

Table 2 — Residual marine fuels

Characteristic	Unit	Limit	Category ISO-F-												Test method reference		
			RMA		RMB		RMD		RMG				RMK				
			10 ^a	30	30,00	80,00	80	180	180,0	180,0	380,0	500,0	700,0	380,0		500,0	700,0
Kinematic viscosity at 50 °C ^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 °C	kg/m ³	max.	920,0	960,0	975,0	991,0	991,0	991,0	991,0	991,0	991,0	991,0	991,0	1010,0	see 7.1 ISO 3675 or ISO 12185		
CCAI	—	max.	850	860	860	860	860	870	870	870	870	870	870	870	see 6.3 a)		
Sulfur ^c	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	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	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	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	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	18,00	18,00	18,00	18,00	18,00	18,00	20,00	ISO 10370		
Pour point (upper) ^e	winter quality	°C	max.	0	0	30	30	30	30	30	30	30	30	30	ISO 3016		
	summer quality	°C	max.	6	6	30	30	30	30	30	30	30	30	30	ISO 3016		
Water	volume %	max.	0,30	0,50	0,50	0,50	0,50	0,50	0,50	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	0,100	0,100	0,100	0,100	0,100	0,100	0,150	ISO 6245		
Vanadium	mg/kg	max.	50	150	150	150	150	350	350	350	350	350	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 ISO 8217:2005 has been withdrawn.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 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.

Table 2 (continued)

Characteristic	Unit	Limit	Category ISO-F-										Test method reference	
			RMA 10 ^a	RMB 30	RMD 80	RME 180	180	380	500	700	380	500		700
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 7.9 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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