

Specification No.
I.S. EN 590: 2009

Sulphur Free Diesel

<u>Property</u>	Min	Max	Units	Test Method
Appearance	Free from visible water			Visual Inspection
Odour	Merchantable			
Colour		L2.0		ISO 2049
Density at 15°C	820	845	kg/m ³	EN ISO 3675 EN ISO 12185
Flash Point	60	-	°C	EN 2719
Cloud Point				
Summer (Note 1)	-	+5	°C	EN 23015
Winter (Note 1)	-	-5	°C	
Cold Filter Plugging Point (Notes 2 and 6)				EN 116
Summer (Note 1)	-	-5	°C	
Winter (Note 1)	-	-15	°C	
Viscosity at 40°C	2.00	4.50	mm ² /s	EN ISO 3104
Sulphur Content	-	10.0	mg/kg	EN ISO 20846 EN ISO 20884
Cetane Index	46.0	-		EN ISO 4264
Cetane Number (Note 3)	51.0	-		EN ISO 5165
Copper Strip Corrosion (3 hrs @ 50°C)	Class1		rating	EN ISO 2160
Water content	-	200	mg/kg	EN ISO 12937
Ash Content	-	0.01	% (m/m)	EN ISO 6245
Carbon Residue on 10% Distillation Residue	-	0.30	% (m/m)	EN ISO 10370
Total contamination	-	24	mg/kg	EN 12662
Oxidation Stability	-	25	g/m ³	EN ISO 12205
Lubricity, corrected wear scar diameter (wsd 1.4) at 60°C	-	460	Microns	EN ISO 12156-1
Electrical Conductivity (Note 4)	50	-	pS/m	IP 274/D 2624

<u>Specification No.</u> <u>I.S. EN 590: 2009</u>	<u>Sulphur Free Diesel</u>
--	-----------------------------------

<u>Property</u>	Min	Max	Units	Test Method
Fatty acid methyl ester (FAME) Content (Note 5)	-	7	% (v/v)	EN 14078
DISTILLATION:				EN ISO 3405
% v/v Recovered at 250°C	-	< 65	% v/v	
% v/v Recovered at 350°C	85	-	% v/v	
95% v/v Recovered at	-	360	°C	
Polycyclic aromatic hydrocarbons	-	11	% m/m	EN 12916

1. The Summer and Winter specifications refer to products available ex Refinery jetty and loading rack in the following periods:

Summer Grade: 16 March – 15 October inclusive

Winter Grade: 16 October - 15 March inclusive

2. MDFI Additive may be used to meet the specified CFPP.
3. FAME shall meet the requirements of EN 14214.
4. This specification meets or exceeds EN590:2009.