



Hyundai XTeer MCL series of products are advanced quality, super high performance marine diesel main engine cylinder oil. This innovative new approach in cylinder lubricant technology formulations presents full protection from adhesive and corrosive wear at the higher operating temperatures and pressures of today's modern crosshead engines. These oils are available in SAE 50 viscosity grade with range of BN (Total Base Number) of 140, 100, 70, 40 and 25. These oils possess outstanding acid neutralizing capability and provides excellent engine cleanliness and durability.

Hyundai XTeer MCL series of products will provide excellent engine protection under the most stringent conditions encountered in service covering all operational needs. Hyundai XTeer MCL 5070 (SAE 50, BN 70) and Hyundai XTeer MCL 50100 (SAE 50, BN 100) are most widely used lubricants for marine main engines operating on intermediate or heavy fuels with a high sulphur level.

- Hyundai XTeer MCL Series of products, has been developed for crosshead marine main engines designed for increased power and fuel efficiency.
- **Hyundai XTeer MCL 50100**: operation in highly corrosive marine main engines, especially under slow steaming operating conditions.
- **Hyundai XTeer MCL 5070**: operation with fuel sulphur levels down to 1.5%.
- **Hyundai XTeer MCL 5025**: operation with SECA fuel sulphur < 0.1% (e.g. MDO/MGO).
- **Hyundai XTeer MCL 50140**: an ultra high BN cylinder oil for use with onboard lubricant blending or mixing system, e.g. MAN (MDT) 'ACOM' (Automated Cylinder Oil Mixing), being able to cope with variation of fuel sulphur content whilst minimising lubricant feed rates.
- **Hyundai XTeer MCL 5040**: special application that is for the MAN engine operates with fuel sulphur 1.0% to 1.5% and the Wartsila engine operates with fuel sulphur 0.5% to 1.5%.

## ◆ Features & Benefits

- Thermal and Oxidation Stability: Reduced deposits and sludge formation, cleaner engine reduces down time required for overhauls
- Anti-wear Properties: Reduced liner and ring wear, anti-scuffing control
- Detergency Capability: Superior piston and liner cleanliness increases combustion efficiency and extends periods between piston overhauls
- High BN Retention: Reduced cylinder oil consumption, wide fuel sulphur capability while minimizing the corrosive effects of high sulphur fuel combustion
- Meets the requirements of major marine main engine manufacturers such as MAN and Wartsila

## ◆ Typical properties

Hyundai XTeer MCL	50100	5070	5025	50140	5040
SAE Grade	50	50	50	50	50
Base Number, mg KOH/g (ASTM D2896)	100	70	25	140	40
Viscosity (cSt) @100°C (ASTM D445)	19.2	19.2	19.2	19.2	19.2
Viscosity Index (ASTM D2270)	103	103	103	103	103
Pour Point(°C) (ASTM D97)	-21	-21	-21	-21	-21
Flash Point (°C, COC) (ASTM D92)	258	258	258	258	258
Density @ 15°C, g/ml (ASTM D4052)	0.9332	0.9133	0.8823	0.9432	0.8928

Above test results are new fluid's typical properties, can be changed by quality improvement.

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