



StayTrue Shaped Diamond Element Technology

Get longer, faster runs—and reduced cost per foot—consistently and without compromise

StayTrue™ shaped diamond element technology delivers improved speed and durability—without compromise—in hard and interbedded formations by enabling more efficient bit designs that expand the smooth drilling window.

Although difficult to diagnose, downhole dysfunctions like lateral vibrations and bit whirl can lead to erratic and inefficient bit performance and increased costs. When this happens, operators typically have two choices:

- Add extra cutters and get longer bit life and more consistent performance—but with slower ROP
- Or reduce the number of cutters and get more aggressive performance and faster ROP—but with shorter bit life

The StayTrue shaped technology leverages a unique chisel shape and engineered placement so you don't have to choose between bit life and speed. Instead, it minimizes downhole dysfunctions and delivers longer, faster runs—and reduced cost per foot—consistently and without compromise.

Unlike the standard, reactionary approach to addressing the harmful effects of downhole dysfunctions, Baker Hughes, a GE company (BHGE) StayTrue technology stops dysfunctions before they occur, allowing the bit to drill smoothly through changing formations. This helps to optimize bit response and enable more efficient energy transfer.

The diamond element's extensively tested chisel shape stabilizes the bit and reduces vibrations by up to 40% and also keeps the bit centered in the wellbore, minimizing instances of bit whirl so holes stay smooth and in-gauge. Its unique chisel shape is also twice as durable as conically-shaped cutters, delivering more consistent performance across a broad range of applications.

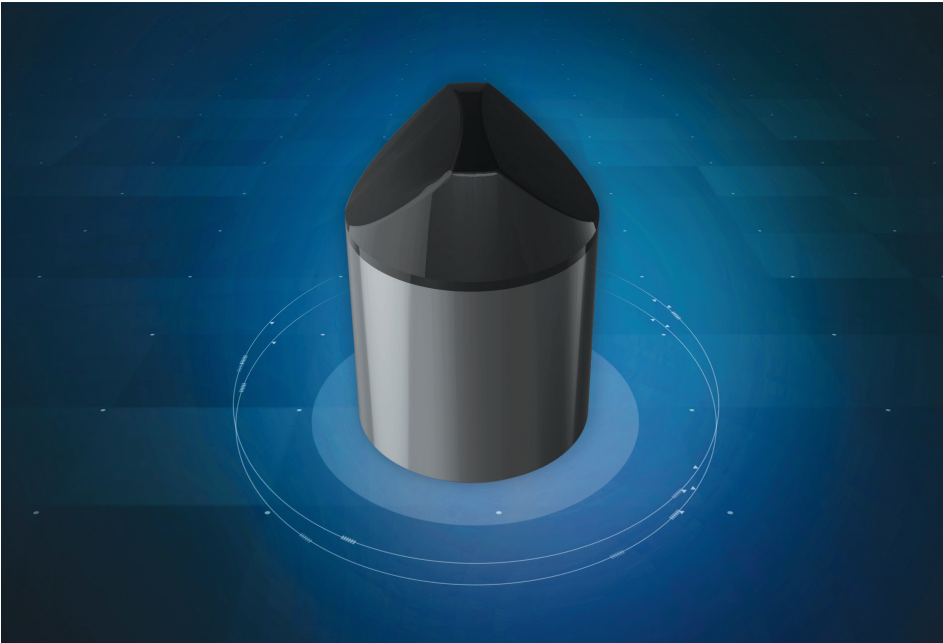
Because only a few strategically placed diamond elements are needed to smooth out drilling performance, bits can drill more aggressively with reduced drag, delivering up to 40% faster ROP. The element technology also features a thick diamond table for added durability and more uniform wear patterns, enabling faster runs without compromising bit life.

Applications

- Hard and interbedded formations
- Where downhole vibrations/bit whirl are causing tool damage/poor bit performance

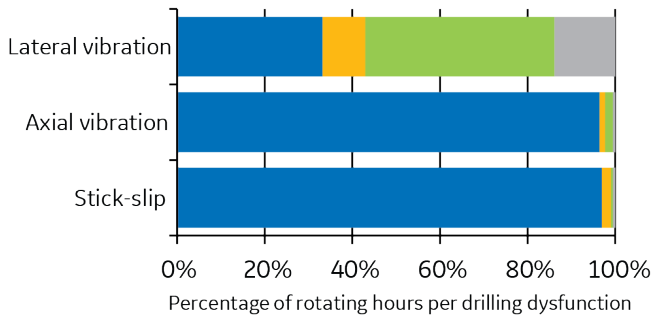
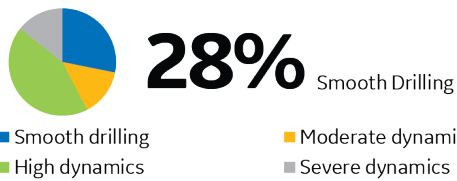
Benefits

- Unique, chisel-shape
 - Creates a stabilizing effect to reduce lateral vibrations
 - Mitigates bit whirl
 - Optimizes bit response
 - Provides increased durability over standard PDC cutters
- Strategic placement and orientation
 - Improves energy efficiency
 - Minimizes damage to primary cutting structure
- Thick diamond table
 - Increases durability and longevity
 - Prevents chipping
- Single point of contact cutting edge
 - Reduces drag
 - Improves cutting performance
 - Improves ROP

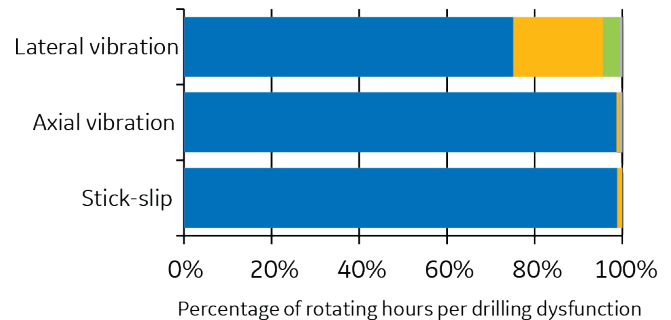
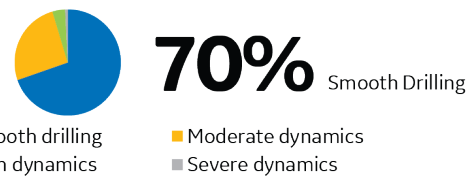


StayTrue diamond element technology leverages a chisel-shaped element that is twice as durable as conically-shaped cutters.

Bit without StayTrue diamond element technology



Bit with StayTrue diamond element technology



MultiSense™ bit data collected from offset wells in the Permian Basin showed that the 8¾-in., seven-bladed PDC bit with StayTrue technology effectively mitigated lateral vibrations and enabled smooth drilling for 70% of the run, while the same bit without StayTrue technology did not, resulting in erratic drilling performance and premature bit damage.

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