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# Global Transmission TS

SAE 80W-140

**High shear stable fully synthetic lubricant for not limited slip differentials and manual transmissions also working under heavy duty conditions.**

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PAKELO GLOBAL TRANSMISSION TS SAE 80W/140 is a special **fully synthetic** product formulated with selected base stocks and performance additives with a very high technological content.

The formulation is the result of an innovative chemistry studied for facing extreme working conditions in manual transmissions.

The additive package used confers to PAKELO GLOBAL TRANSMISSION TS SAE 80W/140 high anti-oxidative, anti-wear, anti-rust, antifoam, EP (Extreme Pressure) properties, exceptional thermal stability, corrosion protection and total compatibility with synchronized transmissions/gaskets.

In particular, the EP additivation contrasts micro-welding that can generate on cogs preventing in this way metal to metal contact and wear phenomena such as scoring, abrasion, ruffle, and cogs stretching also of hypoid gears.

Thanks to its special formulation the product can be used where a lubricant with an API GL-5 performance level is recommended.

Compatibility with synchronizers (also in molybdenum or bronze) and a correct friction coefficient enable this product to be used also where an API GL-4 is recommended.

The product provides excellent fluency at low temperatures: the Brookfield Viscosity limit of 150.000cP at -26°C (SAE 80W) is achieved even at lower temperatures and this means an almost immediate lubrication also under extremely rigid ambient conditions and/or at cold start-ups.

The Very High Viscosity Index means more stable lubrication while temperature changes and furthermore improves life and operativeness of moving parts.

The use of fully highly selected synthetic base oils allows better performance also at high working temperatures. In this way, compared to a mineral based or semi-synthetic product, PAKELO GLOBAL TRANSMISSION TS SAE 80W/140 is able to reduce evaporation losses (due to thermal stress) and drop in viscosity (due to mechanical stress).

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KRL Test (Kinematic Viscosity Relative Loss), that evaluates the drop in Viscosity of a product due to the mechanical stress and simulates real working conditions, has become more and more important for International OEM that manufacture transmissions.

PAKELO GLOBAL TRANSMISSION TS SAE 80W/140 passes one of the most severe KRL tests: in more detail, the use also of specially selected additives in the formulation of this product allow to satisfy the limits of the Scania Specification STO 1:0 and to keep the viscosity properties of the lubricant almost equal to the initial starting conditions.

PAKELO GLOBAL TRANSMISSION TS SAE 80W/140 provides the following main properties:

- excellent anti-oxidative, anti-corrosion, anti-rust, anti-foam characteristics;
- exceptional Extreme Pressure properties (EP);
- contrasts efficiently the formation of lacquers, sludge, and deposits;
- excellent thermal stability;
- excellent compatibility with gaskets, also at high temperatures (this allows the product to operate efficiently without losses and/or leaking);
- very low Pour Point;
- Very High Viscosity Index;
- total compatibility with synchronized transmissions (also in molybdenum and bronze);
- very high shear stability.

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## Application fields

PAKELO GLOBAL TRANSMISSION TS SAE 80W/140 has been developed for mechanical transmissions, non Limited Slip differentials, synchronized and non synchronized manual transmissions, final drives and steering units where an API GL-4 or API GL-5 lubricant is recommended.

PAKELO GLOBAL TRANSMISSION TS SAE 80W/140 is recommended for use in every kind of climate conditions and working temperatures.

The choice of suitable viscosity grades must be made in compliance with Recommendations from Constructors and according to ambient temperatures.

## Performance level

API GL-4 / GL-5, API MT-1, MIL-PRF-2105E, SAE J2360, MACK GO-J, SCANIA STO 1:0.

## Chemical-Physical Characteristics

Global Transmission TS	Method analysis	Unit measure	Value SAE 80W-140
Density at 15°C	ASTM D1298	kg/l	0,883
Kinematic Viscosity at 40°C	ASTM D445	cSt	194,2
Kinematic Viscosity at 100°C	ASTM D445	cSt	25,5
Viscosity Index	ASTM D2270	-	164
Brookfield Viscosity at -26°C	ASTM D2983	cP	60.000
Flash Point (C.O.C.)	ASTM D92	°C	> 190
Pour Point	ASTM D97	°C	-30
KRL Shear Stability (Stage C - 20 Hour) at 100°C	CEC L45A99	%(cSt/cSt)	4,0
Kinematic Viscosity at 100°C after KRL (Stage C)	ASTM D445	cSt	24,5

The data just above refer to average values and must not be understood as guaranteed characteristics.

This Technical Data Sheet has been carefully checked to guarantee complete and precise information. However, we do not take any responsibility in case of damages caused by any mistakes or omissions. Due to continual product research and development, the information contained herein is subject to change without notification.