

# Helmsman Supply Limited

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## MARINE DISTILLATE FUELS (ISO 8217 2010 Fuel Standard for marine residual fuels)

Limit	Parameter	DMX	DMA	DMZ	DMB
Max.	Viscosity at 40°C (mm <sup>2</sup> /s)	5.500	6.000	6.000	11.00
Min.	Viscosity at 40°C (mm <sup>2</sup> /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 (kg/m <sup>3</sup> )	-	890.0	890.0	900.0
Max.	Micro Carbon Residue (% m/m)	-	-	-	0.30
Max.	Sulphur (% m/m)	1.00	1.50	1.50	2.00
Max.	Water (% V/V)	-	-	-	0.30
Max.	Total sediment by hot filtration (% m/m)	-	-	-	0.10
Max.	Ash (% m/m)	0.010	0.010	0.010	0.010
Min.	Flash point (0°C)	43.0	60.0	60.0	60.0
Max.	Pour point in Summer (0°C)	-	0	0	6
Max.	Pour point in Winter (°C)	-	-6	-6	0
Max.	Cloud point (°C)	-16	-	-	-
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/m <sup>3</sup> )	25	25	25	25
Max.	Lubricity, corrected wear scar diameter (wsd 1.4 at 60°C) (um)	520	520	520	520
Max.	Hydrogen sulphide (mg/kg)	2.00	2.00	2.00	2.00
	Appearance	Clear & Bright			-

## MARINE RESIDUAL FUELS

Limit	Parameter	RMA 10	RMB 30	RMD 80	RME 180	RMG				RMK		
						180	380	500	700	380	500	700
Max.	Viscosity at 50°C (mm <sup>2</sup> /s)	10.00	30.00	80.00	180.0	180.0	380.0	500.0	700.0	380.0	500.0	700.0
Max.	Density at 15°C (kg/m <sup>3</sup> )	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)	0			30							
Min.	Flash point (°C)	60.0										
Max.	Sulphur (% m/m)	Statutory requirements										
Max.	Total Sediment, aged (% m/m)	0.10										
Max.	Acid Number (mgKOH/g)	2.5										
	Used lubricating oils (ULO): 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: Calcium > 30 and zinc > 15; or Calcium > 30 and phosphorus > 15.										
Max.	Hydrogen sulphide (mg/kg)	2.00										

