



Residual marine fuels

Meets ISO 8217:2012 (E)

Characteristic	Unit	Limit	Category 150-F-											Test method reference	
			RMA	RMB	RMD	RME	RMG				RMK				
			10 ^a	30	80	180	180	380	500	700	380	500	700		
Kinematic viscosity at 50 oC ^b	mm ² /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 oC	kg/m ³	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 ^c	mass %	max.	Statutory requirements											see 7.2 ISO 8754 ISO 14596	
Flash point	oC	min.	60,0	60,0	60,0	60,0	60,0				60,0			see 7.3 ISO 2719	
Hydrogen sulfide	mg/kg	max.	2,00	2,00	2,00	2,00	2,00				2,00			see 7.11 IP 570	
Acid number ^d	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) ^e	winter quality	oC	max.	0	0	30	30	30				30			ISO 3016
	summer quality	oC	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	



- a This category is based on a previously defined distillate DMC category that was described in ISO 8217:2005, Table 1. ISO 8217:2005 has been withdrawn.
- b $1 \text{ mm}^2/\text{s} = 1 \text{ cSt}$.
- c The purchaser shall define the maximum sulfur content in accordance with relevant statutory limitations. See 0.3 and Annex C.
- d See Annex H.
- e Purchasers shall ensure that this pour point is suitable for the equipment on board, especially if the ship operates in cold climates.



Table 2 (continued)

Characteristic	Unit	Limit	Category 150-F-										Test method reference	
			RMA	RMB	RMD	RME	RMG				RM			
			10 ^a	30	80	180	180	380	500	700	380	500		70
Sodium	mg/kg	max.	50	100	100	50	100				10 0			see 7.8 IP 501 IP 470
Aluminium plus silicon	mg/kg	max.	25	40	40	50	60				60			see 7.9 IP 501, IP 470 or ISO 10478
Used lubricating oils (ULO): — calcium and zinc; or — calcium and phosphorus	mg/kg	—	The fuel shall be free from ULO. A fuel 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										see 7.10 IP 501 or IP 470 IP 500	

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^b 1 mm²/s = 1cSt.

^c The purchaser shall define the maximum sulfur content in accordance with relevant statutory limitations. See 0.3 and Annex C.

^d See Annex H.

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