

HyperBlade

Hyperbolic diamond element bit

APPLICATIONS

Challenging drilling applications, including soft and plastic formations

BENEFITS

- Minimizes bit balling
- Withstands formation transitions
- Improves directional tracking in horizontal applications
- Delivers a positive rake that cuts up to 20% deeper into rock
- Increases ROP up to 21% on average as compared with flat PDC cutters

FEATURES

- Precision-molded diamond table with armored cutting edge for greater durability and control
- Chip-breaking profile and hyperbolic shape that improve cuttings removal

The HyperBlade* hyperbolic diamond element bit increases ROP by up to 21% on average in soft and plastic formations as compared with flat PDC cutters. With hydrostatic pressures typically greater than 7,500 psi, plastic formations can be difficult to shear with a cutting element. The HyperBlade bit uses the Hyper* hyperbolic diamond cutting element, which features an increased rake angle at the cutting edge, thus cutting up to 20% deeper into rock and increasing ROP.

Mitigate bit balling

Fixed cutters create long cuttings ribbons that lead to severe bit balling in soft and plastic formations. The hyperbolic shape and chip-breaking profile at the center of the Hyper element create small cuttings chips to mitigate balling and improve cuttings removal.

Maintain steerability and control

A thick, precision-molded diamond table makes the Hyper element tougher and more durable, and the armored cutting edge withstands high-impact formation transitions. Because of the element's unique geometry, the HyperBlade bit maintains steerability and directional tracking.

Compared with conventional cutters, the HyperBlade bit requires less vertical load and circumferential force to penetrate and shear rock, improving drilling efficiency and maintaining control.



The hyperbolic shape of the Hyper element mitigates the severe bit balling that commonly occurs with flat PDC cutters by creating small cuttings chips, improving cuttings removal and increasing ROP.

Specifications

HyperBlade Bit	Formation Type	Cutting Element Size	Classification
	Soft, plastic	19 mm	3D cutting element

SMITH BITS

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