# JET-LUBE 21®

**DOUBLE DUTY DRILL COLLAR & TOOL JOINT COMPOUND**

## DESCRIPTION

**JET-LUBE 21®**, an environmentally-friendly, double-duty drill collar and tool joint compound, has been formulated to provide a superior level of performance for the increasing demands of today's oilfield market. The lead-free formulation contains copper flake as the only metallic component and is fortified by a unique blend of natural, inorganic, extreme-pressure, and anti-wear additives. 21 utilizes our EXTREME base grease which is resistant to invert or high-pH muds and provides better pipe storage properties.

- Not classified as a marine pollutant - DOT Approval CA2006100003
- Contains no lead or zinc.
- Very good running & storage capability.
- Formulated with a proprietary blend of copper, graphite, and other additives for protection and prevention of excessive circumferential makeup in hostile drilling environments.
- Inhibitors protect against rust and corrosion.
- Sticks to wet joints.
- Special complex base for brushability and stability over a wide temperature range.
- Consistent rig floor makeup.
- Excellent resistance to makeup downhole.
- Available in Arctic, Thermal, and Specialty grades.

**JET-LUBE 21** should be **utilized with the torque charts in API RP7G by multiplying the torque value by 1.15** API RP7G. In the more severe drilling situations such as higher speeds, higher penetration rates, deviated holes, or harder formations, drill collars and other rotary shouldered connections should be made up an additional 10%. Friction factors for **JET-LUBE 21** were developed using full scale API tool Joint connections.

## APPLICATIONS

**JET-LUBE 21** is recommended for the entire drill string in most drilling conditions. Typical applications would include geothermal wells, high angle holes, and problem holes involving high temperature, whip stocks, and horizontal drilling applications. **JET-LUBE 21** prevents high stress in drill pipe connections which shortens their useful life.

## PRODUCT CHARACTERISTICS

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|---|---|
| Thickener | Complex |
| Type | Petroleum |
| Dropping Point (ASTM D-566) | 450°F (232°C) |
| Specific Gravity | 1.1 |
| Density (lb. /gal) | 9.0 |
| Oil Separation (ASTM D-6184) | <5.0 |
| 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 |
| 4-Ball (ASTM D-2596) | |
| Weld Point, kgf | 620 |
| Friction Factor* (Relative to API RP 7G) | 1.15 (standard service) |
| Service Rating | 0°F (-18°C) to 450°F (232°C) |

* 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 package types and part numbers contact*** sales@jetlube.com***.***

## LIMITED WARRANTY

For warranty information please visit
http://www.jetlube.com/pdf/Jet-Lube_Warranty.pdf

You can also email us at sales@jetlube.com or write to the Sales Department at the address below.