

Marine fuel oil ISO 8217:2012

| Test | Unit | Test method | | | Limits | Grade | | | | | | | | | | | | |
|-----------------------|--------------------------|-------------|------------|---------------|--------|---|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|----|----|
| | | ASTM | IP | ISO | | RMA 10 | RMB 30 | RMD 80 | RME 180 | RMG 180 | RMG 380 | RMG 500 | RMG 700 | RMK 380 | RMK 500 | RMK 700 | | |
| Viscosity at 50°C | mm ² /s (cSt) | D445 | 71 | 3104 | max. | 10.00 | 30.00 | 80.00 | 180.0 | 180.0 | 380.0 | 500.0 | 700.0 | 380.0 | 500.0 | 700.0 | | |
| Density at 15°C | kg/m ³ | D1298 | 160 | 3675 or 12185 | max. | 920.0 | 960.0 | 975.0 | 991.0 | 991.0 | 991.0 | 991.0 | 991.0 | 1010.0 | 1010.0 | 1010.0 | | |
| CCAI | – | Calculated | | | max. | 850 | 860 | 860 | 860 | 870 | 870 | 870 | 870 | 870 | 870 | 870 | | |
| Sulfur | mass % | D4294 | 336 | 8754, 14596 | max. | Statutory requirements | | | | | | | | | | | | |
| Flash point | °C | D93 | 34 | 2719 | min. | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | | |
| Hydrogen sulfide | mg/kg | – | 570 | – | max. | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | | |
| Acid number | mg KOH/g | D664 | – | – | max. | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | | |
| Total sediment aged | mass % | – | 390 | 10307-2 | max. | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | | |
| Carbon residue, micro | mass % | D4530 | 398 | 10370 | max. | 2.50 | 10.00 | 14.00 | 15.00 | 18.00 | 18.00 | 18.00 | 18.00 | 20.00 | 20.00 | 20.00 | | |
| Pour point | °C | D97 | 15 | 3016 | max. | 0 | 0 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | | |
| Winter quality | | | | | max. | 6 | 6 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Summer quality | | | | | max. | 6 | 6 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Water | volume % | D95 | 74 | 3733 | max. | 0.30 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | | |
| Ash | mass % | D482 | 4 | 6245 | max. | 0.040 | 0.070 | 0.070 | 0.070 | 0.100 | 0.100 | 0.100 | 0.100 | 0.150 | 0.150 | 0.150 | | |
| Vanadium | mg/kg | – | 501, 470 | 14597 | max. | 50 | 150 | 150 | 150 | 350 | 350 | 350 | 350 | 450 | 450 | 450 | | |
| Sodium | mg/kg | – | 501, 470 | – | max. | 50 | 100 | 100 | 50 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | | |
| Aluminium + silicon | mg/kg | D5184 | 501, 470 | 10478 | max. | 25 | 40 | 40 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | | |
| Used lubricating oil | – | – | – | – | – | The fuel shall be free of ULO. | | | | | | | | | | | | |
| Calcium + zinc | mg/kg | – | 501 or 470 | – | – | A fuel shall be considered to contain ULO when either one of the following conditions is met: | | | | | | | | | | | | |
| Calcium + phosphorus | mg/kg | – | 500 | – | – | Calcium > 30 and zinc > 15 or calcium > 30 and phosphorus > 15 | | | | | | | | | | | | |

ExxonMobil Marine Fuels specifications

Exxon Mobil Corporation and affiliated companies (ExxonMobil) supply marine fuels against the attached specifications, which apply to fuels manufactured by ExxonMobil and those purchased or exchanged or unless otherwise agreed. These specifications are regularly reviewed to encompass both equipment-builder and industry requirements, including standard setting organisations such as ASTM and ISO. These specifications comply with ISO 8217:2012. Therefore, please note that these specifications are subject to change without notice. In addition, local conditions may require deviation from published specifications or may offer a higher quality, but without guarantee. Please contact your ExxonMobil Marine Fuels representative regarding current typical qualities at your nominated bunker port. Final product quality specifications are subject to order confirmation details.

This document is supplied for information only and is not part of any contract for the supply of marine fuels. Any warranties as to the quality of marine fuels supplied will be set out separately in a contract with the relevant ExxonMobil Marine Fuels entity.

Test methods

The test methods indicated are used by ExxonMobil's laboratories worldwide. The methods are similar, but not necessarily identical to those in the ISO specifications.

Density

All densities are in units of kg/m³ at 15°C. To convert these units to kg/L divide by 1000.

Viscosity

Local practice may dictate viscosity measurement at other temperatures with conversion to 50°C. In case of dispute, the same method will be used to confirm the original measurement. Note: original measurement temperature will be used in the case of dispute.

Calculated values

Properties of interest to operators may be approximated by calculation from measured specification properties. These include calculated energy content and CCAI. ExxonMobil does not calculate these values and does not recognize calculated energy content as a specification.

Sampling and delivery

ExxonMobil employs continuous drip samplers as the preferred method for obtaining representative samples of a marine fuel oil delivery. Samples are drawn following the procedures set out in the ExxonMobil Sampling Policy. Purchasers may wish to use the services of an independent survey at delivery.

Quantity measurement is according to the terms of the most current version of ExxonMobil Marine Fuels General Conditions of Contract. ExxonMobil uses certified calibrations of barges and tanks to determine quantities delivered.