



# 220

## COPPER SEAL

### Premium Tool Joint and Drill Collar 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

220 Copper Seal is a premium copper based tool joint and drill collar compound formulated for use on oilfield tubular goods. The extreme pressure and anti-wear additives of 220 Copper Seal provide protection against galling and seizing and consistent makeup on all rotary shouldered connections under the most demanding conditions. 220 Copper Seal handles high temperatures and provides anti-seize performance required for breaking in new tool joints and lubricating drill collars. This lead-free compound is used in all drilling and anti-seize applications in the petroleum industry including refineries, petrochemical plants, and the water well industry. 220 Copper Seal will not build up in thread roots, a problem often experienced in other compounds. 220 Copper Seal assures constant makeup torque, is effective when used on downhole production tools or pumping equipment, and is recommended for use in areas of high temperatures.

#### BENEFITS

- Friction factor of 1.0
- Lead-free
- Resists corrosion
- Extreme pressure and anti-wear additives
- Protects against galling & seizing
- Consistent makeup
- Will not build up on threads roots
- Used in high temperature applications
- Lubricates drill collars
- Increases tool joint thread life

#### APPLICATION

220 Copper Seal is recommended for use on rotary-shouldered connections, and all drilling operations including high temperature applications.

#### TYPICAL OBSERVATIONS

Color	Copper
Texture	Smooth
Density, lb/gal @ 77°F (25°C)	11.75
Specific Gravity @ 77°F (25°C)	1.40
Dropping Point, ASTM D-2265	484°F (251°C)
Flash Point, ASTM D-92	>400°F (>204°C)
Penetration,	
ASTM D-217 Worked @ 77°F (25°)	325–355
Base Oil Viscosity,	
cSt @ 40°C	375
Evaporation Loss,	
ASTM D-9 72 @ 210°F (98°C)	0.2%
Oil Separation,	
ASTM D-1742 @ 77°F (25°C)	Nil
Corrosion Resistance, ASTM B-117	1000+ hrs
Friction Factor, API RP 5A3 Annex I	1.0
Temperature Range	10°F to 450°F (-12°C to 232°C)
Shelf Life (unopened container)	Four years

#### RELATED PRODUCTS

221 Copper Seal II Premium Drill Collar Compound—Zinc and Lead-Free Copper Compound

