

Fuel Standard for Marine Distillate Fuels

Characteristic	Unit	Limit	DMX	DMA	DFA	DMZ	DFZ	DMB	DFB	
General Requirements			Clauses 5 to 10							
Viscosity @ 40°C	mm ² /s (a)	max.	5.500	6.000			11.00			
		min.	1.400	2.000		3.000		2.000		
Density @15°C	kg/m ³	max.	-	890.0			900.0			
Cetane Index		min.	45.0	40.0	-	40.0	-	35.0	-	
Cetane Number		min.	-	-	40.0	-	40.0		35.0	
Sulfur Content	% mass	max.	Statutory Requirements (b)							
Flash Point	°C	min.	43.0	60.0						
Hydrogen Sulfide	mg/kg	max.	2.00							
Acid Number	mg KOH/g	max.	0.5							
Existent Total Sediment (TSE)	% mass	max.	-					0.10 (c)		
Oxidation Stability	g/m ³	max.	25	25	-	25	-	25 (d)	-	
	h	min.	-	-	8.0	-	8.0	-	8.0	
FAME Content	% mass or vol.	-	Minimis		(e)	Minimis	(e)	Minimis	(e)	
Net Heat of Combustion (LCV)	MJ/kg	-	-	-	(f)	-	(f)	-	(f)	
MCR on 10% Dist. Residue	% mass	max.	0.30					-		
Carbon Residue, Micro (MCR)	% mass	max.	-					0.30		
Cloud Point (g)	°C	max.	-16	(f)			-(h)	(f, h)		
Cold Filter Plugging Point (g)	°C	-	-	(f)			-(h)	(f, h)		
Pour Point (upper) (g)	°C	max. Winter	-	-6			0			
		max. Summer	-	0			6			
Appearance		-	Clear and Bright (i)					(c)		
Water Content	% vol.	max.	-					0.30 (c)		
Ash Content	% mass	max.	0.010							
Lubricity (WSD) @ 60°C (j)	µm	max.	520					520 (d)		

**The above information is for informational purposes only.
Clipper Oil assumes no responsibility for any errors or omissions.**

(a) 1 mm²/s = 1 cSt

(b) The buyer is expected to define the maximum sulphur content according to relevant statutory limitations

(c) If the sample is not clear and bright, the existent total sediment and water shall be required

(d) If the sample is not clear and bright, the test cannot be undertaken and therefore, compliance with this limit cannot be shown

(e) The seller shall report the FAME content according to the test method given or as per blend ratio (stating whether it is a mass or volume ratio)

(f) The value shall be reported according to the test method given

(g) Pour point cannot guarantee operability for all ships in all climates. The buyer should confirm that the cold flow characteristics (PP, CP, CFPP) are suitable for the ship's design and intended voyage

(h) For some products, it is possible that this test does not work due to appearance, therefore other means to evaluate usability of the product should be considered

(i) If the sample is dyed and not transparent, then the water content shall not exceed 200 mg/kg in accordance with ISO 12937

(j) This requirement is applicable to fuels with a sulfur content below 500 mg/kg (0.050% by mass)