

## TECHNICAL INFORMATION

### DESCRIPTION

CAMOIL is formulated with a new generation of technically advanced additives which shows higher performances versus conventional oils.

The petroleum bases used to produce this product are fully paraffinic, and derived from the most modern systems of hydrogenation and refining.

### APPLICATIONS

CAMOIL oil is advisable in an type of gearbox and generally whenever a lubricant provided with EP characteristics is required. CAMOIL can be used in the following gear types:

- Circular gears
- Helical gears
- Conical gears
- Industrial hypoid gears
- Worm gears

CAMOILoil is suitable in bearings lubricated by centralized systems, bath or circulation. It can also be used in friction bearings. This oil is most advisable in transmission components such as reducers, regulators and gearboxes under heavy loads and severe operating conditions.

This product is recommended whenever it is worth reducing the oil temperature in normal working conditions, or whenever a significant noise reduction is needed.

### PROPERTIES

CAMOIL belongs to the "third generation" of lubricants. Such lubricants do not build an hydrodynamic film from the chemical reaction as the first generation did. Neither has it provided a micro surface sealing film as the second generation did. The third generation lubricant belongs to a recent technology as far as additives are concerned. Such additive package acts on the first molecular layers of the metallic surface suffering a plastic strain from the very beginning.

This microscopically softening on the attack surface provokes a significant decrease of the friction surface and causes then a decrease in metal-metal friction, with the consequent effects:

#### **Oil temperature decrease**

When reducing the friction of the contact surface of the gears, the temperature of CAMOIL is lower than the temperature of conventional EP oil. With the same viscosity a CAMOIL will show a reduction of the normal operating temperature when compared to the conventional oils (between 7 and 20°C depending of each particular gearbox). The temperature decrease should be over 10°C.

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### **Improved useful life of the oil**

*When the temperature of the oil decreases, the life span is improved. The shelf life of a given gearbox oil usually depends a lot on the mechanical design of the element as well as on the regime of work power, in relation to the work-maximum nominal power of the reducer or regulator. This is the reason why a generic value cannot be specifically established in terms of shelf life. Thus, each case must be studied separately. By improving the useful life, the CAMOIL will reduce the maintenance costs.*

### **Noise reduction**

*The noise produced by the machine is reduced significantly when reducing the friction and when a "soft" surface micro layer in the surface of attack is provided.*

*The special rheology of this product also cooperates to reduce noise, that is, its flow properties, which remain within the category of Newtonian fluids with viscosity behavior kinematics-energy applied very favorable for use as gear oils.*

*The special fluidity properties of the product will help to reduce the noise, too. The mechanical noise can be reduced from 15 to 50% vs the conventional EP oils. This percentage depends on the type, on the design of the equipment and on the power - work - maximum nominal power of each equipment. In addition to these properties, we point out the following ones:*

- Very high anti-wear capacity.*
- High thermal stability.*
- Optimum anticorrosive protection (steel and bronze).*
- Full compatibility with other mineral base oils, so it is not necessary to clean the gearboxes before changing to CAMOIL.*
- Reduces roughness and pitting in the gear teething.*
- CAMOIL oil does not contain lead.*

## OTHER VISCOSITIES

*CAMOIL kind of oil is also available in the following viscosities: 150, 220, 320 and 460.*

## CAUTIONS

*There is available the MSDS of the product according to the effective European normative.*

## PACKAGING

*There are different capacities of supply. Contact our Export Department for any further enquiry.*

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### PHYSICO CHEMICAL CHARACTERISTICS

Viscosity grade (ISO-3448)	320
Appearance	Líquido Rojo Filante
Viscosity at 40° C, (cSt)	288 – 352 cSt
Viscosity Index	90, mín.
Flash point, (°C)	205 °C Mín.
Pour point, (°C)	- 9 °C
Aniline point, (°C)	105 °C Mín.
Welding load, (Kg)	400 Kgs., Mín.
Cooper corrosion, 3 h /100 °C, (b)	1 b, Máx.
Wear Scar diam. 1' /80 Kg, (mm)	0.40 mm.
Wear Scar diam, SRV test, (mm)	0.53 mm.
FZG A/8.3/90	12

The information contained in this document faithfully reflects our present technical knowledge, besides it provides a suitable description of the product characteristics and enumerates the different applications the product can be suitable for. In any case, the user will have to make sure of the adjustment of the product for each particular use. Brugarolas S.A. reserves the right to make modifications in the products after the date of edition of the present document in order to improve its quality and optimize its output. The values of the given physic-chemical characteristics are typical values. The specification sheets in force are at your disposal for each of the products.