

Marine Gas Oil

Distillate Marine Fuels
ISO 8217 2017 Specification for Marine Fuels

Characteristics	Unit	Limit	Category ISO-F-						Test method reference	
			DMX	DMA	DFA	DMZ	DFZ	DMB		DFB
Kinematic viscosity at 40 °C	mm ² /s ^a	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 ³	max.	—	890,0		890,0		900,0		see 6.1 ISO 3675 or ISO 12185
Cetane index	—	min.	45	40		40		35		ISO 4264
Sulfur ^b	mass %	max.	1,00	1,00		1,00		1,50		see 6.3 ISO 8754 or ISO 14596, ASTM D4294
Flash point	°C	min.	43,0	60,0		60,0		60,0		see 6.4 ISO 2719
Hydrogen sulfide	mg/kg	max.	2,00	2,00		2,00		2,00		see 6.5 IP 570
Acid number	mg KOH/g	max.	0,5	0,5		0,5		0,5		see 6.6 ASTM D664
Total sediment by hot filtration	mass %	max.	—	—		—		0,10 ^c		see 6.8 ISO 10307-1
Oxidation stability	g/m ³	max.	25	25		25		25 ^d		ISO 12205
Fatty acid methyl ester (FAME)	volume %	max.	—	—	7,0	—	7,0	—	7,0	see 6.10 ASTM D7963 or IP 579
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 ^f	winter	max.	-16	report		report		—		see 6.11 ISO 3015
	summer			—		—		—		
Cold filter plugging point ^e	winter	max.	—	report		report		—		see 6.11 IP 309 or IP 612
	summer			—		—		—		
Pour point (upper)	winter	max.	—	-6		-6		0		see 6.11 ISO 3016
	summer			—		0		6		
Appearance			Clear & Bright ^f						^c	see 6.12
Water	volume %	max.	—	—		—		0,30 ^e		ISO 3733
Ash	mass %	max.	0,010	0,010		0,010		0,010		ISO 6245
Lubricity, corrected wear scar diameter (WSD) at 60 °C ^g	µm	max.	520	520		520		520 ^d		ISO 12156-1

^a mm²/s = 1 cSt.

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

^c If the sample is not clear and bright, the total sediment by hot filtration and water tests shall be required. See 6.8 and 6.12.

^d If the sample is not clear and bright, the test cannot be undertaken and therefore, compliance with this limit cannot be shown.

^e If pour point cannot guarantee operability for all ships in all climates. The purchaser should confirm that the cold flow characteristics (pour point, cloud point, cold filter plugging point) are suitable for the ship's design and intended voyage.

^f If the sample is dyed and not transparent, then the water limit and test method as given in ISO8217:2017 6.12 shall apply.

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