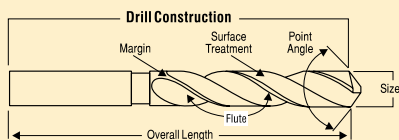


Drill Bit Technical Information

POINT TYPES



Conventional Point

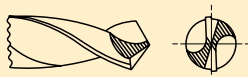
Most commonly used for a variety of drilling applications.



118° CONVENTIONAL POINT

Split Point

Reduces thrust and eliminates walking at the drill point. Ideal for tight tolerance and portable drilling.



135° SPLIT POINT

Notched Point

Used on heavy web drills allowing point to withstand higher thrust loads required for drilling tough alloys with same benefits as split point.

DRILL TYPES

Jobbers Length

Industry standard drill bit length.

Mechanic's Length

Shorter than jobbers length drills with better rigidity and increased strength.

Screw Machine Length

Shorter flute and overall length for maximum rigidity and accuracy. Designed to reduce deflection and breakage.

Taper Length

Longer than jobbers length drills where a deeper hole is required.

Extra Length

Longest overall length for drilling deep and hard-to-reach areas.

Taper Shank

Shank fits directly into tapered spindle hole of machine spindles and drill presses.

Coolant Fed

Allows coolant to feed through the drill to remove chips, substantially reducing friction and temperature.

Parabolic

Open flute with heavy parallel web and high helix angle. Designed for deep hole drilling without frequent drill removal to remove chips.

Slow Spiral

Low helix angle and wide flutes offer excellent chip ejection in nonferrous materials.

Aircraft

Meet NAS aerospace specifications. Type B and C are recommended for most ferrous and nonferrous materials less than 30 Rc. Type J are recommended for nonferrous materials less than 49 Rc and stainless, titanium, and iron base alloys to over 32 Rc.

Reduced Shank

Allows drill diameter to exceed the chuck diameter.

Die (Straight Flute)

Excellent for use on hardened materials. Special fluting for rapid chip removal and heat dissipation.

Micro

Used for precision drilling in medical, aerospace, and high precision parts. For most ferrous and nonferrous materials.

3-Flute

Also known as core drills, commonly used for enlarging and finishing drilled, cast, or punched holes. Will not produce original holes.

Spotting

Prevents misalignment frequently caused by using regular drills for centering.

MATERIALS AND SURFACE TREATMENTS

High Speed Steel (HSS)

Used for a variety of applications on ferrous and nonferrous materials.

Cobalt

Provides higher abrasion and heat resistance for use on harder materials like stainless steel and armor.

Carbide

Designed for high speed cutting of difficult-to-machine materials such as cast iron, nonferrous metals, and abrasive materials.

Bright Finish

Surface is untreated, but flutes are polished for increased chip removal.

Black Oxide, Steam Oxide, and Black and Gold Finish

Helps retain lubricants for improved chip flow and better wear life. Recommended for iron and steel. Should not be used with nonferrous metals such as aluminum.

Steam Nitride

Highly resistant to abrasion. Prevents the tendency of softer materials to load up on tools. Recommended for ferrous, nonferrous, and nonmetallic materials.

TiN Coated

Titanium nitride coating lengthens tool life and allows higher speeds with added lubricity. For ferrous and nonmetallic materials.

TiCN Coated

Titanium carbonitride coating has a higher hardness value than TiN providing excellent heat resistance for more abrasive materials. Lower oxidation temperature limits use to workpiece materials where moderate temperatures are generated at the cutting edge.

TiAlN Coated

Titanium aluminum nitride coating is most effective where accelerated feeds and speeds are required. For use on ferrous materials, high temperature alloys, titanium, and stainless steels.

EXO® Coated

Modified TiAlN coating for increased resistance to heat and oxidation wear when compared to standard TiAlN coating.

FIREX® Coated

Multilayer TiN/TiAlN PVD coating for drill surface hardness to over 90 Rc. Offers the application versatility of TiN, heat resistance of TiAlN and shock resistance of TiCN.

DECIMAL EQUIVALENT CHART

FRACTIONAL, WIRE, LETTER, AND METRIC SIZES

Size	Decimal	Size	Decimal	Size	Decimal	Size	Decimal	Size	Decimal	Size	Decimal	Size	Decimal	Size	Decimal	Size	Decimal	Size	Decimal
0.1mm	0.0039	1/32	0.0312	#52	0.0635	#35	0.1100	#19	0.1660	7/32	0.2188	M	0.2950	X	0.3970	39/64	0.6094	27/32	0.8438
0.2mm	0.0079	0.8mm	0.0315	#51	0.0670	#34	0.1110	#18	0.1695	#2	0.2210	19/64	0.2969	Y	0.4040	5/8	0.6250	55/64	0.8594
0.3mm	0.0118	#67	0.0320	#50	0.0700	#33	0.1130	11/64	0.1719	#1	0.2280	N	0.3020	13/32	0.4062	16mm	0.6299	22mm	0.8661
#80	0.0135	#66	0.0330	#49	0.0730	#32	0.1160	#17	0.1730	A	0.2340	5/16	0.3125	Z	0.4130	41/64	0.6406	7/8	0.8750
#79	0.0145	#65	0.0350	#48	0.0760	3mm	0.1181	#16	0.1770	15/64	0.2344	8mm	0.3150	27/64	0.4219	21/32	0.6562	57/64	0.8906
1/64	0.0156	0.9mm	0.0354	5/64	0.0781	#31	0.1200	#15	0.1800	6mm	0.2362	O	0.3160	11mm	0.4331	17mm	0.6693	23mm	0.9055
0.4mm	0.0157	#64	0.0360	#47	0.0785	1/8	0.1250	#14	0.1820	B	0.2380	P	0.3230	7/16	0.4375	43/64	0.6719	29/32	0.9062
#78	0.0160	#63	0.0370	2mm	0.0787	#30	0.1285	#13	0.1850	C	0.2420	21/64	0.3281	29/64	0.4531	11/16	0.6875	59/64	0.9219
#77	0.0180	#62	0.0380	#46	0.0810	#29	0.1360	3/16	0.1875	D	0.2460	Q	0.3320	15/32	0.4688	45/64	0.7031	15/16	0.9375
0.5mm	0.0197	#61	0.0390	#45	0.0820	#28	0.1405	#12	0.1890	1/4	0.2500	R	0.3390	12mm	0.4724	18mm	0.7087	24mm	0.9449
#76	0.0200	1mm	0.0394	#44	0.0860	9/64	0.1406	#11	0.1910	E	0.2500	11/32	0.3438	31/64	0.4844	23/32	0.7188	61/64	0.9531
#75	0.0210	#60	0.0400	#43	0.0890	#27	0.1440	#10	0.1935	F	0.2570	S	0.3480	1/2	0.5000	47/64	0.7344	31/32	0.9688
#74	0.0225	#59	0.0410	#42	0.0935	#26	0.1470	#9	0.1960	G	0.2610	9mm	0.3543	13mm	0.5118	19mm	0.7480	25mm	0.9843
0.6mm	0.0236	#58	0.0420	3/32	0.0938	#25	0.1495	5mm	0.1969	17/64	0.2656	T	0.3580	33/64	0.5156	3/4	0.7500	63/64	0.9844
#73	0.0240	#57	0.0430	#41	0.0960	#24	0.1520	#8	0.1990	H	0.2660	23/64	0.3594	17/32	0.5312	49/64	0.7656	1 Inch	1.0000
#72	0.0250	#56	0.0465	#40	0.0980	#23	0.1540	#7	0.2010	I	0.2720	U	0.3680	35/64	0.5469	25/32	0.7812		
#71	0.0260	3/64	0.0469	#39	0.0995	5/32	0.1562	13/64	0.2031	7mm	0.2756	3/8	0.3750	14mm	0.5512	20mm	0.7874		
0.7mm	0.0276	#55	0.0520	#38	0.1015	#22	0.1570	#6	0.2040	J	0.2770	V	0.3770	9/16	0.5625	51/64	0.7969		
#70	0.0280	#54	0.0550	#37	0.1040	4mm	0.1575	#5	0.2055	K	0.2810	W	0.3860	37/64	0.5781	13/16	0.8125		
#69	0.0292	#53	0.0595	#36	0.1065	#21	0.1590	#4	0.2090	9/32	0.2812	25/64	0.3906	15mm	0.5906	21mm	0.8268		
#68	0.0310	1/16	0.0625	7/64	0.1094	#20	0.1610	#3	0.2130	L	0.2900	10mm	0.3937	19/32	0.5938	53/64	0.8281		