

N.I.O.R.D.C. PETROLEUM PRODUCTS SPECIFICATION COMMITTEE
GASOIL

According to Euro IV standard requirements

No.	PROPERTY	UNITS	LIMITS		TEST METHOD	
			min	max	ASTM	Other
1	Density @ 15°C	kg/m ³	820	845	D1298 D4052/D7042	ISO 3675 ISO 12185
2	Cetane number	-	51	-	D613/D6890	ISO 5165/EN 15195
3	Cetane index (see note 1)	-	46	-	D 4737	ISO 4246
4	Flash point	°C	55	-	D93	ISO 2719
5	Viscosity at 40 °C	mm ² /s	2.00	4.50	D445/D7042	ISO 3104
6	Cloud point					
6.1	Summer	°C	-	3	D2500	ISO 3015
6.2	Winter	°C	-	-5		
7	Cold filter plugging point (CFPP) (see note 2)					
7.1	Summer	°C	-	-5	D6371	EN 116
7.2	Winter	°C	-	-15		
8	Distillation:					
8.1	Recovered at 250 °C	%v/v	-	65	D86	ISO 3405
8.2	Recovered at 350 °C	%v/v	85	-		
8.3	%95 recovered	°C	-	360		
9	Sulfur content (see note 3)	mg/kg	-	50	D2622/D7039 D5453 D4294	ISO 20847 ISO 20846 ISO 20884
10	Lubricity, corrected wear scar diameter at 60 °C	µm	-	520	D6079	ISO 12156
11	Copper strip corrosion (3 h at 100 °C)	rating	-	Class 1	D130	ISO 2160
12	Carbon residue on 10% distillation residue (see note 4)	%m/m	-	0.30	D4530 D189	ISO 10370
13	Water content	mg/kg	-	200	D1744/D6304	ISO 12937
14	Total contamination particulate matter	mg/kg	-	24	D5452	ISO 12662
15	Ash content	%m/m	-	0.01	D482	ISO 6245
16	Polycyclic aromatic hydrocarbons (see note 5)	%m/m	-	11	D6591	EN 12916
17	Oxidation stability (see note 6)	minute	-	360	D7545	-
		h	-	20	-	EN 15751
		g/m ³	-	25	D2274	ISO 12205
18	Fatty acid-methyl ester content (FAME) (see note 7)	%v/v	-	5	D7371	EN 14078
19	Color	ASTM color scale	-	2.5	D1500	ISO 2049
20	Odor	-	Mild petroleum oil like		-	-

Note 1: When the determination of cetane number would not be possible, the cetane index should be calculated according to ASTM D 4737 test method. For the calculation of the cetane index the 10%, 50% and 90% (v/v) recovery temperatures are also needed.

Note 2: Cold filter plugging point can be adjusted according to local ambient conditions. This parameter would be executable from the end of 1395.

Note 3: In cases of dispute concerning sulfur content, EN ISO 20847 should not be applied as the referee method.

Note 4: The limiting value for the carbon residue is based on product prior to addition of ignition-improver additives, if used. When a value exceeding the limit is obtained on finished fuel in the market, the presence of a nitrate-containing compound should be investigated using EN ISO 13759 test method. If an ignition improver is thus proved present, the limit value for the carbon residue of the product would not be applicable. The use of additives does not exempt the manufacturer from meeting the requirement of maximum 0.30 % (m/m) of carbon residue prior to addition additives. Values obtained by ASTM D4530 test method are numerically the same as those obtained ASTM D189 test method.

Note 5: For the purposes of this standard, polycyclic aromatic hydrocarbons are defined as the total aromatic hydrocarbon content minus the mono-aromatic hydrocarbon content, both determined according to EN 12916 or ASTM D6591 test methods. EN 12916 is not able to differentiate between polycyclic aromatic hydrocarbons and fatty acid methyl esters (FAME). FAME, if present in diesel fuels, will give a bias which would cause an increasing effect on the value obtained for polycyclic aromatic hydrocarbons.

Note 6: ASTM D7545 shows a good correlation with EN 15751 in a shorter time period. ASTM D7545 is also applicable for diesel fuels with or without biodiesel up to 100%, while ASTM D2274 is not applicable for diesel fuels containing biodiesel.

Note 7: FAME shall meet the requirements of EN 14214 or ASTM D6751 specifications.