



**BUNKERWORKS**

**ISO 8217: 2017 Fuel Standard  
for Marine Distillates and Residual Fuels**

## Marine Distillate Fuels

| Limit | Parameter                                                      | DMX            | DMA    | DFA | DMZ    | DFZ | DMB   | DFB |
|-------|----------------------------------------------------------------|----------------|--------|-----|--------|-----|-------|-----|
| Max.  | Viscosity at 40°C (mm²/s)                                      | 5.500          | 6.000  |     | 6.000  |     | 11.00 |     |
| Min.  | Viscosity at 40°C (mm²/s)                                      | 1.400          | 2.000  |     | 3.000  |     | 2.000 |     |
| Max.  | Micro Carbon Residue at 10% Residue (%m/m)                     | 0.30           | 0.30   |     | 0.30   |     | -     |     |
| Max.  | Density at 15°C (kgm3)                                         | -              | 890.0  |     | 890.0  |     | 900.0 |     |
| Max.  | Micro Carbon Residue (% m/m)                                   | -              | -      |     | -      |     | 0.30  |     |
| Max.  | Sulphur (% m/m)                                                | 1.00           | 1.00   |     | 1.00   |     | 1.50  |     |
| Max.  | Water (% V/V)                                                  | -              | -      |     | -      |     | 0.30  |     |
| Min.  | Total sediment by hot filtration (% m/m)                       | -              | -      |     | -      |     | 0.10  |     |
| Max.  | Ash (% m/m)                                                    | 0.010          | 0.010  |     | 0.010  |     | 0.010 |     |
| Min.  | Flash Point (°C)                                               | 43.0           | 60.0   |     | 60.0   |     | 60.0  |     |
| Max.  | Pour Point in Winter (°C)                                      | -              | -6     |     | -6     |     | 0     |     |
| Max.  | Pour Point in Summer (°C)                                      | -              | 0      |     | 0      |     | 6     |     |
| Max.  | Cloud point in Winter (°C)                                     | -16            | Report |     | Report |     | -     |     |
| Max.  | Cloud point in Summer (°C)                                     | -16            | -      |     | -      |     | -     |     |
| Max.  | Cold filter plugging point in Winter (°C)                      | -              | Report |     | Report |     | -     |     |
| Max.  | Cold filter plugging point in Summer (°C)                      | -              | -      |     | -      |     | -     |     |
| Min.  | Calculated Cetane Index                                        | 45             | 40     |     | 40     |     | 35    |     |
| Max.  | Acid Number (mgKOH/g)                                          | 0.5            | 0.5    |     | 0.5    |     | 0.5   |     |
| Max.  | Oxidation stability (g/m³)                                     | 25             | 25     |     | 25     |     | 25    |     |
| Max.  | Fatty acid methyl ester (FAME)                                 | -              | -      | 7.0 | -      | 7.0 | -     | 7.0 |
| Max.  | Lubricity, corrected wear scar diameter (wsd 1.4 at 60°C) (um) |                |        |     |        |     | 520   |     |
| Max.  | Hydrogen sulphide (mg/kg)                                      |                |        |     |        |     | 2.00  |     |
|       | Appearance                                                     | Clear & Bright |        |     |        |     | -     |     |

## Marine Residual Fuels

| Limit | Parameter                                                                          | RMA                                                                                                                                                                                            | RMB   | RMD   | RME   | RMG   |       |       |       | RMK    |       |       |
|-------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
|       |                                                                                    | 10                                                                                                                                                                                             | 30    | 80    | 180   | 180   | 380   | 500   | 700   | 380    | 500   | 700   |
| Max.  | Viscosity at 50°C (mm²/s)                                                          | 10.00                                                                                                                                                                                          | 30.00 | 80.00 | 180.0 | 180   | 380.0 | 500.0 | 700.0 | 380.0  | 500.0 | 700.0 |
| Max.  | Density at 15°C (kg/m³)                                                            | 920.0                                                                                                                                                                                          | 960.0 | 975.0 | 991.0 | 991.0 |       |       |       | 1010.0 |       |       |
| Max.  | Micro Carbon Residue (% m/m)                                                       | 2.50                                                                                                                                                                                           | 10.00 | 14.00 | 15.00 | 18.00 |       |       |       | 20.00  |       |       |
| Max.  | Aluminium + Silicon (mg/kg)                                                        | 25                                                                                                                                                                                             | 40    |       | 50    | 60    |       |       |       |        |       |       |
| Max.  | Sodium (mg/kg)                                                                     | 50                                                                                                                                                                                             | 100   |       | 50    | 100   |       |       |       |        |       |       |
| Max.  | Ash (% m/m)                                                                        | 0.040                                                                                                                                                                                          | 0.070 |       |       | 0.100 |       |       |       | 0.150  |       |       |
| Max.  | Vanadium (mg/kg)                                                                   | 50                                                                                                                                                                                             | 150   |       |       | 350   |       |       |       | 450    |       |       |
| Max.  | CCAI                                                                               | 850                                                                                                                                                                                            | 860   |       |       | 870   |       |       |       |        |       |       |
| Max.  | Water (% V/V)                                                                      | 0.30                                                                                                                                                                                           | 0.50  |       |       |       |       |       |       |        |       |       |
| Max.  | Pour point (upper) in Summer (°C)                                                  | 6                                                                                                                                                                                              | 30    |       |       |       |       |       |       |        |       |       |
| Max.  | Pour point (upper) in Winter (°C)                                                  | 6                                                                                                                                                                                              | 30    |       |       |       |       |       |       |        |       |       |
| Min.  | Flashpoint (°C)                                                                    | 60.0                                                                                                                                                                                           |       |       |       |       |       |       |       |        |       |       |
| Max.  | Sulphur (% m/m)                                                                    | To comply with statutory requirements as defined by purchaser                                                                                                                                  |       |       |       |       |       |       |       |        |       |       |
| Max.  | Total Sediment, aged (mgKOH/g)                                                     | 0.10                                                                                                                                                                                           |       |       |       |       |       |       |       |        |       |       |
| Max.  | Acid Number (mgKOH/g)                                                              | 2.5                                                                                                                                                                                            |       |       |       |       |       |       |       |        |       |       |
|       | Used lubricating oils (ULO)<br>Calcium and Zinc: or Calcium and Phosphorus (mg/kg) | The fuel shall be free from ULO, and shall be considered to contain ULO when either one of the following conditions is met:<br>Calcium > 30 and Zinc > 15; or Calcium > 30 and phosphorus > 15 |       |       |       |       |       |       |       |        |       |       |
| Max.  | Hydrogen sulphide (mg/kg)                                                          | 2.00                                                                                                                                                                                           |       |       |       |       |       |       |       |        |       |       |