# DIATOOL DIAMOND PRODUCTS

**DIATOOL** is a young and dynamic company, founded in 2010. The company manufactures impregnated and set core bits, casing shoes, reaming shells, and geotechnical drilling bits. **DIATOOL** products are sold in North and South America, Australia, Asia, Africa, and Europe.

**DIATOOL** Diamond Products are manufactured in a modern well equipped plant, using the latest Canadian and Australian manufacturing technology.

The personnel at **DIATOOL** have experience in the mining and mineral exploration and core drilling industry going back to the 1970s. Their experience in designing, engineering, and manufacturing, has placed **DIATOOL** at the forefront of diamond drill bit technology.

Using sophisticated, proprietary furnacing techniques, and experts in powder metallurgy, **DIATOOL** is able to manufacture a broad range of matrices to achieve the best possible bonds for everyday drilling demands.

Specializing in prompt technical problem solving, we pride ourselves in our ability to respond to customer demands, with the supply of high quality products at competitive prices.

The founding partners have in excess of eighty years of combined Canadian and Australian expertise in the areas of matrix metallurgy, technical design, manufacturing processes, and quality control systems.

**DIATOOL** is continually improving their product performances based on extensive R&D programs, innovative product development, and field experience.

## DIAMOND BITS

**DIATOOL** impregnated diamond bits are manufactured using the highest quality raw materials to ensure optimum drilling performance. As a result of 40+ years of experience in the drilling industry, we are able to provide the right product for your drilling conditions. Various face profiles, bonds, and diamond qualities are used for superior coring performance, and longer bit life, resulting in fewer rod trips, thereby reducing costs, and improving core production.

## DIATOOL REAMING SHELLS

Our diamond reamer shells are available in either surface set or impregnated type. The wear pads are reinforced with tungsten carbide inserts on the leading rotational edge. This reduces the erosion of the matrix around the diamonds, forcing the cutting up the water ways passages and up the hole reducing wear and leading to longer life. Hard metal wear strips on the shank are also available.

## CASING AND ROD SHOES

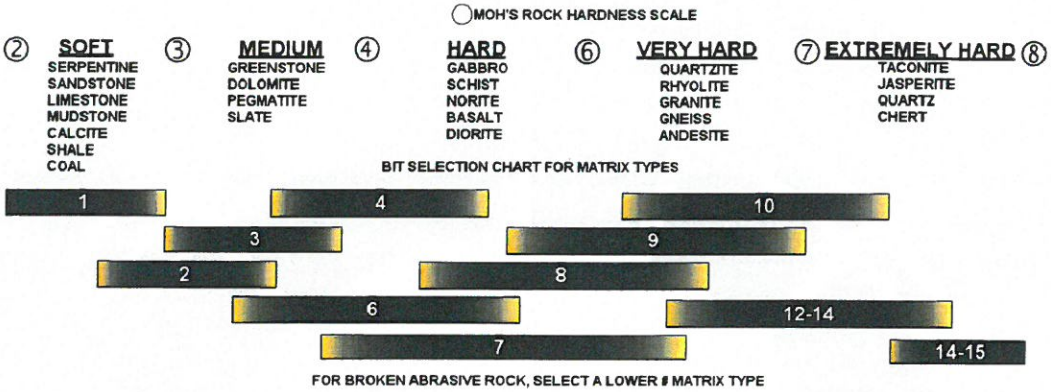
**DIATOOL'S** range of casing, and rod shoes are the cost efficient drilling solution for the insertion of casing. The tough wear design pattern with re-enforced ID and OD gauge makes sure the gauge size is maintained in all abrasive conditions. The impregnated shoes are available in either the VV profile, or flat face. The casing, and rod shoes are manufactured with materials to suit the customer's requirements.

# MATRIX RANGE SELECTION

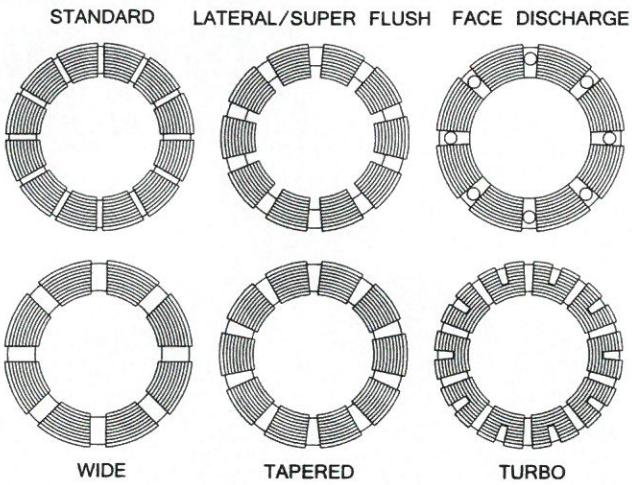
DIATOOL uses a number reference hardness guide. (1-15) to ease selection. DIATOOL 1 is the hardest, and our 15 being the softest. The higher the number, the harder finer grained, more competent, and non-abrasive the rock being drilled. Conversely, the lower the number selected, the more broken, fractured and abrasive the formation being drilled. ( Refer to the matrix/rock type chart for suitable matrix selection.)

We also fine tune, variances of the standard matrices, to match drill capability, and formation encountered.

**SUGGESTED MATRIX USAGE FOR VARIOUS ROCK TYPES**




Proper flushing is critical to maximizing bit performance, and to ensure bit will not be damaged in the hole. Drillers have standardized on several waterway configurations to cover formation hardness, and structure. Some of the most popular designs are shown below.




**STANDARD Waterway:**

- Provides good fluid flow for competent, fine grained, abrasive and non abrasive formations
- Geometry allows for the most diamonds to be used (largest face contact area)
- Recommended for N sized bits and smaller

**WIDE Waterway:**

- For more difficult conditions requiring increased fluid flow
  - Coarse grained, fractured, and broken
- Reduced contact area allows for increased penetration rates
- Recommended for N sized bits and larger

**LATERAL/SUPERFLUSH (Deep ID) Waterway:**

- For difficult conditions where the core sample is susceptible to washing and in lost circulation conditions where heavier muds are required (unconsolidated/broken formations)
- Recommended for N sized bits and larger, available for standard or triple tube design bits.
- Often offers superior results over "Face Discharge" or "TT" with reduced core washing and material blockages

**DIATOOL DIAMOND PRODUCTS, Ltd., is committed to providing its customers, and agents with products, and service of the highest order.**

**DIATOOL DIAMOND PRODUCTS Quality Principles & Ethics**

- The pledge is to conduct our business in an ethical manner in which to sustain and enhance our supplier and customer relations.
- Adopt and practice the Quality Assurance elements of ISO 9001.
- Aim for zero defects by the application of continuous improvement methods.
- Apply rigid design, metallurgical and process controls and checks throughout the production process.
- Analyze quality, service performance of vendors and subcontractors, including site inspections where practical.
- Identifies customer service as a key performance indicator.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