



Product Data

Castrol Molub-Alloy[®] 969

Leak Resistant Gear Compounds

Castrol Molub-Alloy 969 Leak Resistant Gear Compounds are specially formulated to help control leaks in gearcases **when repairs cannot be immediately performed to eliminate the cause(s) of leakage**. The synthetic thickener forms a mat-like matrix at the points of leakage to minimize the flow of oil. **Castrol Molub-Alloy 969 Leak Resistant Gear Compounds** manufactured by adding a small amount of a synthetic thickener to standard ISO Grade gear oils. The small addition has a moderate thickening effect on the oils, especially in the container, or while not in motion. During the stirring action of gears and bearings, however, **Castrol Molub-Alloy 969 Leak Resistant Gear Compounds** exhibits the rapid flow and film-forming characteristics similar to the original base gear oils.

Description

Leakage from gearcases has traditionally been controlled by the substitution of a grease for the lubricating oil. This is unsatisfactory because grease can channel, and are poor at carrying heat away from the meshing gears and dissipating it from the gearcase. It is the nature of the synthetic thickener to link or gel and bridge the opening with a restricting consistency. Other than this restricting action at small openings, **Castrol Molub-Alloy 969 Leak Resistant Gear Compounds** act very much like the original base gear oil in service.

Usage

Castrol Molub-Alloy 969 Leak Resistant Gear Compounds were developed using base oil viscosities of ISO standard grades. Currently we offer leak resistant gear oils with base oil ISO Viscosity Grades of 220 and 320.

Castrol Molub-Alloy 969 Leak Resistant Gear Compounds were originally developed for service in heavy duty earth moving equipment such as shovels and draglines. Surging stress and vibration on these machines inevitably produces some degree of leakage from gearcases. Excessive leakage at shaft seals is not uncommon on hoist, drag, propel and especially swing gearcases of large draglines and swing cases of shovels. Often the tramp oil will contaminate the heavy gear compounds necessary to lubricate the exposed open gear drives.

The use of **Castrol Molub-Alloy 969 Leak Resistant Gear Compounds** can also be extended to control leaks in gearsets in industrial and marine applications.



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Important Restrictions

Castrol Molub-Alloy 969 Leak Resistant Gear Compounds are not for use in units that include a central lubricating system as they will not pump like an oil or nor flow through small lines. 969 will plug filters (See Notes).

Castrol Molub-Alloy 969 Leak Resistant Gear Compounds should not be used in gearcases where shaft bearings are lubricated by oil flowing through small lines or orifices as they will seal small openings or seriously restrict oil flow. On the other hand, where bearings are submerged, and oil flow is not unidirectional, flow is not restricted.

Castrol Molub-Alloy 969 Leak Resistant Gear Compounds are designed for use in gearboxes where gear oil makeup volumes are unacceptable due to worn shaft seals or other **minor** causes of leakage. The 969 Compounds should be used as gearbox fill only until repair of the leaking condition can be conveniently performed. **Castrol Molub-Alloy 969 Leak Resistant Gear Compounds** are **not** designed to prevent leakage due to gross mechanical defects such as worn bearings and damage causing shafts to experience excessive play which results in excessive lubricant makeup. **The Castrol Molub-Alloy 969 Leak Resistant Gear Compounds should not be used in non-leaking gearboxes as preventive measure.**

Notes

Castrol Molub-Alloy 969 Leak Resistant Gear Compounds may be metered through grease pumping systems, but would be expected to cavitate in oil circulating pumps.

Castrol Molub-Alloy 969 Leak Resistant Gear Compounds will flow readily when agitated but should not be expected to flow by gravity or feed through small lines. **Castrol Molub-Alloy 969 Leak Resistant Gear Compounds must be stirred vigorously before use.**

Since filters must be removed when using **Castrol Molub-Alloy 969 Leak Resistant Gear Compounds**, routine oil sampling is strongly recommended. For specific terms, conditions, warranty and availability, refer to Castrol Performance Lubricant' Price List in effect at time of purchase.



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Typical Characteristics

	969/220	969/320
Consistency	Semi-Fluid	Semi-Fluid
Appearance	Fibrous	Fibrous
Specific Gravity	0.90	0.90
Apparent Viscosity, Brookfield, @ 72F, Spindle No.6, 20rpm, cP	12,000	18,750
Flash Point, ASTM D 92, COC, C/F	230/446	229/445
Fire Point, ASTM D 92, COC, C/F	260/500	260/500
Pour Point, ASTM D 97, C/F	N/A*	N/A*
Four Ball Wear Test (40 kg, 75C/167F, 1800 rpm, 1hr) Scar Diameter Test, ASTM D 2783	0.45	0.45
Four Ball Extreme Pressure Test, ASTM D 2783 Load Wear Index, kg Weld Load, kg	44 315	48 400
Falex Wear Teeth	3	3
Foam Tendency: a Tribol Test, using a Waring Blender, subjects lubricant to maximum shear for 5 minutes. Measures time to no foam.	No Foaming	No Foaming
Castrol Molub-Alloy Solids, Grade Classification	Fluid Lubrication	Fluid Lubrication
Base Oil Properties:		
ISO Viscosity Grade, ASTM D 2422	220	320
AGMA Lubricant Number	5EP	6EP
Viscosity, ASTM D 445, D 1261, cSt @ 100C	18.6	25
SAE Viscosity Classification	90	140
Viscosity Index	100	100
Pour Point, ASTM D 97, C/F	-18/0	-15/+5
Rust Test, ASTM D 665, Procedures A & B	Pass	Pass
Copper Corrosion, ASTM D 130, 3 hours @ 100C	1b	1b
FZG Test (A/16.6/90), Load Stages Passed	12+	12+
FZG Test (A/8.3/90), Load Stages Passed	12+	12+
Timken Extreme Pressure Test, ASTM D 2782, OK Load, kg/lbs	32/70	32/70
Oxidation Stability, ASTM D 2893 @ 95C, % viscosity increase	+2.25	+2.25

Subject to usual manufacturing tolerances.

All reasonable care has been taken to ensure that this information is accurate as of the date of printing. Nevertheless, such information may be affected by changes in the blend formulation occurring subsequent to the date of printing. Material Safety Data Sheets are available for all Castrol products. The MSDS must be consulted for appropriate information regarding storage, safe handling and disposal of a product.