

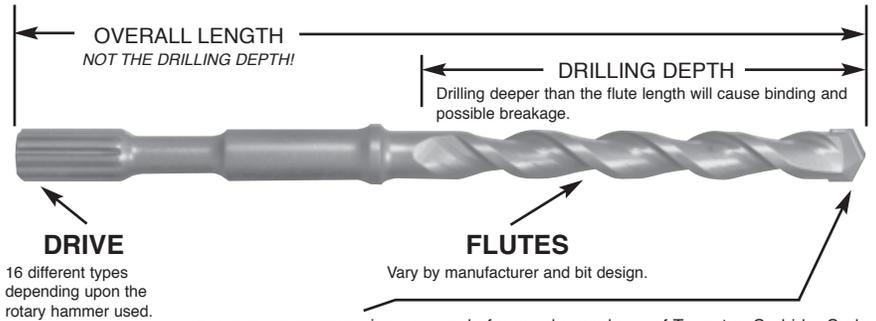
# TECHNICAL INFORMATION

## CARBIDE MASONRY TOOLS

### A.N.S.I. B212.15-1994 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"	11/16"	.723" - .713"
1/4"	.268" - .260"	3/4"	.787" - .775"
5/16"	.335" - .327"	7/8"	.917" - .905"
3/8"	.398" - .390"	1"	1.042" - 1.030"
7/16"	.468" - .458"	1 1/8"	1.175" - 1.160"
1/2"	.530" - .520"	1 1/4"	1.300" - 1.285"
9/16"	.592" - .582"	1 3/8"	1.425" - 1.410"
5/8"	.660" - .650"	1 1/2"	1.550" - 1.535"



16 different types depending upon the rotary hammer used.

**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 primarily the process and quality control of brazing the tip to the drill body which differentiate bit longevity and 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 body, as well maintain shock-resistance.



1/8" to 1"



1/8" to 1"



5/32" to 1 1/8"



3/8" to 1 1/2"



3/8" to 2 1/2"



up to 5"

**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 under operator pressure.

**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.

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

**Rebar Cutter:** Used to cut holes through embedded steel reinforcing bar. It is used to prevent damage to the hammer bit, which occurs if the hammer bit is used after rebar is encountered.

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

#### California Proposition 65

The state of California has determined that many substances such as concrete, wood, metal, and paint may contain Prop. 65 substances. (Some other states have somewhat similar legislation and regulation.) California authorities believe that Prop. 65 requires a WARNING that drilling, sawing, cutting, etc. into such materials may expose the driller, sawer, etc. to the Prop. 65 substances contained in the material being drilled, sawed, etc. Therefore, Relton offers the following:

#### Proposition 65 Warning

You can create dust when you cut, sand, drill or grind materials such as wood, paint, metal, concrete, cement or other masonry. This dust often contains chemicals known to cause cancer, birth defects, or other reproductive harm.

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