

Shell Tivela Grease GL 00

Superior Performance Synthetic Semifluid Gear Grease

THICKENER	NLGI	TEMP RANGE	BASE OIL VISCOSITY		EP	WATER RESISTANCE	SOLID LUBRICANT
LITHIUM	00	-30 °C to +130 °C	40 °C 142 cSt	100 °C 23 cSt	(✓)	☆	--

Shell Tivela GL 00 is a synthetic, semi-fluid gear lubricant developed to meet the highest requirements of industrial gearboxes allowing long life trouble free operation.

Applications

- Small industrial gear units
- **Worm gears** : the low steel/tin-bronze frictional characteristics of Shell Tivela GL 00 make it particularly suitable for worm gears having this combination of alloys.
- **Steel/Aluminium-bronze**
Shell Tivela GL 00 is **not recommended** for the combination steel/aluminium-bronze, for which a grease based on a higher viscosity mineral oil is preferred.
- **Flushing and filling with Shell Tivela GL 00** : Shell Tivela GL 00 is a synthetic polyglycol based lubricant and must not be mixed with mineral oils. Care should be taken when changing over from oil or conventional grease. Flushing with a thin mineral oil will ensure, as far as possible, freedom from solid contaminants and deterioration products resulting from previous use of gear oils or greases. It is important to ensure that none of the flushing oil remains in the gearbox. When refilling the gearbox with Shell Tivela GL 00 every precaution should be taken to ensure complete cleanliness. For optimum performance from both gearbox and lubricant, only the amount recommended by the gearbox manufacturer should be used.
- **Paints.** High quality red lead or epoxy resin paints are recommended for use in contact with Shell Tivela GL 00, as the synthetic polyglycol component will tend to attack certain conventional paints.
- **Seals.** Shell Tivela GL 00 may be used satisfactorily with all normal seal materials.

Leather seals are not recommended as the natural fats tend to be removed, leaving the seals thin and brittle.

Performance Features

- Small industrial gear boxes can be lubricated for life with this semi-fluid grease
- Reduced power consumption and lower bulk lubricant temperature
- Lower start up torque compared with a conventional grease
- Reduced lubricant leakage : top up usually not required
- The load carrying capacity of the base oil in Shell Tivela GL 00 is extremely good. In steel-steel scuffing tests using the IAE gear rig, under standard conditions, the load carrying capacity is some 65% higher than an equi-viscous mineral oil, without using EP additives.
- Use of a proven product with excellent track records in many types of gear boxes (David Brown, SEW, Leroy-Somer, etc.) in severe service and wide range of operation conditions.

Operating Temperature Range

- Lubricants exposed to **high temperatures** and air will inevitably oxidise resulting in the formation of lacquer and sludge and inefficient operation due to an excessive increase in viscosity.

Shell Tivela GL 00 has excellent oxidation stability. It produces no lacquer or sludge and does not increase in viscosity under normal operating conditions. It consequently provides much better performance at high temperatures than conventional gear greases.

Shell Tivela GL 00 is suitable for lubrication, at continuing operating bulk lubricant temperatures, up to 130°C.

- The operation of grease-filled gearboxes in **low-ambient temperatures** presents two major problems:
 - high torque, induced by stiffening of the lubricant
 - starvation, caused by grease channelling

In overcoming these problems, Shell Tivela GL 00 is superior to typical high quality mineral oil based gearbox greases.

Health & Safety

Shell Tivela Grease GL is unlikely to present any significant health or safety hazard when properly used in the recommended application, and good standards of industrial and personal hygiene are maintained.

Not classified as Dangerous under EC criteria.

For further guidance on Product Health & Safety refer to the appropriate Shell Product Safety Data Sheet.

Typical Physical Characteristics

Shell Tivela Grease GL 00	
NLGI Consistency	00
Colour	Off White
Soap Type	Lithium
Base Oil (type)	Synthetic - Polyglycol
Density at 20°C kg/m ³ (ISO 12185)	1009
Kinematic Viscosity @ 40°C mm ² /s 100°C mm ² /S (ISO 3104)	142 23
Cone Penetration Worked @ 25°C 0.1mm (IP 50/ASTM-D217)	410
Dropping Point °C (IP 396)	188
Oil Separation (% m) 18 h at 40°C 7 d at 40°C (IP 121)	4 12
Copper corrosion Test (ASTM D 4048)	1a
Oxidation Stability (psi) 100 h at 99°C (IP 142)	2.1
4 Ball Weld Load (kg) (IP 239 - 1h, 79°C, 1200 rpm, 40 kg)	150
Rust test 48 h, distilled water, 52°C (ASTM D1743)	Pass
Emcor Rust Test (IP 220)	0 - 0

Typical Physical Characteristics

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

Advice

Advice on applications not shown on this leaflet may be obtained from your Shell Representative.

