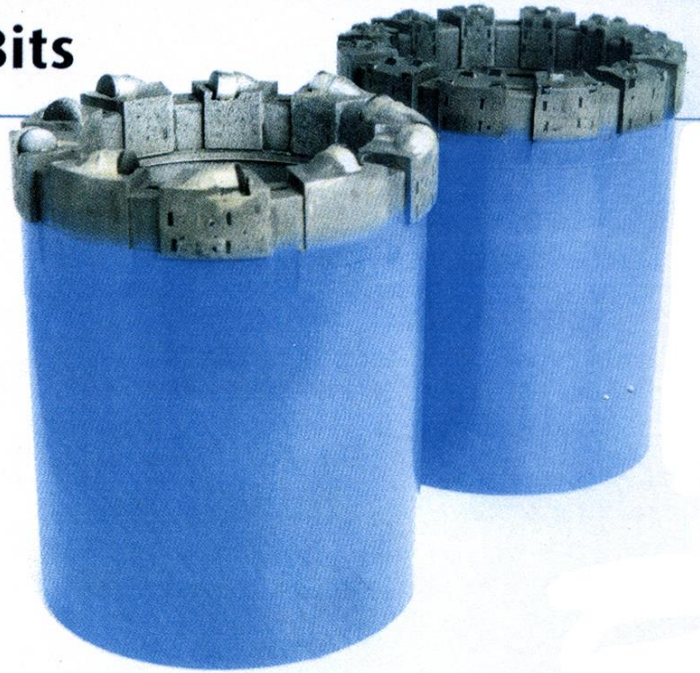


# Polycrystalline Diamond Bits

Polycrystalline diamond bits are recommended for use when drilling relatively soft, abrasive, unconsolidated sedimentary formations that are not effectively drilled by surface-set diamond bits. Fast, cost effective and accurate. PCD Bits offer high penetration rate, longer bit life and lower cost per metre in very soft to medium-hard sedimentary formations. JKS Boyles erosion resistant matrix and bit gauge protection with natural diamond ensure a high performance and accurate hole size, minimising the cost per metre.



## POLYCRYSTALLINE DIAMOND BITS ARE DIVIDED INTO TWO CATEGORIES

**'PCD Type' (Polycrystalline Diamond)** that uses larger cylindrical shaped cutters that are composed of a layer of micron sized synthetic diamond particles mounted on a tungsten-carbide substrate.

### PCD GEOMETRY



Round



Semiround



Truncated

**FAST PENETRATION:** PCD Bits drill with a shearing action rather than crushing or grinding the rock. Fully exposed cutters achieve higher penetration rates than Surface Set or TSP Bits. Cutters are available in different sizes and geometry. Materials are synthetic diamond particles on a tungsten carbide substrate.

**'TSP Type' (Thermally Stable Polycrystalline)** bits that use smaller triangular and cubic shaped cutters that are composed entirely of micron-sized synthetic diamond particles:

### TSP GEOMETRY



Cubes



Triangles

**GOOD PENETRATION:** TSP Bits cut through rock with an efficient shearing/crushing action. The sharp TSP diamond cutting edges shear rock cleanly and efficiently, resulting in an aggressive cutting action and achieving higher penetration rates than surface set natural diamonds. TSP cutters are available in different sizes and geometry. Material is a thermally stable polycrystalline diamond compact, it has properties superior to ordinary monocrystalline and self-sharpen continuously by microfracturing during drilling.

**PCD-TSD BITS** are available in any standard size with a kerf wider than 8mm.



### WEIGHT ON BIT

Recommend:

- 2750 N (600lb.)  
per PCD cutter.

- 600 N (131lb.)  
per TSP cutter.

**Flushing:** Water/Air Volume depends on bit size formation and drilling parameters and conditions. Never shut-off water while drilling.

