SMITH BITS
A Schlumberger Company

FireStorm

Wear-resistant high-impact PDC cutter technology

APPLICATIONS

- All drilling environments, including hard, interbedded, and abrasive formations

ADVANTAGES

- High wear resistance for improved ROP and footage
- Increased impact resistance for more durability and extended cutter life
- Improved resistance to delamination between the diamond layer and substrate
- Better resistance to spalling of the diamond layer

FireStorm* wear-resistant high-impact PDC cutter technology improves upon previous PDC cutter technology by maintaining superior wear resistance and thermal stability while increasing impact resistance by more than 20%.

Innovative design delivers both wear and impact resistance

Previous generations of PDC cutters have offered high impact resistance but poor wear. Others provide exceptional wear resistance but relatively limited impact resistance. FireStorm technology offers resistance to both impact and wear in a single efficient solution. Laboratory testing confirms that FireStorm technology delivers superior wear resistance while increasing impact resistance by an average of 20%.

Optimized interface geometry enables longer cutter life

Minimizing the residual stress at the interface of the polycrystalline diamond table and tungsten carbide substrate is key to improving impact resistance. Along with optimized selection of materials and an HPHT polycrystalline sintering process, the engineered tungsten carbide substrate with improved residual stress allows for FireStorm technology's enhanced capabilities. The reengineered tungsten carbide substrate of FireStorm technology allows it to better distribute residual stress, significantly reducing the magnitude of tensile stress near the interface and enabling longer cutter life, extended runs, and improved cutting efficiency.

In application after application, FireStorm technology brings drilling efficiency to all formations—including hard, interbedded, and abrasive formations.

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