

Hybrid Drill Bits



Crush & Shear™ hybrid drill bits

Increased drilling efficiency with advanced hybrid bit technology

FEATURES

- Durable carbide rolling elements to reduce torque fluctuations
- Optimized PDC cutting structure designed for specific application challenges
- Shallow center core that improves lateral stability and reduces whirl tendencies

BENEFITS

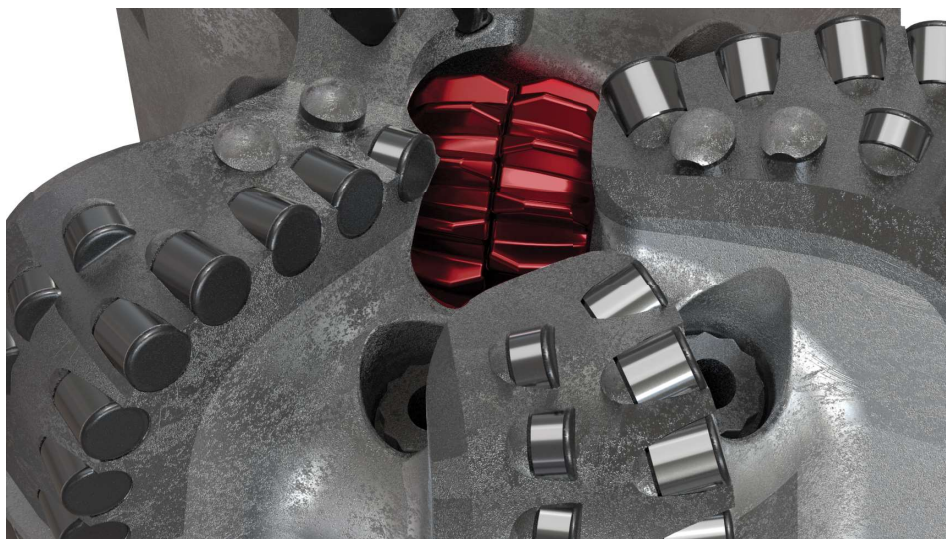
- Ability to withstand high WOB while reducing torque fluctuations, which results in improved tool face control and smoother drilling
- Lateral stability reduces overall vibrations, increases drilling efficiency, and extends the life of PDC elements

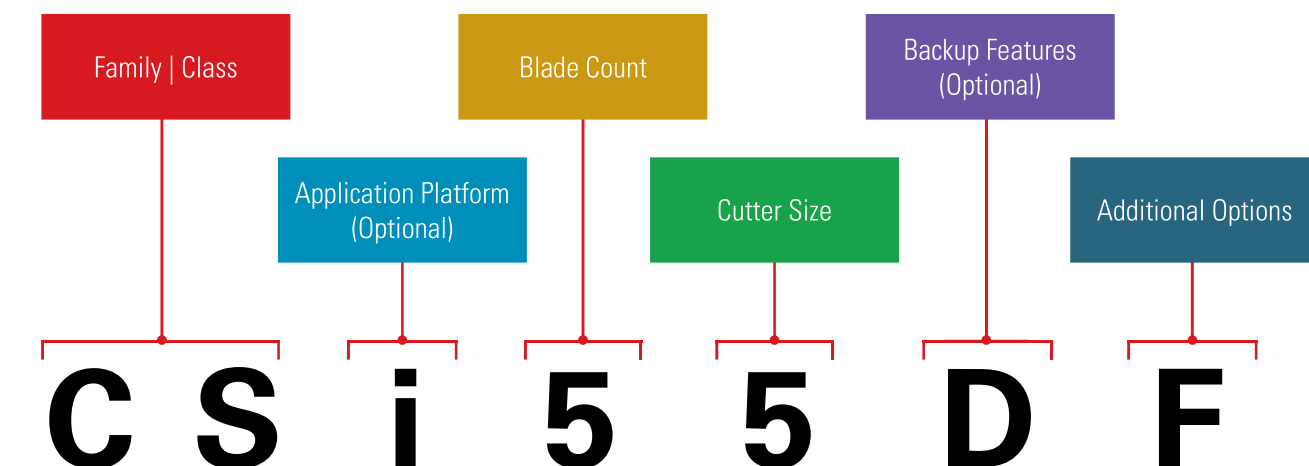
Overview

In certain formations or applications, a hybrid bit is required to reduce risk and ensure that targets are achieved while maintaining drilling efficiencies. Crush & Shear™ hybrid bit technology is engineered to leverage rock failure mechanics while providing lateral stability. It can withstand high weight on bit (WOB) and reducing torque fluctuations, thus improved tool face control and smoother drilling.

The Crush & Shear drill bit reimagines hybrid bit technology by placing the polycrystalline diamond compact (PCD) elements in series with the rolling elements, instead of in parallel. With optimized PDC element placement and rolling cones positioned in the center to crush the rock, where PDC shearing action is inefficient, the Crush & Shear hybrid bit achieves higher rates of penetration (ROPs), improves lateral stability, and minimizes torque fluctuations. This results in increased drilling efficiency and extended bit life.

The hybrid bit's durable carbide rolling elements provide extreme levels of strength and abrasion resistance. Multiple carbide grades are available to suit various demanding applications. This technology's robust all-carbide cones and carbide-reinforced bearing components make the Crush & Shear hybrid bit ideally suited for the toughest downhole drilling environments.





Family | Class

CS = Crush & Shear™

CX = Crush & Shear™ HyperSteer™

Application Platform (Optional)

E = GeoPilot™ Dirigo RSS system

i = iCruise® Intelligent Rotary Steerable

Blade Count

Blade count indicates the number of blades on the bit.

- 3 = Three Blades
- 4 = Four Blades
- 5 = Five Blades
- 6 = Six Blades
- 7 = Seven Blades
- 8 = Eight Blades
- 9 = Nine Blades
- 0 = Ten Blades
- 1 = Eleven Blades
- 2 = Twelve or More Blades

Cutter Size

The cutter size digit describes the main cutter size on the bit in 1/8" increments.

- 2 = 1/4" (8mm)
- 3 = 3/8" (10.5mm)
- 4 = 1/2" (13mm)
- 5 = 5/8" (16mm)
- 6 = 3/4" (19mm)

Backup Features (Optional)

- D = Dual Row Backup PDC Cutters
- W = Stega™ Efficient Backup Cutter Layout
- I = Impregnated Diamond Backup Discs
- R = Shyfter™ Active Shaped Backup Elements
- M = Shyfter™ Passive Shaped Backup Elements
- U = Cruiser™ Depth of Cut Rolling Element

Additional Options

- K = Geometrix™ Shaped Cutters
- B = Saber™ Engineered Blade Relief
- H = Highly Abrasive Wear
- HE = High Energy
- O = Cerebro® In-bit Sensing Capable
- F = Cerebro Force™ In-bit Sensing Capable
- T = Tracker™ Articulating Gauge Pads

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