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BSI Standards Publication

Automotive fuels — Diesel — Requirements and test methods

bsi.

Table 1 — Generally applicable requirements and test methods for automotive diesel fuel

Property	Unit	Limits		Test method [a] (See Clause 2)
		minimum	maximum	
Cetane number		**51,0**	–	EN ISO 5165 [b] EN 15195 EN 16144 EN 16715
Cetane index		46,0	–	EN ISO 4264
Density at 15 °C	**kg/m³**	820,0	**845,0**	EN ISO 3675 [c] EN ISO 12185
Polycyclic aromatic hydrocarbons [d]	**% (*m/m*)**	–	**8,0**	EN 12916
Sulfur content	**mg/kg**	–	**10,0**	EN ISO 20846 [e] EN ISO 20884 EN ISO 13032
Manganese content [f] *Deleted text.*	**mg/l**	*Deleted text.* -	*Deleted text.* **2,0**	EN 16576
Flash point	°C	Above 55,0	–	EN ISO 2719
Carbon residue [g] (on 10 % distillation residue)	% (*m/m*)	–	0,30	EN ISO 10370
Ash content	% (*m/m*)	–	0,010	EN ISO 6245
Water content	% (*m/m*)	–	0,020	EN ISO 12937
Total contamination	mg/kg	–	24	EN 12662 [h]
Copper strip corrosion (3 h at 50 °C)	rating	class 1		EN ISO 2160
Fatty acid methyl ester (FAME) content [i]	**% (*V/V*)**	-	**7,0**	EN 14078
Oxidation stability [j]	g/m³ h	– 20	25 -	EN ISO 12205 EN 15751
Lubricity, wear scar diameter (WSD) at 60°C	µm	–	460	EN ISO 12156-1 [n]
Viscosity at 40 °C	mm²/s	2,000	4,500	EN ISO 3104
Distillation [k,l]				EN ISO 3405 [m] EN ISO 3924
% (*V/V*) recovered at 250 °C	% (*V/V*)		< 65	
% (*V/V*) recovered at 350 °C	% (*V/V*)	85		
95 % (*V/V*) recovered at	**°C**		**360**	

NOTE ~~Requirements in bold refer to the European Fuels Directive 98/70/EC [1], including subsequent~~ Amendments [2], [3], [4] and [12].

[a] See also 5.7.1.
[b] See also 5.7.4.
[c] See also 5.7.2.
[d] For the purposes of this European Standard, polycyclic aromatic hydrocarbons are defined as the total aromatic hydrocarbon content less the mono-aromatic hydrocarbon content, both as determined by EN 12916.
[e] See also 5.7.3.
[f] See also 5.2.2.
[g] See also 5.5.2 and Annex A.
[h] Further investigation into the total contamination test method to improve the precision, particularly in the presence of FAME, is being carried out by CEN.
[i] FAME shall meet the requirements of EN 14214, see [3].
[j] When diesel fuel contains more than 2 %(*V/V*) FAME, oxidation stability as determined by EN 15751 is the requirement.
[k] For the calculation of the cetane index the 10 %, 50 % and 90 % (V/V) recovery points are also needed.
[l] The limits for distillation at 250 °C and 350 °C are included for diesel fuel in line with EU Common Customs tariff.
[m] EN ISO 3924 gives instructions to convert to ISO 3405-equivalent data. See also 5.7.5.
[n] At the time of publication this standard is under revision. This revision is focussed on correcting the ambient test conditions to reflect those met in the ILS conducted. This will not affect the precision of the test method.