



RAVENOL ATF T-ULV Fluid



ART.-NR. 1211146

1 L | 1211146-001
10 L | 1211146-010
20 L | 1211146-020

FABRICATION FULLY SYNTHETIC

RECOMMENDATIONS VW G 053 001 A2 | VOLVO 31492172/ 31492173 |
PSA 16 350 560 80 | BMW 83 22 2 413 477 | BMW ATF 7 | ATF AW-2

RAVENOL ATF T-ULV Fluid is a fully synthetic ATF (Automatic Transmission Fluid), designed on the basis of high quality polyalphaolefin (PAO) and Esters with a special additive and inhibition, which ensure a perfect function of the automatic transmission.

RAVENOL ATF T-ULV Fluid is an ATF for the latest generation of Aisin Warner automatic transmissions. It guarantees a high wear protection in all operating conditions.

RAVENOL ATF T-ULV Fluid has red colour.

Reducing loss torque in automatic transmissions (ATs) is a key factor in improving fuel economy. A promising approach is to reduce the viscosity of the Automatic Transmission Fluid (ATF) to minimize churning loss. RAVENOL has developed an ultra-low viscosity ATF, called "T-ULV", which has approximately 50% lower kinematic viscosity at 40 °C compared to the conventional low viscosity ATFs. It is generally understood that if the viscosity of an ATF is too low, it can have a negative impact on the fatigue life of components such as gears and bearings, and possibly lead to increased wear or seizure.

RAVENOL ATF T-ULV Fluid was designed to solve these problems via the application of two key technologies. The first is a high performance PAO (Polyalphaolefin) with a low traction coefficient, which translates to low viscosity under high pressure conditions. This decreases the shear resistance between sliding surfaces under elasto-hydrodynamic lubrication (EHL) conditions, which contributes to improving the fatigue life of bearings and other components. The second is an ester type base oil with high polarity. It was found that the amount of ester base oil used has a major influence on fatigue life. The adsorption of esters onto metal surfaces is thought to improve lubricity in severe lubrication conditions. Durability tests were performed in a wide range of conditions, using gear and bearing components and actual transmission units, and it was confirmed that **RAVENOL ATF T-ULV Fluid** outperforms low viscosity ATFs, despite its ultra-low viscosity. Furthermore, **RAVENOL ATF T-ULV Fluid** reduces loss torque in the transmission by approximately 12% compared to other low viscosity ATFs.



Application Notes

RAVENOL ATF T-ULV Fluid is an Ultra Low Viscosity ATF for modern 8-Speed automatic transmissions of Aisin Warner.

RAVENOL ATF T-ULV Fluid is suitable for use in automatic transmissions of BMW, Peugeot/Citroen, VW, Volvo. Note the original part number of manufacturer!

Characteristics

RAVENOL ATF T-ULV Fluid offers::

- Very good lubricity also at low temperatures in winter
- High, stable viscosity index
- Very good oxidation stability
- Excellent wear, corrosion and foaming protection
- Excellent friction constant
- High thermal and oxidative stability
- Excellent cooling capacity

| Property | Unit | Data | Audit |
|----------------------------------|--------------------|-------|--------------|
| Density at 20°C | kg/m ³ | 819,3 | EN ISO 12185 |
| Colour | | Rot | visual |
| Viscosity at 100°C | mm ² /s | 3,3 | DIN 51562-1 |
| Viscosity at 40°C | mm ² /s | 12,0 | DIN 51562-1 |
| Viscosity index VI | | 151 | DIN ISO 2909 |
| Brookfield Viskosität bei -40°C | mPa*s | 1090 | ASTM D2983 |
| Brookfield Viskosität bei -50°C | mPa*s | 5800 | ASTM D2983 |
| Brookfield Viskosität bei -55°C | mPa*s | 7000 | ASTM D2983 |
| Pourpoint | °C | -78 | DIN ISO 3016 |
| Flash point | °C | 164 | DIN ISO 2592 |
| VKA Vier Kugel Test (Verschleiß) | mm | 0,6 | DIN 51350-3 |
| VKA Vier Kugel-Test (Hochdruck) | N | <2000 | DIN 51350-3 |
| Foaming behavior | ml/ml | | |
| Seq.I bei 24°C | ml/ml | 10/0 | ASTM D892 |



| Property | Unit | Data | Audit |
|---------------------------------|-------|------|-----------|
| Seq. III bei 93,5°C nach 93,5°C | ml/ml | 000 | ASTM D892 |
| Cu-Korrosion bei 150°C | | 1a | ASTM D130 |

All information correspond to the best of our knowledge to the actual situation of the cognitions and our development. Subject to alterations. All references made to DIN-norms are only for the description of the goods. There is no guarantee. In case there will be any problems please contact the technical service.

Release: : 03. November 2020