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## - Certificate / ProductInformation-

### RAVENOL ATF ZMS

Art.1211102

ATF Professional Line

#### Description:

**RAVENOL ATF ZMS** was developed with a synthetic PAO base oil and a special selection of additives and inhibitors to produce excellent thermal and oxidation stability and adhesion factor performance. This guarantees the fault free functioning of the automatic transmission. **RAVENOL ATF ZMS** demonstrates excellent flow properties at low temperatures.

**RAVENOL ATF ZMS** is a new generation ATF (Automatic-Transmission-Fluid) for ZF automatic transmissions of commercial vehicles. Guarantees maximum wear protection in every operating status.

**RAVENOL ATF ZMS** supports oil-change intervals up to 150,000 km, or a maximum of up to 3 years.

**RAVENOL ATF ZMS** enhances the reliability of older ZF transmissions, counters vibrations, ensures particularly soft gear changes as well as good driving comfort and also possesses friction-reducing properties.

**RAVENOL ATF ZMS** can contribute towards optimizing your servicing and operating costs by extending oil-change intervals. It is particularly recommended for applications with oil sump temperatures up to 105°C.

#### Application Directions:

**RAVENOL ATF ZMS** was specially developed for heavy-duty ZF automatic transmissions used in local and regional public transport systems. Extreme loads, such as e.g. demanding topography, stop-and-go traffic and frequent retarder operation are not a problem for **RAVENOL ATF ZMS**.

**RAVENOL ATF ZMS** can be mixed with all ATF types of the ZF lubricant list TE-ML 04D.

Oil and filter change intervals for Ecomat transmissions in busses up to 150,000 km, or every 3 years.

Oil and filter change intervals for Ecomat transmissions in trucks, construction machinery and special vehicles during normal use (fire engines, construction vehicles and dumpers with high driving distances) after 2000 h or every 2 years.

Oil and filter change intervals under demanding conditions (refuse collection vehicles, vehicles with high off-road times (low distance, high gear shift rate) after 1500 h or once a year.

#### Quality Classification:

**RAVENOL ATF ZMS** is tried and tested for aggregates specifying:

**Recommendations:** MAN 339 Typ Z13, MAN 339 Typ Z4 (ZF Ecomat 150 000 km), ZF TE-ML 04D, 14E, 16N, 16Q, 20F, ZF 0671 072 120, ZF 0671 072 130

#### Technical Characteristics:

**RAVENOL ATF ZMS** offers:

- Very good lubricant properties, even in low winter temperatures
- High, stable viscosity index
- Very good oxidation stability
- Excellent protection against wear, corrosion and frothing
- Excellent friction coefficient consistency
- High thermal and oxidative stability
- Excellent cooling properties

#### Technical Values:

Characteristics		Unit	Data	Test according to
<b>Colour</b>			Blue	visual
<b>Density</b>	at 20°C	kg/m <sup>3</sup>	843	EN ISO 12185
<b>Pourpoint</b>		°C	-51	DIN ISO 3016

All indicated data are approximate values and are subject to the commercial fluctuations.

RAVENOL special transmission fluid is special development for special gear and cannot be selected on the basis of technical parameters (viscosity, etc.). Therefore the decision was made not to give technical data.

**Please note:** RAVENOL special transmission fluid is exclusively to apply under the original number, as indicated in the product information. Not sure of the correct transmission fluid, you can ask your garage or the car dealer with respect to the original OEM gear type and number or consult our advisers. It must be specified the VIN code (Vehicle Identification Number) of your vehicle.

Misapplication of RAVENOL special transmission fluid can lead to malfunction of the transmission shifting problems, increased fuel consumption, unwanted slip behavior, etc. cause and cause the failure of the transmission.

Ravensberger Schmierstoffvertrieb GmbH does not liable for transmission failures in case of wrong selection of RAVENOL special transmission fluid.

To the best of our knowledge all information reflects the current state of findings and our development. Subject to change. Any reference to DIN standards are solely for product description purposes and do not represent a guarantee. If problems occur please consult a technician.

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