

MARINE FUEL

BRITISH STANDARDS INSTITUTE SPECIFICATION FOR PETROLEUM FUELS FOR MARINE OIL ENGINES AND BOILERS

(EXCERPTS FROM BS MA 100 : 1982)

| Inspection | Class | M1 | M2 | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M10 | M11 | M12 |
|--|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-----|
| Density at 15°C, g/ml, max. | — | — | 0.9000 | 0.9200 | 0.9910 | 0.9910 | 0.9910 | 0.9910 | 0.9910 | 0.9910 | — | — | — |
| Viscosity, kinematic at 40°C, cSt, min. max. | 1.50 | — | — | — | — | — | — | — | — | — | — | — | — |
| | 5.50 | 11.00 | 14.00 | — | — | — | — | — | — | — | — | — | — |
| Viscosity, kinematic at 80°C, cSt, max. | — | — | — | 15.00 | 25.00 | 45.00 | 75.00 | 100.0 | 130.0 | 75.0 | 100.0 | 130.0 | |
| Cetane index, min. | 45 | 35 | — | — | — | — | — | — | — | — | — | — | |
| Carbon residue, Ramsbottom, % (m/m), max. | — | 0.25 | 2.5 | — | — | — | — | — | — | — | — | — | |
| Carbon residue, Ramsbottom on 10 % residue, % (m/m), max. | 0.20 | — | — | — | — | — | — | — | — | — | — | — | |
| Carbon residue, Conradson, % (m/m), max. | — | — | — | 12.0 | 14.0 | 20.0 | 22.0 | 22.0 | 22.0 | — | — | — | |
| Flash point, closed. Pensky-Martens, °C, min. | 43.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | |
| Water content, % (V/V), max. | 0.05 | 0.25 | 0.30 | 0.50 | 0.80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Sediment by extraction, % (m/m), max. | 0.01 | 0.02 | — | — | — | — | — | — | — | — | — | — | |
| Ash, % (m/m), max. | 0.01 | 0.01 | 0.05 | 0.10 | 0.10 | 0.15 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | |
| Sulphur content, % (m/m), max. | 1.00 | 2.00 | 2.00 | 3.50 | 4.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | |
| Cloud point, °C max. | -16 | — | — | — | — | — | — | — | — | — | — | — | |
| Pour point, upper, * °C, max. (1 December — 31 March) (1 April — 30 November) | — | 0 | 0 | 24 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | |
| | — | 6 | 6 | 24 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | |
| Vanadium content, mg/kg, as V, max. | — | — | 100 | 250 | 350 | 500 | 600 | 600 | 600 | 600 | 600 | 600 | |

*The word "upper" does not apply to grades M2 and M3.

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