



## Marine Distillate Fuel Specification

fulfils ISO 8217 2012

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Characteristic	Unit	Limit	Category				Test method	
			DMX	DMA	DMZ	DMB		
Kinematic viscosity at 40 °C <sup>a</sup>	mm <sup>2</sup> /s	max.	5,500	6,000	6,000	11,00	ISO 3104	
		min.	1,400	2,000	3,000	2,000		
Density at 15 °C	kg/m <sup>3</sup>	max.	–	890,0	890,0	900,0	ISO 3675	
Cetane index	–	min.	45	40	40	35	ISO 4264	
Sulfur <sup>b</sup>	mass %	max.	1,00	1,50	1,50	2,00	ISO 8754 ISO 14596	
Flash point	°C	min.	43,0	60,0	60,0	60,0	ISO 2719	
Hydrogen sulfide <sup>c</sup>	mg/kg	max.	2,00	2,00	2,00	2,00	IP 570	
Acid number	mg KOH/g	max.	0,5	0,5	0,5	0,5	ASTM D664	
Total sediment by hot filtration	mass %	max.	–	–	–	0,10 <sup>e</sup>	ISO 10307-1	
Oxidation stability	g/m <sup>3</sup>	max.	25	25	25	25 <sup>f</sup>	ISO 12205	
Carbon residue: micro method on the 10 % volume distillation residue	mass %	max.	0,30	0,30	0,30	–	ISO 10370	
Carbon residue: micro method	mass %	max.	–	–	–	0,30	ISO 10370	
Cloud point	°C	max.	–16	–	–	–	ISO 3015	
Pour point (upper) <sup>d</sup>	winter quality	°C	max.	– 6	– 6	– 6	0	ISO 3016
	summer quality	°C	max.	0	0	0	6	ISO 3016
Appearance	–	–	Clear and bright <sup>j</sup>			<sup>e, f</sup>		
Water	volume %	max.	–	–	–	0,30 <sup>e</sup>	ISO 3733	
Ash	mass %	max.	0,010	0,010	0,010	0,010	ISO 6245	
Lubricity, corrected wear scar diameter (wsd 1,4) at 60 °C <sup>h</sup>	µm	max.	520	520	520	520 <sup>g</sup>	ISO 12156-1	

**a** 1 mm<sup>2</sup>/s = 1 cSt.

**b** Notwithstanding the limits given, the purchaser shall define the maximum sulfur content in accordance with relevant statutory limitations.

**c** Purchasers should ensure that this pour point is suitable for the equipment on board, especially if the ship operates in cold climates.

If the sample is not clear and bright, the total sediment by hot filtration and water tests shall be required.

**d** If the sample is not clear and bright, the test cannot be undertaken and hence the oxidation stability limit shall not apply.

**e** If the sample is not clear and bright, the test cannot be undertaken and hence the lubricity limit shall not apply.

**f** This requirement is applicable to fuels with a sulfur content below 500 mg/kg (0,050 mass %).