

Dopeless®: benefits of an outstanding and proven technology designed for the most challenging E&P operations

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1.

Tubular solution

Until now, the use of API threaded connections and proprietary premium connections for casing and tubing required the use of storage and thread compound to address the needs of corrosion protection during transportation, storage and lubrication during thread make-up.



Standard connections rig preparation process:

- Remove thread protectors
- Clean and dry thread protector
- Clean and dry connections
- Measure-Drift-Inspect Connections
- Apply thread compound
- Re-apply thread protectors

2.

Easy, safe and reliable rig operations

Dopeless® technology is a dry, multi-layer coating which is applied through a strictly controlled industrial process at Tenaris facilities. No additional product application is required throughout the life of the connection.

Pipes coming from Tenaris facilities are ready to be used in the field.

Dopeless® solution provides corrosion resistance during storage and lubrication during make-up.

Dopeless® connections preparation process:

- Remove thread protectors
- Measure – Drift – Inspect connections
- Re-apply thread protectors

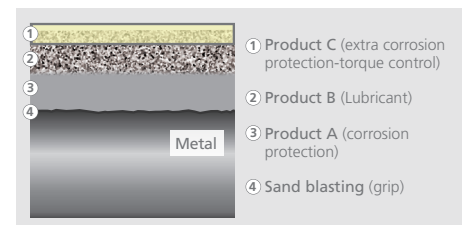


3.

Coating

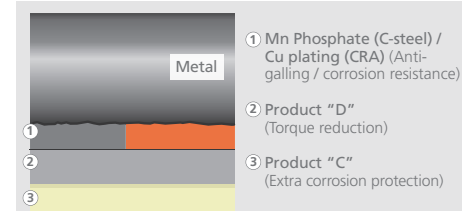
The Dopeless® solution is an engineered combination of multiple layers that replaces storage compound and running compound.

Pin



- Product A is the basic corrosion protection.
- Product B is the main lubricant (gives the grey color to the connection)
- Product C is a wax based product to seal against corrosion and stabilize torque values

Box



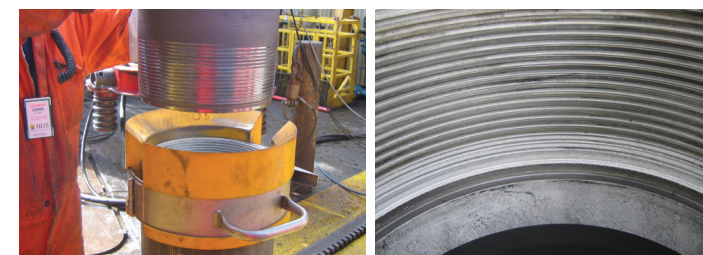
- Product D provides a lower friction coefficient reducing required torque for make up, while keeping the excellent M&B resistance without galling (gives the white color to the connection).
- Product C is the same as the Pin one to improve corrosion resistance and stabilize torque values.

4.

Improved operational performance

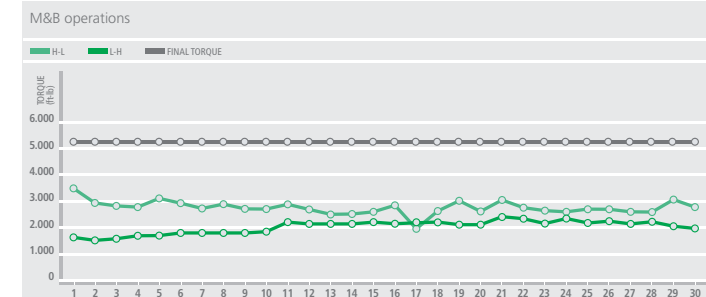
The Dopeless® coating is the result of extensive R&D to produce a revolutionary engineering solution to withstand more M&B operations than the traditional dope based alternatives.

Performance of Dopeless® solution has been validated by laboratory testing and proved at the field.



Outstanding galling resistance and excellent corrosion performance.

Superior M&B capacity



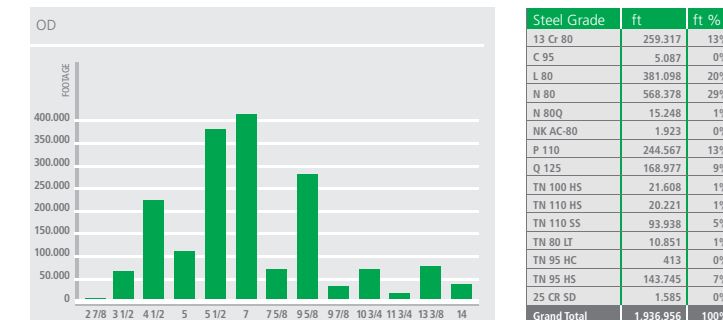
30 make & breaks with stable behavior and no signs of galling.

5.

Field use

Five years of field experience show successful performance of the technology in different applications and materials. Tenaris has run 1,937,000 feet of its Dopeless® in nearly 20 countries.

Usage history



6.

Conclusion

Tenaris Dopeless® has shown significant advantages in HSE, and well operational efficiency. It also provides cost saving related to handling and preparation.

This technology is applied to the most important Tenaris connections, TenarisHydril Blue™ series and Wedge 500™ series.