



Lubricants Report



Product Data Sheet from Shell Lubricants

PDS# 3.84.07

MALLEUS* GL

A PROVEN HEAVY DUTY LUBRICANT FOR SEVERE APPLICATIONS

PRODUCT LINE

Malleus GL is available in seven viscosity grades: 25, 65, 95, 205, 300, 400 and 500. Grade selection is dependent upon application and ambient operating temperatures. The unique blend of carefully selected high viscosity index paraffinic and synthetic base oils results in exceptional physical and chemical stability and outstanding serviceability over a wide range of temperatures.

APPLICATIONS

Malleus GL is primarily intended for open gear applications on mining shovels, draglines, drills, grinding mills and applications in other industries requiring heavy duty gear protection. **Malleus GL** Multi-Lube is also recommended for certain enclosed gear cases such as propel transmission, final drive gear boxes and hoist gear cases on mining shovels. The use of **Malleus GL** for plain babbitt and slow speed anti-friction bearings, pins and bushings such as those found on shovel crawler and boom assemblies is also recommended. **Malleus GL** can be applied either manually or by conventional heavy duty automatic lube systems. **Malleus GL-95** is also available in an aerosol spray can.

PERFORMANCE BENEFITS

- **Malleus GL** Multi-Lube is **LEAD FREE AND CONTAINS NO ENVIRONMENTALLY OFFENSIVE SOLVENTS**. Its balanced formulation allows the lubricant to stay soft and pliable over a long period of time, thus eliminating root build-up problems and allowing a very wide range of uses. To fortify the adhesive film strength of **Malleus GL**, molybdenum disulphide and other selected solid lubricants are combined. These additives contribute to the structure of the film and also improve the anti-wear, extreme pressure characteristics and load-carrying capabilities of **Malleus GL** beyond those of conventional lubrications. Its load carrying ability is in excess of 3,440,000 kPa (500,000 lb./sq. in.).
- This combination of molybdenum disulphide and various solid lubricants also forms a protective layer between the mating surfaces. This protective layer provides a cushioning effect between the contacting asperities that minimizes contact and/or pitting of the mating surfaces. In some instances, "healing" of damaged surfaces has been observed.
- **Malleus GL** offers unrivaled advantages and is recognized by major equipment manufacturers such as B.E., Marion, P&H, etc.:
 1. Forms an indestructible adhesive film with a "cushioning" effect even under extreme pressure and at very low speeds (prevents abnormal wear).
 2. Resists film destruction by contaminating oils or greases "migrating" from nearby mechanisms.
 3. Withstands water washout and repels adhering dirt and dust.
 4. Reduces contact temperatures.
 5. Minimizes cold metal contact welding.
 6. Alleviates "stick slip" vibrations.
 7. Lowers lubricant consumption rate.

...which all translates into improved equipment availability and savings on maintenance costs.

TYPICAL PROPERTIES

	25	65	95*	205	300	400	500	
PRODUCT CODE	504-672	504-676	504-680	504-684	504-685	504-669	504-690	ASTM Method
Density @ 15.6 °C	1.003	1.070	1.076	1.080	1.090	1.090	1.100	-
Worked Penetration @ 25° C 60x	420+	420+	420+	420+	418	370	320	D 217
Apparent Viscosity, CP °C								
@ - 1 ° C, P	-	-	-	-	7900	-	-	D 1092
@ - 18 ° C, P	2400	6600	9400	20500	16000	12500	11000	D 1092
@ - 40 ° C, P	13750	39000	-	-	-	-	-	D 1092
@ +40°C, cP	1675	2250	6125	7300	7060	36750	99000	D 2669
@ +100°C, cP	550	1325	4000	6100	1375	3825	5185	D 2669
Four Ball EP Test								D 2596
Weld Load, kg	500	620	800	800	800	800	800	
Load Wear Index, kg	75	85	110	120	131	166	166	
Four Ball Wear Test								D 2266
Scar Diameter, mm	0.54	0.57	0.67	0.67	0.68	0.68	0.68	
Falex Continuous Load								D 3233
Failure, kg	+2045	+2045	+2045	+2045	+2045	+2045	+2045	
FZG, Stages	+13	+13	+13	+13	+13	+13	+13	DIN 51-354
Corrosion 48 hr @ 52 ° C	Pass	Pass	Pass	Pass	Pass	Pass	Pass	D 1743
Lincoln Vent Meter PSI @ 30 sec								
22 ° C	-	-	-	-	60	80	90	
-1 ° C	0	0	0	0	180	290	300	
-18 ° C	150	125	120	825	-	-	-	
-23 ° C	-	-	225	1600	-	-	-	
-29 ° C	400	400	640	-	-	-	-	
Estimated Low Temperature Dispensing(1), °C	-40	-30	-10	0	+7	+10	+10	

(1) May vary with type of equipment and dispensing system configuration used

* Also available in an aerosol spray can. Product code 504-688.

[Visit](#) your nearest Shell Associate or Reseller for more details.

Need more product information? Please the [Shell Customer Service Centre](#) at 1-800-661-1600 or e-mail us at questions@shell.com

MSDS requests? Please call 1-800-661-1600 or fax your request to (403) 691-3997

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