

Drill Bit Selection Guide

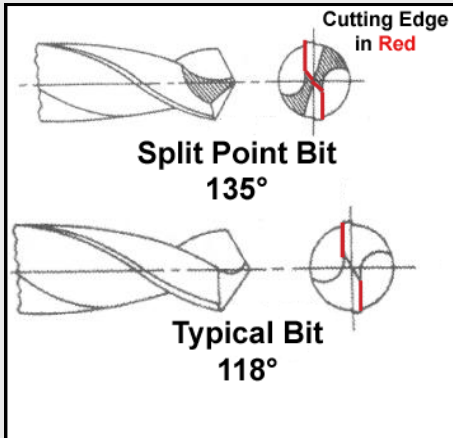
Ultimately, drilling a hole is a simple task. With all the different drill bit materials, points, lengths, and coatings available, knowing how to select them will make the job smoother, and extend the life of the tool. This guide will concentrate on the two most common styles of drill bit, the 118° Conventional Point (General Purpose) and 135° Split Point (Heavy Duty). It will also cover bit lengths, materials of construction, and coatings.

Point Types

The most common point for drill bits is the 118° Conventional Point, which is used for a variety of general purpose applications. The next most common point is the 135° Split Point. This point is commonly used in heavy duty applications, and is ideal for tight tolerance situations, and also helps eliminate “walking” at the drill point, meaning the bit stays where it’s placed, versus sliding off the mark.

Lengths

Drill bits come in 5 standard groups of length. The Jobbers bit is the industry standard length, and falls in the middle of the drill bit length spectrum. After the Jobbers length, in ascending order is the Taper length, followed by the Extra length bits. In descending order from Jobbers length, is the Mechanics length, and the Screw Machine length. It is important to note that bit diameter will determine over all length in each group, e.g. a 1/8” jobber bit will be shorter than a 1/4” jobber bit.



Materials- Materials refers to what the drill bit is made of. The chart below will show what application a given material is best suited for.

Material	Application
High Speed Steel (HSS)	General purpose, carbon steel, ferrous and nonferrous metals
Cobalt	Stainless steel, armor plating, and other harder metals
Carbide	Difficult or abrasive materials like cast iron, fiberglass, and nonferrous metals.

Coatings- In some instances, drill bits are given a coating to improve performance and tool life. The following information will explain the advantages of the four most widely used coatings for drill bits.

Coatings

- Black Oxide** Most common coating type. Helps retain drilling lubricants. Not recommended for nonferrous metals like aluminum.
- TiN coated** Titanium Nitride provides extra lubricity at the drill point, for higher drilling speeds and longer tool life.
- TiAlN coated** Titanium Aluminum Nitride, most effective when higher drill speeds and feed rates are required. Works well on stainless steel, titanium, ferrous metals, and high-temperature alloys.
- Bright finish** No surface coating. Flutes are polished for improved chip removal. Works well for nonferrous materials like aluminum.



Information sources include WW Grainger

If you are still having difficulty choosing a Drill Bit,
 please contact us at askzoro@zoro.com or 855-289-9676

Product Compliance and Suitability.

THE PRODUCT STATEMENTS CONTAINED IN THIS EZTIP ARE INTENDED FOR GENERAL INFORMATIONAL PURPOSES ONLY. SUCH PRODUCT STATEMENTS DO NOT CONSTITUTE A PRODUCT RECOMMENDATION OR REPRESENTATION AS TO THE APPROPRIATENESS, ACCURACY, COMPLETENESS, CORRECTNESS OR CURRENTNESS OF THE INFORMATION PROVIDED. INFORMATION PROVIDED IN THIS EZ TIP DOES NOT REPLACE THE USE BY YOU OF ANY MANUFACTURER INSTRUCTIONS, TECHNICAL PRODUCT MANUAL OR OTHER PROFESSIONAL RESOURCE OR ADVISER AVAILABLE TO YOU. ALWAYS READ, UNDERSTAND, AND FOLLOW ALL MANUFACTURER INSTRUCTIONS.