



SHELL SPIRAX[®] EW

Extended warranty gear oil for heavy-duty and automotive differentials and manual transmissions

Product Description

Shell SPIRAX[®] EW gear oils are high performance multigrade extreme-pressure lubricants approved for extended warranty. They are available in two viscosity grades SAE 75W-90 and 80W-140 and are formulated with highly refined base oils and unique, state-of-the-art performance additives to meet today's challenges of heavier trucks, higher speeds, higher temperatures and extended drain intervals. These lubricants have earned Dana Corporation's SHAES 256 approval (formerly known as Eaton PS-163) for extended warranty drive axles operating on 500,000 mile drain intervals. As such, they will be found on the list of E500[™] "Approved Lubricants for Extended Warranties", providing protection under the Roadranger[®]* 750,000 mile extended warranty. Shell SPIRAX[®] EW gear oils have also received approval under the new ArvinMeritor (formerly Rockwell) O76-Q "Extended Drain Hypoid Lubricants" specification, allowing their use at 500,000 mile drain intervals in ArvinMeritor truck axles equipped with pump and filtration systems. In years past, approvals for extended drain intervals were reserved only for synthetic fluids. Shell SPIRAX[®] EW gear oils have also received Mack Trucks, Inc. GO-J and MIL-PRF-2105E approvals.

To earn Dana SHAES-256 and ArvinMeritor O76-Q approvals, Shell SPIRAX[®] EW gear oils were subjected to over 50 million miles of actual field testing in truck axles of fleets hauling goods under a wide variety of temperatures and conditions. The oil from the axles in the 100-vehicle test fleet was analyzed regularly, and axles were torn-down and inspected by Dana and ArvinMeritor personnel to determine adequate protection for axles under their extended warranty programs. Shell SPIRAX[®] EW gear oils also underwent rigorous and extensive laboratory testing.

The additive technology in Shell SPIRAX[®] EW gear oils provides outstanding protection of gears, bearings and differentials in heavy-duty axles from damage due to wear and shock loading. It is especially good at resisting spalling. The frictional properties of Shell SPIRAX[®] EW gear oils provide for excellent power divider operation for optimum wheel performance - a feature that is especially important in heavy-duty off-road axle operation. And the additives in Shell SPIRAX[®] EW gear oils are highly stable, will not separate, and maintain their effectiveness in the presence of heat and moisture.

Shell SPIRAX[®] EW gear oils are specially engineered to deliver outstanding cold weather performance. They also effectively inhibit oxidation and resist the effects of heat. They meet API MT-1 requirements and provide the latest in "Clean Gear" performance. These attributes help reduce the loss of lubricant due to seal degradation, as these gear oils are less likely to form harmful, abrasive deposits.

* Roadranger[®] is a registered trademark of the Eaton Corporation

Applications

Shell SPIRAX® EW gear oils are formulated for use in universal duty hypoid or spiral bevel-gear truck differentials of over-the-road truck fleets, as well as in off-road vehicle axles. These lubricants meet all performance requirements of Dana SHAES 256 (formerly Eaton PS-163), ArvinMeritor O76-Q, Mack GO-J, API GL-5, MT-1 and MIL-PRF-2105E specifications. Shell SPIRAX® EW gear oils can be used in Dana® Spicer® drive axles for 500,000 mile extended drain intervals, in ArvinMeritor axles equipped with pumps and filter for extended drain intervals of 500,000 miles, and in Mack axles operating on standard drain intervals.

Shell SPIRAX® EW gear oils are available in SAE grades 75W-90 and 80W-140 and can be used wherever an API GL-5 SAE grade 75W-90, 80W-140, 75W, 80W, 90 or 140 gear lube is recommended.

Shell SPIRAX® EW gear oils are compatible with both synthetic and mineral-based axle lubricants at any ratio, under a wide variety of operating conditions. This allows for easy top-off and refill of truck axles with no need for flushing between lubricants.

Shell SPIRAX® EW gear oils will also find application in Mack heavy-duty truck or bus manual transmissions. Both viscosity grades can be used in Mack truck manual transmissions, if changed at 200,000-mile intervals. It is worth noting that Eaton and ZFMeritor do not allow the use of API GL-5, MT-1 gear oils in their heavy duty transmissions.

Features/Benefits

- outstanding protection against wear
- excellent low temperature performance
- compatible with synthetic and mineral-based gear lubes—facilitates top-off and refill of axles
- resists deposit formation to protect seals from premature degradation and subsequent lubricant loss
- inhibits oil oxidation for clean operation and long lubricant life
- excellent stability in the event of water contamination
- provides outstanding anti-foam protection
- combats rust and corrosion

Approvals

- Dana SHAES 256 (formerly Eaton PS-163) specification, for use at 500,000 mile drain intervals
- ArvinMeritor (formerly Rockwell) O76-Q specification, for use at 500,000 mile drain intervals
- Mack Trucks, Inc. GO-J
- International Truck and Engine TMS-6816
- API Service GL-5 and MT-1
- U.S. Military specification MIL-PRF-2105E

TYPICAL PHYSICAL AND CHEMICAL PROPERTIES SHELL SPIRAX® EXTENDED WARRANTY GEAR OILS

TEST	METHOD	SAE 75W-90	SAE 80W-140
Code		59202	59204
API Service		GL-5 & MT-1	GL-5 & MT-1
Dana Corporation		SHAES-256	SHAES-256
ArvinMeritor		O76-Q	O76-Q
Mack Trucks, Inc.		GO-J	GO-J

U.S. Military / LRI		MIL-PRF-2105E	MIL-PRF-2105E
Gravity, °API	ASTM D-287	30.6	28.8
Specific Gravity	ASTM D-1298	0.8729	0.8827
Density	ASTM D-1298	0.8721	0.8819
Lbs/gal		7.27	7.34
Viscosity	ASTM D-445		
@ 40°C, cSt		114.8	247.6
@ 100°C, cSt		16.84	27.40
@ 100°F, SUS		587.4	1285
@ 210°F, SUS		87.11	134.5
Viscosity Index		160	145
Brookfield Viscosity, cP	ASTM D-2983	110,000 @ -40°C	60,000 @ -26°C
Pour Point, °C(°F)	ASTM D-97	-48(-54)	-39(-38)
Flash Point, °C(°F)	ASTM D-92	158(316)	188(370)
Color, ASTM	ASTM D-1500	1.5	1.5

Handling & Safety Information

For information on the safe handling and use of this product, refer to its Material Safety Data Sheet at <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/>.