

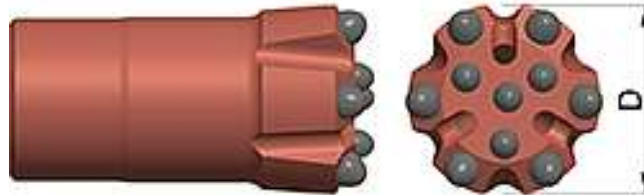
Top Hammer Bit Selection Guide

The threaded bits can be selected based on bit diameter, thread type, bit face configuration, bit body skirt built, and carbide button shape. Characteristics like bit face configuration, flushing holes quantity, quantity and size of carbides, and carbide button shape influence the desired penetration rate. These factors also need to be weighed against the bit cost for the selection of the optimum bit.

Bit face configuration

Flat

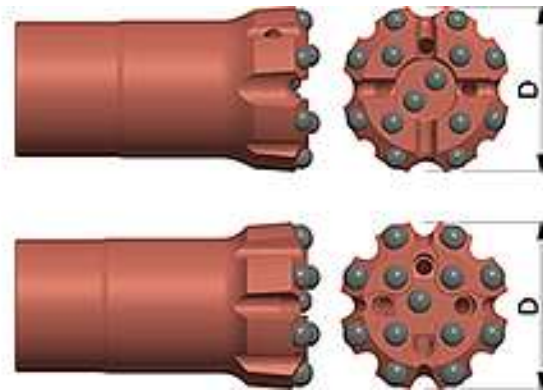
This type of face design is very aggressive in drilling applications and is suited best for hard rock formations. Bits having a flat face have a good penetration rate. Sometimes the face design may also have grooves that support good flushing. Bits with grooves are best suited for medium to hard and fissured formations.



Flat Face Configuration

Drop Centre Configuration

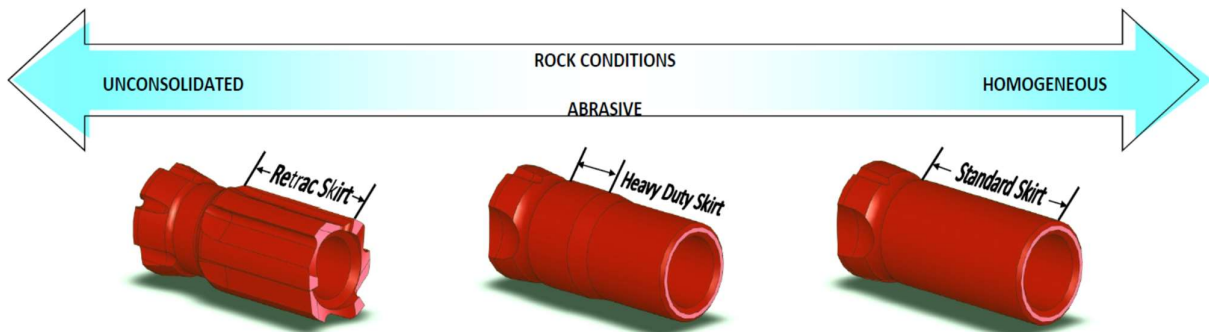
This type of face design is best suited for less hard and medium-type rock formations. The drop center bit drills straight holes while maintaining good penetration



Drop Centre Configuration

Skirt Selection

SKIRT SELECTION





Regular/ Standard Body top hammer bit with a standard body skirt

The skirt is typically smaller than the head diameter to avoid cuttings and the rock wall thereby optimizing the hole flushing

Heavy duty skirt

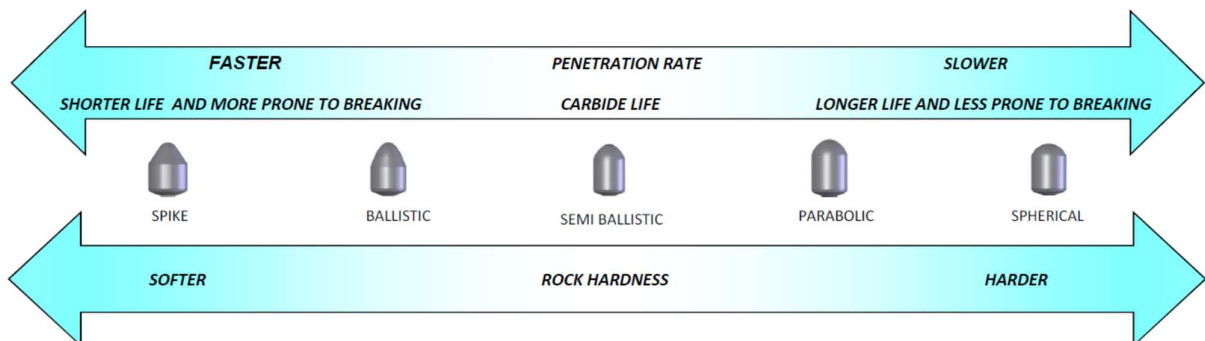
This type of bit has some extra added wear material towards the front of the skirt. This gives the bit extra protection against abrasive cuttings generated in the course of drilling thereby extending the bit life.

Retract Skirt

A bit with the retract skirt is designed to improve hole straightness. The retract skirt also assists in easy retrieval of the drill string as the contact area with the formation gets limited. The splines also improve the hole-flushing characteristics of the bit due to the chip ways between the splines.

Button Shapes

The profile shape is one of the most fundamental decisions when selecting carbide configurations. Button bits most commonly have either spherical, semi-ballistic, or parabolic carbide designs; however, it is not uncommon to use other carbide designs as well. Please see below the characteristics and the suitability of different button shapes.



Spherical



This button is the most common shape used in threaded button bits. This shape is the strongest and most resistant to breakage. Spherical shape provides excellent penetration in medium rock, hard rock, broken formations, and in all types of drilling conditions.

Parabolic



Normally this button is used in medium soft to medium hard rock drilling formations. This type of button gives higher penetration than spherical and better breakage resistance than ballistic

Semi Ballistic



This type of button is used in medium hard to hard rock drilling formations and it gives a higher penetration rate than spherical.

Ballistic



Normally this button is used in soft drilling formations. This type of button tip protrudes out more so it is very aggressive and yields high penetration rates. A ballistic button is prone to breakage if used in the wrong formations.



Spike

Normally this button is used in soft and medium hard rock drilling formations. It offers a high penetration rate but is prone to breakage if used in incorrect formation.