



## Technical Data Sheet

### Fuel Oils

#### Description

Z Energy Fuels Oils are a range of residual fuel oils that enable the most economic fuel to be matched to the appropriate engine, boiler or furnace application.

All Z Energy Fuel Oils are manufactured to fully meet the relevant grades in ISO 8217:2012. This international standard specifies the requirements for petroleum fuels for use in marine diesel engines and boilers, prior to appropriate treatment before use.

#### Health & Safety

Residual Fuel Oils are classified according to Hazardous Substances (Classifications) Regulation 2001 as: 3.1D - Flammable liquid, Low Hazard, and 9.1C - Substance harmful in the aquatic environment.

Avoid contact with the skin and eyes, and breathing vapours or mists.

For further guidance on product health and safety refer to the appropriate Z Energy Safety Data Sheet.

#### Typical Physical Characteristics

Description	Units	Methods	Typical Properties			
			Light Fuel Oil 40 cSt	Medium Fuel Oil 80 cSt	Heavy Fuel Oil 180 cSt	Heavy Bunker Fuel Oil 380 cSt
ISO 8217 Grade			RMD80	RMD80	RMG180	RMG 380
Density @ 15°C	kg/L	D1298/ D4052	0.9217	0.945	0.9597	0.9699
Viscosity @ 40°C	mm <sup>2</sup> /s	D445	38	75	174	350
Flash Point	°C	D93	100	100	100	100
Sulphur	% mass	D4294	1.9	2.5	2.9	3.2
Sediment	% mass	D473	0.01	0.01	0.02	0.04
Water	% vol	D95	<0.05	<0.05	<0.05	<0.05
Strong Acid Number	mg KOH/g	D974	Nil	Nil	Nil	Nil
Ash	% mass	D482	0.023	0.030	0.031	0.040
Carbon Residue	% mass	D4530	10	13	15	17
Specific Energy @ 15°C (Net)	MJ/kg	ISO8217	41.5	41.0	40.4	40.4
Sodium	mg/kg	IP501	10	18	20	55
Aluminium + Silicon	mg/kg	IP501	<15	<15	<15	20
Vanadium	mg/kg	IP501	50	56	60	90

These characteristics are typical of current production. Whilst future production will conform to Z Energy Ltd and legislated specifications, variations in these characteristics may occur