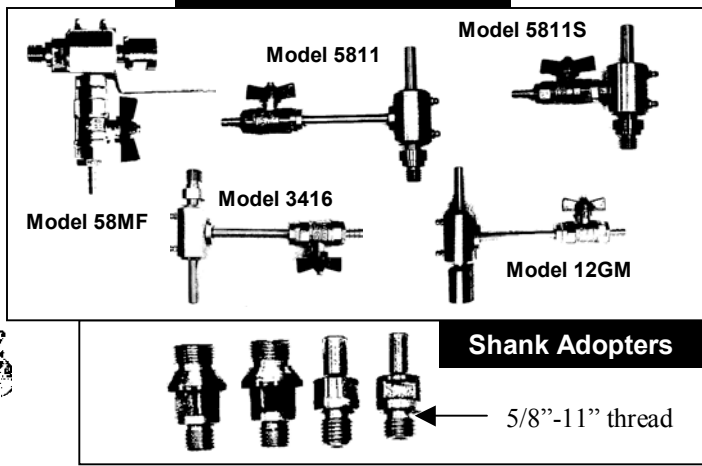
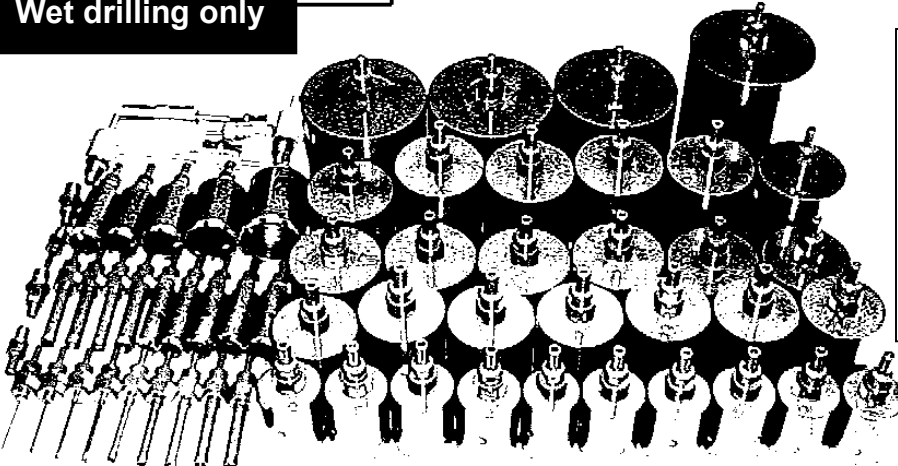


TOTAL DRILLING SOLUTIONS – DRILL USAGE INSTRUCTIONS

Wet drilling only

DRILL-IT™ core bits

KOOL-IT™ Water swivel adapters



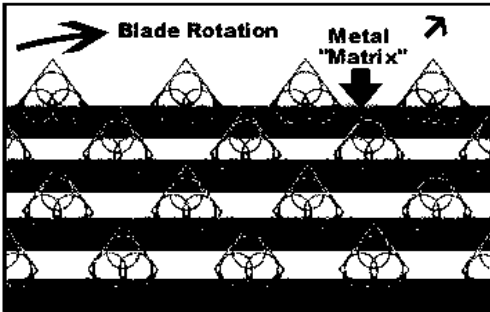
www.ukam.com/drilling_solution.html

Thank you for purchasing DRILL-IT Precision Diamond Core Bits with **SMART CUT** technology. SMART CUT is an advanced technology in orienting diamonds, that redefines the standard in cutting and drilling.

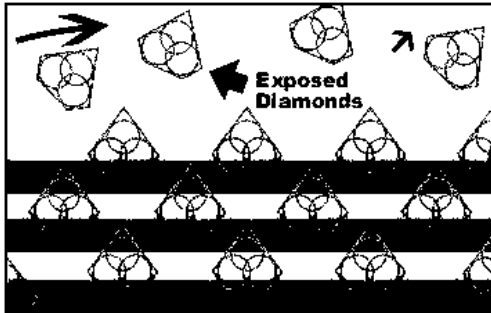
www.ukam.com/drilling_solution.html

How Smart Cut Works?

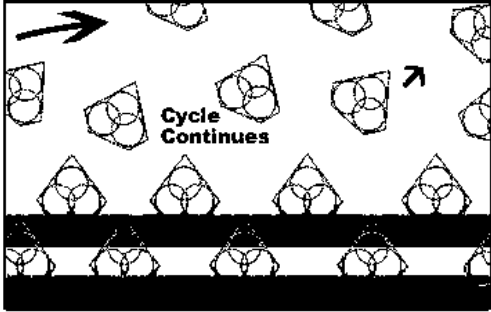
The sharpest and finest quality DeBeers diamonds that go into a Smart Cut Diamond Bond, immediately penetrate into the material, grinding and polishing as they cut.



Diamonds are activated only at the exposed layer. As diamonds layer begin to wear out, diamonds in a new diamond layer are immediately activated, substituting the already used up diamond layer. The Smart Cut Diamond Bond makes sure every diamond is in the right place and at the right time, working where you need it most.



The newly exposed diamonds don't effect diamonds already working on the material. Unlike many other diamond bonds, diamonds in a Smart Cut remain sharp and grow sharper with each cut. Prolonging product life and consistent performance.



This advanced formulated open diamond bond design insures minimal chipping, fast cut, constant speed of cut, minimal cutting noise, and most important of all minimal loss of precious material.

LEADER in Drilling

When it comes to drilling, there is only one manufacturer that stands out. **UKAM Industrial Superhard Tools** is one of the largest specialty tool manufacturers in the U.S. and Europe. We specialize in manufacturing THE TOTAL DRILLING SOLUTION.

You will find we have the largest and most complete selection of precision diamond core bits, adapters, attachments, and accessories in stock and ready for same day delivery. Some unique features to our **TOTAL DRILLING SOLUTION** are:

- Over 40 sizes of precision diamond core bits in inches and millimeters in stock
- 3 types of shank adapters
- 5 models of KOOL-IT water swivel adapters
- Smallest Diameter precision diamond core bits available

Core Bits have a mounted head 5/8"-11 female thread.

Cutting Feed: 3-4 inch/min

Coolant: should be used with water

Total Core Bit Length with adapter: 5.5"

Core Bit length without adapter: 4.0"

Adapters shank length: 1.0"

Drilling Depth: 2.75"

Core Bits below 1" diameter are continuous rim

Core Bits 1" and above are segmented

For Best Results: always drill with a coolant and use submerged-pressure sensitive feed.

Core Bits have a mounted head, with a shank adapter 5/8-11" thread. And are designed for coolant (water) flow through the center of drills. For maximum drill life and performance use water swivel adapter. All drills come with threaded in shank adapter your choice 3/8", 1/2", or 1/2" gas male thread. Use shank adapter to place drill in drill press chuck.

Water Swivel Adapters are used for supplying water through the center of core bits. Cooling both core bits and material in zone of drilling. Adapters come with a valve for adjustable water flow. On Average, Core Bits used with Kool-it water swivel adapters will last 40% to 75% longer.

www.ukam.com/drilling_solution.html

Designed for drilling materials from 9.5 to 4.5 on Mohs' scale from Sapphire down to Glass. You can't beat their [universal application](#). Examples of materials listed in order of hardness: Sapphire, Agate, Opal, Porcelain, Granite, Marble, Quartz, Glass.

Low Speed Drill Press

Mounted Hand Piece Drills

Angle Grinders/Hand Held Grinders

Electric Hand Held Drills

CNC Machines

other equipment with applicable speed RPM

FEATURES :

- Solid & Heavy Duty Metal Core
- High Diamond Concentration
- Finest Synthetic DeBeers Diamonds
- Manufactured with **SMART CUT** technology
- Double Strength Soldered
- Four holes in core for easy material removal
- Mounted on head with 5/8"11" thread designed to fit accessories

BENEFITS :

- More Universal
- Longer Lasting
- Real Material Savers
- Faster Drilling

You can rely on us to optimize your drilling process. So the next time, you have drilling application. Turn to UKAM Industrial Superhard Tools for help, and see the [difference](#) in working with the LEADER can make.

www.ukam.com/drilling_solution.html

ADVANTAGES:

- Greater Precision
- Works on a greater variety of materials.
- Works on all popular equipment
- Low Cost per hole
- Easy to work
- Very Aggressive
- Minimal Chipping
- Minimal heat generation
- More sizes available

Diamonds working with you for you

SMART CUT open bond design is designed to keep diamonds working at their maximum potential. SMART CUT diamond bond undergoes regular renewal, making sure all diamonds are constantly under maximum exposure to materials being worked on.

First Universal Diamond Core Drills

DRILL-IT Precision & Heavy Duty Diamond Core Bits are designed to work on almost any material that you need to drill. There is no challenge for these drills. You can switch back and forth, from drilling very hard materials and then switch to drilling soft materials. DRILL-IT will still maintain the same consistent performance.

faster drilling action – DRILL-IT precision diamond core bits that are manufactured utilizing this technology are much more aggressive than your conventional core bits. They drill faster, still leaving behind a smooth finish.

more universal – DRILL-IT precision diamond core bits are designed to work on practically any material you can find, including materials that conventional drills will not work on. You can drill very hard materials, all types of granite, ultra hard granite, porcelain, synthetic granite, marble, glass and all other allied materials. You can drill some of the hardest materials available, such as porcelain and sapphire, then switch to softer materials such as marble and glass and the drill will maintain the same consistent performance. It is very hard to ruin these drills.

superior coolant system – DRILL-IT precision diamond core bits are manufactured utilizing an advanced coolant system. To provide the optimum amount of coolant onto your drilling zone, preventing cracks and material overheat that occasionally arise while drilling. You can tell DRILL-IT precision diamond core bits by the smooth and clean finish.

Sizes, Specifications, Recommended RPM's

Item#	Outside Diameter (OD)	Rim Depth (X)	Rim Thickness (T)	Core bits Length no adapter	Core bits Length with adapter	Drilling Depth	Recommended Operating Speed(RPM)	Shank Diameter (d)
4000108SG	1/8"	.315(8mm)	.0787"(2mm)	3.75"	5.29"	2.3"	2,500	3/8"
4000316SG	3/16"	.315(8mm)	.0787"(2mm)	3.75"	5.29"	2.3"	2,250	3/8"
4000104SG	1/4"	.315(8mm)	.0787"(2mm)	4.0"	5.5"	2-3/4"	2,000	3/8"
4000516SG	5/16"	.315(8mm)	.0787"(2mm)	4.0"	5.5"	2-3/4"	1,500	3/8"
4000308SG	3/8"	.315(8mm)	.0787"(2mm)	4.0"	5.5"	2-3/4"	1,250	3/8"
4000716SG	7/16"	.315(8mm)	.0787"(2mm)	4.0"	5.5"	2-3/4"	1,000	3/8"
4000102SG	1/2"	.315(8mm)	.0787"(2mm)	4.0"	5.5"	2-3/4"	950	3/8"
4000916SG	9/16"	.315(8mm)	.0787"(2mm)	4.0"	5.5"	2-3/4"	925	3/8"
4000508SG	5/8"	.315(8mm)	.0787"(2mm)	4.0"	5.5"	2-3/4"	875	3/8"
4000204SG	2/3"	.315(8mm)	.0787"(2mm)	4.0"	5.5"	2-3/4"	850	3/8"
4001116SG	11/16"	.315(8mm)	.0787"(2mm)	4.0"	5.5"	2-3/4"	850	3/8"
4000304SG	3/4"	.315(8mm)	.0787"(2mm)	4.0"	5.5"	2-3/4"	825	3/8"
4000708SG	7/8"	.315(8mm)	.0787"(2mm)	4.0"	5.5"	2-3/4"	775	3/8"
4010000SG	1.0"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	700	1/2"
4010108SG	1-1/8"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	675	1/2"
4010104SG	1-1/4"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	650	1/2"
4010308SG	1-3/8"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	600	1/2"
4010102SG	1-1/2"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	550	1/2"
4010508SG	1-5/8"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	575	1/2"
4010304SG	1-3/4"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	550	1/2"
4020000SG	2.00"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	525	1/2"
4020104SG	2-1/4"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	500	1/2"
4020102SG	2-1/2"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	475	1/2"
4030000SG	3.00"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	450	1/2"
4030102SG	3-1/2"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	425	1/2"
4040000SG	4.00"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	400	1/2"
4060000SG	6.00"	.315(8mm)	.1181"(3mm)	4.0"	5.5"	2-3/4"	300	1/2"

WARNING:

Diamond Drills improperly used are dangerous. Comply with American National Standards institute Safety Code B71 and Occupational Safety and Health Act Covering SPEED – SAFETY – GUARDS – FLANGES – MOUNTING PROCEDURES – GENERAL INSPECTION – GENERAL MACHINE CONDITIONS

WARNING:

Drilling generates dust. Excessive airborne particles may cause irritation to eyes, skin and respiratory tract. To avoid breathing impairment always employ dust controls and protection suitable to the material being drilled. In accordance with OSHA (29 CFR 1910, 1200)

WARNING:

The use of this product can cause the exposure to a chemical or chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm

WARNING:

This product contains a chemical known to the State of California to cause cancer or birth defects or other reproductive harm.

In order for you to get the most out of our new drill, we strongly urge you to read and follow these instructions and suggestions. They have come from years of experience in research, development and manufacturing of precision diamond products. As well as years of personal experience and observations of users like you.

DEFECTS:

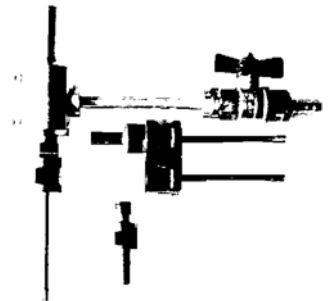
If for some reason you feel there is a manufacturing defect, please return the drill where it was purchase with a note explaining the difficulty. Defective drills will be repaired or replaced. Drills improperly used will be repaired or replaced at your expense.

Most Frequent Source of Diamond Drill Damage

Most frequent source for diamond drill damage is drilling without enough coolant. It has been found that generous flow of water increases diamond drill efficiency. Coolant must be applied in the proper place or it will not cool the drill or material being worked on properly. Coolant should always be directed so that the full flow is at the point of contact between drill and material, facing the same direction as rotation of the drill.

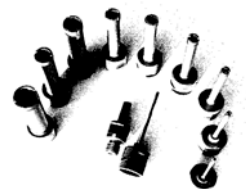
Never run a diamond core bit dry. Severe damage will result. Coolants do 3 things:

- a.) cool drill and material being cut
- b.) clean out abrasive particles formed while drilling
- c.) provide lubrication to keep drilling edge clean



Small Diameter Drills

Small diameter drills must be used submerged with water. These drills do not cut the center core. This core may break inside the drill and not flush out of the drill. Once the core becomes stuck in the inside of the drill, water is blocked out of the drilling zone. The drill cannot longer be used. It is very important that you periodically check the inside of the core bit for material clog up.



Should you spot the material core becoming clogged up, flush out this debris using water pressure from a water swivel adopter or manually if one is not available. Continue drilling, when the debris is removed.

For additional drill usage instructions & tips see:

www.ukam.com/drilling_solution.html