



KOPR EXT FF 1.0

TOOL JOINT & DRILL COLLAR COMPOUND

DESCRIPTION

JET-LUBE® Kopr EXT FF 1.0 drill collar and tool joint copper compound is a modification of Jet-Lube® Extreme®. It is designed with a lower coefficient of friction to be used where rig tong and/or iron roughneck units lack the torque capacity to reach the optimum engagement of higher torque connections. This new formula still offers the additional advantage of superior adhesion, improved EP and antiwear properties, resistance to water wash-off, and superior rust and corrosion protection in the presence of invert or high-pH muds. Jet-Lube Kopr EXT FF 1.0 can be used for up to 6 months connection storage. The solids package is formulated to prevent wear and galling under compressive forces. As stress levels rise above 50% of yield, the friction factor increases, limiting down-hole makeup. Full hydraulic joint efficiency is maintained allowing joint shoulder faces to mate completely without standoff or deformation.

- Highly resistant to drilling muds.
- Contains no lead or zinc.
- Extreme-pressure additives provide additional protection against seizing and galling.
- Complex grease base provides superior rust and corrosion protection.
- Sticks to wet joints.
- Brushable and stable over a wide temperature range.
- Consistent rig floor makeup.
- 1.0 Friction Factor

For optimum performance on API drill string connections, Jet-Lube Kopr EXT FF 1.0 should be **utilized with the torque charts in API RP7G and in extreme conditions by multiplying the listed torque value by 1.0** or by contacting the drill pipe and connection manufacturer or drill pipe owner.

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

PRODUCT CHARACTERISTICS

Thickener	Complex Soap
Fluid Type	Petroleum
Dropping Point (ASTM D-2265)	450°F (232°C)
Specific Gravity	1.21
Density (lb/gal)	10.10
Oil Separation (ASTM D-6184)	<3.0
WT. % LOSS @ 212°F (100°C)	
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	620
Friction Factor, * (Relative to API RP 7G)	1.0
Severe Service Friction Factor	1.0
Service Rating	0°F (-18°C) to 450°F (232°C)

Shelf Life: Minimum three years from manufacture date.

* 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. For extreme service drilling applications, or where downhole make-up and or backoff may be an issue, it is accepted practice to increase the standard torques to 70% of connection torsional yield (IADC) if the reduced tensile capacity is not a limitation. Contact your drill pipe manufacturer or drill pipe owner for torque and friction-related specifications.

For package types and part numbers

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

Limited Warranty

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

www.jetlube.com

Made in the USA in an ISO 9001:2015 and ISO 14001:2015 Facility