

TipTop Bunker A/S

**ISO 8217 2005
FUEL STANDARD**

ISO 8217 2005 Fuel Standard
for marine distillate fuels

MARINE DISTILLATE FUELS

Limit	Parameter	DMX	DMA	DMZ	DMB
Max.	Viscosity at 40 °C (mm ² /s)	5.5	6.0	11.0	14.0
Min.	Viscosity at 40 °C (mm ² /s)	1.4	1.5	-	-
Max.	Micro Carbon Residue at 10% Residue (% m/m)	0.30	0.30	-	-
Max.	Density at 15 °C (kg/m ³)	-	890.0	900.0	920.0
Max.	Micro Carbon Residue (% m/m)	-	-	0.30	2.50
Max.	Sulfur (% m/m)	1.0	1.5	2.0	2.0
Max.	Water (% V/V)	-	-	0.3	0.3
Max.	Total Sediment Existent (% m/m)	-	-	0.10	0.10
Max.	Ash (% m/m)	0.01	0.01	0.01	0.05
Min.	Flash point (°C)	43	60	60	60
Max.	Pour point in Summer (°C)	-	0	6	6
Max.	Pour point in Winter (°C)	-	-6	0	0
Max.	Cloud point (°C)	-16	-	-	-
Min.	Calculated Cetane Index	45	40	35	-
Max.	Vanadium (mg/kg)	-	-	-	100
Max.	Aluminium + Silicon (mg/kg)	-	-	-	25
Max.	Zinc (mg/kg)	-	-	-	15
Max.	Phosphorus (mg/kg)	-	-	-	15
Max.	Calcium (mg/kg)	-	-	-	30
	Appearance	Clear & Bright		-	-

MARINE RESIDUAL FUELS

Limit	Parameter	RMA 30	RMB 30	RMD 80	RME 180	RMF 180	RMG 380	RMH 380	RMK 380	RMH 380	RMK 700
Max.	Viscosity at 50°C (mm ² /s)	30.0		80.0	180.0		380.0		700		
Max.	Density at 15°C (kg/m ³)	960.0	975.0	980.0	991.0		991.1	1010.0	991.0	1010.0	
Max.	Micro Carbon Residue (% m/m)	10		14	15	20	18	22		22	
Max.	Aluminium + Silicon (mg/kg)	80		80	80		80		80		
Max.	Ash (% m/m)	0.10		0.10	0.10	0.15	0.15	0.15		0.15	
Max.	Vanadium (mg/kg)	150		350	200	500	300	600		600	
Max.	Water (% V/V)	0.50		0.5	0.5		0.5		0.5		
Max.	Pour point in Summer (°C)	6	24	30	30		30		30		
Max.	Pour point in Winter (°C)	0	24	30	30		30		30		
Min.	Flash point (°C)	60		60	60		60		60		
Max.	Sulphur (% m/m)	3.5		4.00	4.50		4.50		4.50		
Max.	Total Sediment, Potential (% m/m)	0.10		0.10	0.10		0.10		0.10		
Max.	Zinc (mg/kg)	15									
Max.	Phosphorus (mg/kg)	15									
Max.	Calcium (mg/kg)	30									