

ISO 8217:2005

MARINE DISTILLATE FUELS

Parameter (Unit)	Limit	DMX	DMA	DMB	DMC ^(a)	Test Method
Density at 15 °C (kg/m ³)	Max	-	890	900	920	ISO 12185/3675
Viscosity at 40 °C ^(b) (mm ² /s)	Min Max	1.4 5.5	1.5 6.0	- 11.0	- 14.0	ISO 3104
Micro Carbon Residue at 10% (% m/m)	Max	0.3	0.3	-	-	ISO 10370
Micro Carbon Residue (% m/m)	Max	-	-	0.3	2.5	ISO 10370
Water (% V/V)	Max	-	-	0.3 ^(e)	0.3	ISO 3733
Sulphur (% m/m)	Max	1.0	1.5	2.0 ^(d)	2.0 ^(d)	ISO 14596/8754
Total Sediment Existent (% m/m)	Max	-	-	0.1 ^(e)	0.1	ISO 10307-1
Ash (% m/m)	Max	0.01	0.01	0.01	0.05	ISO 6245
Vanadium (mg/kg)	Max	-	-	-	100	ISO 14597/IP 501/470
Aluminium + Silicon (mg/kg)	Max	-	-	-	25	ISO 10478/IP 501/470
Flash point (°C)	Min	43	60	60	60	ISO 2719
Pour point in Summer (°C)	Max	-	0	6	6	ISO 3016
Pour point in Winter (°C)	Max	-	-6	0	0	ISO 3016
Cloud point (°C)	Max	-16 ^(c)	-	-	-	ISO 3015
Calculated Cetane Index (-)	Min	45	40	35	-	ISO 4264
Appearance ^(e) (-)	-	Clear & Bright		- ^(e)	-	-
Zinc (mg/kg)	-	-	-	-	15	IP 501 or 470
Phosphorous (mg/kg)	-	-	-	-	15	IP 501 or 500
Calcium (mg/kg)	-	-	-	-	30	IP 501 or 470
Used lubricating oil (ULO) ^(f) (-)	-	-	-	-	Free of ULO	-

(a) Note that although predominantly consisting of distillate fuel, the residual oil proportion can be significant.

(b) 1 mm²/s = 1cSt.

(c) This fuel is suitable for use without heating at ambient temperatures down to -16 °C.

(d) A sulphur limit of 1.5% m/m will apply in SOx Emission Control Areas designated by the International Maritime Organization, when its relevant Protocol becomes into force. There may be local variations, for example the EU requires that sulphur content of certain distillate grades be limited to 0.2 % in certain applications.

(e) If the sample is clear and with no visible sediment or water, the total sediment existent and water tests shall not be required.

(f) A fuel shall be considered to be free of used lubricating oils (ULOs) if one or more of the elements zinc, phosphorus and calcium are below or at the specified limits. All three elements shall exceed the same limits before a fuel shall be deemed to contain ULOs.

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MARINE RESIDUAL FUELS

Parameter (Unit)	Limit	RMA 30	RMB 30	RMD 80	RME 180	RMF 180	RMG 380	RMH 380	RMK 380	RMH 700	RMK 700	Test Method
Density at 15 °C (kg/m ³)	Max	960	975	980	991	991	991	991	1010	991	1010	ISO 12185/3675
Viscosity at 50 °C (mm ² /s) ^(a)	Max	30	30	80	180	180	380	380	380	700	700	ISO 3104
Water (% V/V)	Max	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	ISO 3733
Micro Carbon Residue (% m/m)	Max	10	10	14	15	20	18	22	22	22	22	ISO 10370
Sulphur ^(c) (% m/m)	Max	3.5	3.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	ISO 14586/8754
Total Sediment Potential (% m/m)	Max	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	ISO 10307-2
Ash (% m/m)	Max	0.1	0.1	0.1	0.1	0.15	0.15	0.15	0.15	0.15	0.15	ISO 6245
Vanadium (mg/kg)	Max	150	150	350	200	500	300	600	600	600	600	ISO 14597 /IP 501
Aluminium + Silicon (mg/kg)	Max	80	80	80	80	80	80	80	80	80	80	ISO 10478
Flash point (°C)	Min	60	60	60	60	60	60	60	60	60	60	ISO 2719
Pour point in Summer ^(b) (°C)	Max	6	24	30	30	30	30	30	30	30	30	ISO 3016
Pour point in Winter ^(b) (°C)	Max	0	24	30	30	30	30	30	30	30	30	ISO 3016
Zinc (mg/kg)	-	15										IP 501 or 470
Phosphorous (mg/kg)	-	15										IP 501 or 470
Calcium (mg/kg)	-	30										IP 501 or 470
Used lubricating oil (ULO) (-)	-	Free of ULO										-

a) 1 mm²/s = 1cSt.

b) Purchasers should ensure that this pour point is suitable for the equipment on board, especially if the vessel operates in both the northern and southern hemispheres.

c) A sulphur limit of 1.5% m/m will apply in SOx Emission Control Areas designated by the International Maritime Organization, when its relevant Protocol becomes into force. Sulphur limits should adhere to latest regulations.