

# Residual Marine Fuels - ISO 8217: 2010(E)

Characteristic	Unit	Limit	Category ISO-F-											Test method reference	
			RMA	RMB	RMD	RME	RMG				RMK				
			10 <sup>a</sup>	30	80	180	180	380	500	700	380	500	700		
Kinematic viscosity at 50 °C <sup>b</sup>	mm <sup>2</sup> /s	max	10,00	30,00	80,00	180,0	180,0	380,0	500,0	700,0	380,0	500,0	700,0	ISO 3104	
Density at 15°C	kg/m <sup>3</sup>	max	920,0	960,0	975,0	991,0	991,0				1010,0			see 7.1 ISO 3675 or ISO 12185	
CCAI	-	max	850	860	860	860	870				870			see 6.3 a)	
Sulfur <sup>c</sup>	mass%	max	Statutory requirements											see 7.2 ISO 8754 ISO 14596	
Flash point	°C	min	60,0	60,0	60,0	60,0	60,0				60,0			see 7.3 ISO 2719	
Hydrogen sulfide <sup>d</sup>	mg/kg	max	2,00	2,00	2,00	2,00	2,00				2,00			IP 570	
Acid number <sup>e</sup>	mg KOH/g	max	2,5	2,5	2,5	2,5	2,5				2,5			ASTM D664	
Total sediment aged	mass%	max	0,10	0,10	0,10	0,10	0,10				0,10			see 7.5 ISO 10307-2	
Carbon residue: micro method	mass%	max	2,50	10,00	14,00	15,00	18,00				20,00			ISO 10370	
Pour point (upper) <sup>f</sup>	winter quality	°C	max	0	0	30	30	30				30			ISO 3016
	summer quality	°C	max	6	6	30	30	30				30			ISO 3016
Water	volume %	max	0,30	0,50	0,50	0,50	0,50				0,50			ISO 3733	
Ash	mass%	max	0,040	0,070	0,070	0,070	0,100				0,150			ISO 6245	
Vanadium	mg/kg	max	50	150	150	150	350				450			see 7.7 IP 501, IP 470 or ISO 14597	
Sodium	mg/kg	max	50	100	100	50	100				100			see 7.8 IP 501 IP 470	
Aluminium plus silicon	mg/kg	max	25	40	40	50	60				60			see 7.8 IP 501 IP 470	

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

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

c. Due to reasons stated in Annex D, the implementation date for compliance with the limit shall be 1 July 2012.

Until such time, the specified value is given for guidance. For distillate fuels the precision data are currently being developed.

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

e. If the sample is not clear and bright, the total sediment by hot filtration and water tests shall be required, see 7.4 and 7.6

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