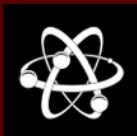




It's All About the Chemistry



Each hardbanding product has its own, unique chemical composition, no two materials are the same. For example, some materials form Chrome Carbides or Titanium Carbides to provide wear resistance. The matrix which holds the carbides is also different for each product.

The chemistry of Duraband[®]NC was formulated to ensure that it can form a stable, 100% crack-free bond with the base material. Niobium is added to form niobium carbides which provide excellent wear resistance. Additional advantages of Niobium are that it has a low wear coefficient against casing and it remains stable without causing stress cracks even after several reapplications.

The exact chemistry of Duraband has remained unchanged and our secret for more than 16 years, when it was first used to protect the drill string.



100% Crack-free Duraband NC

Geothermal Versus Oil & Gas Drilling: The Key Differences

Temperature: Geothermal wells often encounter higher temperatures compared to oil and gas wells. This demands a hardbanding alloy that can withstand these extreme conditions.

Torque and Drag Reduction: In the high-temperature environment of geothermal wells, reducing torque and drag is crucial. The low friction coefficient of Duraband[®]NC means we can minimize these forces, ensuring smoother drilling operations.

Casing Protection: Given the longer lifespan and use of geothermal wells to produce steam over years, protecting the casing from wear during drilling is vital. Duraband[®]NC provides this protection, extending the well's operational life before remedial work would be required.

100% Crack-Free Alloys: Stress-cracking in a hardband used in high temperature and highly corrosive environments can lead to failure. Hardbanding should be applied and reapplied 100% crack-free.

Key Differences		
Petroleum		Geothermal
300 - 350F (150-175C)	Considered High Temperature	300 - 650+F (150-345+C)
5,000 bpd is "High Flow"	Flow Rates	50,000 bpd is "Average Flow"
Vertical and Long Reach Horizontal Onshore / Offshore 5" - 7" Diameter Production Interval	Drilling	Vertical / Deviated Onshore 8" - 12" Diameter Bottom Hole
Declining Rate from Initial Well Production	Production Duration	Consistent Production for over 20 Years

Duraband[®]NC for drill pipe, and Ultraband[®]NM for non-magnetic tools, are designed to withstand the harsh conditions of geothermal drilling. Reducing equipment wear and improving drilling efficiency, Duraband[®]NC and Ultraband[®]NM contribute to the overall cost-effectiveness and sustainability of geothermal energy projects.

Please contact your local Postle Representative or Technical Center for hardbanding support and training.



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