



4000

OCR MODIFIED

Lead and Zinc-Free Thread Compound

- GEAR OILS
- MOTOR OILS
- HYDRAULIC OILS
- PIPE COATINGS
- THREAD SEALANTS
- BEARING GREASES
- SPECIALTY GREASES
- THREAD COMPOUNDS
- SUCKER ROD COATINGS
- OUTSIDE PRESERVATIVES
- WIRELINE GREASE SEALS
- CLEANERS & DEGREASERS
- PIPE STORAGE COMPOUNDS
- RUST & CORROSION INHIBITORS
- THREAD LOCKING COMPOUNDS
- VALVE LUBRICANTS & SEALANTS
- TOOL JOINT & DRILL COLLAR COMPOUNDS

PRODUCT DESCRIPTION

4000 OCR MODIFIED is a lead and zinc free superior alternative API Modified. 4000 OCR MODIFIED is manufactured using components that meet or exceed the listed performance objectives in API RP 5A3/ISO 13678. These components are unaffected to chemical change and temperatures in excess of 500°F (260°C). 4000 OCR MODIFIED is high pressure rated, provides excellent service characteristics in the areas of lubricity, sealing properties, make-up/breakout torque, and long-term corrosion protection during periods of storage. 4000 OCR MODIFIED contains corrosion and H₂S inhibitors for added protection to tubular threads.

APPLICATION

THREAD PREPARATION: MAKE SURE PIPE THREADS ARE CLEAN AND FREE OF ALL CONTAMINANTS. DO NOT apply 4000 OCR Modified before proper conditioning has been done to pipe which has been exposed to H₂S, CO₂, or downhole chemicals. Carefully wash threads with Aqua Cure 690 to remove any salt deposits, residual chlorine from thread cutting operations, dirt, and grease. Use a stiff brush to remove all rust and corrosion. DRY THREADS COMPLETELY BEFORE APPLICATION. All residual water from cleaning procedure, re-threading operations, or hydrostatic testing should be completely dried and then treated using a moisture displacer such as 130 Moisture Displacer.

APPLICATION INSTRUCTIONS: 4000 OCR MODIFIED should be applied with a #2 Dope Brush or other equipment specifically designed for use with thread compounds (avoid using a paint brush). Use the dope brush bristles to force the compound into the roots of the threads. Take care to cover the entire threaded area. A VISUAL INSPECTION IS ADVISED. For optimum protection, apply 4000 OCR MODIFIED to thread protectors as well.

INSPECTION: One month after application of 4000 OCR MODIFIED, thread protectors should be randomly removed and inspected for corrosion. Subsequent inspections are recommended every three months.

BENEFITS

- Conforms to API RP 5A3/ISO 13678
- Lead-Free
- Zinc-Free
- High temperature and high pressure rated
- Non-contaminating
- Contains corrosion and H₂S inhibitors

TYPICAL OBSERVATIONS

Color	Black Copper
Texture	Paste
Contains	Inert nonmetallic solids, copper, and other additives
Service Rating	500°F (260°C)
Specific Gravity, at 77°F (25°C)	1.27
Flash Point, ASTM D-92	>400°F (>204°C)
Water Washout Characteristics	
ASTM D-1264 at 100°F (37°C)	Nil
Brushable To	10°F (-12°C)
NLGI	1
Shelf Life (unopened container)	Four years

API RP 5A3/ISO 13678

Dropping Point, ASTM D-2265	>500°F (>260°C)
Evaporation, % loss 24 h at 212°F (100°C)	Pass
Gas Evolution, cm ³ 120 h at 151°F (66°C)	Pass
Oil Separation, % 24 h at 212°F (100°C)	Pass
Penetration, ASTM D-217	
worked at 77°F (25°C)	310–330
Mass Density, lb/gal at 77°F (25°C)	10.5
Water Leaching,	
% loss 2 h at 151°F (66°C)	Pass
Application & Adherence,	
2 h at 0°F (-18°C)	Pass
Compound Stability	Pass
Salt Spray Test, ASTM B-117	1000+ hours
Copper Corrosion, ASTM D-4048	1B
Friction Factor, API RP 5A3 Annex I	0.9

The Friction Factor is determined using standardized equipment and tests performed in accordance with API RP 5A3/ISO 13678 under laboratory conditions. In actual field use pipe size, metallurgy, thread geometry, and drilling mud contamination can effect the makeup torque. Adjustments may be required based on experience and knowledge.

