DIESEL EN590 SPECIFICATIONS

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This specification file contains the EN590 Diesel Product Specifications for the B0 and B7 variants, as well as additional specifications for Climatic and Seasonal grades.



1. Specifications: Diesel EN590 B0 Grade

Pure Mineral Ultra-Low Sulfur Diesel (Zero FAME / 10 ppm).
Ideal for long-term strategic storage, cold-climate/arctic operations, marine & industrial engines, and export markets requiring zero biodiesel content.

Property / Parameter	Unit	Minimum	Maximum	Test Method (ISO / EN)
FAME Content (Biodiesel)	% (V/V)	0.0	0.0 (B0 — FAME Free)	EN 14078
Cetane Number	—	51.0	—	EN ISO 5165 / EN 15195
Cetane Index	—	46.0	—	EN ISO 4264
Density at 15 °C	kg/m³	820.0	845.0	EN ISO 3675 / EN ISO 12185
Polycyclic Aromatic Hydrocarbons (PAH)	% (m/m)	—	8.0	EN 12916
Sulfur Content (ULSD)	mg/kg (ppm)	—	10.0	EN ISO 20846 / EN ISO 20884
Flash Point (Pensky-Martens)	°C	> 55.0	—	EN ISO 2719
Carbon Residue (on 10% distillation residue)	% (m/m)	—	0.30	EN ISO 10370
Ash Content (Oxide Ash)	% (m/m)	—	0.010	EN ISO 6245
Water Content	mg/kg (ppm)	—	200	EN ISO 12937
Total Contamination	mg/kg	—	24	EN 12662
Copper Strip Corrosion (3 h at 50 °C)	Rating	Class 1	Class 1	EN ISO 2160

Oxidation Stability (Filterable Insolubles)	g/m³	—	25	EN ISO 12205
Lubricity (HFRR Wear Scar Diameter at 60 °C)	µm	—	460	EN ISO 12156-1
Kinematic Viscosity at 40 °C	mm²/s (cSt)	2.000	4.500	EN ISO 3104
Distillation: Recovered at 250 °C	% (V/V)	—	< 65.0	EN ISO 3405 / EN ISO 3924
Distillation: Recovered at 350 °C	% (V/V)	85.0	—	EN ISO 3405 / EN ISO 3924
Distillation: 95% (V/V) Recovered at	°C	—	360.0	EN ISO 3405 / EN ISO 3924
Manganese Content	mg/l	—	2.0	EN 16576
Color & Appearance	Visual / ASTM	Clear & Bright	Max 2.0 (ASTM D1500)	Visual / ASTM D1500

2. Specifications: Diesel EN590 B7 Grade

Standard European Retail & Commercial Road Diesel (Up to 7% FAME / 10 ppm).
Compliant with EU Fuel Quality Directive (2009/30/EC) and CEN EN 590 for direct forecourt retail, commercial transport fleets, and Euro 5 / Euro 6 engines.

Property / Parameter	Unit	Minimum	Maximum	Test Method (ISO / EN)
FAME Content (Biodiesel Blend — EN 14214)	% (V/V)	—	7.0 (B7)	EN 14078
Cetane Number	—	51.0	—	EN ISO 5165 / EN 15195
Cetane Index	—	46.0	—	EN ISO 4264
Density at 15 °C	kg/m³	820.0	845.0	EN ISO 3675 / EN ISO 12185
Polycyclic Aromatic Hydrocarbons (PAH)	% (m/m)	—	8.0	EN 12916
Sulfur Content (ULSD)	mg/kg (ppm)	—	10.0	EN ISO 20846 / EN ISO 20884
Flash Point (Pensky-Martens)	°C	> 55.0	—	EN ISO 2719
Carbon Residue (on 10% distillation residue)	% (m/m)	—	0.30	EN ISO 10370
Ash Content (Oxide Ash)	% (m/m)	—	0.010	EN ISO 6245
Water Content	mg/kg (ppm)	—	200	EN ISO 12937
Total Contamination	mg/kg	—	24	EN 12662

Copper Strip Corrosion (3 h at 50 °C)	Rating	Class 1	Class 1	EN ISO 2160
Oxidation Stability (Rancimat — for FAME > 2%)	Hours / g/m³	20.0 h	25 g/m³	EN 15751 / EN ISO 12205
Lubricity (HFRR Wear Scar Diameter at 60 °C)	µm	—	460	EN ISO 12156-1
Kinematic Viscosity at 40 °C	mm²/s (cSt)	2.000	4.500	EN ISO 3104
Distillation: Recovered at 250 °C	% (V/V)	—	< 65.0	EN ISO 3405 / EN ISO 3924
Distillation: Recovered at 350 °C	% (V/V)	85.0	—	EN ISO 3405 / EN ISO 3924
Distillation: 95% (V/V) Recovered at	°C	—	360.0	EN ISO 3405 / EN ISO 3924
Manganese Content	mg/l	—	2.0	EN 16576
Color & Appearance	Visual / ASTM	Clear & Bright	Max 2.0 (ASTM D1500)	Visual / ASTM D1500

3. Specifications: Diesel EN590 Climatic & Seasonal Grades

(Temperate Grades A–F & Arctic Classes 0–4).
All EN 590 B0 and B7 supplies are tailored to regional seasonal requirements across Temperate Grades (A through F) and Severe Winter / Arctic Classes (0 through 4).

EN 590 Grade / Class	Climate Zone & Season	Max CFPP (EN 116)	Max Cloud Point (EN 23015)	Density at 15 °C (kg/m³)	Min Cetane Number / Index
Grade A	Temperate — Warm / Summer	+5 °C	—	820.0 – 845.0	51.0 / 46.0
Grade B	Temperate — Summer	0 °C	—	820.0 – 845.0	51.0 / 46.0
Grade C	Temperate — Spring / Autumn Transition	−5 °C	—	820.0 – 845.0	51.0 / 46.0
Grade D	Temperate — Mid-Season / Mild Winter	−10 °C	—	820.0 – 845.0	51.0 / 46.0
Grade E	Temperate — Standard Winter	−15 °C	—	820.0 – 845.0	51.0 / 46.0
Grade F	Temperate — Cold Winter (Central/Eastern Europe)	−20 °C	—	820.0 – 845.0	51.0 / 46.0
Class 0	Arctic / Severe Winter	−20 °C	−10 °C	800.0 – 845.0	49.0 / 46.0
Class 1	Arctic / Severe Winter	−26 °C	−16 °C	800.0 – 845.0	49.0 / 46.0
Class 2	Arctic / Severe Winter (Nordic & Baltic)	−32 °C	−22 °C	800.0 – 840.0	48.0 / 46.0

Class 3	Arctic / Extreme Winter	−38 °C	−28 °C	800.0 – 840.0	47.0 / 43.0
Class 4	Arctic / Sub-Zero Polar Conditions	−44 °C	−34 °C	800.0 – 840.0	47.0 / 43.0

About EN590 Diesel

Widely recognized as **Ultra-Low Sulfur Diesel (ULSD)**, EN590 remains one of the most sought-after refined petroleum commodities by fuel importers worldwide due to its ultra-clean combustion and strict regulatory compliance. It represents **the benchmark European standard for automotive diesel fuel** available on the international market today. The **"10 ppm" sulfur variant of EN590 is the most highly refined**, clean-burning grade of diesel, dominating the commercial transport, logistics, and heavy machinery sectors for modern diesel engines. Its advanced hydrotreating and refining process removes harmful sulfur compounds and impurities found in unrefined distillates, significantly reducing exhaust emissions and protecting sensitive engine emission control systems.

Navigation:

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