0.2244	3-3/4	6-1/8	609363	14.50	0.5709	4-7/8	8-3/4	609403	31.00	1.2205	7-7/8	12-1/2	609442
5.80	0.2283	3-3/4	6-1/8	609364	14.75	0.5807	4-7/8	8-3/4	609404	31.50	1.2402	7-7/8	12-1/2	609443
5.90	0.2323	3-3/4	6-1/8	609365	15.00	0.5906	4-7/8	8-3/4	609405	32.00	1.2598	8-1/2	14-1/8	609444
6.00	0.2362	3-3/4	6-1/8	609366	15.25	0.6004	4-7/8	8-3/4	609406	32.50	1.2795	8-1/2	14-1/8	609445
6.10	0.2402	3-3/4	6-1/8	609367	15.50	0.6102	4-7/8	8-3/4	609407	33.00	1.2992	8-5/8	14-1/4	609446
6.20	0.2441	3-3/4	6-1/8	609368	15.75	0.6201	4-7/8	8-3/4	609408	33.50	1.3189	8-3/4	14-3/8	609447
6.30	0.2480	3-3/4	6-1/8	609369	16.00	0.6299	5-1/8	9	609409	34.00	1.3386	8-3/4	14-3/8	609448
6.40	0.2520	3-7/8	6-1/4	609370	16.25	0.6398	5-1/8	9	609410	34.50	1.3583	8-7/8	14-1/2	609449
6.50	0.2559	3-7/8	6-1/4	609371	16.50	0.6496	5-1/8	9	609411	35.00	1.3780	9	14-5/8	609450
6.80	0.2677	3-7/8	6-1/4	609372	16.75	0.6594	5-3/8	9-1/4	609412	35.50	1.3976	9	14-5/8	609451
7.00	0.2756	3-7/8	6-1/4	609373	17.00	0.6693	5-3/8	9-1/4	609413	36.00	1.4173	9-1/8	14-3/4	609452
7.20	0.2835	4	6-3/8	609374	17.25	0.6791	5-3/8	9-1/4	609414	36.50	1.4370	9-1/8	14-3/4	609453
7.50	0.2953	4	6-3/8	609375	17.50	0.6890	5-5/8	9-1/2	609415	37.00	1.4567	9-1/4	14-7/8	609454
7.80	0.3071	4	6-3/8	609376	17.75	0.6988	5-5/8	9-1/2	609416	37.50	1.4764	9-3/8	15	609455
8.00	0.3150	4-1/8	6-1/2	609377	18.00	0.7087	5-5/8	9-1/2	609417	38.00	1.4961	9-3/8	15	609456

Taper Length Drills

Carbide Tipped



- The extra length of these drills increases their reach through drill bushings

Decimal Size (Inch)	Drill Size (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Decimal Size (Inch)	Drill Size (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
0.1250	1/8	2-3/4	5-1/8	555201	0.4375	7/16	4-5/8	7-1/4	555211
0.1406	9/64	3	5-3/8	555226	0.4688	15/32	4-3/4	7-1/2	555212
0.1562	5/32	3	5-3/8	555202	0.5000	1/2	4-3/4	7-3/4	555213
0.1719	11/64	3-3/8	5-3/4	555227	0.5156	33/64	4-3/4	8	555238
0.1875	3/16	3-3/8	5-3/4	555203	0.5312	17/32	4-3/4	8	555214
0.2031	13/64	3-5/8	6	555228	0.5469	35/64	4-7/8	8-1/4	555239
0.2188	7/32	3-5/8	6	555204	0.5625	9/16	4-7/8	8-1/4	555215
0.2344	15/64	3-3/4	6-1/8	555229	0.5781	37/64	4-7/8	8-3/4	555240
0.2500	1/4	3-3/4	6-1/8	555205	0.5938	19/32	4-7/8	8-3/4	555216
0.2656	17/64	3-7/8	6-1/4	555230	0.6094	39/64	4-7/8	8-3/4	555241
0.2812	9/32	3-7/8	6-1/4	555206	0.6250	5/8	4-7/8	8-3/4	555217
0.2969	19/64	4	6-3/8	555231	0.6406	41/64	5-1/8	9	555242
0.3125	5/16	4	6-3/8	555207	0.6562	21/32	5-1/8	9	555218
0.3281	21/64	4-1/8	6-1/2	555232	0.6719	43/64	5-3/8	9-1/4	555243
0.3438	11/32	4-1/8	6-1/2	555208	0.6875	11/16	5-3/8	9-1/4	555219
0.3750	3/8	4-1/4	6-3/4	555209	0.7031	45/64	5-5/8	9-1/2	555244
0.4062	13/32	4-3/8	7	555210	0.7188	23/32	5-5/8	9-1/2	555220
0.4219	27/64	4-5/8	7-1/4	555235	0.7344	47/64	5-7/8	9-3/4	555245
					0.7500	3/4	5-7/8	9-3/4	555221

Taper Shank Drills

High Speed Steel & Super Cobalt – Standard Shank



- High speed steel
- 118° point for general purpose applications
- Super cobalt
- 135° split point for heavy duty applications
- Premium cobalt drills exhibit greater toughness, abrasion resistance and higher hardness than the standard high speed drills
- Recommended for use on hard to machine materials where longer tool life is desired

Size (Inch)	Decimal Equiv. (Inch)	High Speed Steel				Super Cobalt			
		Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code
1/16	0.0625	1-1/4	4-5/8	1	612650	-	-	-	-
5/64	0.0781	1-3/8	4-3/4	1	612651	-	-	-	-
1/8	0.1250	1-7/8	5-1/8	1	751450	-	-	-	-
9/64	0.1406	2-1/8	5-3/8	1	751451	-	-	-	-
5/32	0.1562	2-1/8	5-3/8	1	751452	-	-	-	-
11/64	0.1719	2-1/2	5-3/4	1	751453	-	-	-	-
3/16	0.1875	2-1/2	5-3/4	1	751454	-	-	-	-
13/64	0.2031	2-3/4	6	1	612652	-	-	-	-
7/32	0.2188	2-3/4	6	1	751455	-	-	-	-
15/64	0.2344	2-7/8	6-1/8	1	751456	-	-	-	-
1/4	0.2500	2-7/8	6-1/8	1	751457	2-7/8	6-1/8	1	613900
17/64	0.2656	3	6-1/4	1	751458	3	6-1/4	1	613901
9/32	0.2812	3	6-1/4	1	751459	3	6-1/4	1	613902
19/64	0.2969	3-1/8	6-3/8	1	751460	3-1/8	6-3/8	1	613903
5/16	0.3125	3-1/8	6-3/8	1	751461	3-1/8	6-3/8	1	613904
21/64	0.3281	3-1/4	6-1/2	1	751462	3-1/4	6-1/2	1	613905
11/32	0.3438	3-1/4	6-1/2	1	751463	3-1/4	6-1/2	1	613906
23/64	0.3594	3-1/2	6-3/4	1	751464	3-1/2	6-3/4	1	613907
3/8	0.3750	3-1/2	6-3/4	1	751465	3-1/2	7-3/8	2	613908

Taper Shank Drills

High Speed Steel & Super Cobalt – Standard Shank *(continued)*



Size (Inch)	Decimal Equiv. (Inch)	High Speed Steel				Super Cobalt			
		Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code
25/64	0.3906	3-5/8	7	1	751466	3-5/8	7-1/2	2	613909
13/32	0.4062	3-5/8	7	1	751467	3-5/8	7-1/2	2	613910
27/64	0.4219	3-7/8	7-1/4	1	751468	3-7/8	7-3/4	2	613911
7/16	0.4375	3-7/8	7-1/4	1	751469	3-7/8	7-3/4	2	613912
29/64	0.4531	4-1/8	7-1/2	1	751470	4-1/8	8	2	613913
15/32	0.4688	4-1/8	7-1/2	1	751471	4-1/8	8	2	613914
31/64	0.4844	4-3/8	8-1/4	2	751472	4-3/8	8-1/4	2	613915
1/2	0.5000	4-3/8	8-1/4	2	751473	4-3/8	8-1/4	2	613916
33/64	0.5156	4-5/8	8-1/2	2	751474	4-5/8	8-1/2	2	613917
17/32	0.5312	4-5/8	8-1/2	2	751475	4-5/8	8-1/2	2	613918
35/64	0.5469	4-7/8	8-3/4	2	751476	4-7/8	8-3/4	2	613919
9/16	0.5625	4-7/8	8-3/4	2	751477	4-7/8	8-3/4	2	613920
37/64	0.5781	4-7/8	8-3/4	2	751478	4-7/8	8-3/4	2	613921
19/32	0.5938	4-7/8	8-3/4	2	751479	4-7/8	8-3/4	2	613922
39/64	0.6094	4-7/8	8-3/4	2	751480	4-7/8	8-3/4	2	613923
5/8	0.6250	4-7/8	8-3/4	2	751481	4-7/8	8-3/4	2	613924
41/64	0.6406	5-1/8	9	2	751482	5-1/8	9-3/4	3	613925
21/32	0.6562	5-1/8	9	2	751483	5-1/8	9-3/4	3	613926
43/64	0.6719	5-3/8	9-1/4	2	751484	5-3/8	10	3	613927
11/16	0.6875	5-3/8	9-1/4	2	751485	5-3/8	10	3	613928
45/64	0.7031	5-5/8	9-1/2	2	751486	5-5/8	10-1/4	3	613929
23/32	0.7188	5-5/8	9-1/2	2	751487	5-5/8	10-1/4	3	613930
47/64	0.7344	5-7/8	9-3/4	2	751488	5-7/8	10-1/2	3	613931
3/4	0.7500	5-7/8	9-3/4	2	751489	5-7/8	10-1/2	3	613932
49/64	0.7656	6	9-7/8	2	751490	6	10-5/8	3	613933
25/32	0.7812	6	9-7/8	2	751491	6	10-5/8	3	613934
51/64	0.7969	6-1/8	10-3/4	3	751492	6-1/8	10-3/4	3	613935
13/16	0.8125	6-1/8	10-3/4	3	751493	6-1/8	10-3/4	3	613936
53/64	0.8281	6-1/8	10-3/4	3	751494	6-1/8	10-3/4	3	613937
27/32	0.8438	6-1/8	10-3/4	3	751495	6-1/8	10-3/4	3	613938
55/64	0.8594	6-1/8	10-3/4	3	751496	6-1/8	10-3/4	3	613939
7/8	0.8750	6-1/8	10-3/4	3	751497	6-1/8	10-3/4	3	613940
57/64	0.8906	6-1/8	10-3/4	3	751498	6-1/8	10-3/4	3	613941
29/32	0.9062	6-1/8	10-3/4	3	751499	6-1/8	10-3/4	3	613942
59/64	0.9219	6-1/8	10-3/4	3	751500	6-1/8	10-3/4	3	613943
15/16	0.9375	6-1/8	10-3/4	3	751501	6-1/8	10-3/4	3	613944
61/64	0.9531	6-3/8	11	3	751502	6-3/8	11	3	613945
31/32	0.9688	6-3/8	11	3	751503	6-3/8	11	3	613946
63/64	0.9844	6-3/8	11	3	751504	6-3/8	11	3	613947
1	1.0000	6-3/8	11	3	751505	6-3/8	11	3	613948
1-1/64	1.0156	6-1/2	11-1/8	3	751506	6-1/2	12-1/8	4	613949
1-1/32	1.0312	6-1/2	11-1/8	3	751507	6-1/2	12-1/8	4	613950
1-3/64	1.0469	6-5/8	11-1/4	3	751508	6-5/8	12-1/4	4	613951
1-1/16	1.0625	6-5/8	11-1/4	3	751509	6-5/8	12-1/4	4	613952
1-5/64	1.0781	6-7/8	12-1/2	4	751510	6-7/8	12-1/2	4	613953
1-3/32	1.0938	6-7/8	12-1/2	4	751511	6-7/8	12-1/2	4	613954
1-7/64	1.1094	7-1/8	12-3/4	4	751512	7-1/8	12-3/4	4	613955
1-1/8	1.1250	7-1/8	12-3/4	4	751513	7-1/8	12-3/4	4	613956
1-9/64	1.1406	7-1/4	12-7/8	4	751514	7-1/4	12-7/8	4	613957
1-5/32	1.1562	7-1/4	12-7/8	4	612653	7-1/4	12-7/8	4	613958
1-11/64	1.1719	7-3/8	13	4	751515	7-3/8	13	4	613959
1-3/16	1.1875	7-3/8	13	4	751516	7-3/8	13	4	613960
1-13/64	1.2031	7-1/2	13-1/8	4	751517	7-1/2	13-1/8	4	613961
1-7/32	1.2188	7-1/2	13-1/8	4	751518	7-1/2	13-1/8	4	613962
1-15/64	1.2344	7-7/8	13-1/2	4	751519	7-7/8	13-1/2	4	613963
1-1/4	1.2500	7-7/8	13-1/2	4	751520	7-7/8	13-1/2	4	613964

Taper Shank Drills

High Speed Steel & Super Cobalt – Standard Shank (continued)



Size (Inch)	Decimal Equiv. (Inch)	High Speed Steel				Super Cobalt			
		Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code
1-17/64	1.2656	8-1/2	14-1/8	4	751521	8-1/2	14-1/8	4	613965
1-9/32	1.2812	8-1/2	14-1/8	4	751522	8-1/2	14-1/8	4	613966
1-19/64	1.2969	8-5/8	14-1/4	4	751523	8-5/8	14-1/4	4	613967
1-5/16	1.3125	8-5/8	14-1/4	4	751524	8-5/8	15-7/8	5	613968
1-21/64	1.3281	8-3/4	14-3/8	4	751525	8-3/4	14-3/8	4	613969
1-11/32	1.3438	8-3/4	14-3/8	4	751526	8-3/4	14-3/8	4	613970
1-23/64	1.3594	8-7/8	14-1/2	4	751527	8-7/8	14-1/2	4	613971
1-3/8	1.3750	8-7/8	14-1/2	4	751528	8-7/8	15-7/8	5	613972
1-25/64	1.3906	9	14-5/8	4	751529	9	14-5/8	4	613973
1-13/32	1.4062	9	14-5/8	4	751530	9	14-5/8	4	613974
1-27/64	1.4219	9-1/8	14-3/4	4	751531	9-1/8	14-3/4	4	613975
1-7/16	1.4375	9-1/8	14-3/4	4	751532	9-1/8	16-1/8	5	613976
1-29/64	1.4531	9-1/4	14-7/8	4	751533	9-1/4	14-7/8	4	613977
1-15/32	1.4688	9-1/4	14-7/8	4	751534	9-1/4	14-7/8	4	613978
1-31/64	1.4844	9-3/8	15	4	751535	9-3/8	15	4	613979
1-1/2	1.5000	9-3/8	15	4	751536	9-3/8	16-3/8	5	613980
1-33/64	1.5156	9-3/8	16-3/8	5	612654	–	–	–	–
1-17/32	1.5312	9-3/8	16-3/8	5	751537	–	–	–	–
1-35/64	1.5469	9-5/8	16-5/8	5	612655	–	–	–	–
1-9/16	1.5625	9-5/8	16-5/8	5	751538	–	–	–	–
1-37/64	1.5781	9-7/8	16-7/8	5	612656	–	–	–	–
1-19/32	1.5938	9-7/8	16-7/8	5	751539	–	–	–	–
1-39/64	1.6094	10	17	5	612657	–	–	–	–
1-5/8	1.6250	10	17	5	751540	10	17	5	613981
1-41/64	1.6406	10-1/8	17-1/8	5	612658	–	–	–	–
1-21/32	1.6562	10-1/8	17-1/8	5	612659	–	–	–	–
1-43/64	1.6719	10-1/8	17-1/8	5	612660	–	–	–	–
1-11/16	1.6875	10-1/8	17-1/8	5	751541	–	–	–	–
1-45/64	1.7031	10-1/8	17-1/8	5	612661	–	–	–	–
1-23/32	1.7188	10-1/8	17-1/8	5	751542	–	–	–	–
1-47/64	1.7344	10-1/8	17-1/8	5	612662	–	–	–	–
1-3/4	1.7500	10-1/8	17-1/8	5	751543	10-1/8	17-1/8	5	613982
1-49/64	1.7656	10-1/8	17-1/8	5	612663	–	–	–	–
1-25/32	1.7812	10-1/8	17-1/8	5	751544	–	–	–	–
1-51/64	1.7969	10-1/8	17-1/8	5	612664	–	–	–	–
1-13/16	1.8125	10-1/8	17-1/8	5	751545	10-1/8	17-1/8	5	613983
1-53/64	1.8281	10-1/8	17-1/8	5	612665	–	–	–	–
1-27/32	1.8438	10-1/8	17-1/8	5	751546	–	–	–	–
1-55/64	1.8594	10-3/8	17-3/8	5	612666	–	–	–	–
1-7/8	1.8750	10-3/8	17-3/8	5	751547	–	–	–	–
1-57/64	1.8906	10-3/8	17-3/8	5	612667	–	–	–	–
1-29/32	1.9062	10-3/8	17-3/8	5	751548	–	–	–	–
1-59/64	1.9219	10-3/8	17-3/8	5	612668	–	–	–	–
1-15/16	1.9375	10-3/8	17-3/8	5	751549	–	–	–	–
1-61/64	1.9531	10-3/8	17-3/8	5	612669	–	–	–	–
1-31/32	1.9688	10-3/8	17-3/8	5	751550	–	–	–	–
1-63/64	1.9844	10-3/8	17-3/8	5	612670	–	–	–	–
2	2.0000	10-3/8	17-3/8	5	751551	–	–	–	–
2-1/64	2.0156	10-3/8	17-3/8	5	612671	–	–	–	–
2-1/32	2.0312	10-3/8	17-3/8	5	751552	–	–	–	–
2-3/64	2.0469	10-1/4	17-3/8	5	612672	–	–	–	–
2-1/16	2.0625	10-1/4	17-3/8	5	751553	–	–	–	–
2-3/32	2.0938	10-1/4	17-3/8	5	751554	–	–	–	–
2-1/8	2.1250	10-1/4	17-3/8	5	751555	–	–	–	–
2-5/32	2.1562	10-1/4	17-3/8	5	751556	–	–	–	–
2-3/16	2.1875	10-1/4	17-3/8	5	751557	–	–	–	–

Taper Shank Drills

High Speed Steel & Super Cobalt – Standard Shank *(continued)*



Size (Inch)	Decimal Equiv. (Inch)	High Speed Steel				Super Cobalt			
		Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code
2-7/32	2.2188	10-1/8	17-3/8	5	751558	-	-	-	-
2-1/4	2.2500	10-1/8	17-3/8	5	751559	-	-	-	-
2-9/32	2.2812	10-1/8	17-3/8	5	612673	-	-	-	-
2-5/16	2.3125	10-1/8	17-3/8	5	751560	-	-	-	-
2-11/32	2.3438	10-1/8	17-3/8	5	612674	-	-	-	-
2-3/8	2.3750	10-1/8	17-3/8	5	751561	-	-	-	-
2-13/32	2.4062	11-1/4	18-3/4	5	612675	-	-	-	-
2-7/16	2.4375	11-1/4	18-3/4	5	751562	-	-	-	-
2-15/32	2.4688	11-1/4	18-3/4	5	612676	-	-	-	-
2-1/2	2.5000	11-1/4	18-3/4	5	751563	-	-	-	-
2-17/32	2.5312	11-7/8	19-1/2	5	612677	-	-	-	-
2-9/16	2.5625	11-7/8	19-1/2	5	751564	-	-	-	-
2-19/32	2.5938	11-7/8	19-1/2	5	612678	-	-	-	-
2-5/8	2.6250	11-7/8	19-1/2	5	751565	-	-	-	-
2-21/32	2.6562	12-3/4	20-3/8	5	612679	-	-	-	-
2-11/16	2.6875	12-3/4	20-3/8	5	751566	-	-	-	-
2-23/32	2.7188	12-3/4	20-3/8	5	612680	-	-	-	-
2-3/4	2.7500	12-3/4	20-3/8	5	751567	-	-	-	-
2-25/32	2.7812	13-3/8	21-1/8	5	612681	-	-	-	-
2-13/16	2.8125	13-3/8	21-1/8	5	751568	-	-	-	-
2-27/32	2.8438	13-3/8	21-1/8	5	612682	-	-	-	-
2-7/8	2.8750	13-3/8	21-1/8	5	751569	-	-	-	-
2-29/32	2.9062	13-3/8	21-1/8	5	612683	-	-	-	-
2-15/16	2.9375	14	21-3/4	5	751570	-	-	-	-
2-31/32	2.9688	14	21-3/4	5	612684	-	-	-	-
3	3.0000	14	21-3/4	5	751571	-	-	-	-
3-1/16	3.0625	14-5/8	24-1/2	6	612685	-	-	-	-
3-1/8	3.1250	14-5/8	24-1/2	6	751572	-	-	-	-
3-3/16	3.1875	14-5/8	24-1/2	6	612686	-	-	-	-
3-1/4	3.2500	15-1/2	25-1/2	6	751573	-	-	-	-
3-5/16	3.3125	15-1/2	25-1/2	6	612687	-	-	-	-
3-3/8	3.3750	15-1/2	25-1/2	6	612688	-	-	-	-
3-7/16	3.4375	15-1/2	25-1/2	6	612689	-	-	-	-
3-1/2	3.5000	16-3/8	26-1/2	6	612690	-	-	-	-
3-5/8	3.6250	16-3/8	26-1/2	6	612691	-	-	-	-
3-3/4	3.7500	16-3/8	26-1/2	6	612692	-	-	-	-
3-7/8	3.8750	16-3/8	26-1/2	6	612693	-	-	-	-
4	4.0000	17-1/2	27-1/2	6	612694	-	-	-	-

High Speed Steel – Larger than Standard Shank



- High speed steel
- 118° point for general purpose applications

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code
21/64	0.3281	3-1/2	7-3/8	2	612848	21/32	0.6562	5-1/8	9-3/4	3	751634
23/64	0.3594	3-1/2	7-3/8	2	612849	43/64	0.6719	5-3/8	10	3	751635
3/8	0.3750	3-1/2	7-3/8	2	751626	11/16	0.6875	5-3/8	10	3	751636
25/64	0.3906	3-5/8	7-1/2	2	751627	45/64	0.7031	5-5/8	10-1/4	3	751637
13/32	0.4062	3-5/8	7-1/2	2	751628	23/32	0.7188	5-5/8	10-1/4	3	751638
27/64	0.4219	3-7/8	7-3/4	2	751629	47/64	0.7344	5-7/8	10-1/2	3	751639
7/16	0.4375	3-7/8	7-3/4	2	751630	3/4	0.7500	5-7/8	10-1/2	3	751640
29/64	0.4531	4-1/8	8	2	751631	49/64	0.7656	6	10-5/8	3	751641
15/32	0.4688	4-1/8	8	2	751632	25/32	0.7812	6	10-5/8	3	751642
41/64	0.6406	5-1/8	9-3/4	3	751633	1	1.0000	6-3/8	12	4	751575
						1-1/32	1.0312	6-1/2	12-1/8	4	751576
						1-1/16	1.0625	6-5/8	12-1/4	4	751577

Taper Shank Drills

High Speed Steel & Super Cobalt – Smaller than Standard Shank



- High speed steel
- 118° point for general purpose applications
- Super cobalt
- 135° split point for heavy duty applications
- Premium cobalt drills exhibit greater toughness, abrasion resistance and higher hardness than the standard high speed drills
- Recommended for use on hard to machine materials where longer tool life is desired

Size (Inch)	Decimal Equiv. (Inch)	High Speed Steel				Super Cobalt			
		Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code
3/8	0.3750	–	–	–	–	3-1/2	6-3/4	1	613984
31/64	0.4844	4-3/8	7-3/4	1	612850	–	–	–	–
1/2	0.5000	4-3/8	7-3/4	1	612851	–	–	–	–
33/64	0.5156	4-5/8	8	1	612852	–	–	–	–
17/32	0.5312	4-5/8	8	1	612853	–	–	–	–
35/64	0.5469	4-7/8	8-1/4	1	612854	–	–	–	–
9/16	0.5625	4-7/8	8-1/4	1	612855	–	–	–	–
37/64	0.5781	4-7/8	8-1/4	1	612856	–	–	–	–
21/32	0.6562	5-1/8	9-3/4	1	612857	–	–	–	–
25/32	0.7812	–	–	–	–	6	9-7/8	2	613985
51/64	0.7969	6-1/8	10	2	612858	–	–	–	–
13/16	0.8125	6-1/8	10	2	612859	6-1/8	10	2	613986
53/64	0.8281	6-1/8	10	2	612860	–	–	–	–
27/32	0.8438	6-1/8	10	2	612861	–	–	–	–
55/64	0.8594	6-1/8	10	2	612862	–	–	–	–
7/8	0.8750	6-1/8	10	2	612863	–	–	–	–
57/64	0.8906	6-1/8	10	2	612864	–	–	–	–
29/32	0.9062	6-1/8	10	2	612865	–	–	–	–
1	1.0000	6-1/4	10-1/8	2	612866	–	–	–	–
1-5/64	1.0781	6-7/8	11-1/2	3	612867	–	–	–	–
1-3/32	1.0938	6-7/8	11-1/2	3	612868	–	–	–	–
1-7/64	1.1094	7-1/8	11-3/4	3	612869	–	–	–	–
1-1/8	1.1250	7-1/8	11-3/4	3	612870	–	–	–	–
1-9/64	1.1406	7-1/4	11-7/8	3	612871	–	–	–	–
1-5/32	1.1562	7-1/4	11-7/8	3	612872	–	–	–	–
1-11/64	1.1719	7-3/8	12	3	612873	–	–	–	–
1-3/16	1.1875	7-3/8	12	3	612874	7-3/8	12	3	613987
1-13/64	1.2031	7-1/2	12-1/8	3	612875	–	–	–	–
1-7/32	1.2188	7-1/2	12-1/8	3	612876	–	–	–	–
1-15/64	1.2344	7-7/8	12-1/2	3	612877	–	–	–	–
1-1/4	1.2500	7-7/8	12-1/2	3	612878	–	–	–	–
1-9/32	1.2812	8-1/2	13-1/8	3	612879	–	–	–	–
1-5/16	1.3125	8-5/8	13-1/4	3	612880	8-5/8	14-1/4	4	613988
1-11/32	1.3438	8-3/4	13-3/8	3	612881	–	–	–	–
1-3/8	1.3750	8-7/8	13-1/2	3	612882	8-7/8	14-1/2	4	613989
1-13/32	1.4062	9	13-5/8	3	612883	–	–	–	–
1-7/16	1.4375	9-1/8	13-3/4	3	612884	9-1/8	14-3/4	4	613990
1-15/32	1.4688	9-1/4	13-7/8	3	612885	–	–	–	–
1-1/2	1.5000	9-3/8	14	3	612886	9-3/8	15	4	613991
1-33/64	1.5156	9-3/8	15	4	612887	–	–	–	–
1-17/32	1.5312	9-3/8	16	4	612888	–	–	–	–
1-35/64	1.5469	9-5/8	15-1/4	4	612889	–	–	–	–
1-9/16	1.5625	9-5/8	15-1/4	4	612890	–	–	–	–
1-37/64	1.5781	9-7/8	15-1/2	4	612891	–	–	–	–
1-19/32	1.5938	9-7/8	15-1/2	4	612892	–	–	–	–
1-39/64	1.6094	10	15-5/8	4	612893	–	–	–	–
1-5/8	1.6250	10	15-5/8	4	612894	–	–	–	–
1-41/64	1.6406	10-1/8	15-3/4	4	612895	–	–	–	–
1-21/32	1.6562	10-1/8	15-3/4	4	612896	–	–	–	–
1-43/64	1.6719	10-1/8	15-3/4	4	612897	–	–	–	–
1-11/16	1.6875	10-1/8	15-3/4	4	612898	–	–	–	–

Taper Shank Drills

High Speed Steel & Super Cobalt – Smaller than Standard Shank *(continued)*



Size (Inch)	Decimal Equiv. (Inch)	High Speed Steel				Super Cobalt			
		Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code
1-45/64	1.7031	10-1/8	15-3/4	4	612899	-	-	-	-
1-23/32	1.7188	10-1/8	15-3/4	4	612900	-	-	-	-
1-47/64	1.7344	10-3/8	16-1/4	4	612901	-	-	-	-
1-3/4	1.7500	10-3/8	16-1/4	4	612902	-	-	-	-
1-49/64	1.7656	10-3/8	16-1/4	4	612903	-	-	-	-
1-25/32	1.7812	10-3/8	16-1/4	4	612904	-	-	-	-
1-51/64	1.7969	10-3/8	16-1/4	4	612905	-	-	-	-
1-13/16	1.8125	10-3/8	16-1/4	4	612906	-	-	-	-
1-53/64	1.8281	10-3/8	16-1/4	4	612907	-	-	-	-
1-27/32	1.8438	10-3/8	16-1/4	4	612908	-	-	-	-
1-55/64	1.8594	10-1/2	16-1/2	4	612909	-	-	-	-
1-7/8	1.8750	10-1/2	16-1/2	4	612910	-	-	-	-
1-57/64	1.8906	10-1/2	16-1/2	4	612911	-	-	-	-
1-29/32	1.9062	10-1/2	16-1/2	4	612912	-	-	-	-
1-59/64	1.9219	10-5/8	15-5/8	4	612913	-	-	-	-
1-15/16	1.9375	10-5/8	16-5/8	4	612914	-	-	-	-
1-61/64	1.9531	10-5/8	16-5/8	4	612915	-	-	-	-
1-31/32	1.9688	10-5/8	16-5/8	4	612916	-	-	-	-
1-63/64	1.9844	10-5/8	16-5/8	4	612917	-	-	-	-
2	2.0000	10-5/8	16-5/8	4	612918	-	-	-	-
2-1/32	2.0312	10-3/8	16-1/4	4	612919	-	-	-	-
2-1/16	2.0625	10-1/4	16-1/4	4	612920	-	-	-	-
2-3/32	2.0938	10-1/4	16-1/4	4	612921	-	-	-	-
2-1/8	2.1250	10-1/4	16-1/4	4	612922	-	-	-	-
2-5/32	2.1562	10-1/4	16-1/4	4	612923	-	-	-	-
2-3/16	2.1875	10-1/4	16-1/4	4	612924	-	-	-	-
2-7/32	2.2188	10-1/8	16-1/8	4	612925	-	-	-	-
2-1/4	2.2500	10-1/8	16-1/8	4	612926	-	-	-	-
2-9/32	2.2812	10-1/8	16-1/8	4	612927	-	-	-	-
2-5/16	2.3125	10-1/8	16-1/8	4	612928	-	-	-	-
2-11/32	2.3438	10-1/8	16-1/8	4	612929	-	-	-	-
2-3/8	2.3750	10-1/8	16-1/8	4	612930	-	-	-	-
2-13/32	2.4062	11-1/4	17-1/4	4	612931	-	-	-	-
2-7/16	2.4375	11-1/4	17-1/4	4	612932	-	-	-	-
2-15/32	2.4688	11-1/4	17-1/4	4	612933	-	-	-	-
2-1/2	2.5000	11-1/4	17-1/4	4	612934	-	-	-	-
2-5/8	2.6250	11-7/8	18	4	612935	-	-	-	-
2-3/4	2.7500	12-3/4	19-1/8	4	612936	-	-	-	-
3-1/16	3.0625	14-1/4	22	5	612937	-	-	-	-
3-1/8	3.1250	14-1/4	22	5	612938	-	-	-	-
3-3/16	3.1875	14-1/4	22	5	612939	-	-	-	-
3-1/4	3.2500	15-1/4	23	5	612940	-	-	-	-
3-5/16	3.3125	15-1/4	23	5	612941	-	-	-	-
3-3/8	3.3750	15-1/4	23	5	612942	-	-	-	-
3-7/16	3.4375	15-1/4	23	5	612943	-	-	-	-
3-1/2	3.5000	16-1/4	24	5	612944	-	-	-	-
3-5/8	3.6250	16-1/4	24	5	612945	-	-	-	-
3-3/4	3.7500	16-1/4	24	5	612946	-	-	-	-
3-7/8	3.8750	16-1/4	24	5	612947	-	-	-	-

Metric Taper Shank Drills

High Speed Steel – General Purpose – 118° Point



- Designed for high production drilling on a wide range of materials and will perform well under various operating conditions
- Supplied with a black nitrate finish for increased abrasion resistance and extra long life
- Manufactured to ISO standards

Size (mm)	Morse Taper	Flute Length (mm)	Overall Length (mm)	Code	Size (mm)	Morse Taper	Flute Length (mm)	Overall Length (mm)	Code	Size (mm)	Morse Taper	Flute Length (mm)	Overall Length (mm)	Code
8.0	1	75	156	612997	20.0	2	140	238	613019	29.5	3	175	296	613041
8.5	1	75	156	612998	20.5	2	145	243	613020	30.0	3	175	296	613042
9.0	1	81	162	612999	21.0	2	145	243	613021	30.5	3	175	296	613043
9.5	1	81	162	613000	22.0	2	150	248	613022	31.0	3	180	301	613044
10.0	1	87	168	613001	22.5	2	155	253	613023	31.5	3	180	301	613045
10.5	1	87	168	613002	23.0	2	155	253	613024	32.0	4	185	334	613046
11.0	1	87	168	613003	21.5	3	150	248	613025	32.5	4	185	334	613047
11.5	1	87	168	751643	22.0	3	150	248	613026	33.0	4	185	334	613048
12.0	1	94	175	751644	22.5	3	155	253	613027	33.5	4	185	334	613049
12.5	1	94	175	613004	23.0	3	155	253	613028	34.0	4	190	339	613050
13.0	1	101	182	613005	23.5	3	155	276	613029	34.5	4	190	339	613051
13.5	1	101	182	613006	24.0	3	155	276	613030	35.0	4	190	339	613052
14.0	1	108	189	613007	24.5	3	155	276	613031	35.5	4	190	339	613053
14.5	2	114	212	613008	25.0	3	160	281	613032	36.0	4	195	344	613054
15.0	2	114	212	613009	25.5	3	160	281	613033	36.5	4	195	344	613055
15.5	2	120	218	613010	26.0	3	165	286	613034	37.0	4	195	344	613056
16.0	2	120	218	613011	26.5	3	165	286	613035	37.5	4	195	344	613057
16.5	2	125	223	613012	27.0	3	165	286	613036	38.0	4	200	349	613058
17.0	2	125	223	613013	27.5	3	170	291	613037	38.5	4	200	349	613059
17.5	2	130	228	613014	28.0	3	170	291	613038	39.0	4	200	349	613060
18.0	2	130	228	613015	28.5	3	170	291	613039	39.5	4	200	349	613061
18.5	2	135	233	613016	29.0	3	175	296	613040	40.0	4	200	349	613062
19.0	2	135	233	613017										
19.5	2	140	238	613018										

Aircraft Extension Drills

High Speed Steel – 135° Split Point



Size	Decimal Equivalent (Inch)	Flute Length (Inch)	6"	12"	Size	Decimal Equivalent (Inch)	Flute Length (Inch)	6"	12"
			Overall Length	Overall Length				Overall Length	Overall Length
			Code	Code				Code	Code
65	0.0350	5/8	610450	–	5/64	0.0781	1	610466	610557
60	0.0400	11/16	610451	610542	47	0.0785	1	610467	610558
59	0.0410	11/16	610452	610543	46	0.0810	1-1/8	610468	610559
58	0.0420	11/16	610453	610544	45	0.0820	1-1/8	610469	610560
57	0.0430	3/4	610454	610545	44	0.0860	1-1/8	610470	610561
56	0.0465	3/4	610455	610546	43	0.0890	1-1/4	610471	610562
3/64	0.0469	3/4	610456	610547	42	0.0935	1-1/4	610472	610563
55	0.0520	7/8	610457	610548	3/32	0.0938	1-1/4	753000	610564
54	0.0550	7/8	610458	610549	41	0.0960	1-3/8	610473	610565
53	0.0595	7/8	610459	610550	40	0.0980	1-3/8	753001	753024
1/16	0.0625	7/8	610460	610551	39	0.0995	1-3/8	610474	610566
52	0.0635	7/8	610461	610552	38	0.1015	1-7/16	610475	610567
51	0.0670	1	610462	610553	37	0.1040	1-7/16	610476	610568
50	0.0700	1	610463	610554	36	0.1065	1-7/16	610477	610569
49	0.0730	1	610464	610555	7/64	0.1094	1-1/2	753002	610570
48	0.0760	1	610465	610556	35	0.1100	1-1/2	610478	610571

Aircraft Extension Drills

High Speed Steel – 135° Split Point (continued)



Size	Decimal Equivalent (Inch)	Flute Length (Inch)	6"	12"	Size	Decimal Equivalent (Inch)	Flute Length (Inch)	6"	12"
			Overall Length Code	Overall Length Code				Overall Length Code	Overall Length Code
34	0.1110	1-1/2	610479	610572	15/64	0.2344	2-5/8	753018	753038
33	0.1130	1-1/2	610480	610573	B	0.2380	2-3/4	610506	610601
32	0.1160	1-5/8	610481	610574	C	0.2420	2-3/4	610507	610602
31	0.1200	1-5/8	610482	610575	D	0.2460	2-3/4	610508	610603
1/8	0.1250	1-5/8	753003	753025	1/4	0.2500	2-3/4	753019	753039
30	0.1285	1-5/8	753004	753026	F	0.2570	2-7/8	610509	610604
29	0.1360	1-3/4	753005	753027	G	0.2610	2-7/8	610510	610605
28	0.1405	1-3/4	610483	610576	17/64	0.2656	2-7/8	610511	753040
9/64	0.1406	1-3/4	753006	753028	H	0.2660	2-7/8	610512	610606
27	0.1440	1-7/8	610484	610577	I	0.2720	2-7/8	610513	610607
26	0.1470	1-7/8	610485	610578	J	0.2770	2-7/8	610514	610608
25	0.1495	1-7/8	610486	610579	K	0.2810	2-15/16	610515	610609
24	0.1520	2	610487	610580	9/32	0.2812	2-15/16	610516	753041
23	0.1540	2	610488	610581	L	0.2900	2-15/16	610517	610610
5/32	0.1562	2	753007	753029	M	0.2950	3-1/16	610518	610611
22	0.1570	2	610489	610582	19/64	0.2969	3-1/16	610519	753042
21	0.1590	2-1/8	753008	753030	N	0.3020	3-1/16	610520	610612
20	0.1610	2-1/8	753009	753031	5/16	0.3125	3-3/16	753020	753043
19	0.1660	2-1/8	610490	610583	O	0.3160	3-3/16	610521	610613
18	0.1695	2-1/8	610491	610584	P	0.3230	3-5/16	610522	610614
11/64	0.1719	2-1/8	753010	610585	21/64	0.3281	3-5/16	610523	753044
17	0.1730	2-3/16	610492	610586	Q	0.3320	3-7/16	610524	610615
16	0.1770	2-3/16	610493	610587	R	0.3390	3-7/16	610525	610616
15	0.1800	2-3/16	610494	610588	11/32	0.3438	3-7/16	610526	753045
14	0.1820	2-3/16	610495	610589	S	0.3480	3-1/2	610527	610617
13	0.1850	2-5/16	610496	610590	T	0.3580	3-1/2	610528	610618
3/16	0.1875	2-5/16	753011	753032	23/64	0.3594	3-1/2	610529	753046
12	0.1890	2-5/16	610497	610591	U	0.3680	3-5/8	610530	610619
11	0.1910	2-5/16	753012	753033	3/8	0.3750	3-5/8	753021	753047
10	0.1935	2-7/16	753013	753034	V	0.3770	3-5/8	610531	610620
9	0.1960	2-7/16	610498	610592	W	0.3860	3-3/4	610532	610621
8	0.1990	2-7/16	610499	610593	25/64	0.3906	3-3/4	610533	753048
7	0.2010	2-7/16	610500	610594	X	0.3970	3-3/4	610534	610622
13/64	0.2031	2-7/16	753014	753035	Y	0.4040	3-7/8	610535	610623
6	0.2040	2-1/2	610501	610595	13/32	0.4062	3-7/8	610536	753049
5	0.2055	2-1/2	610502	610596	Z	0.4130	3-7/8	610537	610624
4	0.2090	2-1/2	610503	610597	27/64	0.4219	3-15/16	610538	753050
3	0.2130	2-1/2	610504	610598	7/16	0.4375	4-1/16	753022	753051
7/32	0.2188	2-1/2	753015	753036	29/64	0.4531	4-3/16	610539	753052
2	0.2210	2-5/8	753016	610599	15/32	0.4688	4-5/16	610540	753053
1	0.2280	2-5/8	753017	753037	31/64	0.4844	4-3/8	610541	753054
A	0.2340	2-5/8	610505	610600	1/2	0.5000	4-1/2	753023	753055

Extra Length Drills

Inch, Metric & Letter Sizes – Straight Shank – High Speed Steel



- 118° point, for deep hole or long reach drilling in a wide variety of materials
- Hand held or fixed spindle use

Size	Decimal Equivalent (Inch)	6" OAL	8" OAL	9" OAL	10" OAL	12" OAL	15" OAL	18" OAL	24" OAL	48" OAL
		4" Flute Length	5-1/2" Flute Length	6-1/2" Flute Length	7-1/2" Flute Length	9" Flute Length	11" Flute Length	12" Flute Length	18" Flute Length	5-1/2" Flute Length
		Code	Code	Code	Code	Code	Code	Code	Code	Code
1/16	0.0625	610000	-	-	-	-	-	-	-	-
5/64	0.0781	610001	-	-	-	-	-	-	-	-
3/32	0.0938	610002	610009	-	-	-	-	-	-	-
7/64	0.1094	610003	610010	-	-	610072	-	-	-	-
3 mm	0.1181	-	-	-	-	610130	-	-	-	-
1/8	0.1250	610004	610011	-	610044	751400	-	610208	-	-
9/64	0.1406	610005	610012	-	610045	751401	-	-	-	-
5/32	0.1562	610006	610013	-	610046	751402	-	610209	-	-
4 mm	0.1575	-	-	-	-	610131	-	-	-	-
11/64	0.1719	610007	610014	-	610047	751403	-	-	-	-
3/16	0.1875	610008	610015	-	610048	751404	610150	610210	-	-
5 mm	0.1968	-	-	-	-	610132	-	-	-	-
13/64	0.2031	-	610016	-	610049	751405	-	610211	-	-
7/32	0.2188	-	610017	-	610050	751406	610151	610212	-	-
15/64	0.2344	-	610018	-	610051	751407	-	610213	-	-
6 mm	0.2362	-	-	-	-	610133	-	-	-	-
1/4	0.2500	-	610019	-	610052	751408	610152	610214	610299	610317
F	0.2570	-	610020	-	-	-	-	-	-	-
17/64	0.2656	-	610021	-	610053	751409	-	610215	-	-
7 mm	0.2756	-	-	-	-	610134	-	-	-	-
9/32	0.2812	-	610022	-	610054	751410	610153	610216	-	-
19/64	0.2969	-	610023	-	610055	751411	-	610217	-	-
5/16	0.3125	-	610024	-	610056	751412	610154	610218	610300	610318
8 mm	0.3150	-	-	-	-	610135	-	-	-	-
21/64	0.3281	-	610025	-	610057	751413	-	610219	-	-
11/32	0.3438	-	610026	-	610058	751414	610155	610220	-	-
9 mm	0.3543	-	-	-	-	610136	-	-	-	-
23/64	0.3594	-	610027	-	610059	751415	-	610221	-	-
3/8	0.3750	-	610028	-	610060	751416	610156	610222	610301	610319
25/64	0.3906	-	610029	-	610061	751417	-	610223	-	-
10 mm	0.3937	-	-	-	-	610137	-	-	-	-
13/32	0.4062	-	610030	-	610062	751418	610157	610224	-	-
10.5 mm	0.4134	-	-	-	-	610138	-	-	-	-
27/64	0.4219	-	610031	610037	610063	751419	-	610225	-	-
11 mm	0.4331	-	-	-	610064	610139	610158	610226	-	-
7/16	0.4375	-	610032	610038	610065	751420	610159	610227	610302	610320
29/64	0.4531	-	610033	610039	610066	751421	610160	610228	-	-
15/32	0.4688	-	610034	610040	610067	751422	610161	610229	-	-
12 mm	0.4724	-	-	-	-	610140	-	-	-	-
31/64	0.4844	-	610035	610041	610068	751423	-	610230	-	-
1/2	0.5000	-	610036	610042	610069	751424	610162	610231	610303	610321
13 mm	0.5118	-	-	-	-	610141	-	-	-	-
33/64	0.5156	-	-	-	-	610098	-	610232	-	-
17/32	0.5312	-	-	610043	610070	610099	610163	610233	-	-
13.8 mm	0.5433	-	-	-	-	610142	-	-	-	-
35/64	0.5469	-	-	-	-	610100	-	610234	-	-
14 mm	0.5512	-	-	-	-	610143	-	-	-	-
9/16	0.5625	-	-	-	610071	610101	610164	610235	610304	-
37/64	0.5781	-	-	-	-	610102	-	610236	-	-
15 mm	0.5906	-	-	-	-	610144	-	-	-	-
19/32	0.5938	-	-	-	-	610103	610165	610237	-	-
39/64	0.6094	-	-	-	-	610104	-	610238	-	-
5/8	0.6250	-	-	-	-	610105	610166	610239	610305	610322

Extra Length Drills

Inch, Metric & Letter Sizes – Straight Shank – High Speed Steel (continued)



Size	Decimal Equivalent (Inch)	6" OAL	8" OAL	9" OAL	10" OAL	12" OAL	15" OAL	18" OAL	24" OAL	48" OAL
		4" Flute Length	5-1/2" Flute Length	6-1/2" Flute Length	7-1/2" Flute Length	9" Flute Length	11" Flute Length	12" Flute Length	18" Flute Length	5-1/2" Flute Length
		Code	Code	Code	Code	Code	Code	Code	Code	Code
16 mm	0.6299	-	-	-	-	610145	-	-	-	-
41/64	0.6406	-	-	-	-	610106	-	610240	-	-
21/32	0.6562	-	-	-	-	610107	610167	610241	-	-
17 mm	0.6693	-	-	-	-	610146	-	-	-	-
43/64	0.6719	-	-	-	-	610108	-	610242	-	-
11/16	0.6875	-	-	-	-	610109	610168	610243	610306	-
17.5 mm	0.6890	-	-	-	-	610147	-	-	-	-
45/64	0.7031	-	-	-	-	610110	-	610244	-	-
23/32	0.7188	-	-	-	-	610111	610169	610245	-	-
47/64	0.7344	-	-	-	-	610112	-	610246	-	-
3/4	0.7344	-	-	-	-	610113	610170	610247	610307	610323
49/64	0.7656	-	-	-	-	610114	-	610248	-	-
25/32	0.7812	-	-	-	-	610115	610171	610249	610308	-
20 mm	0.7874	-	-	-	-	610148	-	-	-	-
51/64	0.7969	-	-	-	-	610116	-	610250	-	-
13/16	0.8125	-	-	-	-	610117	610172	610251	610309	-
53/64	0.8281	-	-	-	-	610118	-	610252	-	-
27/32	0.8438	-	-	-	-	610119	-	610253	610310	-
55/64	0.8594	-	-	-	-	610120	-	610254	-	-
7/8	0.8750	-	-	-	-	610121	610173	610255	610311	-
22.5 mm	0.8858	-	-	-	-	610149	-	-	-	-
57/64	0.8906	-	-	-	-	610122	-	610256	-	-
29/32	0.9062	-	-	-	-	610123	-	610257	-	-
59/64	0.9219	-	-	-	-	610124	-	610258	-	-
15/16	0.9375	-	-	-	-	610125	610174	610259	610312	-
61/64	0.9531	-	-	-	-	610126	-	610260	-	-
31/32	0.9688	-	-	-	-	610127	-	610261	-	-
63/64	0.9844	-	-	-	-	610128	-	610262	-	-
1	1.0000	-	-	-	-	610129	610175	610263	610313	-
1-1/8	1.1250	-	-	-	-	-	-	610264	610314	-
1-3/16	1.1875	-	-	-	-	-	-	610265	610315	-
1-1/4	1.2500	-	-	-	-	-	-	610266	610316	-

1/2" Reduced Shank – Straight Shank – High Speed Steel – 118° Point



Size	Decimal Equivalent (Inch)	12" OAL	18" OAL	Size	Decimal Equivalent (Inch)	12" OAL	18" OAL
		9" Flute Length	12" Flute Length			9" Flute Length	12" Flute Length
		Code	Code			Code	Code
33/64	0.5156	610176	610267	49/64	0.7656	610192	610283
17/32	0.5312	610177	610268	25/32	0.7812	610193	610284
35/64	0.5469	610178	610269	51/64	0.7969	610194	610285
9/16	0.5625	610179	610270	13/16	0.8125	610195	610286
37/64	0.5781	610180	610271	53/64	0.8281	610196	610287
19/32	0.5938	610181	610272	27/32	0.8438	610197	610288
39/64	0.6094	610182	610273	55/64	0.8594	610198	610289
5/8	0.6250	610183	610274	7/8	0.8750	610199	610290
41/64	0.6406	610184	610275	57/64	0.8906	610200	610291
21/32	0.6562	610185	610276	29/32	0.9062	610201	610292
43/64	0.6719	610186	610277	59/64	0.9219	610202	610293
11/16	0.6875	610187	610278	15/16	0.9375	610203	610294
45/64	0.7031	610188	610279	61/64	0.9531	610204	610295
23/32	0.7188	610189	610280	31/32	0.9688	610205	610296
47/64	0.7344	610190	610281	63/64	0.9844	610206	610297
3/4	0.7500	610191	610282	1	1.0000	610207	610298

Taper Shank Extra Length Drills

High Speed Steel – 118° Point



- Used in deep hole or long reach drilling applications and are suitable for many types of materials

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code
1/8	0.1250	5	8	1	613300	13/32	0.4062	9	12	1	613357
9/64	0.1406	5	8	1	613301	27/64	0.4219	9	12	1	613358
5/32	0.1562	5	8	1	613302	7/16	0.4375	9	12	1	613359
11/64	0.1719	5	8	1	613303	29/64	0.4531	9	12	1	613360
3/16	0.1875	5	8	1	613304	15/32	0.4688	9	12	1	613361
13/64	0.2031	5	8	1	613305	31/64	0.4844	8	12	2	613362
7/32	0.2188	5	8	1	613306	1/2	0.5000	8	12	2	613363
15/64	0.2344	5	8	1	613307	33/64	0.5156	8	12	2	613364
1/4	0.2500	5	8	1	613308	17/32	0.5312	8	12	2	613365
17/64	0.2656	5	8	1	613309	35/64	0.5469	8	12	2	613366
9/32	0.2812	5	8	1	613310	9/16	0.5625	8	12	2	613367
19/64	0.2969	5	8	1	613311	37/64	0.5781	8	12	2	613368
5/16	0.3125	5	8	1	613312	19/32	0.5938	8	12	2	613369
5/16	0.3125	4	8	2	613730	39/64	0.6094	8	12	2	613370
21/64	0.3281	5	8	1	613313	5/8	0.6250	8	12	2	613371
11/32	0.3438	5	8	1	613314	41/64	0.6406	8	12	2	613372
23/64	0.3594	5	8	1	613315	21/32	0.6562	8	12	2	613373
3/8	0.3750	5	8	1	613316	43/64	0.6719	8	12	2	613374
29/64	0.4531	5	8	1	613317	11/16	0.6875	8	12	2	613375
15/32	0.4688	5	8	1	613318	45/64	0.7031	8	12	2	613376
5/32	0.1562	7	10	1	613319	23/32	0.7188	8	12	2	613377
11/64	0.1719	7	10	1	613320	47/64	0.7344	8	12	2	613378
13/64	0.2031	7	10	1	613321	3/4	0.7500	8	12	2	613379
7/32	0.2188	7	10	1	613322	49/64	0.7656	8	12	2	613380
15/64	0.2344	7	10	1	613323	49/64	0.7656	7	12	3	613731
1/4	0.2500	7	10	1	613324	25/32	0.7812	8	12	2	613381
9/32	0.2812	7	10	1	613325	25/32	0.7812	7	12	3	613732
19/64	0.2969	7	10	1	613326	51/64	0.7969	7	12	3	613382
21/64	0.3281	7	10	1	613327	13/16	0.8125	7	12	3	613383
23/64	0.3594	7	10	1	613328	53/64	0.8281	7	12	3	613384
3/8	0.3750	7	10	1	613329	27/32	0.8438	7	12	3	613385
7/16	0.4375	7	10	1	613330	55/64	0.8594	7	12	3	613386
29/64	0.4531	7	10	1	613331	7/8	0.8750	7	12	3	613387
15/32	0.4688	7	10	1	613332	57/64	0.8906	7	12	3	613388
31/64	0.4844	6	10	2	613333	29/32	0.9062	7	12	3	613389
1/2	0.5000	6	10	2	613334	59/64	0.9219	7	12	3	613390
33/64	0.5156	6	10	2	613335	15/16	0.9375	7	12	3	613391
17/32	0.5312	6	10	2	613336	31/32	0.9688	7	12	3	613392
9/16	0.5625	6	10	2	613337	1	1.0000	7	12	3	613393
37/64	0.5781	6	10	2	613338	5/16	0.3125	10	14	2	613394
19/32	0.5938	6	10	2	613339	7/16	0.4375	11	14	1	613395
5/8	0.6250	6	10	2	613340	15/32	0.4688	11	14	1	613396
1/8	0.1250	9	12	1	613341	15/32	0.4688	10	14	2	613733
11/64	0.1719	9	12	1	613342	31/64	0.4844	10	14	2	613397
3/16	0.1875	9	12	1	613343	1/2	0.5000	10	14	2	613398
13/64	0.2031	9	12	1	613344	33/64	0.5156	10	14	2	613399
7/32	0.2188	9	12	1	613345	17/32	0.5312	10	14	2	613400
15/64	0.2344	9	12	1	613346	37/64	0.5781	10	14	2	613401
1/4	0.2500	9	12	1	613347	19/32	0.5938	10	14	2	613402
17/64	0.2656	9	12	1	613348	39/64	0.6094	10	14	2	613403
9/32	0.2812	9	12	1	613349	5/8	0.6250	10	14	2	613404
19/64	0.2969	9	12	1	613350	21/32	0.6562	10	14	2	613405
5/16	0.3125	9	12	1	613351	11/16	0.6875	10	14	2	613406
21/64	0.3281	9	12	1	613352	45/64	0.7031	10	14	2	613407
11/32	0.3438	9	12	1	613353	23/32	0.7188	10	14	2	613408
23/64	0.3594	9	12	1	613354	47/64	0.7344	10	14	2	613409
3/8	0.3750	9	12	1	613355	3/4	0.7500	10	14	2	613410
25/64	0.3906	9	12	1	613356	49/64	0.7656	10	14	2	613411

Taper Shank Extra Length Drills

High Speed Steel – 118° Point *(continued)*



Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code
25/32	0.7812	10	14	2	613412	1-1/32	1.0312	10	15	3	613471
27/32	0.8438	9	14	3	613413	1-3/64	1.0469	10	15	3	613472
57/64	0.8906	9	14	3	613414	1-1/16	1.0625	10	15	3	613473
31/32	0.9688	9	14	3	613415	1-5/64	1.0781	9	15	4	613474
63/64	0.9844	9	14	3	613416	1-3/32	1.0938	9	15	4	613475
3/16	0.1875	12	15	1	613417	1-7/64	1.1094	9	15	4	613476
13/64	0.2031	12	15	1	613418	1-1/8	1.1250	9	15	4	613477
7/32	0.2188	12	15	1	613419	1-9/64	1.1406	9	15	4	613478
15/64	0.2344	12	15	1	613420	1-5/32	1.1562	9	15	4	613479
1/4	0.2500	12	15	1	613421	1-11/64	1.1719	9	15	4	613480
17/64	0.2656	12	15	1	613422	1-3/16	1.1875	10	15	3	613481
9/32	0.2812	12	15	1	613423	1-3/16	1.1875	9	15	4	613735
19/64	0.2969	12	15	1	613424	1-7/32	1.2188	9	15	4	613482
5/16	0.3125	12	15	1	613425	1-15/64	1.2344	9	15	4	613483
21/64	0.3281	12	15	1	613426	1-1/4	1.2500	9	15	4	613484
11/32	0.3438	12	15	1	613427	1/4	0.2500	15	18	1	613485
23/64	0.3594	12	15	1	613428	17/64	0.2656	15	18	1	613486
3/8	0.3750	12	15	1	613429	9/32	0.2812	15	18	1	613487
25/64	0.3906	12	15	1	613430	19/64	0.2969	15	18	1	613488
13/32	0.4062	12	15	1	613431	5/16	0.3125	15	18	1	613489
27/64	0.4219	12	15	1	613432	21/64	0.3281	15	18	1	613490
7/16	0.4375	12	15	1	613433	11/32	0.3438	15	18	1	613491
29/64	0.4531	12	15	1	613434	23/64	0.3594	15	18	1	613492
15/32	0.4688	12	15	1	613435	3/8	0.3750	15	18	1	613493
31/64	0.4844	11	15	2	613436	25/64	0.3906	15	18	1	613494
1/2	0.5000	11	15	2	613437	13/32	0.4062	15	18	1	613495
33/64	0.5156	11	15	2	613438	27/64	0.4219	15	18	1	613496
17/32	0.5312	11	15	2	613439	7/16	0.4375	15	18	1	613497
35/64	0.5469	12	15	1	613440	29/64	0.4531	15	18	1	613498
35/64	0.5469	11	15	2	613734	15/32	0.4688	15	18	1	613499
9/16	0.5625	11	15	2	613441	31/64	0.4844	14	18	2	613500
37/64	0.5781	11	15	2	613442	1/2	0.5000	14	18	2	613501
19/32	0.5938	11	15	2	613443	33/64	0.5156	14	18	2	613502
39/64	0.6094	11	15	2	613444	17/32	0.5312	14	18	2	613503
5/8	0.6250	11	15	2	613445	35/64	0.5469	14	18	2	613504
41/64	0.6406	11	15	2	613446	9/16	0.5625	14	18	2	613505
21/32	0.6562	11	15	2	613447	37/64	0.5781	14	18	2	613506
43/64	0.6719	11	15	2	613448	19/32	0.5938	14	18	2	613507
11/16	0.6875	11	15	2	613449	39/64	0.6094	14	18	2	613508
45/64	0.7031	11	15	2	613450	5/8	0.6250	14	18	2	613509
23/32	0.7188	11	15	2	613451	41/64	0.6406	14	18	2	613510
47/64	0.7344	11	15	2	613452	21/32	0.6562	14	18	2	613511
3/4	0.7500	11	15	2	613453	43/64	0.6719	14	18	2	613512
49/64	0.7656	11	15	2	613454	11/16	0.6875	14	18	2	613513
25/32	0.7812	11	15	2	613455	45/64	0.7031	14	18	2	613514
51/64	0.7969	10	15	3	613456	23/32	0.7188	14	18	2	613515
13/16	0.8125	10	15	3	613457	47/64	0.7344	14	18	2	613516
53/64	0.8281	10	15	3	613458	3/4	0.7500	14	18	2	613517
27/32	0.8438	10	15	3	613459	49/64	0.7656	14	18	2	613518
55/64	0.8594	10	15	3	613460	25/32	0.7812	14	18	2	613519
7/8	0.8750	10	15	3	613461	51/64	0.7969	13	18	3	613520
57/64	0.8906	10	15	3	613462	13/16	0.8125	13	18	3	613521
29/32	0.9062	10	15	3	613463	53/64	0.8281	13	18	3	613522
59/64	0.9219	10	15	3	613464	27/32	0.8438	13	18	3	613523
15/16	0.9375	10	15	3	613465	55/64	0.8594	13	18	3	613524
61/64	0.9531	10	15	3	613466	7/8	0.8750	13	18	3	613525
31/32	0.9688	10	15	3	613467	57/64	0.8906	13	18	3	613526
63/64	0.9844	10	15	3	613468	29/32	0.9062	13	18	3	613527
1	1.0000	10	15	3	613469	59/64	0.9219	13	18	3	613528
1-1/64	1.0156	10	15	3	613470	15/16	0.9375	13	18	3	613529

Taper Shank Extra Length Drills

High Speed Steel – 118° Point (continued)



Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code
61/64	0.9531	13	18	3	613530	27/64	0.4219	21	24	1	613590
31/32	0.9688	13	18	3	613531	7/16	0.4375	21	24	1	613591
63/64	0.9844	13	18	3	613532	29/64	0.4531	21	24	1	613592
1	1.0000	13	18	3	613533	15/32	0.4688	21	24	1	613593
1-1/64	1.0156	13	18	3	613534	31/64	0.4844	20	24	2	613594
1-1/32	1.0312	13	18	3	613535	1/2	0.5000	20	24	2	613595
1-3/64	1.0469	13	18	3	613536	33/64	0.5156	20	24	2	613596
1-1/16	1.0625	13	18	3	613537	17/32	0.5312	20	24	2	613597
1-5/64	1.0781	12	18	4	613538	35/64	0.5469	20	24	2	613598
1-3/32	1.0938	12	18	4	613539	9/16	0.5625	20	24	2	613599
1-7/64	1.1094	12	18	4	613540	37/64	0.5781	20	24	2	613600
1-1/8	1.1250	12	18	4	613541	19/32	0.5938	20	24	2	613601
1-9/64	1.1406	12	18	4	613542	39/64	0.6094	20	24	2	613602
1-5/32	1.1562	12	18	4	613543	5/8	0.6250	20	24	2	613603
1-11/64	1.1719	12	18	4	613544	41/64	0.6406	20	24	2	613604
1-3/16	1.1875	12	18	4	613545	21/32	0.6562	20	24	2	613605
1-7/32	1.2188	12	18	4	613546	43/64	0.6719	20	24	2	613606
1-15/64	1.2344	12	18	4	613547	11/16	0.6875	20	24	2	613607
1-1/4	1.2500	12	18	4	613548	45/64	0.7031	20	24	2	613608
1-17/64	1.2656	12	18	4	613549	23/32	0.7188	20	24	2	613609
1-9/32	1.2813	12	18	4	613550	47/64	0.7344	20	24	2	613610
1-5/16	1.3125	12	18	4	613551	3/4	0.7500	20	24	2	613611
1-11/32	1.3438	12	18	4	613552	49/64	0.7656	20	24	2	613612
1-23/64	1.3594	12	18	4	613553	25/32	0.7812	20	24	2	613613
1-3/8	1.3750	12	18	4	613554	51/64	0.7969	19	24	3	613614
1-13/32	1.4062	12	18	4	613555	13/16	0.8125	19	24	3	613615
1-7/16	1.4375	12	18	4	613556	53/64	0.8281	19	24	3	613616
1-15/32	1.4688	12	18	4	613557	27/32	0.8438	19	24	3	613617
1-1/2	1.5000	12	18	4	613558	55/64	0.8594	19	24	3	613618
1-9/16	1.5625	10	18	5	613559	7/8	0.8750	19	24	3	613619
1-5/8	1.6250	10	18	5	613560	57/64	0.8906	19	24	3	613620
1-11/16	1.6875	10	18	5	613561	29/32	0.9062	19	24	3	613621
1-3/4	1.7500	10	18	5	613562	59/64	0.9219	19	24	3	613622
1-13/16	1.8125	10	18	5	613563	15/16	0.9375	19	24	3	613623
1-7/8	1.8750	10	18	5	613564	61/64	0.9531	19	24	3	613624
33/64	0.5156	16	20	2	613565	31/32	0.9688	19	24	3	613625
9/16	0.5625	16	20	2	613566	63/64	0.9844	19	24	3	613626
19/32	0.5938	16	20	2	613567	1	1.0000	19	24	3	613627
47/64	0.7344	16	20	2	613568	1-1/64	1.0156	19	24	3	613628
13/16	0.8125	15	20	3	613569	1-1/32	1.0312	19	24	3	613629
27/32	0.8438	15	20	3	613570	1-3/64	1.0469	19	24	3	613630
7/8	0.8750	15	20	3	613571	1-1/16	1.0625	19	24	3	613631
15/16	0.9375	15	20	3	613572	1-5/64	1.0781	18	24	4	613632
31/32	0.9688	15	20	3	613573	1-3/32	1.0938	18	24	4	613633
1-1/16	1.0625	15	20	3	613574	1-1/8	1.1250	18	24	4	613634
1-3/32	1.0938	14	20	4	613575	1-9/64	1.1406	18	24	4	613635
1-1/8	1.1250	14	20	4	613576	1-5/32	1.1562	18	24	4	613636
1-3/16	1.1875	14	20	4	613577	1-11/64	1.1719	18	24	4	613637
1-13/64	1.2031	14	20	4	613578	1-3/16	1.1875	18	24	4	613638
1-7/32	1.2188	14	20	4	613579	1-13/64	1.2031	18	24	4	613639
1-1/4	1.2500	14	20	4	613580	1-7/32	1.2188	18	24	4	613640
1-11/32	1.3438	14	20	4	613581	1-15/64	1.2344	18	24	4	613641
1-13/32	1.4062	14	20	4	613582	1-1/4	1.2500	18	24	4	613642
1-7/16	1.4375	14	20	4	613583	1-17/64	1.2656	18	24	4	613643
1-15/32	1.4688	14	20	4	613584	1-9/32	1.2812	18	24	4	613644
1-3/4	1.7500	13	20	5	613585	1-5/16	1.3125	18	24	4	613645
2-7/32	2.2188	13	20	5	613586	1-11/32	1.3438	18	24	4	613646
3/8	0.3750	21	24	1	613587	1-23/64	1.3594	18	24	4	613647
25/64	0.3906	21	24	1	613588	1-3/8	1.3750	18	24	4	613648
13/32	0.4062	21	24	1	613589	1-13/32	1.4062	18	24	4	613649

Taper Shank Extra Length Drills

High Speed Steel – 118° Point *(continued)*



Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code
1-7/16	1.4375	18	24	4	613650	1-7/16	1.4375	24	30	4	613690
1-15/32	1.4688	18	24	4	613651	1-1/2	1.5000	24	30	4	613691
1-1/2	1.5000	18	24	4	613652	1-9/16	1.5625	23	30	5	613692
1-9/16	1.5625	17	24	5	613653	1-5/8	1.6250	23	30	5	613693
1-5/8	1.6250	17	24	5	613654	1-11/16	1.6875	23	30	5	613694
1-11/16	1.6875	17	24	5	613655	1-3/4	1.7500	23	30	5	613695
1-3/4	1.7500	17	24	5	613656	1-13/16	1.8125	23	30	5	613696
1-25/32	1.7812	17	24	5	613657	1-7/8	1.8750	23	30	5	613697
1-13/16	1.8125	17	24	5	613658	1-15/16	1.9375	23	30	5	613698
1-7/8	1.8750	18	24	4	613659	2	2.0000	23	30	5	613699
1-7/8	1.8750	17	24	5	613736	2-1/16	2.0625	23	30	5	613700
1-15/16	1.9375	17	24	5	613660	2-1/8	2.1250	23	30	5	613701
2	2.0000	18	24	4	613661	2-3/16	2.1875	23	30	5	613702
2	2.0000	17	24	5	613737	2-1/4	2.2500	23	30	5	613703
2-1/16	2.0625	17	24	5	613662	2-5/16	2.3125	23	30	5	613704
2-1/8	2.1250	17	24	5	613663	2-3/8	2.3750	23	30	5	613705
2-3/16	2.1875	17	24	5	613664	2-7/16	2.4375	23	30	5	613706
2-7/32	2.2188	17	24	5	613665	2-1/2	2.5000	23	30	5	613707
2-1/4	2.2500	17	24	5	613666	2-5/8	2.6250	23	30	5	613708
2-5/16	2.3125	17	24	5	613667	2-3/4	2.7500	23	30	5	613709
2-3/8	2.3750	17	24	5	613668	2-7/8	2.8750	23	30	5	613710
2-7/16	2.4375	17	24	5	613669	3	3.0000	23	30	5	613711
2-1/2	2.5000	17	24	5	613670	3-1/8	3.1250	23	30	5	613712
2-9/16	2.5625	17	24	5	613671	3-1/4	3.2500	23	30	5	613713
2-5/8	2.6250	17	24	5	613672	3-3/8	3.3750	23	30	5	613714
2-11/16	2.6875	17	24	5	613673	3-1/2	3.5000	23	30	5	613715
2-3/4	2.7500	17	24	5	613674	1-1/2	1.5000	30	36	4	613716
2-13/16	2.8125	17	24	5	613675	1-3/4	1.7500	29	36	5	613717
2-7/8	2.8750	17	24	5	613676	2	2.0000	29	36	5	613718
2-15/16	2.9375	17	24	5	613677	2-1/8	2.1250	29	36	5	613719
3	3.0000	17	24	5	613678	2-1/4	2.2500	29	36	5	613720
3/4	0.7500	26	30	2	613679	2-3/8	2.3750	29	36	5	613721
13/16	0.8125	25	30	3	613680	2-1/2	2.5000	29	36	5	613722
7/8	0.8750	25	30	3	613681	2-5/8	2.6250	29	36	5	613723
15/16	0.9375	25	30	3	613682	2-3/4	2.7500	29	36	5	613724
1	1.0000	25	30	3	613683	3	3.0000	29	36	5	613725
1-1/16	1.0625	25	30	3	613684	3-1/8	3.1250	29	36	5	613726
1-1/8	1.1250	24	30	4	613685	3-1/4	3.2500	29	36	5	613727
1-3/16	1.1875	24	30	4	613686	3-3/8	3.3750	29	36	5	613728
1-1/4	1.2500	24	30	4	613687	3-1/2	3.5000	29	36	5	613729
1-5/16	1.3125	24	30	4	613688						
1-3/8	1.3750	24	30	4	613689						

Reduced Shank Drills

Silver & Deming



- 1/2" diameter shank
- 118° split point
- Milled flutes, ground lands
- Sets supplied in wooden block

Fractional Sizes – Cobalt (Gold)

Size (Inch)	Decimal Equivalent (Inch)	Code	Size (Inch)	Decimal Equivalent (Inch)	Code	Size (Inch)	Decimal Equivalent (Inch)	Code
17/32	0.5312	608900	23/32	0.7188	608906	29/32	0.9062	608912
9/16	0.5625	608901	3/4	0.7500	608907	15/16	0.9375	608913
19/32	0.5938	608902	25/32	0.7812	608908	31/32	0.9688	608914
5/8	0.6250	608903	13/16	0.8125	608909	1	1.0000	608915
21/32	0.6562	608904	27/32	0.8438	608910			
11/16	0.6875	608905	7/8	0.8750	608911			

High Speed Steel & Cobalt – 1/2" Shank – Silver & Deming



- Heavy web 8% cobalt content permits use at higher speeds in hardened stainless, heat treated and high temperature alloys
- All sizes 6" overall with 3" flute length

Size	Decimal Equiv. (Inch)	1/2" Standard Shank		1/2" Shank with Flats		Size	Decimal Equiv. (Inch)	1/2" Standard Shank		1/2" Shank with Flats	
		HSS 118°	Cobalt 135° Split Point	HSS 118°	Cobalt 135° Split Point			HSS 118°	Cobalt 135° Split Point	HSS 118°	Cobalt 135° Split Point
		Code	Code	Code	Code			Code	Code	Code	Code
1/2	0.5000	608670	608916	608734	608966	1	1.0000	751281	751350	75174311	608997
33/64	0.5156	751250	608917	75174001	608967	1-1/64	1.0156	608702	–	608767	–
17/32	0.5312	751251	608918	75174011	608968	1-1/32	1.0312	608703	608949	608768	–
35/64	0.5469	751252	608919	75174021	608969	1-3/64	1.0469	608704	–	608769	–
9/16	0.5625	751253	751351	75174031	608970	1-1/16	1.0625	751282	608950	608770	–
37/64	0.5781	751254	608921	75174041	608971	1-5/64	1.0781	608706	–	608771	–
19/32	0.5938	751255	608922	75174051	–	1-3/32	1.0938	608707	608951	608772	–
39/64	0.6094	751256	608923	75174061	608972	1-7/64	1.1094	608708	–	608773	–
5/8	0.6250	751257	751352	75174071	608973	1-1/8	1.1250	751283	608952	608774	–
41/64	0.6406	751258	608925	75174081	608974	1-9/64	1.1406	608710	608953	608775	–
21/32	0.6562	751259	608926	75174091	608975	1-5/32	1.1562	751284	608954	608776	–
43/64	0.6719	751260	608927	75174101	608976	1-11/64	1.1719	608712	–	608777	–
11/16	0.6875	751261	751353	75174111	608977	1-3/16	1.1875	751285	608955	608778	–
45/64	0.7031	751262	608929	75174121	608978	1-13/64	1.2031	608714	–	608779	–
23/32	0.7188	751263	608930	75174131	608979	1-7/32	1.2188	608715	608956	608780	–
47/64	0.7344	751264	608931	75174141	608980	1-15/64	1.2344	608716	–	608781	–
3/4	0.7500	751265	751354	75174151	608981	1-1/4	1.2500	751286	608957	608782	–
49/64	0.7656	751266	608933	75174161	608982	1-17/64	1.2656	608718	–	608783	–
25/32	0.7812	751267	608934	75174171	608983	1-9/32	1.2812	608719	608958	608784	–
51/64	0.7969	751268	608935	75174181	608984	1-19/64	1.2969	608720	–	608785	–
13/16	0.8125	751269	751355	75174191	608985	1-5/16	1.3125	608721	608959	608786	–
53/64	0.8281	751270	608937	75174201	608986	1-21/64	1.3281	608722	–	608787	–
27/32	0.8438	751271	608938	75174211	608987	1-11/32	1.3438	608723	608960	608788	–
55/64	0.8594	751272	608939	75174221	608988	1-23/64	1.3594	608724	–	608789	–
7/8	0.8750	751273	751356	75174231	608989	1-3/8	1.3750	608725	608961	608790	–
57/64	0.8906	751274	608941	75174241	608990	1-25/64	1.3906	608726	–	608791	–
29/32	0.9062	751275	608942	75174251	608991	1-13/32	1.4062	608727	608962	608792	–
59/64	0.9219	751276	608943	75174261	608992	1-27/64	1.4219	608728	–	608793	–
15/16	0.9375	751277	751357	75174271	608993	1-7/16	1.4375	608729	608963	608794	608998
61/64	0.9531	751278	608945	75174281	608994	1-29/64	1.4531	608730	–	608795	–
31/32	0.9688	751279	608946	75174291	608995	1-15/32	1.4688	608731	608964	608796	608999
63/64	0.9844	751280	608947	75174301	608996		1.4844	608732	–	608797	–
										608798	

CORRECTION TO PRINT CATALOG 17: Codes 751288-751318 are NOT HSS 118° with Flats as stated in chart, but rather described as: • Maintenance Length • 1/2" Reduced Shank • 135° Split Point • 3-Flats on Shank • Surfaced Treated Flutes

Reduced Shank Drills

Metric – High Speed Steel – 1/2 Shank – Silver & Deming – 118° Point



Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
13.00	0.5118	3	6	608799
13.50	0.5315	3	6	608800
14.00	0.5512	3	6	751320
14.50	0.5709	3	6	608802
15.00	0.5906	3	6	751321
15.50	0.6102	3	6	608804
16.00	0.6299	3	6	751322
16.50	0.6496	3	6	608806
17.00	0.6693	3	6	751323
17.50	0.6890	3	6	608808
18.00	0.7087	3	6	751324
18.50	0.7283	3	6	608810

Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
19.00	0.7480	3	6	751325
19.50	0.7677	3	6	608812
20.00	0.7874	3	6	751326
20.50	0.8071	3	6	608814
21.00	0.8268	3	6	751327
21.50	0.8465	3	6	608816
22.00	0.8661	3	6	751328
22.50	0.8858	3	6	608818
23.00	0.9055	3	6	751329
23.50	0.9252	3	6	608820
24.00	0.9449	3	6	751330
24.50	0.9646	3	6	608822

Size (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
25.00	0.9843	3	6	751331
25.50	1.0039	3	6	608824
26.00	1.0236	3	6	608825
26.50	1.0433	3	6	608826
27.00	1.0630	3	6	608827
27.50	1.0827	3	6	608828
28.00	1.1024	3	6	608829
28.50	1.1220	3	6	608830
29.00	1.1417	3	6	608831
30.00	1.1811	3	6	608832
30.50	1.2008	3	6	608833
31.00	1.2205	3	6	608834

High Speed Steel – 3/4" Shank – Boring Mill & Screw Machine – 118° Point



Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
25/32	0.7812	3	6	610900
13/16	0.8125	3	6	610901
27/32	0.8438	3	6	610902
7/8	0.8750	3	6	610903
29/32	0.9062	3	6	610904
15/16	0.9375	3	6	610905
31/32	0.9688	3	6	610906
1	1.0000	3	6	610907
1-1/32	1.0312	3	6	610908
1-1/16	1.0625	3	6	610909
1-3/32	1.0938	3	6	610910
1-1/8	1.1250	3	6	610911
1-5/32	1.1562	3	6	610912
1-3/16	1.1875	3	6	610913

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
1-7/32	1.2188	3	6	610914
1-1/4	1.2500	3	6	610915
1-9/32	1.2812	3	6	610916
1-5/16	1.3125	3	6	610917
1-11/32	1.3438	3	6	610918
1-3/8	1.3750	3	6	610919
1-13/32	1.4062	3	6	610920
1-7/16	1.4375	3	6	610921
1-15/32	1.4688	3	6	610922
1-1/2	1.5000	3	6	610923
1-17/32	1.5312	3	6	610924
1-9/16	1.5625	3	6	610925
1-19/32	1.5938	3	6	610926
1-5/8	1.6250	3	6	610927

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
1-21/32	1.6562	3	6	610928
1-11/16	1.6875	3	6	610929
1-23/32	1.7188	3	6	610930
1-3/4	1.7500	3	6	610931
1-25/32	1.7812	3	6	610932
1-13/16	1.8125	3	6	610933
1-27/32	1.8438	3	6	610934
1-7/8	1.8750	3	6	610935
1-29/32	1.9062	3	6	610936
1-15/16	1.9375	3	6	610937
1-31/32	1.9688	3	6	610938
2	2.0000	3	6	610939

High Speed Steel – 3/8" Shank Metal Working Drills – 118° Point



Size (Inch)	Decimal Equivalent (Inch)	Code
25/64	0.3906	753117
13/32	0.4062	753118
27/64	0.4219	753119
7/16	0.4375	753120
29/64	0.4531	753121
15/32	0.4688	753122
31/64	0.4844	753123
1/2	0.5000	753124

Size (Inch)	Decimal Equivalent (Inch)	Code
33/64	0.5156	610940
17/32	0.5312	753125
35/64	0.5469	610941
9/16	0.5625	753126
37/64	0.5781	610942
19/32	0.5938	753127
39/64	0.6094	610943
5/8	0.6250	753128

Size (Inch)	Decimal Equivalent (Inch)	Code
41/64	0.6406	610944
21/32	0.6562	610945
43/64	0.6719	610946
11/16	0.6875	610947
45/64	0.7031	610948
23/32	0.7188	610949
47/64	0.7344	610950
3/4	0.7500	610951

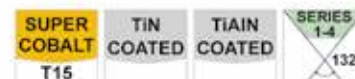
Spade Drill Inserts



Super Cobalt (T15) – TiN Coated & TiAlN Coated



- For use with high nickel alloys and materials with hardness over 29HRC
- Custom sizes available upon request



TiN COATED: Titanium Nitride reinforces the wear resistance, hardness and toughness of the tool

TiAlN COATED: Titanium Aluminum Nitride has a higher hardness than TiN which greatly increases the tool life and can withstand higher temperatures when machining cast irons and tough steels

Series Min. to Max.	Thickness	Diameter	Decimal Equivalent (Inch)	Super Cobalt (T15) TiN Coated	Super Cobalt (T15) TiAlN Coated
				Code	Code
Y 0.374" to 0.436" 9.50 mm to 11.07 mm	3/32" 2.4 mm	9.50 mm	0.3740	548345	548616
		3/8"	0.3750	548346	548617
		9.80 mm	0.3858	548347	548618
		25/64"	0.3906	548348	548619
		10 mm	0.3937	548349	548620
		10.20 mm	0.4016	548350	548621
		13/32"	0.4062	548351	548622
		10.50 mm	0.4134	548352	548623
		27/64"	0.4219	548353	548624
Z 0.437" to 0.510" 11.10 mm to 12.95 mm	3/32" 2.4 mm	10.80 mm	0.4252	548354	548625
		11 mm	0.4331	548355	548626
		7/16"	0.4375	548356	548627
		11.50 mm	0.4528	548357	548628
		29/64"	0.4531	548358	548629
		15/32"	0.4688	548359	548630
		12 mm	0.4724	548360	548631
		31/64"	0.4844	548361	548632
		12.50 mm	0.4921	548362	548633
O 0.511" to 0.695" 12.98 mm to 17.65 mm	1/8" 3.2 mm	1/2"	0.5000	548363	548634
		13 mm	0.5118	548364	548490
		33/64"	0.5156	548365	548491
		17/32"	0.5312	548366	548492
		13.50 mm	0.5315	548367	548493
		35/64"	0.5469	548382	548508
		14 mm	0.5512	548368	548494
		9/16"	0.5625	548369	548495
		14.50 mm	0.5709	548370	548496
		37/64"	0.5781	548371	548497
		15 mm	0.5906	548372	548498
		19/32"	0.5938	548373	548499
		39/64"	0.6094	548383	548509
		15.50 mm	0.6102	548374	548500
		5/8"	0.6250	548375	548501
		16 mm	0.6299	548376	548502
		41/64"	0.6406	548384	548510
		16.50 mm	0.6496	548377	548503
		21/32"	0.6562	548378	548504
		17 mm	0.6693	548379	548505
43/64"	0.6719	548385	548511		
11/16"	0.6875	548380	548506		
17.50 mm	0.6890	548381	548507		
1 0.690" to 0.960" 17.53 mm to 24.38 mm (continued on next page)	5/32" 4.0 mm	45/64"	0.7031	548386	548512
		18 mm	0.7087	548387	548513
		23/32"	0.7188	548388	548514
		18.50 mm	0.7283	548389	548515
		47/64"	0.7344	548390	548516
		19 mm	0.7480	548391	548517
		3/4"	0.7500	548392	548518
		49/64"	0.7656	548393	548519
		19.50 mm	0.7677	548394	548520



Spade Drill Inserts



Super Cobalt (T15) – TiN Coated & TiAlN Coated (continued)

Series Min. to Max.	Thickness	Diameter	Decimal Equivalent (Inch)	Super Cobalt (T15) TiN Coated	Super Cobalt (T15) TiAlN Coated
				Code	Code
(continued) 1 0.690" to 0.960" 17.53 mm to 24.38 mm	5/32" 4.0 mm	25/32"	0.7812	548395	548521
		20 mm	0.7874	548396	548522
		51/64"	0.7969	548408	548534
		20.50 mm	0.8071	548397	548523
		13/16"	0.8125	548398	548524
		21 mm	0.8268	548399	548525
		27/32"	0.8438	548400	548526
		55/64"	0.8594	548409	548535
		22 mm	0.8661	548401	548527
		7/8"	0.8750	548402	548528
		57/64"	0.8906	548410	548536
		23 mm	0.9055	548403	548529
		29/32"	0.9062	548404	548530
		59/64"	0.9219	548405	548531
		15/16"	0.9375	548406	548532
		24 mm	0.9449	548407	548533
2 0.961" to 1.380" 24.41 mm to 35.05 mm	3/16" 4.8 mm	31/32"	0.9688	548411	548537
		63/64"	0.9843	548412	548538
		1"	1.0000	548413	548539
		1-1/64"	1.0156	548414	548540
		26 mm	1.0236	548415	548541
		1-1/32"	1.0312	548416	548542
		1-3/64"	1.0469	548437	548563
		1-1/16"	1.0625	548417	548543
		27 mm	1.0630	548418	548544
		1-3/32"	1.0938	548419	548545
		28 mm	1.1024	548420	548546
		1-7/64"	1.1094	548438	548564
		1-1/8"	1.1250	548421	548547
		29 mm	1.1417	548422	548548
		1-5/32"	1.1562	548423	548549
		30 mm	1.1811	548424	548550
		1-3/16"	1.1875	548425	548551
		1-7/32"	1.2188	548426	548552
		31 mm	1.2205	548427	548553
		1-1/4"	1.2500	548428	548554
		32 mm	1.2598	548429	548555
		1-9/32"	1.2812	548430	548556
		33 mm	1.2992	548431	548557
1-5/16"	1.3125	548432	548558		
34 mm	1.3386	548433	548559		
1-11/32"	1.3438	548434	548560		
1-3/8"	1.3750	548435	548561		
35 mm	1.3780	548436	548562		
3 1.353" to 1.882" 34.36 mm to 47.80 mm (continued on next page)	1/4" 6.4 mm	1-13/32"	1.4062	548439	548565
		36 mm	1.4173	548440	548566
		1-7/16"	1.4375	548441	548567
		37 mm	1.4567	548442	548568
		1-15/32"	1.4688	548443	548569
		38 mm	1.4961	548444	548570
		1-1/2"	1.5000	548445	548571
		1-17/32"	1.5312	548446	548572
		39 mm	1.5354	548447	548573
		1-9/16"	1.5625	548448	548574
		40 mm	1.5748	548449	548575
		1-19/32"	1.5938	548450	548576
		41 mm	1.6142	548451	548577
		1-5/8"	1.6250	548452	548578
		42 mm	1.6535	548453	548579
1-21/32"	1.6562	548454	548580		



Spade Drill Inserts



Super Cobalt (T15) – TiN Coated & TiAlN Coated (continued)

Series Min. to Max.	Thickness	Diameter	Decimal Equivalent (Inch)	Super Cobalt (T15) TiN Coated	Super Cobalt (T15) TiAlN Coated		
				Code	Code		
(continued) 3 1.353" to 1.882" 34.36 mm to 47.80 mm	1/4" 6.4 mm	1-11/16"	1.6875	548455	548581		
		43 mm	1.6929	548456	548582		
		1-23/32"	1.7188	548457	548583		
		44 mm	1.7323	548458	548584		
		1-3/4"	1.7500	548459	548585		
		45 mm	1.7717	548460	548586		
		1-25/32"	1.7812	548461	548587		
		46 mm	1.8110	548462	548588		
		1-13/16"	1.8125	548463	548589		
		1-27/32"	1.8438	548464	548590		
		47 mm	1.8504	548465	548591		
		1-7/8"	1.8750	548466	548592		
		4 1.850" to 2.570" 46.99 mm to 65.28 mm	5/16" 8.0 mm	1-29/32"	1.9062	548467	548593
				1-15/16"	1.9375	548468	548594
1-31/32"	1.9688			548469	548595		
2"	2.0000			548470	548596		
2-1/32"	2.0312			548471	548597		
2-3/64"	2.0472			548472	548598		
2-1/16"	2.0625			548473	548599		
2-3/32"	2.0938			548474	548600		
2-1/8"	2.1250			548475	548601		
2-5/32"	2.1562			548476	548602		
2-3/16"	2.1875			548477	548603		
2-7/32"	2.2188			548478	548604		
2-1/4"	2.2500			548479	548605		
2-9/32"	2.2812			548480	548606		
2-5/16"	2.3125			548481	548607		
2-11/32"	2.3438			548482	548608		
2-3/8"	2.3750			548483	548609		
2-13/32"	2.4062			548484	548610		
2-7/16"	2.4375			548485	548611		
2-15/32"	2.4688			548486	548612		
2-1/2"	2.5000	548487	548613				
2-17/32"	2.5312	548488	548614				
2-9/16"	2.5625	548489	548615				

High Speed Steel (M4) – TiN Coated & TiAlN Coated



- For use with steels and cast irons
- Custom sizes available upon request



TiN COATED: Titanium Nitride reinforces the wear resistance, hardness and toughness of the tool

TiAlN COATED: Titanium Aluminum Nitride has a higher hardness than TiN which greatly increases the tool life and can withstand higher temperatures when machining cast irons and tough steels

Series Min. to Max.	Thickness	Diameter	Decimal Equivalent (Inch)	HSS (M4) TiN Coated	HSS (M4) TiAlN Coated
				Code	Code
1 0.690" to 0.960" 17.53 mm to 24.38 mm <i>(continued on next page)</i>	5/32" 4.0 mm	45/64"	0.7031	548000	548134
		18 mm	0.7087	548001	548135
		23/32"	0.7188	548002	548136
		18.50 mm	0.7283	548003	548137
		47/64"	0.7344	548004	548138
		19 mm	0.7480	548005	548139
		3/4"	0.7500	548006	548140

Spade Drill Inserts



High Speed Steel (M4) – TiN Coated & TiAlN Coated *(continued)*

Series Min. to Max.	Thickness	Diameter	Decimal Equivalent (Inch)	HSS (M4) TiN Coated	HSS (M4) TiAlN Coated
				Code	Code
(continued) 1 0.690" to 0.960" 17.53 mm to 24.38 mm	5/32" 4.0 mm	49/64"	0.7656	548007	548141
		19.50 mm	0.7677	548008	548142
		25/32"	0.7812	548009	548143
		20 mm	0.7874	548010	548144
		51/64"	0.7969	548022	548156
		20.50 mm	0.8071	548011	548145
		13/16"	0.8125	548012	548146
		21 mm	0.8268	548013	548147
		27/32"	0.8438	548014	548148
		55/64"	0.8594	548023	548159
		22 mm	0.8661	548015	548149
		7/8"	0.8750	548016	548150
		57/64"	0.8906	548024	548158
		23 mm	0.9055	548017	548151
		29/32"	0.9062	548018	548152
		59/64"	0.9219	548019	548153
		15/16"	0.9375	548020	548154
		24 mm	0.9449	548021	548155
2 0.961" to 1.380" 24.41 mm to 35.05 mm	3/16" 4.8 mm	31/32"	0.9688	548025	548159
		63/64"	0.9843	548026	548160
		1"	1.0000	548027	548161
		1-1/64"	1.0156	548028	548162
		26 mm	1.0236	548029	548163
		1-1/32"	1.0312	548030	548164
		1-3/64"	1.0469	548051	548185
		1-1/16"	1.0625	548031	548165
		27 mm	1.0630	548032	548166
		1-3/32"	1.0938	548033	548167
		28 mm	1.1024	548034	548168
		1-7/64"	1.1094	548052	548186
		1-1/8"	1.1250	548035	548169
		29 mm	1.1417	548036	548170
		1-5/32"	1.1562	548037	548171
		30 mm	1.1811	548038	548172
		1-3/16"	1.1875	548039	548173
		1-7/32"	1.2188	548040	548174
		31 mm	1.2205	548041	548175
		1-1/4"	1.2500	548042	548176
		32 mm	1.2598	548043	548177
		1-9/32"	1.2812	548044	548178
		33 mm	1.2992	548045	548179
		1-5/16"	1.3125	548046	548180
34 mm	1.3386	548047	548181		
1-11/32"	1.3438	548048	548182		
1-3/8"	1.3750	548049	548183		
35 mm	1.3780	548050	548184		
3 1.353" to 1.882" 34.36 mm to 47.80 mm (continued on next page)	1/4" 6.4 mm	1-13/32"	1.4062	548053	548187
		36 mm	1.4173	548054	548188
		1-7/16"	1.4375	548055	548189
		37 mm	1.4567	548056	548190
		1-15/32"	1.4688	548057	548191
		38 mm	1.4961	548058	548192
		1-1/2"	1.5000	548059	548193
		1-17/32"	1.5312	548060	548194
		39 mm	1.5354	548061	548195
		1-9/16"	1.5625	548062	548196
		40 mm	1.5748	548063	548197
		1-19/32"	1.5938	548064	548198
41 mm	1.6142	548065	548199		
	1-5/8"	1.6250	548066	548200	

Spade Drill Inserts



High Speed Steel (M4) – TiN Coated & TiAlN Coated (continued)

Series Min. to Max.	Thickness	Diameter	Decimal Equivalent (Inch)	HSS (M4) TiN Coated	HSS (M4) TiAlN Coated
				Code	Code
(continued) 3 1.353" to 1.882" 34.36 mm to 47.80 mm	1/4" 6.4 mm	42 mm	1.6535	548067	548201
		1-21/32"	1.6563	548068	548202
		1-11/16"	1.6875	548069	548203
		43 mm	1.6929	548070	548204
		1-23/32"	1.7188	548071	548205
		44 mm	1.7323	548072	548206
		1-3/4"	1.7500	548073	548207
		45 mm	1.7717	548074	548208
		1-25/32"	1.7812	548075	548209
		46 mm	1.8110	548076	548210
		1-13/16"	1.8125	548077	548211
		1-27/32"	1.8438	548078	548212
		47 mm	1.8504	548079	548213
		1-7/8"	1.8750	548080	548214
4 1.850" to 2.570" 46.99 mm to 65.28 mm	5/16" 8.0 mm	1-29/32"	1.9063	548081	548215
		1-15/16"	1.9375	548082	548216
		1-31/32"	1.9688	548083	548217
		2"	2.0000	548084	548218
		2-1/32"	2.0313	548085	548219
		2-3/64"	2.0472	548086	548220
		2-1/16"	2.0625	548087	548221
		2-3/32"	2.0938	548088	548222
		2-1/8"	2.1250	548089	548223
		2-5/32"	2.1563	548090	548224
		2-3/16"	2.1875	548091	548225
		2-7/32"	2.2188	548092	548226
		2-1/4"	2.2500	548093	548227
		2-9/32"	2.2813	548094	548228
		2-5/16"	2.3125	548095	548229
		2-11/32"	2.3438	548096	548230
		2-3/8"	2.3750	548097	548231
		2-13/32"	2.4063	548098	548232
		2-7/16"	2.4375	548099	548233
		2-15/32"	2.4688	548100	548234
2-1/2"	2.5000	548101	548235		
2-17/32"	2.5313	548102	548236		
2-9/16"	2.5625	548103	548237		
5 2.456" to 3.000" 62.38 mm to 76.20 mm	7/16" 11.1 mm	2-1/2"	2.5000	548104	TiAlN Available Upon Request
		2-5/8"	2.6250	548105	
		2-3/4"	2.7500	548106	
		2-25/32"	2.7813	548107	
		2-13/16"	2.8125	548108	
		2-27/32"	2.8438	548109	
		2-7/8"	2.8750	548110	
		2-29/32"	2.9063	548111	
		2-15/16"	2.9375	548112	
		2-31/32"	2.9688	548113	
6 3.001" to 3.507" 76.23 mm to 89.08 mm	7/16" 11.1 mm	3"	3.0000	548114	TiAlN Available Upon Request
		3-1/32"	3.0313	548115	
		3-1/16"	3.0625	548116	
		3-3/32"	3.0938	548117	
		3-1/8"	3.1250	548118	
		3-1/4"	3.2500	548119	
		3-3/8"	3.3750	548120	
7 3.455" to 4.000" 87.76 mm to 101.60 mm (continued on next page)	7/16" 11.1 mm	3-7/16"	3.4375	548121	TiAlN Available Upon Request
		3-1/2"	3.5000	548122	
		3-9/16"	3.5625	548123	
		3-5/8"	3.6250	548124	
		3-3/4"	3.7500	548125	
		3-7/8"	3.8750	548126	

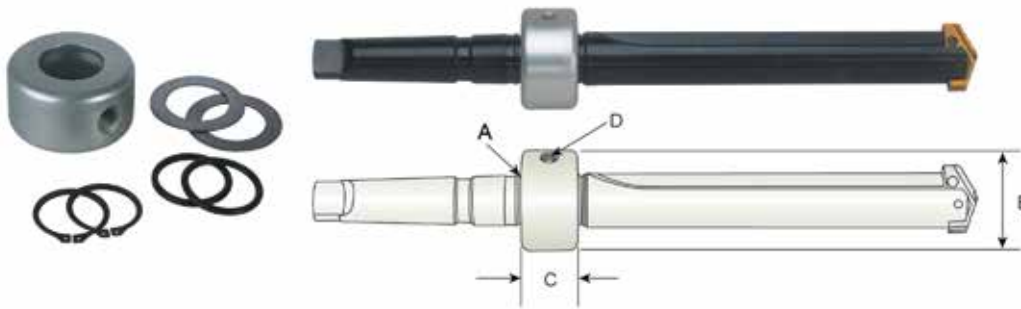
Spade Drill Inserts



High Speed Steel (M4) – TiN Coated & TiAlN Coated (continued)

Series Min. to Max.	Thickness	Diameter	Decimal Equivalent (Inch)	HSS (M4) TiN Coated	HSS (M4) TiAlN Coated
				Code	Code
(continued) 7 3.455" to 4.000", 87.76 to 101.60 mm	7/16" 11.1 mm	3-15/16"	3.9375	548127	TiAlN Available Upon Request
		4"	4.0000	548128	
8 4.001" to 4.507" 101.63 mm to 114.48 mm	7/16" 11.1 mm	4-1/16"	4.0625	548129	TiAlN Available Upon Request
		4-1/8"	4.1250	548130	
		4-1/4"	4.2500	548131	
		4-3/8"	4.3750	548132	
		4-1/2"	4.5000	548133	

Rotary Coolant Inducers (RCI) & Accessories

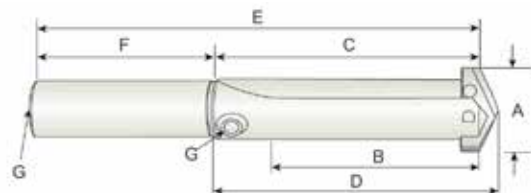


A Inside Diameter (Inch)	B Outside Diameter (Inch)	C Height (Inch)	D Coolant Hole Thread Size (NPT)	Thread for Driving Rod	Code
3/4	1-3/4	7/8	1/8	5/16-18 – NC	549625
1	2-1/8	1-1/8	1/8	5/16-18 – NC	549626
1-1/4	2-1/2	1-3/8	1/4	3/8-16 – NC	549627
1-3/4	3	1-3/8	1/4	3/8-16 – NC	549628
2-1/4	3-3/4	1-3/4	1/2	1/2-13 – NC	549629

Spade Drill Holders



Short Length – Straight Shank – Straight Flute



Series	Shank Diameter (Inch)	A Drill Insert Range (Inch)	B Maximum Drill Depth (Inch)	C Flute Length (Inch)	D Reference Length (Inch)	E Overall Length (Inch)	F Shank Length (Inch)	G Coolant Hole Thread Size (NPT)	Code
Y	3/4	3/8 – 27/64	1-1/4	2-1/32	2-1/8	4-13/32	2-3/8	1/8	549580
Z	3/4	7/16 – 1/2	1-1/4	2-1/32	2-1/8	4-13/32	2-3/8	1/8	549581
0	3/4	33/64 – 11/16	1-3/8	2-3/16	2-19/64	4-9/16	2-3/8	1/8	549564
0.5	3/4	39/64 – 11/16	1-3/8	2-3/16	2-19/64	4-9/16	2-3/8	1/8	549565
1	3/4	45/64 – 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3	1/8	549566
1	1	45/64 – 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3	1/8	549567
1.5	3/4	55/64 – 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3	1/8	549568
1.5	1	55/64 – 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3	1/8	549569
2	1	31/32 – 1-3/8	3-3/8	4-1/2	4-41/64	8	3-1/2	1/8	549570
2	1-1/4	31/32 – 1-3/8	3-3/8	4-1/2	4-41/64	8	3-1/2	1/8	549571

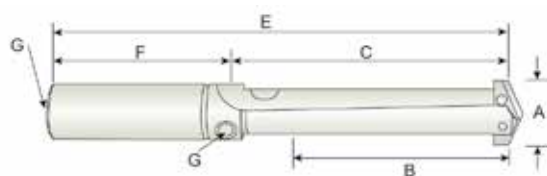
Spade Drill Holders



Short Length – Straight Shank – Straight Flute (continued)

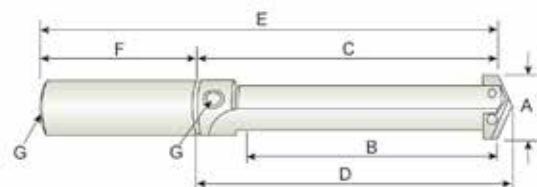
Series	Shank Diameter (Inch)	A Drill Insert Range (Inch)	B Maximum Drill Depth (Inch)	C Flute Length (Inch)	D Reference Length (Inch)	E Overall Length (Inch)	F Shank Length (Inch)	G Coolant Hole Thread Size (NPT)	Code
2.5	1	1-3/16 – 1-3/8	3-3/8	4-1/2	4-41/64	8	3-1/2	1/8	549572
2.5	1-1/4	1-3/16 – 1-3/8	3-3/8	4-1/2	4-41/64	8	3-1/2	1/8	549573
3	1-1/4	1-13/32 – 1-7/8	4-3/4	6	6-3/16	10	4	1/4	549574
3	1-1/2	1-13/32 – 1-7/8	4-3/4	6	6-3/16	10	4	1/4	549575
4	1-1/2	1-29/32 – 2-9/16	5-1/8	6-1/2	6-11/16	10-1/2	4	1/4	549576
4	1-3/4	1-29/32 – 2-9/16	5-1/8	6-1/2	6-11/16	10-1/2	4	1/4	549577
5-6	2	2-1/2 – 3-1/2	6-3/4	8-1/2	8-3/4	12-1/2	4	1/2	549578
7-8	3	3-17/32 – 4-1/2	6-3/4	8-7/8	9-1/8	13-7/8	5	1/2	549579

Intermediate Length – Straight Shank – Straight Flute



Series	Shank Diameter (Inch)	A Drill Insert Range (Inch)	B Maximum Drill Depth (Inch)	C Flute Length (Inch)	E Overall Length (Inch)	F Shank Length (Inch)	G Coolant Hole Thread Size (NPT)	Code
1	1	45/64 – 15/16	4-5/8	5-7/8	8-7/8	3	1/8	549582
1.5	1	55/64 – 15/16	4-5/8	5-7/8	8-7/8	3	1/8	549583
2	1-1/4	31/32 – 1-3/8	5-3/8	6-1/2	10	3-1/2	1/8	549584
2.5	1-1/4	1-3/16 – 1-3/8	5-3/8	6-1/2	10	3-1/2	1/8	549585
3	1-1/2	1-13/32 – 1-7/8	6-1/2	7-3/4	11-3/4	4	1/4	549586

Standard Length – Straight Shank – Straight Flute

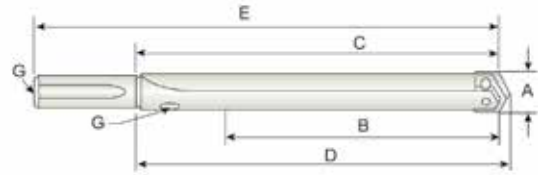


Series	Shank Diameter (Inch)	A Drill Insert Range (Inch)	B Maximum Drill Depth (Inch)	C Flute Length (Inch)	D Reference Length (Inch)	E Overall Length (Inch)	F Shank Length (Inch)	G Coolant Hole Thread Size (NPT)	Code
Y	3/4	3/8 – 27/64	2-3/8	3-5/32	3-1/4	5-17/32	2-3/8	1/8	549603
Z	3/4	7/16 – 1/2	2-3/8	3-5/32	3-1/4	5-17/32	2-3/8	1/8	549604
0	3/4	33/64 – 11/16	2-1/2	3-5/16	3-27/64	5-11/16	2-3/8	1/8	549587
0.5	3/4	39/64 – 11/16	2-1/2	3-5/16	3-27/64	5-11/16	2-3/8	1/8	549588
1	3/4	45/64 – 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3	1/8	549589
1	1	45/64 – 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3	1/8	549590
1.5	3/4	55/64 – 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3	1/8	549591
1.5	1	55/64 – 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3	1/8	549592
2	1	31/32 – 1-3/8	7-3/8	8-1/2	8-41/64	12	3-1/2	1/8	549593
2	1-1/4	31/32 – 1-3/8	7-3/8	8-1/2	8-41/64	12	3-1/2	1/8	549594
2.5	1	1-3/16 – 1-3/8	7-3/8	8-1/2	8-41/64	12	3-1/2	1/8	549595
2.5	1-1/4	1-3/16 – 1-3/8	7-3/8	8-1/2	8-41/64	12	3-1/2	1/8	549596
3	1-1/4	1-13/32 – 1-7/8	8-1/4	9-1/2	9-11/16	13-1/2	4	1/4	549597
3	1-1/2	1-13/32 – 1-7/8	8-1/4	9-1/2	9-11/16	13-1/2	4	1/4	549598
4	1-1/2	1-29/32 – 2-9/16	9-1/8	10-1/2	10-11/16	14-1/2	4	1/4	549599
4	1-3/4	1-29/32 – 2-9/16	9-1/8	10-1/2	10-11/16	14-1/2	4	1/4	549600
5-6	2	2-1/2 – 3-1/2	10-3/4	12-1/2	12-3/4	16-1/2	4	1/2	549601
7-8	3	3-17/32 – 4-1/2	10-3/4	12-7/8	13-1/8	17-7/8	5	1/2	549602

Spade Drill Holders

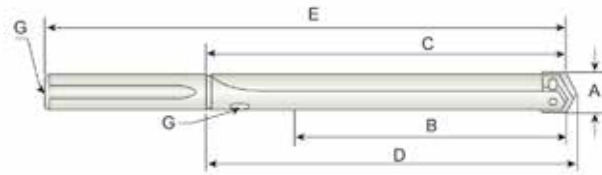


Extended Length – Straight Shank – Straight Flute



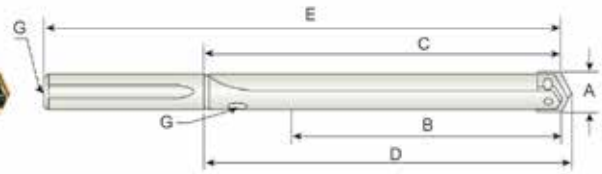
Series	Shank Diameter (Inch)	A Drill Insert Range (Inch)	B Maximum Drill Depth (Inch)	C Flute Length (Inch)	D Reference Length (Inch)	E Overall Length (Inch)	F Shank Length (Inch)	G Coolant Hole Thread Size (NPT)	Code
Y	3/4	3/8 – 27/64	4-3/8	5-5/32	5-1/4	7-17/32	2-3/8	1/8	549615
Z	3/4	7/16 – 1/2	4-3/8	5-5/32	5-1/4	7-17/32	2-3/8	1/8	549616
0	3/4	33/64 – 11/16	4-1/2	5-5/16	5-27/64	7-11/16	2-3/8	1/8	549605
0.5	3/4	39/64 – 11/16	4-1/2	5-5/16	5-27/64	7-11/16	2-3/8	1/8	549606
1	1	45/64 – 15/16	10-5/8	11-7/8	12-1/64	14-7/8	3	1/8	549607
1.5	1	55/64 – 15/16	10-5/8	11-7/8	12-1/64	14-7/8	3	1/8	549608
2	1-1/4	31/32 – 1-3/8	11-3/8	12-1/2	12-41/64	16	3-1/2	1/8	549609
2.5	1-1/4	1-3/16 – 1-3/8	11-3/8	12-1/2	12-41/64	16	3-1/2	1/8	549610
3	1-1/4	1-13/32 – 1-7/8	13-3/4	15	15-3/16	19	4	1/4	549611
4	1-1/2	1-29/32 – 2-9/16	16-5/8	18	18-3/16	22	4	1/4	549612
5	2	2-1/2 – 3-1/2	18-1/4	20	20-1/4	24	4	1/2	549613
7	3	3-17/32 – 4-1/2	21-7/8	24	24-1/4	29	5	1/2	549614

Long Length – Straight Shank – Straight Flute



Series	Shank Diameter (Inch)	A Drill Insert Range (Inch)	B Maximum Drill Depth (Inch)	C Flute Length (Inch)	D Reference Length (Inch)	E Overall Length (Inch)	F Shank Length (Inch)	G Coolant Hole Thread Size (NPT)	Code
0	3/4	33/64 – 11/16	7	7-13/16	7-59/64	10-3/16	2-3/8	1/8	549617
0.5	3/4	39/64 – 11/16	7	7-13/16	7-59/64	10-3/16	2-3/8	1/8	549618

Extra Long Length – Straight Shank – Straight Flute

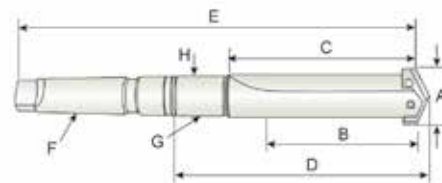


Series	Shank Diameter (Inch)	A Drill Insert Range (Inch)	B Maximum Drill Depth (Inch)	C Flute Length (Inch)	D Reference Length (Inch)	E Overall Length (Inch)	F Shank Length (Inch)	G Coolant Hole Thread Size (NPT)	Code
1	1	45/64 – 15/16	18	19-1/4	19-25/64	22-1/4	3	1/8	549619
2	1-1/4	31/32 – 1-3/8	20-1/8	21-1/4	21-25/64	24-3/4	3-1/2	1/8	549620
3	1-1/2	1-13/32 – 1-7/8	22	23-1/4	23-7/16	27-1/4	4	1/4	549621
4	1-1/2	1-29/32 – 2-9/16	24-5/8	26	26-3/16	30	4	1/4	549622
5	2	2-1/2 – 3-1/2	26	27-3/4	28	31-3/4	4	1/2	549623
7	3	3-17/32 – 4-1/2	27	29-1/8	29-3/8	34-1/8	5	1/2	549624

Spade Drill Holders

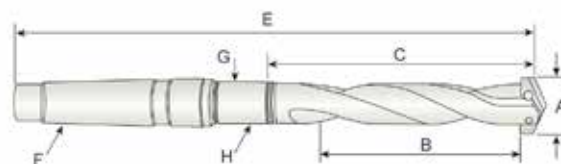


Short Length – Taper Shank – Straight Flute



Series	F Morse Taper	A Drill Insert Range (Inch)	B Maximum Drill Depth (Inch)	C Flute Length (Inch)	D Reference Length (Inch)	E Overall Length (Inch)	G Coolant Hole Thread Size (NPT)	H Rotary Coolant Inducer Reference	Code
Y	2	3/8 – 27/64	1-1/4	2-1/32	3-15/32	6-5/16	1/16	549625	549540
Z	2	7/16 – 1/2	1-1/4	2-1/32	3-15/32	6-5/16	1/16	549625	549541
0	2	33/64 – 11/16	1-3/8	2-3/16	3-41/64	6-15/32	1/16	549625	549524
0.5	2	39/64 – 11/16	1-3/8	2-3/16	3-41/64	6-15/32	1/16	549625	549525
1	3	45/64 – 15/16	2-3/4	3-7/8	5-39/64	9-5/32	1/8	549626	549526
1	4	45/64 – 15/16	2-3/4	3-7/8	5-43/64	10-5/32	1/8	549626	549527
1.5	3	55/64 – 15/16	2-3/4	3-7/8	5-39/64	9-5/32	1/8	549626	549528
1.5	4	55/64 – 15/16	2-3/4	3-7/8	5-43/64	10-5/32	1/8	549626	549529
2	3	31/32 – 1-3/8	3-3/8	4-1/2	6-15/64	9-25/32	1/8	549626	549530
2	4	31/32 – 1-3/8	3-3/8	4-1/2	6-19/64	10-25/32	1/8	549626	549531
2.5	3	1-3/16 – 1-3/8	3-3/8	4-1/2	6-15/64	9-25/32	1/8	549626	549532
2.5	4	1-3/16 – 1-3/8	3-3/8	4-1/2	6-37/64	11-1/16	1/4	549627	549533
3	4	1-13/32 – 1-7/8	4-3/4	6	8-1/8	12-9/16	1/4	549627	549534
3	5	1-13/32 – 1-7/8	4-3/4	6	8-1/8	13-13/16	1/4	549628	549535
4	4	1-29/32 – 2-9/16	5-1/8	6-1/2	8-5/8	13-1/16	1/4	549627	549536
4	5	1-29/32 – 2-9/16	5-1/8	6-1/2	8-5/8	14-5/16	1/4	549628	549537
5 – 6	5	2-1/2 – 3-1/2	6-3/4	8-1/2	11-5/16	16-15/16	1/2	549629	549538
7 – 8	5	3-17/32 – 4-1/2	6-3/4	8-7/8	11-11/16	17-5/16	1/2	549629	549539

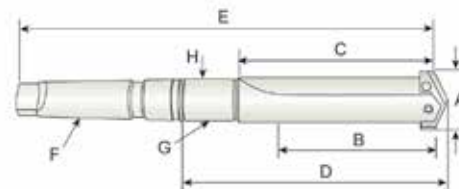
Intermediate Length – Taper Shank – Helical Flute



Series	F Morse Taper	A Drill Insert Range (Inch)	B Maximum Drill Depth (Inch)	C Flute Length (Inch)	E Overall Length (Inch)	G Coolant Hole Thread Size (NPT)	H Rotary Coolant Inducer Reference	Code
1	3	45/64 – 15/16	4-3/4	5-7/8	11-5/32	1/8	549626	549560
1.5	3	55/64 – 15/16	4-3/4	5-7/8	11-5/32	1/8	549626	549561
2	4	31/32 – 1-3/8	5-3/8	6-1/2	12-25/32	1/8	549626	549562
2.5	4	1-3/16 – 1-3/8	5-3/8	6-1/2	13-1/16	1/4	549627	549563

Spade Drill Holders

Standard Length – Taper Shank – Straight Flute



Series	F Morse Taper	A Drill Insert Range (Inch)	B Maximum Drill Depth (Inch)	C Flute Length (Inch)	D Reference Length (Inch)	E Overall Length (Inch)	G Coolant Hole Thread Size (NPT)	H Rotary Coolant Inducer Reference	Code
Y	2	3/8 – 27/64	2-3/8	3-5/32	4-19/32	7-7/16	1/16	549625	549558
Z	2	7/16 – 1/2	2-3/8	3-5/32	4-19/32	7-7/16	1/16	549625	549559
0	2	33/64 – 11/16	2-1/2	3-5/16	4-49/64	7-19/32	1/16	549625	549542
0.5	2	39/64 – 11/16	2-1/2	3-5/16	4-49/64	7-19/32	1/16	549625	549543
1	3	45/64 – 15/16	6-3/4	7-7/8	9-39/64	13-5/32	1/8	549626	549544
1	4	45/64 – 15/16	6-3/4	7-7/8	9-43/64	14-5/32	1/8	549626	549545
1.5	3	55/64 – 15/16	6-3/4	7-7/8	9-39/64	13-5/32	1/8	549626	549546
1.5	4	55/64 – 15/16	6-3/4	7-7/8	9-43/64	14-5/32	1/8	549626	549547
2	3	31/32 – 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	1/8	549626	549548
2	4	31/32 – 1-3/8	7-3/8	8-1/2	10-19/64	14-25/32	1/8	549626	549549
2.5	3	1-3/16 – 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	1/8	549626	549550
2.5	4	1-3/16 – 1-3/8	7-3/8	8-1/2	10-37/64	15-1/16	1/4	549627	549551
3	4	1-13/32 – 1-7/8	8-1/4	9-1/2	11-5/8	16-1/16	1/4	549627	549552
3	5	1-13/32 – 1-7/8	8-1/4	9-1/2	11-5/8	17-5/16	1/4	549628	549553
4	4	1-29/32 – 2-9/16	9-1/8	10-1/2	12-5/8	17-1/16	1/4	549627	549554
4	5	1-29/32 – 2-9/16	9-1/8	10-1/2	12-5/8	18-5/16	1/4	549628	549555
5 – 6	5	2-1/2 – 3-1/2	10-3/4	12-1/2	15-5/16	20-15/16	1/2	549629	549556
7 – 8	5	3-17/32 – 4-1/2	10-3/4	12-7/8	15-11/16	21-5/16	1/2	549629	549557

Replacement Screws



Torx® Screws

Nylon Locking Torx® Screws

Series	Torx® Size	Torque (lbs)	Code
Y	T7	5.5	549506
Z	T7	5.5	549508
0	T8	11.0	549510
0.5	T8	11.0	549512
1	T9	20.0	549514
1.5	T9	20.0	549516
2-2.5	T15	45.0	549518
3 – 4	T20	90.0	549520
5 – 8	T25	155.0	549522

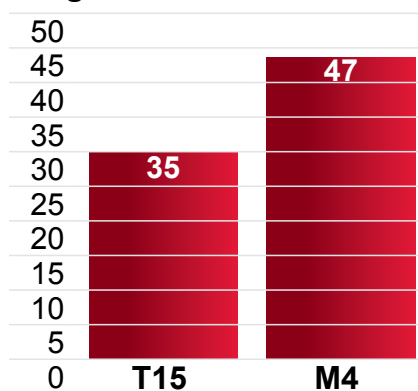
Series	Torx® Size	Torque (lbs)	Code
Y	T7	5.5	549507
Z	T7	5.5	549509
0	T8	11.0	549511
0.5	T8	11.0	549513
1	T9	20.0	549515
1.5	T9	20.0	549517
2-2.5	T15	45.0	549519
3 – 4	T20	90.0	549521
5 – 8	T25	155.0	549523

Spade Drill Insert Technical Information

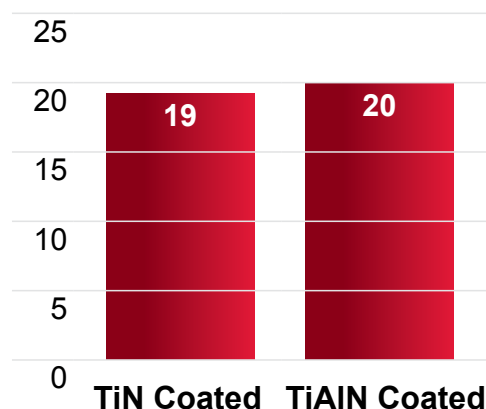
High Speed Steel



Toughness Values



Wear Values



WHEN TO USE M4

- ▶ Worn machines
- ▶ Manual machines
- ▶ If T-15 breaks
- ▶ Cross hole drilling

WHEN TO USE T15

- ▶ On CNC machines
- ▶ When M-4 life needs to be extended
- ▶ Abrasive drilling

Speeds & Feeds Recommendations

Material	Material Hardness (HRC)	SFM Surface Footage	Feed (Inch per Revolution)						
			3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"	1-13/32" to 1-7/8"	1-29/32" to 2-9/16"	2-19/32" to 4-1/2"
Free Machining Steel 1118, 1215, 12L14, etc.	-	280	0.007	0.010	0.013	0.016	0.020	0.023	0.028
	<12	260	0.007	0.010	0.013	0.016	0.020	0.023	0.028
	12-25	240	0.007	0.010	0.013	0.016	0.020	0.023	0.028
Low and Medium Carbon Steel 1018, 1040, 1140, etc.	<7	240	0.006	0.009	0.012	0.015	0.019	0.023	0.027
	7-20	225	0.005	0.008	0.010	0.014	0.018	0.021	0.024
	20-29	210	0.005	0.008	0.010	0.014	0.018	0.021	0.024
	29-35	195	0.004	0.007	0.009	0.012	0.016	0.019	0.022
Alloy Steel 4140, 5140, 8640, etc.	<7	210	0.006	0.008	0.010	0.014	0.017	0.019	0.220
	7-20	195	0.005	0.008	0.010	0.014	0.017	0.019	0.220
	20-29	180	0.005	0.007	0.010	0.014	0.017	0.019	0.220
	29-35	170	0.004	0.006	0.009	0.012	0.015	0.017	0.200
High Strength Alloy Steel 4340, 4330V, 300M, etc.	35-40	155	0.003	0.006	0.009	0.012	0.015	0.017	0.200
	20-32	110	0.005	0.007	0.009	0.010	0.014	0.017	0.020
	32-37	85	0.004	0.007	0.009	0.010	0.014	0.017	0.020
	37-43	70	0.003	0.006	0.008	0.009	0.012	0.015	0.018
Structural Steel A36, A285, A516, etc.	-	200	0.006	0.010	0.012	0.014	0.018	0.021	0.026
	12-25	170	0.005	0.009	0.010	0.012	0.016	0.019	0.024
	37-43	140	0.004	0.008	0.009	0.010	0.014	0.017	0.020
High Temperature Alloy Hastelloy B, Inconel 600, etc.	<18	40	0.003	0.006	0.007	0.008	0.010	0.012	0.015
	18-32	35	0.003	0.006	0.007	0.008	0.010	0.012	0.015
Stainless Steel 303, 416, 420, 17-4 PH, etc.	<7	105	0.006	0.008	0.009	0.011	0.014	0.016	0.020
	7-29	90	0.005	0.007	0.008	0.010	0.012	0.014	0.018
Tool Steel H-13, H021, A04, 0-2, S-3, etc.	<12	110	0.004	0.006	0.008	0.010	0.012	0.015	0.017
	12-25	90	0.004	0.006	0.008	0.010	0.012	0.015	0.017
Aluminum	<6	850	0.008	0.013	0.016	0.020	0.022	0.025	0.025
	-	450	0.008	0.013	0.016	0.018	0.022	0.025	0.025
Cast Iron Gray, Ductile, Nodular	-	250	0.007	0.012	0.016	0.020	0.024	0.027	0.030
	<12	225	0.006	0.011	0.014	0.018	0.022	0.025	0.028
	12-18	195	0.006	0.009	0.012	0.016	0.018	0.021	0.024
	18-26	165	0.005	0.007	0.009	0.012	0.014	0.017	0.020
	26-32	135	0.004	0.006	0.007	0.009	0.012	0.014	0.016

Formulas:

IPM = RPM x IPR
 SFM = RPM x 0.262 x DIA
 RPM = SFM x 3.82 ÷ DIA

IPM = Inch per Minute (feed rate)
 SFM = Surface Feet per Minute
 RPM = Revolutions per Minute
 DIA = Drill Diameter (inch)
 IPR = Inch per Revolution (feed rate)

Core Drills

High Speed Steel – Taper Shank – 4 Flute



- Used to enlarge and straighten cored or drilled holes
- Because of their rigidity, these drills generate closer tolerance holes and better finish than standard drills
- Used to enlarge holes up to 40% smaller than the drill diameter

Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code	Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	Morse Taper	Code
9/32	0.2812	3	6-1/4	1	612511	1-1/4	1.2500	7-7/8	13-1/2	4	612558
3/8	0.3750	3-1/2	6-3/4	1	612512	1-17/64	1.2656	8-1/2	14-1/8	4	612559
13/32	0.4062	3-5/8	7	1	612513	1-9/32	1.2812	8-1/2	14-1/8	4	612560
7/16	0.4375	3-7/8	7-1/4	1	612514	1-5/16	1.3125	8-5/8	14-1/4	4	612561
15/32	0.4688	4-1/8	7-1/2	1	612515	1-11/32	1.3438	8-3/4	14-3/8	4	612562
31/64	0.4844	4-3/8	8-1/4	2	612516	1-3/8	1.3750	8-7/8	14-1/2	4	612563
1/2	0.5000	4-3/8	8-1/4	2	612517	1-13/32	1.4062	9	14-5/8	4	612564
33/64	0.5156	4-5/8	8-1/2	2	612518	1-7/16	1.4375	9-1/8	14-3/4	4	612565
17/32	0.5312	4-5/8	8-1/2	2	612519	1-15/32	1.4688	9-1/4	14-7/8	4	612566
35/64	0.5469	4-7/8	8-3/4	2	612520	1-1/2	1.5000	9-3/8	15	4	612567
9/16	0.5625	4-7/8	8-3/4	2	612521	1-17/32	1.5312	9-3/8	16-3/8	5	612568
37/64	0.5781	4-7/8	8-3/4	2	612522	1-35/64	1.5469	9-5/8	16-5/8	5	612569
19/32	0.5938	4-7/8	8-3/4	2	612523	1-9/16	1.5625	9-5/8	16-5/8	5	612570
5/8	0.6250	4-7/8	8-3/4	2	612524	1-37/64	1.5781	9-7/8	16-7/8	5	612571
41/64	0.6406	5-1/8	9	2	612525	1-19/32	1.5938	9-7/8	16-7/8	5	612572
21/32	0.6562	5-1/8	9	2	612526	1-39/64	1.6094	10	17	5	612573
11/16	0.6875	5-3/8	9-1/4	2	612527	1-5/8	1.6250	10	17	5	612574
45/64	0.7031	5-5/8	9-1/2	2	612528	1-21/32	1.6562	10-1/8	17-1/8	5	612575
23/32	0.7188	5-5/8	9-1/2	2	612529	1-11/16	1.6875	10-1/8	17-1/8	5	612576
47/64	0.7344	5-5/8	9-1/2	2	612530	1-23/32	1.7188	10-1/8	17-1/8	5	612577
3/4	0.7500	5-7/8	9-3/4	2	612531	1-3/4	1.7500	10-1/8	17-1/8	5	612578
49/64	0.7656	6	9-7/8	2	612532	1-25/32	1.7812	10-1/8	17-1/8	5	612579
25/32	0.7812	6	9-7/8	2	612533	1-13/16	1.8125	10-1/8	17-1/8	5	612580
51/64	0.7969	6-1/8	10-3/4	3	612534	1-27/32	1.8438	10-1/8	17-1/8	5	612581
13/16	0.8125	6-1/8	10-3/4	3	612535	1-7/8	1.8750	10-3/8	17-3/8	5	612582
27/32	0.8438	6-1/8	10-3/4	3	612536	1-29/32	1.9062	10-3/8	17-3/8	5	612583
55/64	0.8594	6-1/8	10-3/4	3	612537	1-15/16	1.9375	10-3/8	17-3/8	5	612584
7/8	0.8750	6-1/8	10-3/4	3	612538	1-31/32	1.9688	10-3/8	17-3/8	5	612585
29/32	0.9062	6-1/8	10-3/4	3	612539	2	2.0000	10-3/8	17-3/8	5	612586
59/64	0.9219	6-1/8	10-3/4	3	612540	2-1/32	2.0312	10-3/8	17-3/8	5	612587
15/16	0.9375	6-1/8	10-3/4	3	612541	2-1/16	2.0625	10-1/4	17-3/8	5	612588
61/64	0.9531	6-3/8	11	3	612542	2-1/8	2.1250	10-1/4	17-3/8	5	612589
31/32	0.9688	6-3/8	11	3	612543	2-5/32	2.1562	10-1/4	17-3/8	5	612590
63/64	0.9844	6-3/8	11	3	612544	2-3/16	2.1875	10-1/4	17-3/8	5	612591
1	1.0000	6-3/8	11	3	612545	2-1/4	2.2500	10-1/8	17-3/8	5	612592
1-1/64	1.0156	6-1/2	11-1/8	3	612546	2-5/16	2.3125	10-1/8	17-3/8	5	612593
1-1/32	1.0312	6-1/2	11-1/8	3	612547	2-3/8	2.3750	10-1/8	17-3/8	5	612594
1-3/64	1.0469	6-5/8	11-1/4	3	612548	2-7/16	2.4375	11-1/4	18-3/4	5	612595
1-1/16	1.0625	6-5/8	11-1/4	3	612549	2-1/2	2.5000	11-1/4	18-3/4	5	612596
1-5/64	1.0781	6-7/8	11-1/2	3	612550	2-9/16	2.5625	11-7/8	19-1/2	5	612597
1-3/32	1.0938	6-7/8	12-1/2	4	612551	2-5/8	2.6250	11-7/8	19-1/2	5	612598
1-1/8	1.1250	7-1/8	12-3/4	4	612552	2-11/16	2.6875	12-3/4	20-3/8	5	612599
1-5/32	1.1562	7-1/4	12-7/8	4	612553	2-3/4	2.7500	12-3/4	20-3/8	5	612600
1-3/16	1.1875	7-3/8	13	4	612554	2-13/16	2.8125	13-3/8	21-1/8	5	612601
1-13/64	1.2031	7-1/2	13-1/8	4	612555	2-7/8	2.8750	13-3/8	21-1/8	5	612602
1-7/32	1.2188	7-1/2	13-1/8	4	612556	2-15/16	2.9375	14	21-3/4	5	612603
1-15/64	1.2344	7-7/8	13-1/2	4	612557	3	3.0000	14	21-3/4	5	612604

Oil Hole Drills

High Speed Steel – Straight Shank – 118° Point



- Designed with oil holes throughout the length of the land section of the drill to deliver a high pressure oil flow to the cutting edges
- Coolant flow flushes chips out of the hole to reduce heat and chip packing problems common to deep hole drilling applications
- Surface speeds may be increased by 30% or more over standard drill styles

Size (Inch)	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (Inch)	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
15/64	0.2344	3-3/8	5-3/4	615000	5/8	0.6250	5-3/4	8-3/4	615024
1/4	0.2500	3-3/4	6-1/8	615001	41/64	0.6406	5-7/8	9	615025
9/32	0.2812	4	6-3/8	615002	21/32	0.6562	5-7/8	9	615026
19/64	0.2969	4	6-3/8	615003	43/64	0.6719	6	9-1/4	615027
5/16	0.3125	4	6-3/8	615004	11/16	0.6875	6	9-1/4	615028
21/64	0.3281	4-1/8	6-1/2	615005	45/64	0.7031	6-3/16	9-1/2	615029
11/32	0.3438	4-1/8	6-1/2	615006	23/32	0.7188	6-3/16	9-1/2	615030
23/64	0.3594	4-1/4	6-3/4	615007	47/64	0.7344	6-3/8	9-3/4	615031
3/8	0.3750	4-1/4	6-3/4	615008	3/4	0.7500	6-3/8	9-3/4	615032
25/64	0.3906	4-3/8	7	615009	49/64	0.7656	6-1/2	9-7/8	615033
13/32	0.4062	4-3/8	7	615010	25/32	0.7812	6-1/2	9-7/8	615034
27/64	0.4219	4-5/8	7-1/4	615011	51/64	0.7969	6-5/8	10	615035
7/16	0.4375	4-5/8	7-1/4	615012	13/16	0.8125	6-5/8	10	615036
29/64	0.4531	4-7/8	7-1/2	615013	53/64	0.8281	6-3/4	10-1/4	615037
15/32	0.4688	4-7/8	7-1/2	615014	27/32	0.8438	6-3/4	10-1/4	615038
31/64	0.4844	5	7-3/4	615015	55/64	0.8594	7	10-1/2	615039
1/2	0.5000	5	7-3/4	615016	7/8	0.8750	7	10-1/2	615040
33/64	0.5156	5-1/4	8	615017	57/64	0.8906	7	10-5/8	615041
17/32	0.5312	5-1/4	8	615018	29/32	0.9062	7	10-5/8	615042
35/64	0.5469	5-3/8	8-1/4	615019	59/64	0.9219	7	10-3/4	615043
9/16	0.5625	5-3/8	8-1/4	615020	15/16	0.9375	7	10-3/4	615044
37/64	0.5781	5-5/8	8-1/2	615021	61/64	0.9531	7-1/8	10-7/8	615045
19/32	0.5938	5-5/8	8-1/2	615022	31/32	0.9688	7-1/8	10-7/8	615046
39/64	0.6094	5-3/4	8-3/4	615023	63/64	0.9844	7-3/16	11	615047
					1	1.0000	7-3/16	11	615048

Die Drills

Carbide Tipped – Straight Flute/Straight Shank – 118° Point



- For hard materials primarily in the range of 48-65 HRC

Size (Inch)	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (Inch)	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
3/16	0.1875	1-1/2	3-1/2	555301	7/16	0.4375	3	5-1/2	555309
13/64	0.2031	1-3/4	3-3/4	555325	29/64	0.4531	3-1/4	5-3/4	555333
7/32	0.2188	1-3/4	3-3/4	555302	15/32	0.4688	3-1/4	5-3/4	555310
15/64	0.2344	2	4	555326	31/64	0.4844	3-1/2	6	555334
1/4	0.2500	2	4	555303	1/2	0.5000	3-1/2	6	555311
17/64	0.2656	2-1/4	4-1/4	555327	17/32	0.5312	3-1/2	6	555312
9/32	0.2812	2-1/4	4-1/4	555304	9/16	0.5625	3-1/2	6	555313
19/64	0.2969	2-1/2	4-1/2	555328	19/32	0.5938	4	7	555314
5/16	0.3125	2-1/2	4-1/2	555305	5/8	0.6250	4	7	555315
21/64	0.3281	2-3/4	4-3/4	555329	21/32	0.6562	4-1/2	7-1/2	555316
11/32	0.3438	2-3/4	4-3/4	555306	11/16	0.6875	4-1/2	7-1/2	555317
23/64	0.3594	3	5	555330	23/32	0.7188	4-3/4	8	555318
3/8	0.3750	3	5	555307	3/4	0.7500	4-3/4	8	555319
25/64	0.3906	3	5-1/4	555331	13/16	0.8125	4-3/4	8	555320
13/32	0.4062	3	5-1/4	555308	7/8	0.8750	4-3/4	8	555321
27/64	0.4219	3	5-1/2	555332	15/16	0.9375	4-3/4	8	555322
					1	1.0000	4-3/4	8	555323

Standard Step Drills – Jobber Length

High Speed Steel – For Drilling and Counterboring Cap Screw Clearance Holes



Screw Size	Minor Dia.	Major Dia.	Step Length (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Screw Size	Minor Dia.	Major Dia.	Step Length (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
#6	0.150"	1/4"	1/2	2-3/4	4	311291	5/16"	11/32"	1/2"	3/4	4-1/2	6	311295
#8	0.178"	L	1/2	2-15/16	4-1/4	311292	3/8"	13/32"	19/32"	7/8	5-3/16	7-1/8	311296
#10	0.204"	Q	5/8	3-7/16	4-3/4	311293	1/2"	17/32"	25/32"	1	3-1/4	*5-1/8	311297
1/4"	9/32"	13/32"	11/16	3-7/8	5-1/4	311294							

*Shorter than jobber length

High Speed Steel – For Drilling and Countersinking 82 Degree Flat Head Machine Screws



Screw Size	Minor Dia.	Major Dia.	Step Length (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Screw Size	Minor Dia.	Major Dia.	Step Length (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
#6	0.142"	9/32"	1/2	2-15/16	4-1/4	311306	5/16"	0.320"	5/8"	3/4	5-3/16	7-1/8	311310
#8	0.169"	Q	1/2	3-7/16	4-3/4	311307	3/8"	0.383"	3/4"	7/8	5-5/8	5	311311
#10	0.196"	W	5/8	3-3/4	5-1/8	311308	1/2"	0.510"	7/8"	1	3-1/2	*5-1/8	311312
1/4"	0.257"	1/2"	11/16	4-13/16	6	311309							

*Shorter than jobber length

High Speed Steel – For Drilling 45 Degree Chamfered Holes to be Tapped



Screw Size	Minor Dia.	Major Dia.	Step Length (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Screw Size	Minor Dia.	Major Dia.	Step Length (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
5-40	0.101	9/64	1/2	1-3/4	2-7/8	311313	5/16-18	0.261	13/32	15/16	3-7/8	5-1/4	311321
6-32	0.109	5/32	1/2	2	3-1/8	311314	5/16-24	0.272	13/32	15/16	3-7/8	5-1/4	311322
8-32	0.136	3/16	1/2	2-5/16	3-1/2	311315	3/8-16	0.316	31/64	1	4-3/8	5-7/8	311323
8-36	0.136	3/16	1/2	2-5/16	3-1/2	311316	3/8-24	0.339	31/64	1	4-3/8	5-7/8	311324
10-24	0.152	1/4	5/8	2-3/4	4	311317	7/16-14	0.375	17/32	1-1/16	4-13/16	6-5/8	311325
10-32	0.161	1/4	5/8	2-3/4	4	311318	7/16-20	0.390	17/32	1-1/16	4-13/16	6-5/8	311326
1/4-20	0.204	21/64	13/16	3-5/16	4-5/8	311319	1/2-13	0.437	5/8	1-1/16	5-3/16	7-1/8	311327
1/4-28	0.218	21/64	13/16	3-5/16	4-5/8	311320	1/2-20	0.452	5/8	1-1/16	5-3/16	7-1/8	311328

Self Starting Step Drills

High Speed Steel



Series	Number of Steps	Included Diameters	Code
SSD1	13	1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2	754700
SSD2	6	3/16, 1/4, 5/16, 3/8, 7/16, 1/2	754701
SSD3	9	1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4	754702
SSD4	12	3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8	754703



Multi-Diameter Step Drills

High Speed Steel & TiN Coated



Diameter (mm)	Capacity (mm)	L (mm)	H (mm)	d (mm)	HSS	TiN Coated
					Code	Code
12	4, 5, 6, 7, 8, 9, 10, 11, 12	79	5	6	754704	754710
20	4, 6, 8, 10, 12, 14, 16, 18, 20	67	3	8	754705	754711
30	4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30	100	4	10	754706	754712
32.5	5, 7.5, 9.7, 12.7, 15.2, 16.2, 18.6, 20.4, 22.5, 25.4, 28.3, 30.5, 32.5	78	4	10	754707	754713
38	6, 9, 13, 16, 19, 21, 23, 26, 29, 32, 35, 38	100	4	10	754708	754714
SETS – 3 Pieces – 12, 20 & 30 mm Diameters					754709	754715

Spade Drills

Solid Carbide



- For use on thin sheet applications and shallow hole drilling

Size (Inch)	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code	Size (Inch)	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
1/32	0.0313	3/16	1-1/2	952000	9/32	0.2812	3/4	2-1/2	952016
1/16	0.0625	5/16	1-1/2	952002	5/16	0.3125	7/8	2-1/2	952018
3/32	0.0938	7/16	1-1/2	952004	11/32	0.3438	15/16	2-1/2	952020
1/8	0.1250	7/16	1-1/2	952006	3/8	0.3750	1	2-1/2	952022
5/32	0.1562	15/32	2	952008	13/32	0.4062	1	2-1/2	952024
3/16	0.1875	9/16	2	952010	7/16	0.4375	1-1/16	2-1/2	952026
7/32	0.2188	19/32	2	952012	15/32	0.4688	1-1/8	2-1/2	952028
1/4	0.2500	11/16	2	952014	1/2	0.5000	1-1/8	2-1/2	952030

Drill Blanks



- Made from high speed steel
- Hardened (63-65 HRC) and ground
- Can be used as punches, gages, pins or ground for special tools

#80 to Letter H – 12 pieces per package
 Letter "I" to 1/2" – 6 pieces per package
 33/64 to 1" – 1 piece per package
Please order in package quantity

Tolerance	
Up to 1/2"	1/2" to 1"
+0.0000"/-0.0003"	+0.0000"/-0.0005"

High Speed Steel – Fractional Sizes

Size (Inch)	Decimal Equivalent (Inch)	Overall Length (Inch)	Code	Size (Inch)	Decimal Equivalent (Inch)	Overall Length (Inch)	Code	Size (Inch)	Decimal Equivalent (Inch)	Overall Length (Inch)	Code
1/64	0.0156	3/4	219300	7/64	0.1094	2-5/8	219306	13/64	0.2031	3-5/8	219312
1/32	0.0312	1-3/8	219301	1/8	0.1250	2-3/4	219307	7/32	0.2188	3-3/4	219313
3/64	0.0469	1-3/4	219302	9/64	0.1406	2-7/8	219308	15/64	0.2344	3-7/8	219314
1/16	0.0625	1-7/8	219303	5/32	0.1562	3-1/8	219309	1/4	0.2500	4	219315
5/64	0.0781	2	219304	11/64	0.1719	3-1/4	219310	17/64	0.2656	4-1/8	219316
3/32	0.0938	2-1/4	219305	3/16	0.1875	3-1/2	219311	9/32	0.2812	4-1/4	219317

Drill Blanks

High Speed Steel – Fractional Sizes (continued)



Size (Inch)	Decimal Equivalent (Inch)	Overall Length (Inch)	Code
19/64	0.2969	4-3/8	219318
5/16	0.3125	4-1/2	219319
21/64	0.3281	4-5/8	219320
11/32	0.3438	4-3/4	219321
23/64	0.3594	4-7/8	219322
3/8	0.3750	5	219323
25/64	0.3906	5-1/8	219324
13/32	0.4062	5-1/4	219325
27/64	0.4219	5-3/8	219326
7/16	0.4375	5-1/2	219327
29/64	0.4531	5-5/8	219328
15/32	0.4688	5-3/4	219329
31/64	0.4844	5-7/8	219330
1/2	0.5000	6	219331
33/64	0.5156	6	219332
17/32	0.5312	6	219333

Size (Inch)	Decimal Equivalent (Inch)	Overall Length (Inch)	Code
35/64	0.5469	6	219334
9/16	0.5625	6	219335
37/64	0.5781	6	219336
19/32	0.5938	6	219337
39/64	0.6094	6	219338
5/8	0.6250	6	219339
41/64	0.6406	6	219340
21/32	0.6562	6	219341
43/64	0.6719	6	219342
11/16	0.6875	6	219343
45/64	0.7031	6	219344
23/32	0.7188	6	219345
47/64	0.7344	6	219346
3/4	0.7500	6	219347
49/64	0.7656	6	219348
25/32	0.7812	6	219349

Size (Inch)	Decimal Equivalent (Inch)	Overall Length (Inch)	Code
51/64	0.7969	6	219350
13/16	0.8125	6	219351
53/64	0.8281	6	219352
27/32	0.8438	6	219353
55/64	0.8594	6	219354
7/8	0.8750	6	219355
57/64	0.8906	6	219356
29/32	0.9062	6	219357
59/64	0.9219	6	219358
15/16	0.9375	6	219359
61/64	0.9531	6	219360
31/32	0.9688	6	219361
63/64	0.9844	6	219362
1	1.0000	6	219363

Precision Ground Rods

Micrograin Solid Carbide



- Cut to length sizes
- All ground rods are made of premium high strength micrograin carbide
- Ground Rod Tolerances:
Diameter: +0.0000"/-0.0005"; Splits: +0.001"/-0.000" above center

Rod Diameter (Inch)	Rod Length (Inch)	Length Tolerance (Inch)	Code
1/16	1-1/2	+ 0.063	970000
3/32	2	+ 0.063	970002
3/32	2-1/2	+ 0.063	970004
1/8	1-1/2	+ 0.063	970006
1/8	2	+ 0.063	970008
1/8	2-1/4	+ 0.063	970010
1/8	2-1/2	+ 0.063	970012
1/8	3	+ 0.063	970014
1/8	12	+ 0.125	970016
5/32	1-1/2	+ 0.063	970018
5/32	2	+ 0.063	970020
3/16	2	+ 0.063	970022
3/16	2-1/2	+ 0.063	970024
3/16	3	+ 0.063	970026
3/16	4	+ 0.063	970028
3/16	6	+ 0.125	970030

Rod Diameter (Inch)	Rod Length (Inch)	Length Tolerance (Inch)	Code
3/16	12	+ 0.125	970032
1/4	2	+ 0.063	970034
1/4	2-1/2	+ 0.063	970036
1/4	3	+ 0.063	970038
1/4	4	+ 0.080	970040
1/4	6	+ 0.125	970042
1/4	12	+ 0.125	970044
5/16	2	+ 0.063	970046
5/16	2-1/2	+ 0.063	970048
5/16	3	+ 0.063	970050
5/16	4	+ 0.080	970052
5/16	6	+ 0.125	970054
5/16	12	+ 0.125	970056
3/8	2	+ 0.063	970058
3/8	2-1/2	+ 0.063	970060
3/8	3	+ 0.063	970062
3/8	3-1/2	+ 0.063	970064
3/8	4	+ 0.080	970066

Rod Diameter (Inch)	Rod Length (Inch)	Length Tolerance (Inch)	Code
3/8	6	+ 0.125	970068
3/8	12	+ 0.125	970070
7/16	2-1/2	+ 0.063	970072
7/16	3	+ 0.063	970074
1/2	2	+ 0.063	970076
1/2	2-1/2	+ 0.063	970078
1/2	3	+ 0.063	970080
1/2	3-1/2	+ 0.063	970082
1/2	4	+ 0.080	970084
1/2	6	+ 0.125	970086
1/2	12	+ 0.125	970088
9/16	3-1/2	+ 0.063	970090
5/8	3-1/2	+ 0.063	970092
5/8	6	+ 0.125	970094
3/4	4	+ 0.080	970096
3/4	6	+ 0.125	970098
1	4	+ 0.080	970100
1	6	+ 0.125	970102

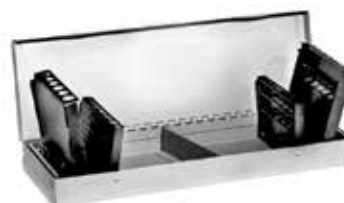
Drill Indexes

Drills Sold Separately

Jobber Length Indexes



Combination Jobber Length Indexes



Description	No. of Indexes	Model No.	Code
1/16 to 1/2 by 64ths	29	CZ29	311076
Letter - A to Z	26	CZ26	311078
Wire Gage - 1 to 60	60	CZ60	311079
Metric - 1 to 7 mm by 0.5 mm	13	CZM13	311105
Metric - 1 to 10 mm by 0.5 mm	19	CZM19	311086
Metric - 1 to 13 mm by 0.5 mm	25	CZM25	311087
Metric - 6 to 10 mm by 0.1 mm	41	CZM41	311106

Description	No. of Indexes	Model No.	Code
1/16 to 1/2 by 64ths, Letter - A to Z, Wire Gage - 1 to 60	115	CZ115	311081
1/16 to 1/2 by 64ths, Letter - A to Z, Wire Gage - 1 to 80	135	CZ135	311088
1/16 to 1/2 by 64ths, Wire Gage - 1 to 80, Metric - 1 to 13 mm by 0.5mm, Inch/Metric	134	CZ134	311089
Metric - 1 to 13 mm Various Sizes	118	CZM118	311115

Drill Sets

Jobber Length

13 Pieces



Size	Description	Code
1/16 to 1/4 by 64ths Metal Index	HSS, Left Hand, 118° Point	752071
	Cobalt, Bronze, 135° Split Point	751128

15 Pieces



Size	Description	Code
1/16 to 1/2 by 32nds Metal Index	HSS, Left Hand, 118° Point	606613
	Cobalt, Bronze, 135° Split Point	751126

21 Pieces



Size	Description	Code
1/16 to 3/8 by 64ths Metal Index	HSS, Left Hand, 118° Point	606615

Metric – 25 Pieces



Size	Description	Code
1 to 13 mm by 0.5 mm Metal Index	HSS, 118° Point	311138
	Cobalt, 135° Split Point	754717

Drill Sets

Jobber Length *(continued)*

Premium Metric – 25 Pieces



- Made of special Hi-Molybdenum tool steel, with precision ground points, flutes, body, clearance, and drill diameter for the ultimate in accuracy and performance
- Body and clearance are gold surface treated for maximum lubricity
- Specially designed for hand held drills
- Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications

Size	Description	Code
1 to 13 mm by 0.5 mm Metal Index	Black and Gold Finish, 135° Split Point	750017

29 Pieces



- 135° split point
- Straight shank
- Right hand spiral wide flutes

Size	Description	Code
1/16" to 1/2" by 64ths Metal Index	HSS TiN Coated Gold-P	883345

26 Pieces



Size	Description	Code
Letter Sizes A to Z Metal Index	HSS, Oxide Finish, 118° Point	752001

29 Pieces



Size	Description	Code
1/16 to 1/2 by 64ths Metal Index	HSS	313201
	Cobalt	313202

29 Pieces



Size	Description	Code
1/16 to 1/2 by 64ths Metal Index	HSS, Oxide Finish, 118° Point	752000
	HSS, *Reduced 3/8 Shank, 118° Point	311164
	HSS, Left Hand,	751200

*Maximum shank diameter in set

60 Pieces



Size	Description	Code
Wire Gage Sizes 1 to 60 Metal Index	HSS	313203
	Cobalt	313204

60 Pieces



Size	Description	Code
Wire Gage Sizes 1 to 60 Metal Index	HSS, Left Hand, 118° Point	311151

Drill Sets

Jobber Length (continued)

115 Pieces



Size	Description	Code
1/16 to 1/2 by 64ths, Letter Sizes A to Z, and Wire Gage Sizes 1 to 60 Metal Index	HSS, Oxide Finish, 118° Point	754603
	HSS, Bright Finish, 118° Point	753360
	Cobalt, Heavy Duty, 135° Split Point	752075

Metric – 134 Pieces

Size	Description	Code
1 to 13 mm by 0.5 mm, 1/16 to 1/2 by 64ths, Wire Gage Sizes 1 to 60 Metal Index	HSS, 118° Point	311141

135 Pieces

Size	Description	Code
1/16 to 1/2 by 64ths, Letter Sizes A to Z, and Wire Gage Sizes 1 to 60 Metal Index	HSS, Oxide Finish, 118° Point	311140

Screw Machine, Taper Length, Taper Shank & Aircraft Extension

Screw Machine Length – 115 Pieces



Size	Description	Code
1/16 to 1/2 by 64ths, Letter Sizes A to Z, and Wire Gage Sizes 1 to 60 Metal Index	HSS, Bright Finish, 118° Point	753361
	HSS, Oxide Finish, 135° Split Point	311179

Taper Length – 29 Pieces



Size	Description	Code
1/16 to 1/2 by 64ths Metal Index	HSS, Oxide Finish, 118° Point	311187
	Cobalt, Bronze Finish, 135° Split Point	311192

Aircraft Extension – 29 Pieces



Size	Description	Code
1/16 to 1/2 by 64ths Metal Index	HSS, 6" Overall Length	311118
	HSS, 12" Overall Length	311119

Taper Shank – 16 Pieces



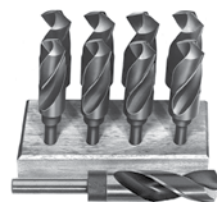
Size	Description	Code
49/64 to 1 by 64ths Metal Index	HSS, 118° Point	311194

Drill Sets Reduced Shank

1/2" Reduced Shank – 8 Pieces



1/2" Reduced Shank – 8 & 10 Pieces



Size	Description	Code
9/16 to 1 by 16ths Metal Index	Cobalt, Round Shank	311171

Size	Description	Code
9/16 to 1 by 16ths Wooden Block	Cobalt, 8 Pieces	313207

1/2" Reduced Shank – 8 Pieces

1/2" Reduced Shank – 33 Pieces

Size	Description	Code
1-1/16 to 1-1/2 by 16ths Wooden Block	Cobalt, 135° Split Point	609001

Size	Description	Code
33/64 to 1 by 64ths Wood Block	HSS, Flatted Shank	311168
1/2 to 1 by 64ths Metal Index	HSS, Flatted Shank	607115

1/2" Reduced Shank – 10 Pieces

3/8" Reduced Shank – 8 Pieces

Size	Description	Code
9/16 to 1 by 16ths and 1-1/4 Wooden Block	HSS, Flatted Shank	607112

Size	Description	Code
3/8 to 17/32 by 32nds, 9/16, and 5/8 Wooden Block	HSS	311165

Step Drills

Standard Step Drill – 6 Pieces



Self Starting Step Drill Multi-Diameter – 3 Pieces

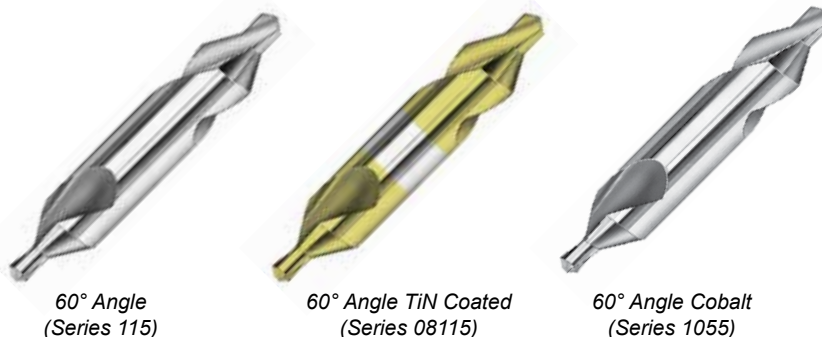


Size	Description	Code
Jobber Length	For Flat Head Screws	311184
#6 - 3/8 NC Screw Sizes Wooden Block	For Cap Screws	311182
	For Tap Drills	311185
Metric Jobber Length 3 to 10 mm Screw Sizes Wooden Block	For Cap Screws	615276

Size	Description	Code
1/8 to 1/2, 3/16 to 1/2, & 9/16 to 1 Metal Index	3 flats on shank	750010

Combined Drills & Countersinks

High Speed Steel, TiN Coated & Cobalt – 60° Plain Type



Size	Body Diameter (Inch)	Point Diameter (Inch)	Point Length (Inch)	Overall Length (Inch)	60° Angle (Series 115)	60° Angle (Series 08115)	60° Angle (Series 1055)
					HSS M2 Code	HSS M2 – TiN Code	Cobalt M42 Code
000	1/8	0.020	1/32	1-1/4	540599	–	–
00	1/8	0.025	1/32	1-1/4	540600	–	–
0	1/8	1/32	3/64	1-1/4	540610	–	–
1	1/8	3/64	1/16	1-1/4	540611	601000	540531
2	3/16	5/64	7/64	1-7/8	540612	601001	540532
3	1/4	7/64	9/64	2	540613	601002	540533
4	5/16	1/8	5/32	2-1/8	540614	601003	540534
4-1/2	3/8	9/64	3/16	2-1/2	540604	–	–
5	7/16	3/16	1/4	2-3/4	540615	601004	540535
6	1/2	7/32	19/64	3	540616	601005	540536
7	5/8	1/4	5/16	3-1/4	540617	601006	540537
8	3/4	5/16	13/32	3-1/2	540618	601007	540538
9	7/8	11/32	7/16	3-5/8	540619	–	–
10	1	3/8	1/2	3-3/4	540598	–	–

Combined Drills & Countersinks

High Speed Steel, Cobalt & Carbide – 60° Plain Type

• 60° included angle



High Speed Steel & Cobalt

Carbide

Size	Overall Length (Inch)	Drill Length (Inch)	Body Dia. (Inch)	Drill Dia. (Inch)	60° Angle HSS	60° Angle Cobalt
					Code	Code
00	1-1/4	0.025	1/8	0.025	521002	–
0	1-1/4	1/32	1/8	1/32	521003	–
1	1-1/4	3/64	1/8	3/64	521011	521031
2	1-7/8	5/64	3/16	5/64	521012	521032
3	2	7/64	1/4	7/64	521013	521033
4	2-1/8	1/8	5/16	1/8	521014	521034
5	2-3/4	3/16	7/16	3/16	521015	521035
6	3	7/32	1/2	7/32	521016	521036
7	3-1/4	1/4	5/8	1/4	521017	521037
8	3-1/2	5/16	3/4	5/16	521018	521038

Size	Overall Length (Inch)	Body Diameter (Inch)	Drill Diameter (Inch)	60° Angle Carbide
				Code
1	1-1/2	1/8	3/64	952040
2	1-7/8	3/16	5/64	952042
3	2	1/4	7/64	952044
4	2-1/8	5/16	1/8	952046
5	2-3/4	7/16	3/16	952048
6	3	1/2	7/32	952050
7	3	5/8	1/4	952052
8	3	3/4	5/16	952054

Combined Drills & Countersinks

High Speed Steel – 60° Plain Long Type



60° Angle
(Series 185)

Size	Body Diameter (Inch)	Point Length (Inch)	Point Diameter (Inch)	Overall Length (Inch)	60° Angle (Series 185) HSS M2		Size	Body Diameter (Inch)	Point Length (Inch)	Point Diameter (Inch)	Overall Length (Inch)	60° Angle (Series 185) HSS M2	
					Code							Code	
1	1/8	1/16	3/64	3	540561		4	5/16	5/32	1/8	5	540577	
*1	1/8	1/16	3/64	4	540562		4	5/16	5/32	1/8	6	540578	
1	1/8	1/16	3/64	5	540563		4-1/2	3/8	3/16	9/64	4	540579	
1	1/8	1/16	3/64	6	540564		4-1/2	3/8	3/16	9/64	5	540580	
2	3/16	7/64	5/64	3	540567		4-1/2	3/8	3/16	9/64	6	540581	
*2	3/16	7/64	5/64	4	540568		*5	7/16	1/4	3/16	4	540582	
2	3/16	7/64	5/64	5	540569		5	7/16	1/4	3/16	5	540583	
2	3/16	7/64	5/64	6	540570		5	7/16	1/4	3/16	6	540584	
3	1/4	9/64	7/64	3	540571		6	1/2	19/64	7/32	4	540585	
*3	1/4	9/64	7/64	4	540572		6	1/2	19/64	7/32	5	540586	
3	1/4	9/64	7/64	5	540573		6	1/2	19/64	7/32	6	540587	
3	1/4	9/64	7/64	6	540574		7	5/8	5/16	1/4	5	540588	
4	5/16	5/32	1/8	3	540575		7	5/8	5/16	1/4	6	540589	
*4	5/16	5/32	1/8	4	540576		8	3/4	13/32	5/16	6	540590	

SETS – 5 Pieces – Sizes *1 to *5 – 4" Overall Length 540560

Combined Drills & Countersinks

High Speed Steel & Solid Carbide – 60° Plain Long Type



Size	Overall Length (Inch)	Body Dia. (Inch)	Drill Length (Inch)	Drill Dia. (Inch)	60° Angle		Size	Overall Length (Inch)	Body Dia. (Inch)	Drill Length (Inch)	Drill Dia. (Inch)	60° Angle	
					HSS	Carbide						HSS	Carbide
					Code	Code						Code	Code
1	3	1/8	3/64	3/64	540631	–	4	6	5/16	1/8	1/8	540643	–
1	4	1/8	3/64	3/64	540632	952064	4-1/2	4	3/8	9/64	9/64	540644	–
1	5	1/8	3/64	3/64	540633	–	4-1/2	5	3/8	9/64	9/64	540645	–
1	6	1/8	3/64	3/64	540634	–	4-1/2	6	3/8	9/64	9/64	540646	–
2	4	3/16	5/64	5/64	540635	952066	5	4	7/16	3/16	3/16	540647	–
2	5	3/16	5/64	5/64	540636	–	5	5	7/16	3/16	3/16	540648	–
2	6	3/16	5/64	5/64	540637	–	5	6	7/16	3/16	3/16	540649	952072
3	4	1/4	7/64	7/64	540638	952068	6	5	1/2	7/32	7/32	540650	–
3	5	1/4	7/64	7/64	540639	–	6	6	1/2	7/32	7/32	540651	952074
3	6	1/4	7/64	7/64	540640	–	7	6	5/8	1/4	1/4	540652	952076
4	4	5/16	1/8	1/8	540641	952070	8	6	3/4	5/16	5/16	540653	952078
4	5	5/16	1/8	1/8	540642	–							

Combined Drills & Countersinks

High Speed Steel – 82° & 90° Plain Type



Size	Body Diameter (Inch)	Point Diameter (Inch)	Point Length (Inch)	Overall Length (Inch)	82° Angle (Series 154)	90° Angle (Series 155)
					HSS M2 Code	HSS M2 Code
1	1/8	3/64	1/16	1-1/4	540511	540521
2	3/16	5/64	7/64	1-7/8	540512	540522
3	1/4	7/64	9/64	2	540513	540523
4	5/16	1/8	5/32	2-1/8	540514	540524
5	7/16	3/16	1/4	2-3/4	540515	540525
6	1/2	7/32	19/64	3	540516	540526
7	5/8	1/4	5/16	3-1/4	540517	540527
8	3/4	5/16	13/32	3-1/2	540518	540528

High Speed Steel – Radius Type



Magafor center drills with the special radius profile provide the following benefits:

- Reduces tip breakage
- Serves as a protective chamfer
- Provides an exact bearing

Size	Body Diameter (Inch)	Point Diameter (Inch)	Point Length (Inch)	Overall Length (Inch)	Radius (Inch)	(Series 125) HSS M2 Code
1	1/8	3/64	1/8	1-1/4	5/32	540541
2	3/16	5/64	7/32	1-7/8	7/32	540542
3	1/4	7/64	9/32	2	5/16	540543
4	5/16	1/8	3/8	2	3/8	540544
5	7/16	3/16	1/2	2-3/4	1/2	540545
6	1/2	7/32	9/16	3	17/32	540546
7	5/8	1/4	11/16	3-1/4	11/16	540547
8	3/4	5/16	13/16	3-1/2	13/16	540548
SETS – 5 Pieces – Sizes 1 to 5						540540

High Speed Steel – 60° & 120° Bell Type



The Bell type design has included angles of 60° and 120° to form protected centers.

Size	Body Diameter (Inch)	Point Diameter (Inch)	Point Length (Inch)	Overall Length (Inch)	Bell Diameter (Inch)	(Series 135) HSS M2 Code
11	1/8	3/64	1/16	1-1/4	0.100	540621
12	3/16	1/16	3/32	1-7/8	0.150	540622
13	1/4	3/32	1/8	2	0.200	540623
14	5/16	7/64	5/32	2-1/8	0.250	540624
15	7/16	5/32	7/32	2-3/4	0.350	540625
16	1/2	3/16	1/4	3	0.400	540626
17	5/8	7/32	5/16	3-1/4	0.500	540627
18	3/4	1/4	11/32	3-1/2	0.600	540628
19	7/8	5/16	7/16	3-5/8	0.700	540629
20	1	3/8	1/2	3-3/4	0.800	540630
SETS – 5 Pieces – Sizes 11 to 15						540620

Indexable Combined Drill & Countersinks

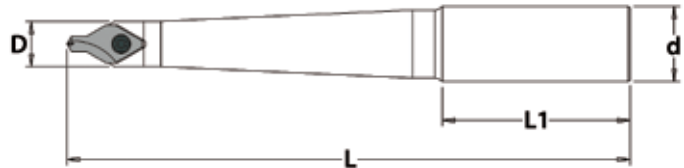
Carbide Inserts

- Secure insert pocket allows for quick and repeatable indexes
- Easy change over from one size to another – same body holds #2, #3, #4 and #5 inserts
- Carbide inserts for extended tool life
- One grade handles all applications
- Multiple bodies available for the same indexable insert (5/16", 3/8", 1/2", 5/8", 3/4", 1", and 1-1/4")
- Convenient, low-cost and economical

Individual Holders



5/8" holder body style shown



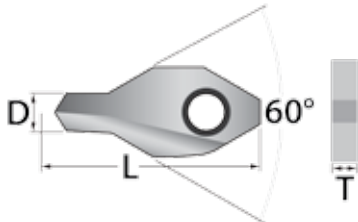
Dimensions (Inch)	Screw Reference	Key Reference	d Shank Diameter (Inch)	D Diameter (Inch)	L1 Length (Inch)	L Overall Length (Inch)	Code
5/16 x 4	TSB-0307	Torx® 9	5/16	0.393	1-13/32	4	530660
3/8 x 4	TSB-0307	Torx® 9	3/8	0.393	1-9/16	4	530661
1/2 x 4	TSB-0307	Torx® 9	1/2	0.393	1-23/32	4	530662
5/8 x 5	TSB-0307	Torx® 9	5/8	0.393	1-7/8	5	530663
3/4 x 6	TSB-0307	Torx® 9	3/4	0.393	1-7/8	6	530664
1 x 7	TSB-0307	Torx® 9	1	0.393	2-3/16	7	530665
1-1/4 x 8	TSB-0307	Torx® 9	1-1/4	0.393	2-11/32	8	530666



Indexable Combined Drill & Countersink Sets

Description	Code
5/8" x 5" Holder, 4 Carbide Inserts #2, #3, #4, and #5, and a Torx® 9 Key	530671
1/2" x 4" Holder, 4 Carbide Inserts #2, #3, #4, and #5, and a Torx® 9 Key	530672

Replacement Inserts



Insert	Material	D (Inch)	L Length (Inch)	T Thickness (Inch)	Code
#2	Carbide	5/64	0.811	0.157	530667
#3	Carbide	7/64	0.811	0.157	530668
#4	Carbide	1/8	0.811	0.157	530669
#5	Carbide	3/16	0.811	0.157	530670

Spare Screw



Description	Code
TSB-0307 (Torx® 9)	530673

Recommended Cutting Data

Material	Cutting Speed		Feed/Revolution							
			#2 (5/64")		#3 (7/64")		#4 (1/8")		#5 (3/16")	
	ft./min.	m/min.	inch/rev.	mm/rev.	inch/rev.	mm/rev.	inch/rev.	mm/rev.	inch/rev.	mm/rev.
Mild Steel	160-230	50-70	0.001-0.002	0.03-0.05	0.0025-0.004	0.06-0.10	0.003-0.0047	0.08-0.12	0.003-0.0055	0.08-0.14
Alloy Steel	150-210	45-65	0.0008-0.002	0.02-0.05	0.0015-0.003	0.04-0.08	0.0025-0.004	0.06-0.10	0.0025-0.004	0.06-0.10
Tool Steel	130-200	40-60	0.0004-0.0015	0.01-0.04	0.0008-0.0025	0.02-0.06	0.0015-0.003	0.04-0.08	0.0015-0.003	0.04-0.08
Stainless Steel	20-65	5-20	0.0004-0.0008	0.01-0.02	0.0004-0.001	0.01-0.03	0.0008-0.002	0.02-0.05	0.0008-0.0025	0.02-0.06
Cast Iron	160-230	50-70	0.0008-0.0025	0.02-0.06	0.0015-0.003	0.04-0.08	0.0025-0.004	0.06-0.10	0.0025-0.004	0.06-0.10
Aluminum	330-660	100-200	0.0004-0.0015	0.01-0.04	0.0008-0.002	0.02-0.05	0.0008-0.0025	0.02-0.06	0.0008-0.0025	0.02-0.06

Spotweld Drills

HSS-E Cobalt



- Centering point allows drilling without deviation
- Special sharpening allows the first sheet to be bored without damage to the second
- Design allows excellent penetration, a high wear resistance, and many regrinds



D (mm)	d2 (mm)	Flute Length (mm)	Overall Length (mm)	Series 201 Code
6	6	28	66	615370
7	7	34	74	615371
8	8	37	79	615372
10	10	43	89	615373

Spotweld Drills

For Pneumatic Tools

HSS-E Cobalt



- Short drills designed to be used with pneumatic disconnectors
- Shanks have flats with 60° taper



D (mm)	d2 (mm)	Flute Length (mm)	Overall Length (mm)	Series 202 Code
8	8	15	38	615374

Spotting & Centering Drills

High Speed Steel

Short Length – Right Hand Cut

- 118° point
- Short flute and overall lengths provides greater rigidity



Size (Inch)	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	Code
3/8	0.3750	1	2	615300
7/16	0.4375	1	2	615301
1/2	0.5000	1	2	615302
5/8	0.6250	1-1/8	2-1/4	615303
3/4	0.7500	1-1/8	2-1/4	615304
7/8	0.8750	1-1/4	2-1/2	615305
1	1.0000	1-1/4	2-1/2	615306
1-1/4	1.2500	2	4	615307
1-1/2	1.5000	2-1/2	5	615308
1-3/4	1.7500	2-3/4	5-1/2	615309

CNC Spotting Drills

High Speed Steel – 90° & 120° Points

Standard Length – Right Hand Cut

- Used to establish perfect alignment of the follow-up tool



Size (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	90° Point	120° Point
				Code	Code
1/4	0.2500	3/4	2-1/2	601020	601026
3/8	0.3750	1-1/8	3-1/8	601021	601027
1/2	0.5000	1-3/8	3-3/4	601022	601028
5/8	0.6250	1-5/8	4-3/8	601023	601029
3/4	0.7500	1-7/8	5	601024	601030
1	1.0000	2-1/4	6	601025	601031

CNC Spotting Drills



Cobalt & TiN Coated – Inch & Metric – 90° & 120° Angles – Standard Length



Cobalt



TiN Coated

Inch

Body Diameter (Inch)	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	90° Angle (Series 195) Cobalt	120° Angle (Series 196) Cobalt	90° Angle (Series 0895) TiN Coated	120° Angle (Series 0896) TiN Coated
				Code	Code	Code	Code
1/8	0.125	3/8	2	540658	540668	601032	601041
3/16	0.188	5/8	2-3/8	540659	540669	601033	601042
1/4	0.250	7/8	2-5/8	540660	540670	601034	601043
3/8	0.375	1	3-1/2	540661	540671	601035	601044
1/2	0.500	1-3/8	4	540662	540672	601036	601045
5/8	0.625	1-3/8	4-1/2	540663	540673	601037	601046
3/4	0.750	1-5/8	5-1/8	540664	540674	601038	601047
1	1.000	1-3/4	5-1/2	540665	540675	601039	601048
SETS – 4 Pieces – Sizes 1/4, 3/8, 1/2, and 5/8"				540666	540676	601040	601049

Metric

Body Diameter (mm)	Decimal Equivalent (Inch)	Flute Length (Inch)	Overall Length (Inch)	90° Angle (Series 195) Cobalt	120° Angle (Series 196) Cobalt	90° Angle (Series 0895) TiN Coated	120° Angle (Series 0896) TiN Coated
				Code	Code	Code	Code
2	0.079	5/16	2	540001	540014	601050	601063
3	0.118	3/8	2	540002	540015	601051	601064
4	0.157	1/2	2	540003	540016	601052	601065
5	0.197	5/8	2-3/8	540004	540017	601053	601066
6	0.236	3/4	2-5/8	540005	540018	601054	601067
8	0.315	1	3-1/8	540006	540019	601055	601068
10	0.394	1	3-1/2	540007	540020	601056	601069
12	0.472	1-1/4	4	540008	540021	601057	601070
14	0.551	1-3/8	4-1/2	540009	540022	601058	601071
16	0.630	1-3/8	4-1/2	540010	540023	601059	601072
18	0.709	1-5/8	5-1/8	540011	540024	601060	601073
20	0.787	1-5/8	5-1/8	540012	540025	601061	601074
25	0.984	1-3/4	5-1/2	540013	540026	601062	601075

Cobalt – Inch & Metric – 90° & 120° Angles – Long Length



Inch

Metric

Body Diameter (Inch)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	90° Angle (Series 197)	120° Angle (Series 199)	Body Diameter (mm)	Decimal Equiv. (Inch)	Flute Length (Inch)	Overall Length (Inch)	90° Angle (Series 197)
				Code	Code					Code
1/4	0.250	7/8	5-1/2	540680	540690	4	0.157	1/2	4	540027
3/8	0.375	1	6-3/4	540681	540691	5	0.197	9/16	4-3/4	540028
1/2	0.500	1-3/8	6-3/4	540682	540692	6	0.236	3/4	5-1/2	540029
5/8	0.625	1-3/8	7-7/8	540683	540693	8	0.315	1	5-1/2	540030
3/4	0.750	1-5/8	7-7/8	540684	540694	10	0.394	1	6-3/4	540031
1	1.000	1-3/4	7-7/8	540685	540695	12	0.472	1-3/16	6-3/4	540032
SETS – 4 Pieces				540686	540697	16	0.630	1-3/8	7-7/8	540033
Sizes 1/4, 3/8, 1/2, and 5/8"						20	0.787	1-9/16	7-7/8	540034

CNC Spotting Drills

Micrograin Solid Carbide

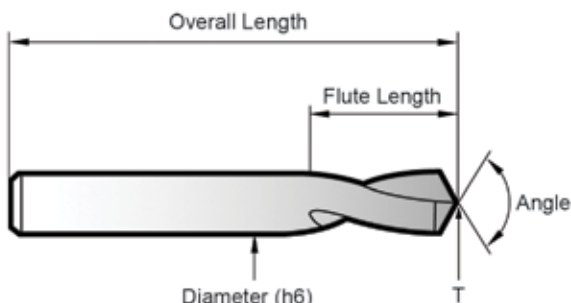
Stub Length



CARBIDE



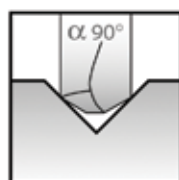
Hard'X Up to 67 HRC



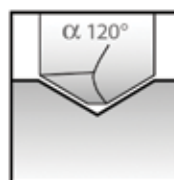
Web thickness: $T=0.1 \times D$

Hard'X: AlTiN carbide tool coating with a high hardness of 3500 HV. This coating shows high thermic stability and excellent protection against heat and wear. Ideal for dry machining - high speed cut - in treated steels and dies up to 67 HRC.

Tolerances			
Diameters	Tolerance D	Angle	L
0.078-0.118	$0 + 0.0002''$	$\pm 1^\circ$	± 0.0395
1/8-0.236	$0 + 0.0003''$	$\pm 1^\circ$	± 0.0395
1/4-0.394	$0 + 0.0004''$	$\pm 1^\circ$	± 0.0395
0.472-1	$0 + 0.0005''$	$\pm 1^\circ$	± 0.0395



90 degree angle:
By using the Magafor NC drill of diameter over the drilling tool, centering and chamfering are obtained in a single operation



120 degree angle:
The preliminary hole obtained with the Magafor NC drill corresponds to the angle at the end of the tool used in drilling and prevents it from deviating

90° Angle (Series 8195), Hard'X 90° Angle (Series 8195-H) & 120° Angle (Series 8196)

Diameter Inch (mm)	Overall Length (Inch)	Flute Length (Inch)	Web Thickness of Split Point (Inch)	90° Angle (Series 8195)	90° Angle (Series 8195-H)	120° Angle (Series 8196)
				Code	Hard'X Code	Code
0.078 (2)	1-9/16	0.315	0.008	540050	314267	540070
0.118 (3)	1-3/4	0.4	0.012	540051	314270	540071
0.157 (4)	2	0.475	0.016	540052	314273	540072
0.197 (5)	2	0.6	0.02	540053	314276	540073
0.236 (6)	2	0.7	0.023	540054	314279	540074
1/4 (6.35)	2	0.7	0.023	540055	314282	540075
5/16 (7.93)	2-3/8	0.9	0.031	314264	314285	-
0.315 (8)	2-3/8	0.9	0.031	540056	314288	540076
3/8 (9.52)	2-3/4	0.95	0.039	540057	314291	540077
0.394 (10)	2-3/4	0.95	0.039	540058	314294	540078
0.472 (12)	2-3/4	0.95	0.047	540059	314297	540079
1/2 (12.70)	2-3/4	0.95	0.051	540060	314300	540080
0.551 (14)	3	0.95	0.055	540061	314303	540081
5/8 (15.87)	3-1/8	1	0.063	540062	314306	540082
0.63 (16)	3-1/8	1	0.063	540063	314309	540083
0.787 (20)	4	1-3/8	0.079	540064	314312	540084

Long Length – 90° Angle (Series 8197)



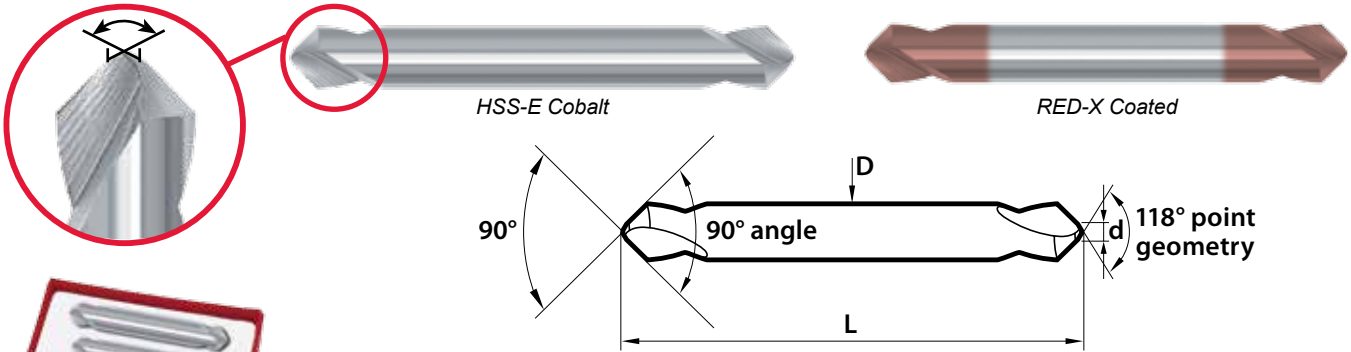
Diameter Inch (mm)	Overall Length (Inch)	Flute Length (Inch)	Web Thickness of Split Point (Inch)	90° Angle (Series 8197)	Diameter Inch (mm)	Overall Length (Inch)	Flute Length (Inch)	Web Thickness of Split Point (Inch)	90° Angle (Series 8197)
				Code					Code
0.157 (4)	4	0.475	0.016	314318	1/2 (12.70)	6-3/4	1-3/8	0.051	314342
0.197 (5)	4-3/4	0.6	0.02	314321	5/8 (15.87)	8	1-3/8	0.063	314345
0.236 (6)	5-1/2	0.8	0.023	314324	0.63 (16)	8	1-3/8	0.063	314348
1/4 (6.35)	5-1/2	0.87	0.025	314327	3/4 (19.05)	8	1-5/8	0.075	314351
0.315 (8)	5-1/2	1	0.031	314330	0.787 (20)	8	1-5/8	0.079	314354
3/8 (9.52)	6-3/4	1	0.039	314333					
0.394 (10)	6-3/4	1	0.039	314336					
0.472 (12)	6-3/4	1-3/16	0.047	314339					

Spotting Drills



HSS-E Cobalt – 90° Angle – 118° Point Geometry – Uncoated & RED-X Coated

- 118° point geometry offers improved penetration rates while reinforcing the point
- Double ended for cost savings
- Available in 4-Piece sets or sold individually
- RED-X coating provides increased speeds and feeds and allows machining up to 55 HRC



D (Inch)	d (Inch)	L (Inch)	90° Uncoated (Series 019)	90° RED-X Coated (Series 0919)
			Code	Code
3/16	1/16	2	540091	540096
1/4	3/32	2	540092	540097
3/8	9/64	3	540093	540098
1/2	3/16	4	540094	540099
SETS – 4 Pieces – 3/16", 1/4", 3/8", 1/2"			540090	540095

Drill Mills

Cobalt and Carbide – 90° Point



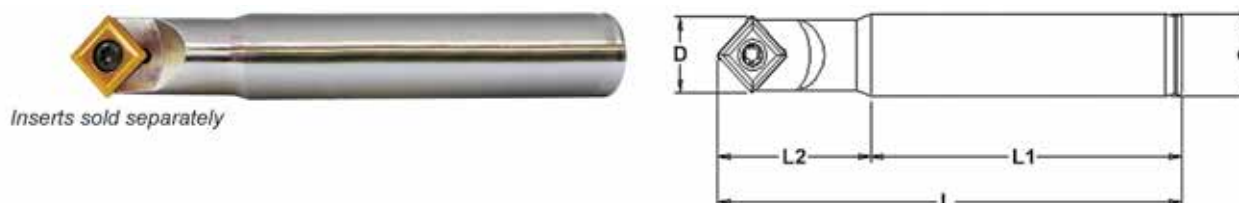
Diameter (Inch)	Shank Diameter (Inch)	Flute Length (Inch)	Overall Length (Inch)	Cobalt	Carbide
				Code	Code
1/4	1/4	1/2	2	313805	313811
5/16	5/16	5/8	2	313806	313812
3/8	3/8	3/4	2-1/2	313807	313813
1/2	1/2	1	3	313808	313815
5/8	5/8	1-1/4	3-1/2	313809	313816
3/4	3/4	1-1/2	4	313810	313817

Indexable Spotting Drills

Carbide Inserts

- One combination tool that does four applications, giving extra efficiency and reduced cycle times
- For spotting, engraving, chamfering and grooving on CNC and conventional milling machines
- For spotting on CNC lathes
- Indexable carbide insert with 4 cutting edges provides great cost per edge and long tool life
- Insert fits both 1/2" and 5/8" diameter tools
- Extended reach tools: 5/8" x 6" and 5/8" x 9"

Individual Holders



Inserts sold separately

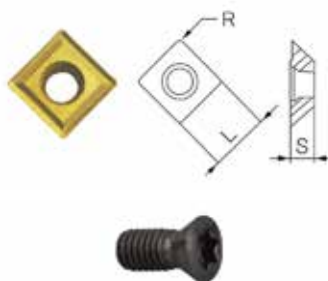
Dimensions (Inch)	Insert Reference	Screw Reference	Key Reference	D (Inch)	d (Inch)	L (Inch)	L1 (Inch)	L2 (Inch)	Code
5/8 x 4	XDBP11T308	TSB-3508	Torx® 15	0.551	0.625	4.00	2.75	1.25	530651
5/8 x 6	XDBP11T308	TSB-3508	Torx® 15	0.551	0.625	6.00	4.75	1.25	530652
5/8 x 9	XDBP11T308	TSB-3508	Torx® 15	0.551	0.625	9.00	7.75	1.25	530653



Indexable Spotting Drill Sets

Description	Grade	Code
5/8" x 4" holder, 6 carbide inserts and a Torx® 15 key	Steel	530656
5/8" x 4" holder, 6 carbide inserts and a Torx® 15 key	Stainless Steel	530657

Replacement Inserts



Description	Material/Grade	L (Inch)	S (Inch)	R (Inch)	Code
XDBP11T308-P	Carbide for Steel	0.433	0.156	0.031	530654
XDBP11T308-S	Carbide for Stainless Steel	0.433	0.156	0.031	530655

Spare Screw

Description	Code
TSB-3508 (Torx® 15)	530658

Recommended Cutting Data

- α = Point angle 90°
- H = Centering depth
- D = Effective diameter
- Vc = Cutting speed: ft./min. or m/min.
- S = Spindle speed
- F = Feed rate
- f = Feed/Rev.: inch/rev. or mm/rev.
- Ff = Feed rate factor

Maximum H

- Centering 0.28" (7mm)
- Grooving 0.20" (5mm)
- Chamfering . 0.28" (7mm)

Inch

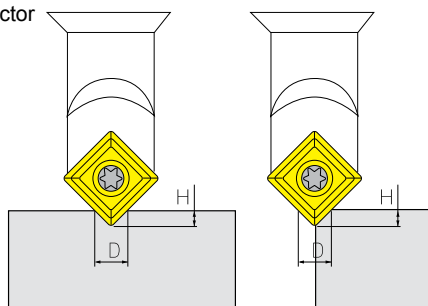
$$RPM = \frac{SFM \times 3.82}{D}$$

$$F = RPM \times \text{Inch/Rev} \times \# \text{ of Flutes}$$

Metric

$$RPM = \frac{1000 \times SFM}{\pi \times D}$$

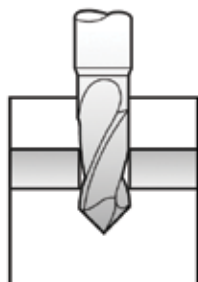
$$F = RPM \times \text{mm/Rev} \times \# \text{ of Flutes}$$



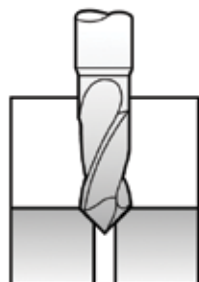
Material	Cutting Speed		Feed/Revolution	
	ft./min.	m/min.	inch/rev.	mm/rev.
Carbon Steel	400-500	120-150	0.002	0.05
Alloy Steel	330-400	100-120	0.0015	0.04
High Alloy Steel	200-260	60-80	0.001	0.03
Hard Steel < HRC40	200-260	60-80	0.001	0.03
Hard Steel, 40	165-200	50-60	0.001	0.03
Stainless Steel	165-200	50-60	0.001	0.03
Gray Cast Iron	260-332	80-102	0.002	0.05

MULTI-V Drill Mill Multi-Function Tool

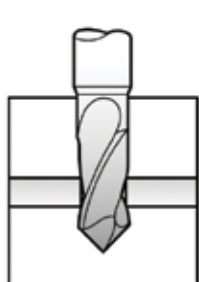
Micrograin Solid Carbide – 90° Angle



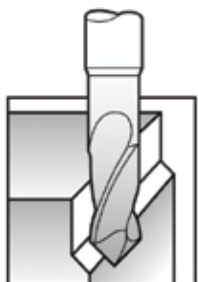
Drilling
90°, 100°, 120°



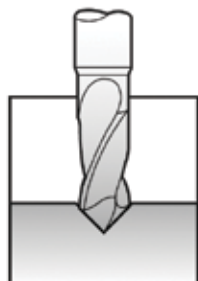
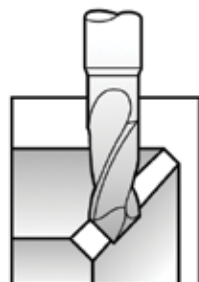
Chamfering
60°, 90°, 100°, 120°



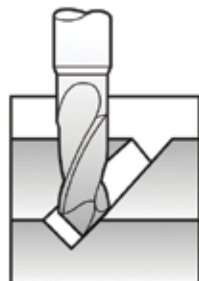
Direct Chamfers
90°, 100°, 120°



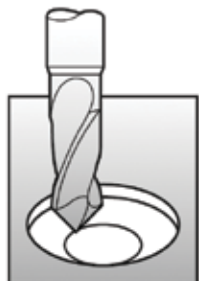
Longitudinal Chamfers
60°, 90°, 100°, 120°



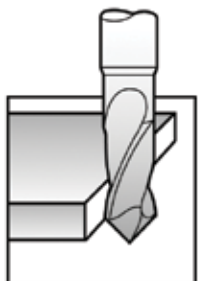
Centering/Spotting
90°, 100°, 120°



V-Grooving
90°, 100°, 120°



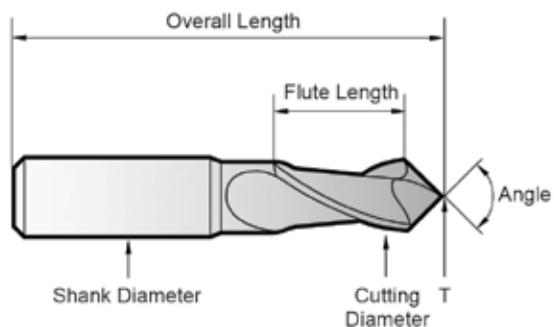
Interpolation Drilling
90°, 100°, 120°



Contouring
60°, 90°, 100°, 120°



Engraving
40°, 60°



Web thickness: T=0.1 x D

Tolerances

Diameters			Angle	Shank Diameter	
0.020-0.118	-0	-0.0010	±1°	0.118	0-0.00020
0.157-0.236	-0	-0.0012	±1°	0.157-0.197	0-0.00030
0.250-0.394	-0	-0.0014	±1°	0.197-0.394	0-0.00035
0.472-0.630	-0.0018	-0.0036	±1°	0.500-0.630	0-0.00045
0.787	-0.0025	-0.0045	±1°	0.787	0-0.00050

Cutting Diameter (Inch)	Cutting Diameter (mm)	Overall Length (Inch)	Flute Length (Inch)	Shank Diameter (Inch)	(Series 8090) Code	Cutting Diameter (Inch)	Cutting Diameter (mm)	Overall Length (Inch)	Flute Length (Inch)	Shank Diameter (Inch)	(Series 8090) Code
0.020	0.50	1-1/2	0.040	0.118	540401	0.157	4.00	2	0.315	0.197	540414
0.024	0.60	1-1/2	0.047	0.118	540402	3/16	4.76	2	0.375	1/4	540415
0.028	0.70	1-1/2	0.055	0.118	540403	0.197	5.00	2	0.395	0.236	540416
0.031	0.80	1-1/2	0.063	0.118	540404	0.236	6.00	2-3/8	0.475	0.315	540417
0.035	0.90	1-1/2	0.071	0.118	540405	1/4	6.35	2-3/8	0.475	5/16	540418
0.039	1.00	1-1/2	0.080	0.118	540406	5/16	7.93	2-3/4	0.630	3/8	540419
0.047	1.20	1-1/2	0.095	0.118	540407	0.315	8.00	2-3/4	0.630	0.394	540420
0.055	1.40	1-1/2	0.110	0.118	540408	3/8	9.52	2-3/4	0.710	1/2	540421
0.059	1.50	1-1/2	0.120	0.118	540409	0.394	10.00	2-3/4	0.710	0.472	540422
0.063	1.60	1-1/2	0.125	0.118	314000	0.472	12.00	2-3/4	0.790	0.472	540423
0.071	1.80	1-1/2	0.140	0.118	540410	1/2	12.70	2-3/4	0.790	1/2	540424
0.078	2.00	1-1/2	0.160	0.118	540411	5/8	15.07	3-1/8	1.000	5/8	540425
0.098	2.50	1-1/2	0.195	0.118	540412	0.630	16.00	3-1/8	1.025	0.630	540426
0.118	3.00	2	0.240	0.157	540413	0.787	20.00	4	1.260	0.787	540427



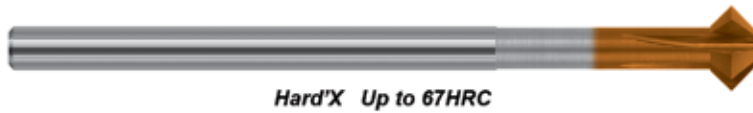
Chamfering Biconical Cutters

K15 Carbide – Front & Back

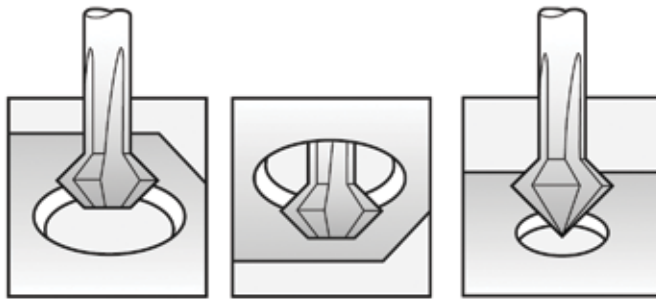
- Special design equals positive cut plus relieving profile
- Unequalled surface finish
- Impressive performance
- Extended tools profile life



Bi-Face: For superior finish operations, Bi-Face has a constant relieved profile. Longitudinal or interpolated work for front and back chamfering of edges and holes.



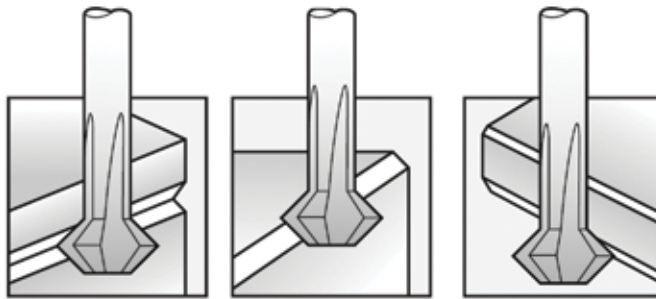
Hard'X: AlTiN carbide tool coating with a high hardness of 3500 HV. This coating shows high thermic stability and excellent protection against heat and wear. Ideal for dry machining - high speed cut - in treated steels and dies up to 67 HRC.



Front

Back

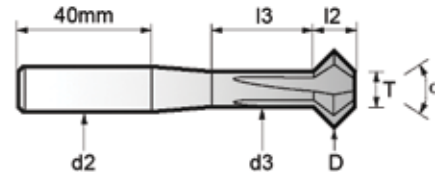
Deburring



V-Grooving

Top & Bottom Chamfering

Tolerances			
D	Tolerance	L	Angle
0.04 - 0.197	0 - 0.002	± 0.04	±1°
0.236 - 0.63	0 - 0.004	± 0.04	±1°



Standard 4 Flute Bi-Face 90° Angle (Series 8490) & Hard'X 90° Angle (Series 8490-H)

Diameter Inch (mm)	d2 (Inch)	d3 Max. (Inch)	T Max. (Inch)	L Min. (Inch)	L2 (Inch)	L3 (Inch)	90° Angle (Series 8490)	90° Angle (Series 8490-H)
							Bi-Face Code	Hard'X Code
0.118 (3)	0.236	0.087	0.047	4	0.051	0.394	314198	314222
0.157 (4)	0.236	0.114	0.063	4	0.069	0.472	314201	314225
0.197 (5)	0.236	0.134	0.079	4	0.091	0.591	314204	314228
0.236 (6)	0.236	0.154	0.094	4	0.114	0.709	314207	314231
0.315 (8)	0.236	0.193	0.193	4	0.118	1.339	314210	314234
0.394 (10)	0.236	0.232	0.232	4	0.157	1.339	314213	314237
0.472 (12)	0.236	0.232	0.232	4	0.236	1.339	314216	314240
0.630 (16)	0.394	0.311	0.311	4	0.315	1.339	314219	314243