

TCS-NeXT Hardbanding

Durable, casing-friendly protection for the most demanding drilling applications

As drilling applications continue to push equipment to new operating limits, operators need hardbanding that delivers outstanding protection without compromising efficiency.

TCS™-NeXT is Tuboscope's latest niobium-based hardbanding solution, engineered to maximize drill string life, protect casing, and improve drilling performance. Its advanced alloy design, low-friction surface, and low-temperature application help reduce wear, preserve internal coatings, and lower total cost of ownership.

Why Choose TCS™-NeXT?

Improve Drilling Performance

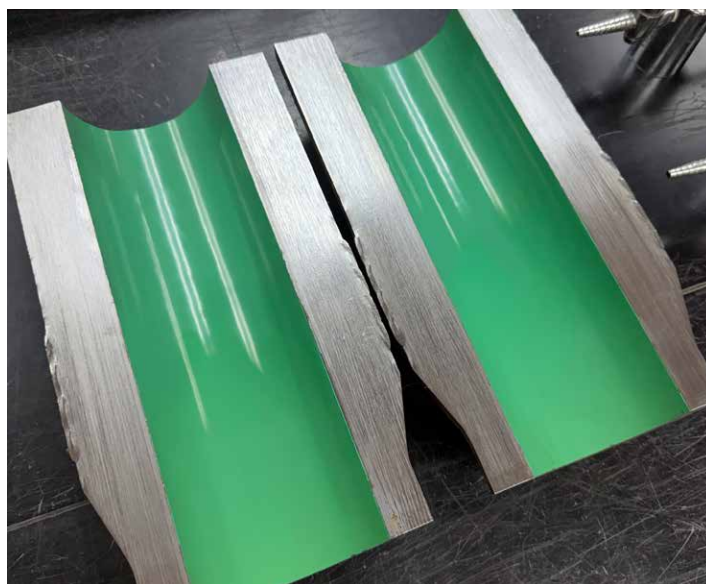
- One of the industry's lowest coefficients of friction
- Reduces casing wear, torque, and drag
- Superior wear resistance in abrasive drilling environments

Protect Your Assets

- Exceptional casing and tool joint protection
- Low-temperature hardband application helps preserve valuable internal coatings, such as *TK™-Drakon insulating coating
- Crack-free performance with no spalling or flaking

Reduce Operating Costs

- Easier, more efficient welding operations
- Suitable for both new applications and field reapplications
- Longer service life with lower maintenance requirements and reduced total cost of ownership



Cross-section showing preserved internal coating after hardbanding

* TK-Drakon combines the trusted protection of Tube-Kote™ coatings with advanced insulation for hot drilling applications. By reducing downhole fluid temperatures, it improves BHA and MWD reliability in high-temperature laterals and supports longer, more predictable drilling runs.

Built for the Toughest Drilling Environments

Premium raw materials, a niobium-based alloy system, and industry-leading manufacturing and quality control combine to deliver reliable performance in demanding drilling applications.

The results below demonstrate TCS-NeXT's casing-friendly wear profile, ultra-low friction, and durable performance compared to competitive hardbanding materials.

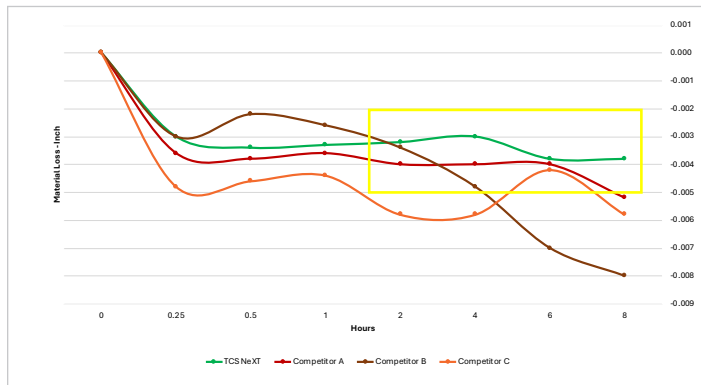
Key Features

- One of the lowest coefficients of friction on the market
- Crack-free with no spalling or flaking
- Engineered to deliver greater ease and efficiency in welding operations
- Niobium-based alloy system with premium-grade raw materials and alloying elements
- Compatible with most niobium hardbanding materials, enabling easy reapplication over existing hardbanding
- Industry-leading in-house manufacturing and quality control

Comparative Hardbanding Wear Test Results

Hardbanding Reduction — Procedure C Trend

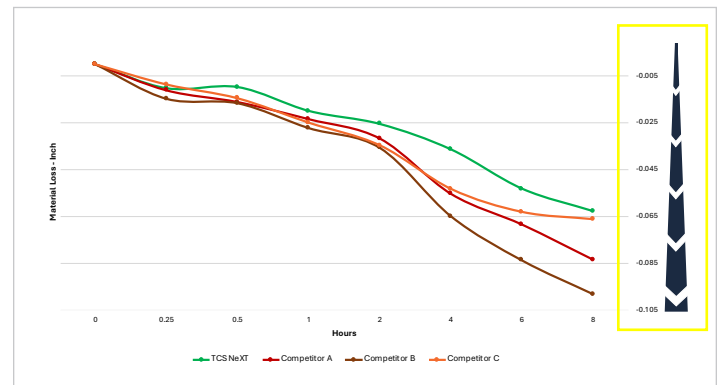
3,000 lb/ft Side-Load | T-95 Casing | Water Based Drilling Fluid



TCS-NeXT's wear properties improve over time, with comparatively less measured wear as duration increases, extending application and usage life.

Casing Wear Groove Depth — Procedure A Trend

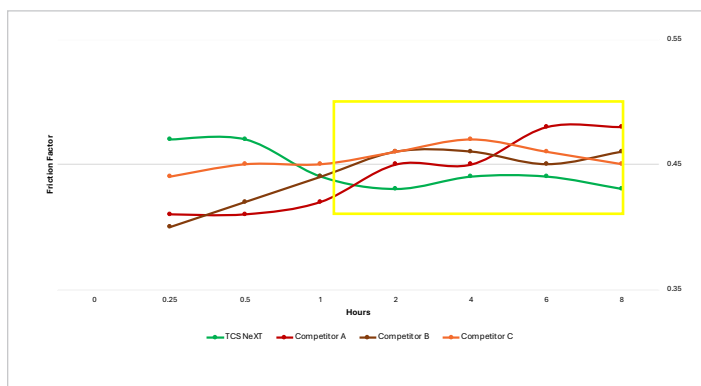
3,000 lb/ft Side-Load | T-95 Casing | Water Based Drilling Fluid



TCS-NeXT is more casing-friendly than competing wires, with less measured casing wear.

Rotational Friction Factor — Procedure C Trend

3,000 lb/ft Side-Load | T-95 Casing | Water Based Drilling Fluid



TCS-NeXT's friction factor drops significantly within the first two hours and continues to outperform competing wires, reducing drag and enabling more consistent power transfer to the BHA.



Take your drilling performance to the NeXT level



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