

Date: 27 June 2013

TECHNICAL SHEET  
TRANSMISSION OIL

**LUKOIL TRANSMISSION TM-5 SAE 85W-140, API GL-5**

- "LUKOIL TRANSMISSION TM-5 SAE 85W-140, API GL-5" transmission oil is obtained from highly refined paraffinic components and specific additives, which provide superior antiwear, extreme pressure resistance, antioxidation, anticorrosion, depressant, and rheological performance, specific for the API GL-5 performance level.
- It is used for the lubrication of gear transmissions of transport vehicles (manual gear boxes, steering mechanisms, etc.) and of other mechanical transmission systems, mainly hypoid ones, which operate under normal and severe conditions, at high speeds and shock loads or at high speed and low torque, as well as at low speed and high torque.
- Performance level: API GL-5; MIL-L-2105D; ZF TE-ML 05A, 16C, 21A
- Quality conditions:

Item No.	CHARACTERISTICS	ADMISSIBILITY CONDITIONS	TEST METHOD
1	Kinematic viscosity at 100°C, mm <sup>2</sup> s <sup>-1</sup> (cSt), min.	24.0...<32.5	SR EN ISO 3104/AC ASTM D 445 ASTM D 7042
	** Kinematic viscosity at 40°C, mm <sup>2</sup> s <sup>-1</sup> (cSt), min.	Approx. 370	
2	Viscosity index, min.	90	SR ISO 2909 ASTM D 2270 ASTM D 7042
3	*Brookfield viscosity at the temperature of -12°C, cP (mPa.s), max.	150 000	ASTM D2983
4	Flash point, Cleveland open cup, °C, min.	210	SR EN ISO 2592 ASTM D92
5	Pour point, °C, max.	-15	SR 13552 ASTM D 97
6	*Water content, %	nil	SR 13484 ASTM D 95
7	*Substances insoluble in organic solvents,%	nil	STAS 33
8	Copper strip corrosion at 120°C, 3h, max.	2b	SR EN ISO 2160 ASTM D130
9	** Tribologic characteristics on the four ball machine, at the temp. of (20 ± 5°C): - weld load, N (kgf), min - wear index at an axle load of 392 N (40kgf), during 1h, mm, max.	To be reported on request	STAS 8618 ASTM D 2783
10	*Foaming properties, ml (tendency – stability), max. - at 24 °C - at 93.5 °C - at 24°C, after determination at 93.5°C	20-0 50-0 20-0	SR ISO 6247+C1 ASTM D 892
11	**Sulphur content, %	To be reported on request	SR EN ISO 8754 ASTM D4294
12	**Phosphorus content, %	To be reported on request	STAS 7330
13	Density at 15°C, g /cm <sup>3</sup>	not standardized; To be reported	SR EN ISO 3675/C91 ASTM D 1298 ASTM D 7042

\*This characteristic is warranted by means of the manufacturing technology / is determined in accordance with the technical specification in force.

\*\* This characteristic is determined at beneficiary's request.

- Accuracy evaluation of the test methods from this technical sheet should meet the requirements of Standard SR EN ISO 4259:2007 "Petroleum products – determining and applying the accuracy values regarding the test methods".
- Samples shall be taken in accordance with SR EN ISO 3170:2004/C91:2005 "Liquid petroleum products. Manual sampling".
- Packaging, marking, storage, transport and handling are performed according to the regulations in force (decisions, regulations, etc. specified in the product safety data sheet) and to LUKOIL LUBRICANTS EAST EUROPE S.R.L.'s instructions/internal procedures.
- For details, see the Safety Data Sheet (SDS).
- Storage life is of 5 years from the manufacture date.