

**AMENDMENT NO. 2 MARCH 2010
TO
IS 1460 : 2005 AUTOMOTIVE DIESEL FUEL — SPECIFICATION
(Fifth Revision)**

[Foreword, page (ii), para 9] — Add the following at the end:

‘The specification for automotive diesel fuel for the vehicles meeting Bharat Stage IV/Euro IV Vehicular Emissions Norms based on the Auto Fuel Policy, issued by the Ministry of Petroleum and Natural Gas, Government of India, has been incorporated in Annex C. The date and area for implementation of this specification are as decided by the Competent Authority.’

[Foreword, page (iii), para 4] — Substitute ‘Annex D’ for ‘Annex C’.

(Page 1, clause 2) — Add the following at the appropriate place:

[P : 34] : 1979 Determination of sulphur in petroleum products (lamp method) (*second revision*)

[P : 83] : 1974 Determination of sulphur by Wickbold oxyhydrogen method

15607 : 2005 Bio-diesel (B 100) blend stock for diesel fuel — Specification

[Page 2, Table 1, Sl No. (xv), col 5] — Substitute ‘D 4294/ [P : 34]⁹⁾ for ‘D 4294⁹⁾’.

[Page 2, Table 1, Sl No. (xv), col 5] — Delete ‘D 2785’.

[Page 2, Table 1, Sl No. (xviii), col 5] — Substitute ‘ISO 12205’ for ‘ISO 11205’.

[Page 3, Table 1, footnote 9] — Substitute ‘IS 1448 [P : 34]’ for ‘ASTM D 4294’.

[Page 3, Table 1, footnote 11] — Substitute the following for the existing footnote:

¹¹⁾ Shall be applicable only for Automotive Diesel Fuel blended with 5 percent (v/v) Bio-diesel conforming to IS 15607 and the limit shall proportionately vary as and when the different blending percent of bio-diesel is permitted.’

[Page 3, footnotes, Table 1 (see also Amendment No. 1)] — Insert the following new footnote after footnote 12:

¹³⁾ All the test methods referred to in this standard include a precision statement. The interpretation of results based on test method/precision shall be used, whenever applicable. In case of dispute, the procedure described in ISO 4259 shall be used.’

(Page 8, Annex B, Table Reference) — Substitute ‘[Table 1, Sl No. (xxii); and Annex C, Sl No. (xxi)]’ for ‘[Table 1, Sl No. (xxii)]’.

(Page 10, Annex C) — Insert the following new Annex C and redesignate the existing Annex C as Annex D:

**ANNEX C
(Foreword)**

**EURO IV/BHARAT STAGE IV EMISSION NORMS COMPLIANT — SPECIFICATION FOR
AUTOMOTIVE DIESEL FUEL**

Sl No.	Characteristics	Requirements	Test Method [P:] of IS 1448/ISO/ASTM
(1)	(2)	(3)	(4)
i)	Acidity, inorganic	Nil	[P : 2]
ii)	Acidity, total, mg of KOH/g, <i>Max</i>	To report	[P : 2]
iii)	Ash, percent by mass, <i>Max</i>	0.01	[P : 4]/ISO 6245
iv)	Carbon residue (Ramsbottom) on 10 percent residue ¹⁾ , percent by mass, <i>Max</i>	0.30	[P : 8]/ISO 10370

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v)	Cetane number, <i>Min</i>	51 ²⁾	[P : 9]/ISO 5165
vi)	Cetane index, <i>Min</i>	46 ²⁾	D 4737/ISO 4264
vii)	Pour point ³⁾ , <i>Max</i> :		[P : 10]/D 5949 or D 5950 or D 5985
	a) Winter	3°C	
	b) Summer	15°C	
viii)	Copper strip corrosion for 3 h at 50°C	Not worse than No. 1	[P : 15]/ISO 2160
ix)	Distillation, percent v/v, recovered at 360°C, <i>Min</i>	95	[P : 18]/ISO 3405
x)	Flash point [*] :		
	a) Abel, °C, <i>Min</i>	35	[P : 20]
	b) Pensky Martens closed cup ⁴⁾ , °C, <i>Min</i>	66	[P : 21]
xi)	Kinematic viscosity, cSt, at 40°C	2.0 to 4.5	[P : 25]/ISO 3104
xii)	Sediment, percent by mass, <i>Max</i>	–	[P : 30]
xiii)	Total contamination, mg/kg, <i>Max</i>	24	EN 12662
xiv)	Density at 15°C ⁵⁾ , kg/m ³	820-845	[P : 16] or [P : 32] ⁶⁾ /D 4052/ ISO 3675 or ISO 12185
xv)	Total sulphur ⁷⁾ , mg/kg, <i>Max</i>	50	ISO 20846 or ISO 20847 or ISO 20884/ [P : 83]/D 5453/ D 2622/D 4294/[P : 34] ⁸⁾
xvi)	Water content, mg/kg, <i>Max</i>	200	ISO 12937
xvii)	Cold Filter Plugging Point (CFPP) ³⁾ , <i>Max</i> :		[P : 110]/D 6371
	a) Winter	6°C	
	b) Summer	18°C	
xviii)	Oxidation stability ⁹⁾ , g/m ³ , <i>Max</i>	25	ISO 12205 or ASTM D 2274 ⁹⁾
xix)	Polycyclic Aromatic Hydrocarbon (PAH), percent by mass, <i>Max</i>	11	IP 391 or EN 12916
xx)	Lubricity corrected wear scar diameter (wsd 1.4) at 60°C, microns, <i>Max</i>	460	ISO 12156-1/Cor 1
xxi)	Oxygen content ¹⁰⁾ , percent by mass, <i>Max</i>	0.6	Annex B

¹⁾ This limit is applicable prior to addition of ignition improvers, if used. In case a value exceeding the limit is obtained on finished fuels in the market, ASTM D 4046/ISO 13759 shall be used to establish the presence of nitrate containing compound. In such case the present limit for carbon residue cannot be applied. However, the use of ignition improver does not exempt the manufacturer from meeting this requirement prior to the addition of additives.

²⁾ For Fuel processed from Assam crude, Cetane number and Cetane index is relaxed by 3 units.

³⁾ Winter shall be the period from November to February in central and northern plains of India (both months inclusive) and rest of the months of the year shall be called as summer.

⁴⁾ Applicable for Naval applications and fishing vessels requiring High Flash Automotive Diesel Fuel.

⁵⁾ For fuel processed from Assam crude, the density range is relaxed to 820-855.

⁶⁾ In case of dispute, IS 1448 [P : 32] shall be the referee test method.

⁷⁾ For Automotive Diesel Fuel supplied to Indian Navy, the limit of sulphur shall be in agreement between the buyer and the supplier.

⁸⁾ In case of dispute, IS 1448 [P : 34] shall be the referee test method.

⁹⁾ This test shall be carried out only at the refinery or manufacturer's end. In case of dispute, ASTM D 2274 shall be the referee method.

¹⁰⁾ Shall be applicable only for Automotive Diesel Fuel blended with 5 percent (v/v) Bio-diesel conforming to IS 15607 and the limit shall proportionately vary as and when the different blending percent of Bio-diesel is permitted.

*Under Review.

(PCD 3)