

Technical Data Sheet:**Engol Copper Compound 1 (130cSt, Copper)**

Engol Copper Compound 1 (130cSt, Copper) is manufactured using highly refined mineral base oils which are carefully selected and then fortified with synthetic polymers, producing a highly shear stable foundation for the grease. This base oil foundation allows the product to perform in applications where light loads and medium speeds are typical.

Engol Copper Compound 1 (130cSt, Copper) is manufactured using an inorganic clay based thickener resulting in a buttery appearance with excellent shear stability characteristics. In addition, this type of thickener is easily pumped, has a excellent resistance to heat and is exhibits excellent water resistance. The optimal operating conditions for this grease in terms of temperature, is from -30 to 205 degrees celcius, however short periods of elevated temperatures can be tolerated without severe damage to the product.

Engol Copper Compound 1 (130cSt, Copper) is manufactured to a NLGI 1.5 grade resulting in a grease of soft consistency which is suitable for centralised lubrication systems. The product contains a blend of synthetic tackifiers, increasing it's ability to resist water and adherence with all surfaces.

Engol Copper Compound 1 (130cSt, Copper) is copper in colour and whose formulation excludes extreme pressure (EP) additives, however is fortified with anti-oxidants, anti-wear and anti-rust additives. In addition this product is fortified with copper, bronze and other solids making it suitable for anti- seize / boundary lubrication at high temperatures and/or heavy loads. In the case of accidental overheating, the presence of this material will still guarantee good lubrication and avoid any jamming or sticking.

Key Advantages:

Thermal stability:	Very good thermal stability allowing the grease to perform for short periods of time under extreme temperatures, regaining its original texture after cooling to ambient temperature.
Mechanical stability:	Allows for long periods of storage or non-use in the application without any mechanical breakdown of the grease thickener (eg. oil separation).
Chemically resistant: Properties	Resistant to mild alkaline and acidic solutions.
Water resistant:	The thickener has very good natural attributes which displace and resist water ingress.
Heat resistant:	Exhibits excellent resistance to heat.

Typical Applications:

Lubrication and protection of threaded or mating surfaces such as nuts and bolts, screws, pipe threads, exhaust manifolds, cylinder head studs, drilling rods, etc...

Aids with the sealing all types joints whether under hot or cold conditions. Remains soft.

Mixing greases in a system can cause issues with thickener systems reacting with each other, changing the physical and chemical structure of the grease, causing an inability to hold or release base oil. Proper care must be taken to ensure compatibility when changing from one grease system to another.

This grease is only compatible with greases making use of the following thickener types: calcium and calcium 12 hydroxy. There is a borderline compatibility with the calcium sulfonate thickener. Care must be taken to ensure the application is properly cleaned before using this product if a borderline or non-compatible product has been used before.

Environment, Health and Safety:

This product is classified under the OECD 301B Modified Sturm, ASTM D-5864, and CEC L-33-T-82 standards as being inherently biodegradable (i.e. 20- 70% biodegradable in 28 days). Information is available on this product in the Material Safety Data Sheet (MSDS). Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal. This product contains no PCB's (Polychlorinated Biphenyls).

Typical Technical Characteristics:

Description	Method	Units	Result
NLGI Grade	ASTM D 217		1.5
Thickener Type			Clay
Colour	Visual		Copper
Appearance	Visual		Buttery, Tacky
Penetration	ASTM D 217	0.1mm	303
Dropping Point	ASTM D 2265	°C	None
Viscosity of Oil @ 40°C	ASTM D 2983	cSt	130
4-Ball Wear Test Scar	ASTM D 2266	mm	n/a
4-Ball Weld Load	ASTM D 2596	kg	n/a
Timken OK Load	ASTM D 2509	lb	n/a
Corrosion Prevention	ASTM D 1743		Pass
Copper Strip Corrosion	ASTM D 4048		1B

The above are average values. Minor variations which do not affect product performance are to be expected in normal manufacturing.

Specifications:

ASTM D-5864 / CEC L-33-T-82
KPF1S-30 (DIN 51825)
ISO-L-X-CCIB2 (ISO 6743-9)

Packaging:

15kg Steel pails
18kg Plastic pails
50kg Steel drums
180kg Steel open top drums