



## Optigear MX

High Performance Gear Oils

### Description

Castrol Optigear MX is a range of mineral base high-performance gear oils, developed to tackle wear-related problems in gears and bearings.

Optigear MX is formulated with Castrol's Microflux Trans (MFT) Plastic Deformation (PD) additive. MFT PD helps improve performance when operating temperature and loads reach a certain level of activation energy, by enabling the micro-smoothing of surface roughness without increasing wear. The smoothed surface delivers optimum wear protection and an extremely low coefficient of friction, especially in applications which experience extreme pressure, shock loads, vibrations or low speeds. MFT PD helps to protect against scuffing and shock loading, while maintaining a high load carrying capacity, and can help prevent the progression of micro-pitting in pre-damaged gears.

### Application

Optigear MX may be used in spur gear, bevel gears or planetary gear units and in heavy loaded gear units, e.g. wind turbine main gears.

Optigear MX 150 can be used in the textile industry.

### Advantages

Compared to conventional non-PD oils, Castrol Optigear MX can deliver the following advantages:-

- High load carrying capacity.
- Superior micro pitting protection.
- Excellent friction reduction.
- Good filtration properties.
- Excellent bearing lubrication suitability.

## Typical Characteristics

Name	Method	Units	MX 150	MX 320	MX 460
Density @ 15°C / 59°F	ISO 12185 / ASTM D4052	kg/m <sup>3</sup>	898	903	907
Appearance	Visual	-	clear brown liquid	clear brown liquid	clear brown liquid
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	157	325	450
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	15.3	24.5	30.0
Viscosity Index	ISO 2909 / ASTM D2270	None	98	97	97
Copper Corrosion (3 h @ 100°C/212°F)	ISO 2160 / ASTM D130	Rating	1	1	1
Pour Point	ISO 3016 / ASTM D97	°C	-15	-15	-12
Rust Test - distilled water (24 hrs)	ISO 7120 / ASTM D665A	Rating	Pass	Pass	Pass
Foam Sequence I - tendency / stability	ISO 6247 / ASTM D892	ml/ml	0/0	0/0	0/0
Flender Foam Test	ISO 12152 / Flender	% Vol Increase	<5	9	9
FZG Scuffing Test	ISO 14635	Failure Load Stage	>12	>14	>14*
FZG Micropitting Test @ 90°C/ 194°F	FVA 54-7	Failure Load Stage Micropitting Rating	-	>10 High	>10* High*
FE8 Bearing Wear Test (F.562831.01-7.5/80-80)	DIN 51819-3	Roller Wear (Mw50), mg	2	2*	2*
FE8 Bearing Wear Test - increased load (F.562831.01-7.5/100-80)	DIN 51819-3 (modified)	Roller Wear (Mw50), mg	-	<1	<1*

\* Read across from lower viscosity grade. Subject to usual manufacturing tolerances.

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