

HIGH TECHNOLOGY LUBRICANTS FOR MAN VEHICLES



TOTAL

TOTAL, an innovative partner

In 1990 the European Union set up EURO standards which stipulate the maximum polluting emissions allowed by heavy goods vehicles over 3.5 T. EURO 5 standard has been compulsory since October 2009 and EURO 6 will come into effect as from January 2014.

TOTAL provides the answers for the new technologies developed by MAN



AIMS

To meet the increasingly stringent requirements of the latest EURO standards by reduction of particulates and nitrous oxides in the exhaust gases.

To reach the levels of cleanliness for the different engine parts over and above those required by MAN by proposing high technology products.

MAN's STRATEGY: a two-fold technology

TOTAL's ANSWERS

EGR + PM KAT®* technology (Exhaust gas recycling)

Recommended for Euro 4 D20 /D26 and Euro 5 D08 engines (TGM & TGL range). Used to reduce temperatures and thus reduce nitrous oxides (NOx) in the exhaust gases.

* Diesel Particulate filter. Used to reduce the particulates in the exhaust gases.



EGR - D26 engine

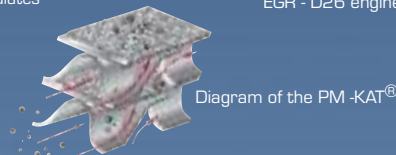


Diagram of the PM-KAT®

TOTAL Low SAPS technology (lubricants with low sulphated ash, phosphorous and sulphur contents)

4 engine oils formulated with TOTAL Low SAPS technology (very low contents of sulphated ash, phosphorous and sulphur) Those lubricants reach levels of cleanliness for the different engine parts above those required by MAN.

- RUBIA TIR 7900 FE 10W-30, homologated M 3575 (specification required for the latest engines)
- RUBIA TIR 9900 FE, 8900 FE and 8900 homologated M 3477 (required for EGR and PM-KAT® which ensures the longevity of diesel particulate filter sensitive to sulphur and sulphated ashes).

Example with RUBIA TIR 8900 FE 10W-30
Sulfated ash content.



Engine clean piston test



RUBIA TIR 8900 FE RUBIA TIR 8900

SCR (Selective Catalyst Reduction)

System which enables conversion (through injection of Ad-Blue® within the exhaust system) of polluting emissions such as nitrous oxides (NOx) into non polluting products (nitrogen and water vapour).

A complete products' offer

- Any type of lubricant is compatible with SCR
- Need for an additional product: Ad Blue is available in the AS 24 and TOTAL network of service stations. From Total Lubricants in bulk, IBC (1000L), 208-litre drums, 10-litre cans.

The ADVANTAGES of TOTAL Fuel Economy (FE) technology

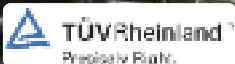
- **Fuel economy:** if combined use of engine and transmission lubricants, average savings of 1 litre per 100 km or 3 % - certified by independent organizations such as MILLBROOK, UTAC and TUV - certification in august 2009 after tests on a MAN Euro 4 truck (MAN TGX 440) on products (1) and (2).

- **A reduction in CO₂ emissions** into the atmosphere of 3 tonnes per year per truck (based on an economy of 1 litre per 100 km, on a truck covering 120 000 km a year and whose average fuel consumption is 33 litres per 100 km).
N.B. 1 litre of fuel = 2.7 kg of CO₂.












Fuel consumption



RESPONSES



TOTAL lubricants recommended for MAN

ENGINE LUBRICANTS		Specifications	Specific features	Composition
Fuel Economy lubricants for Diesel engines	RUBIA TIR 9900 FE 5W-30 NEW	ACEA E6/E7/E4-99 issue 3 MAN M 3477	 	Synthetic technology
	RUBIA TIR 9200 FE 5W-30	ACEA E4/E5/E7, API CF MAN M 3277		100 % synthetic
	RUBIA TIR 8900 FE 10W-30 	ACEA E6/E7/E4-99 issue 3 API CI-4 MAN M3477 MAN M3271-1	 	Synthetic technology
	RUBIA TIR 8600 FE 10W-30	ACEA E4 MAN M 3277		Synthetic technology
	RUBIA TIR 7900 FE 10W-30	API CJ-4, ACEA E9/E7 MAN M 3575	 	Synthetic based technology
Standard lubricants for Diesel engines	RUBIA TIR 8900 10W-40	ACEA E6/E7/E4-99 issue 3 API CI-4 MAN M 3477 MAN M 3277-CRT		Synthetic technology
	RUBIA TIR 8600 10W-40	ACEA E4/E5/E7 API CF MAN M 3277		Synthetic technology
Lubricants for Diesel and gas engines	RUBIA City & Road 10W-40	ACEA E6/E7/E4-08 MAN M 3271-1		Synthetic technology

Applications

- New generation Low SAPS and fuel economy engine oil.
- Particularly suitable for lubrication of engines of Euro 5 and previous engines.

- Recommended by all European engine manufacturers for the longest oil change intervals, thus enabling significantly shorter vehicle immobilizations.
- Maximum oil change interval for Euro 5 engines with SCR Technology and engines without EGR and PM Kat system.
- Excellent detergent and anti-oxidant properties.

- Product certified by the TUV after tests on a Euro 4 truck. The TUV certified that TOTAL RUBIA TIR 8900 FE 10W-30 helps to save 1,34 % of fuel on average (combined with Fuel Economy transmission lubricants, the TUV certifies fuel savings of 3% on average (up to 6,41%)).
- Specifically recommended for engines of latest generation (Euro 5) equipped with Diesel Particulate Filters (DPF).
- Can be used for lubricating all types of engines (Euro 5 and previous engines) equipped or not with all kind of post-treatment system (EGR only, EGR + DPF, SCR, SCRT, ...).

- Used with the Fuel Economy transmission lubricants, it can reduce fuel consumption by about 1L/100 km.
- Maximum oil change interval for Euro 5 engines with SCR technology and Euro 3 engines.
- Excellent detergent and anti-oxidant properties.

- Used with Fuel Economy transmission lubricants, it can reduce average fuel consumption by 1L/100 km (and up to 1,28 L/100km on urban and sub-urban services).

- Specifically recommended for engines of latest generation (Euro 5) equipped with Diesel Particulate Filters (DPF).
- Particularly suitable for engines of Euro 5 and previous engines.

- Ensure safe and longer drains intervals for Euro 5 engines based on SCR Technology and Euro 3 engines.
- Excellent detergent and anti-oxidant properties.

- Low SAPS engine oil recommended for MAN gas engines (suitable for diesel engines as well).

TOTAL lubricants recommended for MAN

		Specifications	Specific features	Composition	Applications	
TRANSMISSION SYSTEM LUBRICANTS	Manual gearboxes (with or without retarder)	(2) TRANSMISSION XS FE 75W-80 	API GL-4 MAN 341 Type Z-5		Synthetic based technology	<ul style="list-style-type: none"> Specifically developed for heavy duty ZF gearboxes fitted with an integrated retarder (ZF Intarder), where the thermal constraints are the most severe. Recommended for extended drain intervals (up to 300 000 km) on manual gearboxes of MAN commercial vehicles. Particularly suitable for last generation gearboxes with Carbone Synchronisation.
		TRANSMISSION TI 75W-80	API GL-4 MAN 341 Type E-3		Semi-Synthetic	<ul style="list-style-type: none"> Suitable for EATON gearboxes.
		EP 80W-85 EP 80W-90	API GL-4 MAN 341 Type Z-2		Mineral oil	<ul style="list-style-type: none"> Approved by ZF with standard drain interval on all their manual gearbox applications. Not suitable for intarder or retarder applications.
	Voith retarder	TRANSMISSION XSV FE 75W-80	API GL-4 MAN 341 Type V-R		100 % synthetic	<ul style="list-style-type: none"> Approved for Voith retarders with highly extended oil drain interval.
	Automatic gearboxes	FLUIDE XLD FE	MAN 339 Type V-2/Z-2		100 % synthetic	<ul style="list-style-type: none"> Particularly recommended for maximal drain intervals on Voith, ZF and Allison automatic gearboxes of heavy duty vehicles and buses transmissions.
		FLUIDE G3	MAN 339 Type V1 & Z1		Semi-Synthetic	<ul style="list-style-type: none"> Recommended for all automatic transmissions (automatic gearboxes, couplers and convertors, power-assisted steering systems) and hydraulic systems when is required a DEXRON® III fluid.
	Axle	TRANSMISSION SYN FE 75W-90	API GL-4/ GL-5/ MT-1 MAN 3343 Type S		100 % synthetic	<ul style="list-style-type: none"> Very high performance lubricant for hypoid axles. Extended drain intervals.
		TRANSMISSION RS FE 80W-90	API GL-4/GL-5/MT-1 MAN 3343 Type M		Semi-Synthetic	<ul style="list-style-type: none"> Extended drain intervals (up to 160 000 km). Not suitable for intarder applications.
		TRANSMISSION XPM 80W-90	API GL-5 API MT-1 MAN 342 Type M-3		Mineral oil	<ul style="list-style-type: none"> Extended drain intervals. Suitable for all types of axles on industrial vehicles with extended drain intervals up to 240 000 km.
SPECIALTIES	Cooling circuit	GLACELF AUTO SUPRA	MAN 324 Type SNF			<ul style="list-style-type: none"> Cab EQUIVIS ZS 15 HV LP 15
		GLACELF MDX	MAN 324 Type NF			<ul style="list-style-type: none"> Clutch FLUIDE DA MAN 3289

TOTAL, an expert partner

Your requirements:

- To recommend lubricants tailored to your customers' expectations.
- To maintain a competitive advantage.
- To retain your customers and increase your additional sales.
- To train and motivate your workshop and sales teams to promote lubricants.

Our answers:

Product innovations: a **RESEARCH CENTRE** devoted to developing the latest generation lubricants



Local sales and technical teams, listening to your everyday needs:

- **RECOMMENDATION** of the products best suited to your requirements.
- Provision of **MADE-TO-MEASURE TOOLS** to promote your sales, train and motivate your teams.

Innovative services:

- **ANAC:** a preventive maintenance tool for your fleet thanks to expert and personalised diagnostics of your engines, using samples of the oils in service.
www.anac-diagnosis.com
- **LUBCONSULT:** on-line management of OEM's recommendations and your lubrication schedules.
www.lubconsult.total.com
- **VISI STOCK:** stock control system (automated level sensing and re-supply).
- **PARCK:** decision-making support software to optimise management of your fleet.

www.lubricants.total.com



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