



SHELL TIVELA™ S

Synthetic industrial gear lubricants

Product Description

Shell Tivela S is an advanced synthetic heavy duty industrial gear lubricant line formulated using specially selected polyalkylene glycol base fluids and additives. Shell Tivela S offers outstanding lubrication performance under severe operating conditions, including improved energy efficiency in comparison to mineral based products, long service life and high resistance to micro-pitting. Shell Tivela S resists the formation of harmful oxidation products at high temperatures, helping to improve system cleanliness and therefore reliability of the equipment.

Applications

- enclosed industrial reduction gear systems operating under severe conditions
- worm gears
- suitable for “lubricated-for-life” systems
- bearing and circulating systems such as calendars where high bulk oil temperatures are found
- plain and roller element bearings

Shell Tivela S is not recommended for the lubrication of worm gears manufactured from aluminum containing bronze alloys. In these cases Shell Omala® RL is recommended.

Features/Benefits

- excellent load carrying capacity and micropitting performance
- excellent lubrication resulting in improved gear efficiency
- excellent oxidation and thermal stability
- long service intervals
- excellent rust and corrosion protection of metal surfaces
- compatible with a wide variety of seals and paints (see Seal and Paint Compatibility below)
- compatible with Loctite sealants

OEM Approvals

- Amandus Kahl (pallet presses – ISO 460 Grade)
- Bonfiglioli (ISO 220, 320, and 460)
- Getriebbau Nord (ISO 220 and 680)
- Lenze (ISO 220, 460 and 680)
- Meets David Brown Type G specification
- Flender AG

Seal and Paint Compatibility

High quality epoxy paints are recommended as polyalkylene glycols will tend to attack certain conventional paints. Shell Tivela S has been found to be satisfactory with nitrile and Viton seal materials, although Viton seals are preferred.

Change-over Procedure

Shell Tivela S contains polyalkylene glycols and is **not compatible** with mineral oils or most other synthetic lubricant types. Care should therefore be taken when changing from such products to **Shell Tivela S**. The system should be flushed with **Shell Tivela S**, operating under no load and draining while warm. Ideally, seals exposed to mineral oils should also be replaced. Inspect the lubricant after a few days use. Ensure that oil systems are clean and free from contamination.

Shell Tivela S may not be miscible with other polyalkylene glycols fluids, so caution should be taken when topping off existing fluids. Generally the preference is to avoid mixtures of different PAGs, and it is recommended to drain and refill.

Typical Properties of Shell Tivela S

	Test Method	ISO Viscosity Grade			
		220	320	460	680
Product Code					
35 lb Pail		5066347	5066345	5066303	5066338
400 lb Drum		5066346	5066344	5066302	5066339
Viscosity:					
@ 40°C, cSt	ISO 3104	220	320	460	680
@ 100°C, cSt	ISO 3104	34.4	52.7	73.2	107
Viscosity Index	ISO 2909	203	230	239	259
Density at 15°C	ISO 12185	1.074	1.069	1.072	1.070
Flash Point, COC, °F	ISO 2592	565	545	585	560
Pour Point, °F	ISO 3016	-35	-35	-30	-35
FZG Load Carrying Test, Fail Stage	DIN 51354-2	>12	>12	>12	>12

Handling & Safety Information

For information on the safe handling and use of this product, refer to its Material Safety Data Sheet <http://www.shell-lubricants.com/msds/>. If you are a Shell Distributor, please call **1+800-468-6457** for all of your service needs. All other customers, please call **1+800-840-5737** for all of your service needs. Information is also available on the World Wide Web: <http://www.shell-lubricants.com/>.