Shell Tivela Compound A

Synthetic semifluid gear lubricant

Shell Tivela Compound A is a synthetic, semifluid gear lubricant. It was developed in co-operation with major gear manufacturers to meet the demand for high quality, long life gear lubricants.

Shell Tivela Compound A consists of a synthetic base oil blended with a controlled quantity of highly stable lithium soap and special additives to give outstanding lubrication performance

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Applications

- Small industrial gear units
- Worm gears

Performance Features

The following features of Shell Tivela Compound A make possible the concept of "lubricated for life" in small gear units.

- low steel/tin-bronze frictional characteristics
- wide temperature range
- exceptional long life properties
- excellent resistance to leakage
- prolonged service between lubricant changes

These unique properties can be exploited in other types of gear unit.

Worm Gears

The low steel/tin-bronze frictional characteristics of Shell Tivela Compound A make it particularly suitable for worm gears having this combination of alloys.

Steel/Aluminium-bronze

Shell Tivela Compound A is not recommended for the combination steel/aluminium-bronze, for which a grease based on a high viscosity mineral oil is preferred.

Load Carrying Capacity

The load carrying capacity of the base oil in Shell Tivela Compound A 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 equiviscous mineral oil, without using EP additives.

Low Temperature Conditions

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 Compound A is superior to typical high quality mineral oil based gearbox greases.

High Temperature Conditions

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 Compound A 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 Compound A is suitable for lubrication, at continuing operating bulk lubricant temperatures, up to 130°C.

Paints

High quality red lead or epoxy resin paints are recommended for use in contact with Shell Tivela Compound A, as the synthetic oil component will tend to attack certain conventional paints.

Flushing and Filling with Shell Tivela Compound A

Shell Tivela Compound A is a synthetic based lubricant and should 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 Compound A 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.

Seals

Shell Tivela Compound A 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.

Storage Stability

As is common with semifluid materials, Shell Tivela Compound A tends to bleed when in storage, but this does not affect performance. Free oil should be stirred back into the grease before use.

Health & Safety

Shell Tivela Compound A 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.

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

Advice

Advice on applications not covered in this leaflet my be obtained from your Shell Representative

Typical Physical Characteristics

Shell Tivela Compound A	
NLGI Consistency	00
Soap Type	Lithium
Base Oil (type)	Synthetic
Kinematic Viscosity @ 40°C cSt 100°C cSt (IP 71/ASTM-D445)	 130 24.6
Viscosity Index (IP 226)	>200
Cone Penetration Unworked @ 25°C 0.1mm (IP 50/ASTM D217)	400-420
Sulphated Ash % wt (IP 163)	0.5

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