

## MARINE RESIDUAL FUELS ISO 8217:2010 STANDARDS

<b>PARAMETER</b>	<b>UNIT</b>	<b>LIMIT</b>	<b>HSFO</b>	<b>VLSFO</b>
Density at 15 °C	kg/m <sup>3</sup>	Max	991	991
Viscosity at 50 °C	mm <sup>2</sup> /s	Max	380	380
Water	% V/V	Max	0.50	0.50
Micro Carbon Residue	% m/m	Max	18.0	18.0
Sulphur	% m/m	Max	3.5	0.50
Total Sediment by hot filtration	% m/m	Max	0.10	0.10
Sodium	mg/kg	Max	100	100
Ash	% m/m	Max	0.10	0.10
Vanadium	mg/kg	Max	350	350
Aluminium + Silicon	mg/kg	Max	60	60
CCAI	-	Max	870	870
Flash point	°C	Min	60	60
Pour point in Summer	°C	Max	30	30
Pour point in Winter	°C	Max	30	30
Acid number	mg KOH/g	Max	2.5	2.5
Hydrogen sulphide	mg/kg	Max	2.0	2.0
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			