

MAK SPIROL HD 80W-90

High performance API GL-5 oil for automotive transmissions & drivelines

MAK SPIROL HD 80W-90 is formulated from high quality select base stocks and multifunctional advanced additive system. The additive chemistry imparts excellent load carrying, antirust characteristics along with high resistance to oxidation and thermal degradation. These oils are heavy duty gear oils meant for gears, particularly hypoid gears, in axles operating under various combinations of high-speed shock loads and low-speed, high-torque conditions. These are formulated to meet the rigorous service demand of commercial fleet manual transmissions, gear boxes and drive axles. MAK Spirol HD 80W-90 is compatible with seal materials normally specified for use in automotive gear systems with mineral oils. The oil provides excellent chemical and thermal stability even at elevated bulk oil temperatures as high as 150°C.

Applications:

MAK Spirol HD 80W-90 is recommended for hypoid and bevel gears in rear axles of the vehicles operating under very severe conditions such as on-highway light duty and heavy duty trucks, buses, off-highway commercial and construction vehicles. It can also be used in gear boxes wherever OEMs recommend API GL-5 type oils or commercial fleet manual transmissions.

Performance/ Benefits:

Resistance to Oxidation and Thermal Degradation – resists the effects of oxidising agents and thermal stress. Extends gear life due to minimal deposits formation tendencies.

Load Carrying Ability – excellent protection of gears against wear and pitting due to stable extreme-pressure properties and helps prevent premature failures.

High Resistance to Foaming – exhibits low foaming characteristics and maintains oil film for reduced wear of transmission components.

Excellent Rust and Corrosion Protection – reduces corrosion wear and maintenance cost and enhances transmission system life.

Low Temperature Lubrication – facilitates easy start-up and gear shifting at low ambient temperatures.

Excellent Seal Compatibility – offers extended life of seal, minimum leakage and reduced contamination.

Performance Level/ Specification:

- API GL-5
- US MIL-L-2105D
- IS 1118:1992 (EP Type GL-5)

Typical Physico-Chemical Data: MAK Spirol HD 80W-90

Characteristics	Method	Value
SAE Viscosity Grade	SAE J306	80W-90
Colour	Visual	Brown
Appearance	Visual	Clear and Bright
Density @15°C, g/cc	ASTM D1298	0.8990
Kinematic Viscosity @40°C, cSt	ASTM D445	139.0
Kinematic Viscosity @100°C, cSt	ASTM D445	13.9
Viscosity Index	ASTM D2270	96
Copper Corrosion, 100°C, 3 hrs.	ASTM D130	1b
Flash Point, °C	ASTM D92	198
Pour Point, °C	ASTM D97	-24
Foaming Tendency	ASTM D892	
a) Sequence I		NIL/NIL
b) Sequence II		10/NIL
c) Sequence III		NIL/NIL

Storage & Handling:

The product should be stored inside. Keep it properly sealed to avoid contamination. Avoid freezing. Shelf life is 5 yrs. under protected storage conditions.

Health & Safety:

It is unlikely to be hazardous when properly used in recommended applications. Contamination of the oil from other oils, greases, chemicals, dirty water etc. can occur during the use. It should be avoided. Regular monitoring of the in-use product is recommended.