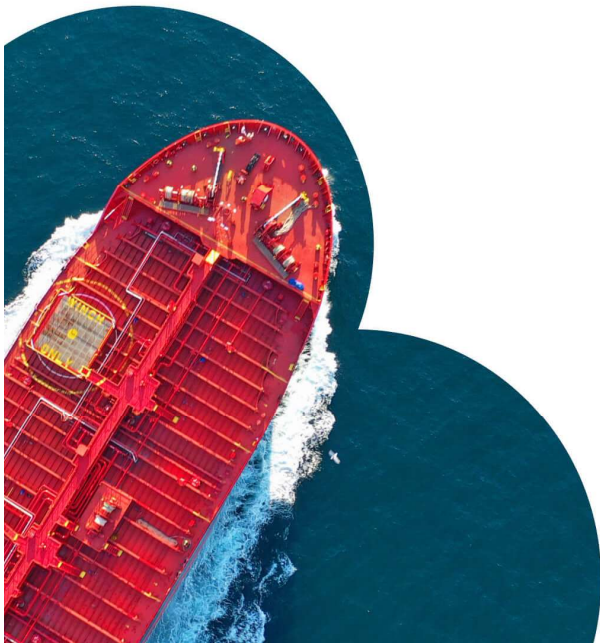


## ISO 8127:2017 Specification (Residuals)

### ISO 8127:2017 Fuel Standard for Marine Residual Fuels

Parameter	Limit	RMA 10	RMB 30	RMD 80	RME 180	RMG 180	RMG 380	RMG 500	RMG 700	RMK 380	RMK 500	RMK700
Sulphur (% m/m)	Max.	To comply with statutory requirements as defined by purchaser										
Density at 15°C (kg/m <sup>3</sup> )	Max.	920	960	975	991	991				1010		
Viscosity at 50°C (mm <sup>2</sup> /s)	Max.	10	30	80	180	180	380	500	700	380	500	700
Micro Carbon Residue (% m/m)	Max.	2.5	10.0	14.0	15.0	18.0				20.0		
Aluminium + Silicon (mg/kg)	Max.	25	40		50	60						
Sodium (mg/kg)	Max.	50	100		50	100						
Ash (% m/m)	Max.	0.04	0.07			0.10				0.15		
Vanadium (mg/kg)	Max.	50	150			350				450		
CCAI	Max.	850	860			870						
Water (% V/V)	Max.	0.3	0.5									
Pour point in Summer (°C)	Max.	6.0			30.0							
Pour point in Winter (°C)	Max.	0.0			30.0							
Flash point (°C)	Min.	60.0										
Total sediment Existent (% m/m)	Max.	0.1										
Acid Number (mgKOH/g)	Max.	2.5										
Hydrogen sulphine (mg/kg)	Max.	2.0										
Used lubricating oil (ULO), mg/kg:		The fuel shall be free from ULO. The fuel shall be considered to contain ULO when either one of the following conditions is met:										
- Calcium and Zinc		Calcium > 30 and Zinc > 15										
- Calcium and Phosphorus		Calcium > 30 and Phosphorus > 15										



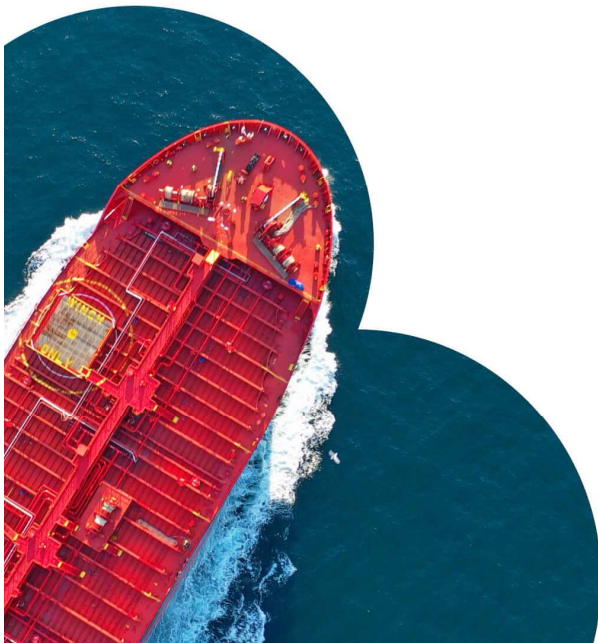
For more information, please contact:

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## ISO 8127:2017 Specification (Distillates)

### ISO 8127:2017 Fuel Standard for Marine Distillate Fuels

Parameter	Limit	DMA	DFA	DMX	DMZ	DFZ	DMB	DFB
Sulphur (% m/m)	Max.	1.0		1.0		1.0		1.5
Density at 15°C (Kg/m <sup>3</sup> )	Max.	890		-		890		900
Viscosity at 40°C (mm <sup>2</sup> /s)	Max.	6.0		5.5		6.0		11.0
Viscosity at 40°C (mm <sup>2</sup> /s)	Min.	2.0		1.4		3.0		11.0
Micro Carbon Residue at 10% Residue (% m/m)	Max.	0.3		0.3		0.3		-
Micro Carbon Residue (% m/m)	Max.	-		-		-		0.3
Water (% V/V)	Max.	-		-		-		0.3
Total Sediment Existent (% m/m)	Max.	-		-		-		0.1
Ash (% m/m)	Max.	0.01		0.01		0.01		0.01
Flash point (°C)	Min.	60.0		43.0		60.0		60.0
Pour point in Summer (°C)	Max.	0.0		-		0.0		6.0
Pour point in Winter (°C)	Max.	-6.0		-		-6.0		0.0
Cloud point in Summer (°C)	Max.	-		-16.0		-		-
Cloud point in Winter (°C)	Max.	Report		-16.0		Report		-
Cold filter plugging point in Summer (°C)	Max.	-		-		-		-
Cold filter plugging point in Winter (°C)	Max.	Report		-		Report		-
Calculated Cetane Index	Min.	40		45		40		35
Acid Number (mgKOH/g)	Max.	0.5		0.5		0.5		0.5
Oxidation Stability (g/m <sup>3</sup> )	Max.	25		25		25		25
Lubricity, corrected wear scar diameter (wsd 1.4 at 60°C)(um)	Max.	520		520		520		520
Hydrogen sulphide (mg/kg)	Max.	2.0		2.0		2.0		2.0
Fatty acid menthyl ester (FAME)	Max.	-	7.0	-	-	7.0	-	7.0
Appearance		Clear & Bright						-



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