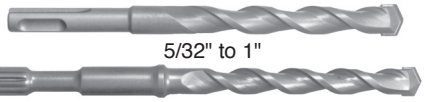
CARBIDE MASONRY DRILLS

1/8" to 1"

Fast Spiral Rotary: Generally used in rotary drilling. Speed range 450-700 RPM to 1/2" diameter, 350-500 RPM from 5/8" and up. Rotary bits do not break-up the concrete, but actually grind it away under pressure.

1/8" to 1"

Rotary/Percussion: Generally used in lightweight mechanical vibrating hammers. Speed range 1300-3500 RPM at up to 50,000 blows per minute. The impacting action created by the hammer fractures the concrete into tiny granules.



5/32" to 1"

3/8" to 1-1/2"

Rotary Hammer: Used in electro-pneumatic rotary hammers. Speed range 400-1000 RPM at up to 4500 blows per minute. SDS is currently most popular shank type for holes to 5/8". Spline for holes 3/4" and larger.

1/8" to 1"

Rebar Cutter: Used to cut holes in embedded steel reinforcing bar. This is the Rotary Hammer Drill's back-up.

7/8" to 4"

Core Bit: The most effective way of drilling a large hole since you are only cutting the outside diameter. Both Rotary and Hammer types are available. Rotary types require a great deal of pressure and are suitable for very brittle or thin materials. Hammer types offer speed and economy only if rebar is not encountered.

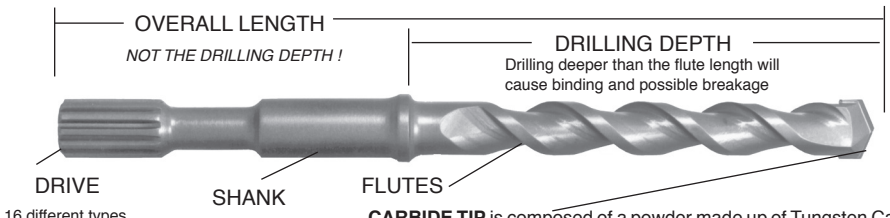
NOMENCLATURE

A.N.S.I. B94-12-1977

AMERICAN NATIONAL STANDARDS INSTITUTE CARBIDE - TIPPED DRILL TOLERANCES

Developed to insure maximum holding power of concrete anchors by matching drill tolerances to anchor dimensions. Using a drill which is worn or out of tolerance can drastically reduce an anchor's performance.

NOMINAL DRILL DIAMETER	TOLERANCE BAND	NOMINAL DRILL DIAMETER	TOLERANCE BAND
3/16"	.206 - .198	5/8"	.660 - .650
1/4"	.268 - .260	11/16"	.723 - .713
5/16"	.335 - .327	3/4"	.787 - .775
3/8"	.398 - .390	7/8"	.917 - .905
7/16"	.468 - .458	1"	1.042 - 1.030
1/2"	.530 - .520	1-1/8"	1.175 - 1.160
9/16"	.592 - .582	1-1/4"	1.300 - 1.285

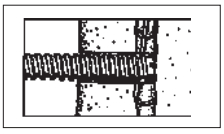


CARBIDE TIP is composed of a powder made up of Tungsten Carbide, Carbon, Cobalt and other metals which under heat and pressure are formed into a bit tip. Since there are only a few manufacturers of carbide, it is the process and quality control of brazing the tip to the drill body which determines the bits longevity and ultimate quality. The brazing material, such as silver-copper alloy, must allow for the difference in expansion and contraction between the carbide tip and the steel of the body, as well as maintain shock-resistance.

HOW TO GET THE MOST LIFE OUT OF A BIT

• The most important fact of all is REBAR KILLS! Rebar is the number one enemy of a hammer bit.

• When rebar is encountered **STOP!**



• Use a rotary rebar cutter which is designed to cut rebar

• Continue with the hammer bit

• Hammer drills are designed to do the work. Don't apply too much pressure.

• If the drill seems to slow down in its penetration rate, it usually means that the carbide tip is getting dull. Continuing to drill will reduce bit life. Carbide drills can be resharpened.

• Pouring water in the hole to keep dust down may cause the carbide tip to shatter.

• Do not drill deeper than the length of the flutes. Clogging the flutes increases heat and torque and has accounted for almost as many bit failures as rebar. Frequent withdrawal from the hole will clean out the hole and lessen the chance of the bit's binding.

• Keep the shanks of hammer bits clean and well lubricated.

• A worn nose-piece can result in abnormal bit-shank wear.