



KOPR-KOTE®

DRILL COLLAR & TOOL JOINT COMPOUND

DESCRIPTION

KOPR-KOTE® drill collar and tool joint compound is a Premium quality, unleaded compound containing copper flake, graphite, and other natural extreme pressure and anti-wear additives. **KOPR-KOTE's** solids package is formulated to prevent excessive circumferential makeup by increasing the coefficient of friction under compressive forces. As stress levels rise above 50% of yield, the friction factor increases, limiting downhole makeup. Full hydraulic joint efficiency is maintained allowing joint shoulder faces to mate completely without standoff or deformation. For invert or high-pH muds, use Jet-Lube® EXTREME®. For wedge-type thread connections, use NCS-30® ECF™ for best thread-wear protection.

- Not classified as a marine pollutant - DOT Approval CA2004080025
- Contains no lead or zinc.
- Extreme-pressure additives provide additional protection against seizing and galling and allow consistent make-up.
- Aluminum-complex grease base protects against rust and corrosion.
- Sticks to wet joints.
- Unequaled resistance to makeup down-hole.
- Available in Arctic, Thermal, and Specialty grades.
- Approved by NAM/Shell for under-balanced drilling applications.

For optimum performance on API drill string connections, KOPR-KOTE® should be utilized with the thread recommended torque by multiplying the torque value by 1.15 or by contacting the drill pipe and connection manufacturer. Friction factors for KOPR-KOTE were developed using full scale API tool joint connections. For a 1.0 friction factor use Kopr EXT FF 1.0

Premium drill string connections such as HI-TORQUE® (HT), eXtreme® Torque (XT®) and XT-M™ connections, etc., utilize make-up torques based upon thread compound friction factors of 1.0. Therefore, use the torque provided by the premium connection manufacturer. Adjusting make-up torque based on thread compound friction factor may still be advised.

SERVICE RATING:
0°F (-18°C) TO 450° (232°C)

PRODUCT CHARACTERISTICS

Thickener	Complex soap
Fluid Type	Petroleum
Color	Copper
Dropping Point (ASTM D-2265)	450°F (232°C)
Specific Gravity	1.15
Density (lb/gal)	9.6
Oil Separation (ASTM D-6184) WT. % LOSS @ 212°F (100°C)	<3.0
Flash Point (ASTM D-92)	>430°F (221°C)
NLGI Grade	1
Penetration @ 77°F (ASTM D-217)	310 - 330
Copper Strip Corrosion (ASTM D-4048)	1A, typical
4-Ball (ASTM D-2596) Weld Point, kgf	800, typical

Friction Factor*
1.15 (Relative to API RP 5A3 Annex I)

* Many factors such as pipe size, thread geometry, drilling mud contamination, etc. affect the friction factor. This is a relative number and in all applications experience and prior knowledge should be used to adjust make-up torque accordingly. Contact your drill pipe manufacturer for torque and friction- related specifications.

This thread compound conforms with API RP 5A3 for use with rotary shouldered connections.

Environmental Rating:

UK CEFAS OCNS Group B

For package types and part numbers

www.jetlube.com/resources/product-index/

Limited Warranty

www.jetlube.com/assets/documents/Jet-Lube_Warranty.pdf