

Specification for Automotive diesel fuel

The European Standard EN 590 : 1993 has the status of a
British Standard

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee PTI/2, Liquid fuels, upon which the following bodies were represented:

- Association of United Kingdom Oil Independents
- Automobile Association
- Chemical Industries Association
- Confederation of Passenger Transport UK
- Consumer Policy Committee of BSI
- Department of Trade and Industry (Oil and Gas Division)
- Department of Transport
- Electricity Association
- Federation of British Historic Vehicle Clubs
- Federation of Petroleum Suppliers
- Freight Transport Association
- HM Customs and Excise
- Institute of Petroleum
- Institute of Road Transport Engineers
- Institute of Trading Standards Administration
- Ministry of Defence
- Motor Cycle Industry Association Ltd.
- National Farmers' Union
- Petrol Pump Manufacturers' Association
- Petrol Retailers' Association
- Road Haulage Association Ltd.
- Royal Automobile Club
- Society of Motor Manufacturers and Traders Limited
- United Kingdom Petroleum Industry Association Ltd.
- World Wide Fund for Nature
- Co-opted members

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National foreword

This British Standard has been prepared by Technical Committee PTI/2 and is the English language version of EN 590 : 1993 *Automotive fuels — Diesel — Requirements and methods of test*, published by the European Committee for Standardization (CEN). EN 590 : 1993 was produced as a result of international discussions in which the United Kingdom participated.

This edition supersedes BS EN 590 : 1995, which is withdrawn.

EN 590 requires that each country implementing it establish national annexes detailing requirements for pump marking and summer and winter grades. Also, if the methods for sampling given in ISO 3170 and ISO 3171 are not to be used, a national annex has to detail national requirements. National annex NA of BS EN 590 gives additional requirements on sampling, in particular for sampling from the pump; national annex NB gives details of requirements for pump marking; and national annex NC gives details of requirements for summer and winter grades.

BS EN 590 : 1993 (the first edition) superseded BS 2869 : Part 1 : 1988, which was withdrawn.

The principal differences between BS EN 590 and BS 2869 : Part 1 : 1988 are as follows:

- maximum carbon residue increased from 0.2 % (m/m) to 0.3 % (m/m);
- maximum water content reduced from 0.05 % (V/V) to 200 mg/kg;
- introduction of quantitative requirements for particulate matter;
- viscosity range reduced to 2.00 mm²/s to 4.50 mm²/s;
- minimum cetane number increased from 48 to 49;
- change of density range to 820 kg/m³ to 860 kg/m³;
- no limit for temperature for recovery to 50 % (V/V) of the distillate;
- no requirement for sediment, but in its place a requirement for the quantitative determination of particulate matter;
- the maximum cold filter plugging point for summer grade reduced from –4 °C to –5 °C.

As this standard is the English language version of EN 590 : 1993, it specifies a maximum sulfur content of 0.20 % m/m. However, since EN 590 : 1993 was published, the following legislative changes concerning the sulfur content of automotive diesel fuel have been made by the European Union and the United Kingdom Government.

- a) The EU, in Directive 93/12/EEC¹⁾, has set a maximum limit for sulfur from 1 October 1996 of 0.05 % m/m when tested in accordance with ISO 8754.
- b) The UK Government has enacted SI 1994 No. 2295²⁾, setting a maximum limit for sulfur of 0.05 % m/m on and after 1 October 1996.

The attention of the European Committee for Standardization (CEN) has been drawn to this situation. A revision of EN 590 : 1993 is in preparation. However, until this revision is published, users of this standard are advised that, in the UK, the maximum permissible sulfur content for automotive diesel fuel is 0.05 % m/m.

The reduction in sulfur level required by legislation has given rise to concerns about the lubricity of diesel fuels which conform to this standard. The European Committee for Standardization (CEN) is considering this matter in connection with the revision of EN 590 : 1993. Meanwhile, it has issued a Report CR 12787 : 1997 recommending a method of assessing lubricity. These recommendations are referred to in national annex ND, and the English language version of the Report is given in national annex NE of this edition of BS EN 590.

¹⁾ Council Directive 93/12/EEC relating to the sulfur content of certain liquid fuels.

²⁾ SI 1994 No. 2295 The Motor Fuel (Composition and Content) Regulations 1994.

This British Standard was first published in 1993. It was revised in 1995 to introduce technical changes to national annex NB. This edition advises the reader of the legislative position on maximum sulfur content, and introduces national annexes ND and NE. However, it does not reflect a full review or revision of the national annexes, which may be undertaken in due course.

Cross-references

Publication referred to	Corresponding British Standard
EN 116 : 1981	BS 6188 : 1982 <i>Method for determination of cold filter plugging point of diesel and domestic heating fuels</i>
EN 24260 : 1994	BS EN 24260 : 1994 <i>Methods of test for petroleum and its products — Petroleum products and hydrocarbons — Determination of sulfur content — Wickbold combustion method</i> (Also numbered BS 2000 : Part 243 : 1994)
ISO 2160 : 1985	BS EN ISO 2160 : 1995 <i>Petroleum products — Corrosiveness to copper — Copper strip test</i> (Also numbered BS 2000 : Part 154 : 1995)
ISO 2719 : 1988	BS EN 22719 : 1994 <i>Methods of test for petroleum and its products — Petroleum products and lubricants — Determination of flash point — Pensky-Marten closed cup method</i> (Also numbered BS 2000 : Part 404 : 1994)
ISO 3015 : 1992	BS EN 23015 : 1994 <i>Petroleum products — Determination of cloud point</i> (Also numbered BS 2000 : Part 219 : 1994)
ISO 3170 : 1988	BS 3195 <i>Methods for sampling petroleum products</i> Part 1 : 1989 <i>Manual sampling of liquid hydrocarbons</i>
ISO 3171 : 1988	Part 2 : 1989 <i>Automatic pipeline sampling of liquid hydrocarbons</i>
ISO 3405 : 1988	BS 7392 : 1990 <i>Method for determination of distillation characteristics of petroleum products</i>
ISO 3675 : 1976 ³⁾	BS 4714 : 1980 <i>Method for laboratory determination of density or relative density of crude petroleum and liquid petroleum products (hydrometer method)</i>
ISO 4259 : 1979 ⁴⁾	BS 4306 : 1981 <i>Method for determination and application of precision data in relation to methods of test for petroleum products</i>
ISO 5165 : 1992	BS 5580 : 1978 <i>Diesel fuels — Determination of ignition quality — Cetane method</i>
ISO 8754 : 1992	BS EN ISO 8754 : 1995 <i>Methods of test for petroleum and its products — Petroleum products — Determination of sulfur content — Energy-dispersive X-ray fluorescence method</i> (Also numbered BS 2000 : Part 336 : 1995)
ISO 10370 : 1993	BS EN ISO 10370 : 1996 <i>Petroleum products — Determination of carbon residue — Micro method</i> (Also numbered BS 2000 : Part 398 : 1996)

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, the EN title page, pages 2 to 16, an inside back cover and a back cover.

³⁾ The latest edition is ISO 3675 : 1993, to which the corresponding British Standard is BS EN ISO 3675 : 1996.

⁴⁾ The latest edition is ISO 4259 : 1992, to which the corresponding British Standard is BS EN ISO 4259 : 1995.

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Descriptors: Motor vehicles, automotive fuels, liquefied petroleum, requirements, tests

English version

Automotive fuels — Diesel — Requirements and methods of test

Carburants pour automobiles — Combustibles pour
moteurs diesel (gasoil) — Exigences et méthodes
d'essai

Kraftstoffe für Kraftfahrzeuge — Dieselmotorkraftstoff —
Mindestanforderungen und Prüfverfahren

This European Standard was approved by CEN on 1993-03-16. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This European Standard was drawn up by CEN/TC 19, Test methods and specifications for petroleum products.

The standard was approved and, in accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 1993, and conflicting national standards shall be withdrawn at the latest by September 1993.

This European Standard has been prepared under a mandate given to CEN by the Commission of the European Communities and the European Free Trade Association.

Annex A forms an informative part of this European Standard.