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Fuel oils for agricultural, domestic and industrial engines and boilers

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Contents

Summary of pages
This document comprises a front cover, and inside front cover, pages i to iv, pages 1 to 22, an inside back cover and a back cover.

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 June 2017. It was prepared by Technical Committee PTI/2, *Liquid fuels*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This British Standard supersedes BS 2869:2010+A1:2011, which is withdrawn.

Information about this document

BS 2869 was first published as a combination of earlier standards in 1957, and subsequent revisions took place in 1967, 1970 and 1983. In 1988, in expectation of a European Standard for automotive diesel fuel, prepared by the European Committee for Standardization (CEN), BS 2869 was split into the following parts:

- Part 1: Specification for automotive diesel fuel (class A1);
- Part 2: Specification for fuel oil for agricultural and industrial engines and burners (classes A2, C1, C2, D, E, F, G and H).

BS 2869-1:1988 was withdrawn and superseded by BS EN 590 in 1993. Part 2 of the standard was renamed BS 2869 and subsequent revisions took place in 1998, 2006 and 2010.

There are some applications for which, for technical or other reasons, limits different to those in this British Standard or additional requirements might be necessary. This British Standard does not cover special applications, which should be the subject of agreements between the supplier and purchaser of fuel oils.

Council Directive 1999/32/EC [1], and subsequent amendments, limit the sulfur content of gas oil (other than some gas oil marketed as diesel fuel). The Fuels Quality Directive 2009/30/EC [2] further reduces the sulfur content of the Class A2 middle distillate fuel to conform to a sulfur-free description.

This is a full revision of the standard, and introduces the following principal changes:

a) modification of **5.1** to specifically allow synthetic paraffinic fuels produced from natural gas or renewable sources, including those co-processed with petroleum derived fuels in a refinery;

b) addition of alternative test methods for properties of middle distillate fuels, Class A2 and Class D, in Table 1, Part 1 and Table 2, Part 2;

c) the minimum limit for flash point of middle distillate fuels, Class A2 and Class D, in Table 1, Part 1 and Table 1, Part 2, has been changed to “Above 55.0°C” in order to align with BS EN 590;

d) addition of a limit for manganese content in Table 1, Part 1, for middle distillate fuel Class A2 and a new section **5.2**, Methylcyclopentadienyl Manganese Tricarbonyl (MMT), explaining the limit;

e) addition of alternative test methods for properties of kerosene-type burner fuels in Table 2;

f) the requirement for gross specific energy is corrected to net specific energy for kerosene-type burner fuels in Table 2;

g) the minimum limit for smoke point of Class C2 kerosene in Table 2 is reduced from 19 mm to 18 mm;

h) the minimum limit for density of Class C2 kerosene in Table 2 is reduced from 750.0 to 775.0 kg/m^3;

i) modification of Clause **7**, Interpretation of test results, to assign test methods to be used in cases of dispute where multiple test methods are listed in Table 1 to Table 3;

j) addition to **8.3** requiring a "contains metallic additives" warning label to be placed on dispensers wherever Class A2 fuel containing metallic additives is made available to consumers; and

k) enhancements to the guidance provided in Annex B.1 on storage and handling of middle distillate fuels of Class A2 and Class D.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Requirements in this standard are drafted in accordance with *Rules for the structure and drafting of UK standards*, subclause **J.1.1**, which states, "Requirements should be expressed using wording such as: 'When tested as described in Annex A, the product shall ...'". This means that only those products that are capable of passing the specified test will be deemed to conform to this standard.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

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1 Scope

This British Standard specifies requirements for eight classes of petroleum fuels for engines and boilers used in agricultural, domestic and industrial applications.

This British Standard does not preclude lawful use of one class of fuel in an application designed for use with a fuel of another class. However, it is strongly recommended that only class C1 burner fuel is used in flueless domestic appliances, and it is advisable that tests or consultation with the equipment manufacturer are carried out if fuel is to be used for a purpose other than that for which it is classified in this British Standard.

NOTE *Annex A, Annex B and Annex C provide information on fuel types and applications, storage and handling, and properties of fuels respectively. Additional information on storage and handling is given in BS 6380.*

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 2000-10, *Methods of test for petroleum and its products — Part 10: Determination of kerosine burning characteristics — 24 hour method*

BS 2000-12, *Methods of test for petroleum and its products — Part 12: Determination of specific energy*

BS 2000-74 (ISO 3733), *Methods of test for petroleum and its products — Part 74: Petroleum products and bituminous materials — Determination of water — Distillation method*

BS EN 116 (BS 2000-309), *Diesel and domestic heating fuels — Determination of cold filter plugging point — Stepwise cooling bath method*

BS EN 12662 (BS 2000-440), *Liquid petroleum products — Determination of total contamination in middle distillates, diesel fuels and fatty acid methyl esters*

BS EN 14078, *Liquid petroleum products — Determination of fatty methyl ester (FAME) content in middle distillates — Infrared spectrometry method*

BS EN 14214, *Liquid petroleum products — Fatty acid methyl esters (FAME) for use in diesel engines and heating applications — Requirements and test methods*

BS EN 14275 (BS 2000-509), *Automotive fuels — Assessment of petrol and diesel fuel quality — Sampling from retail site pumps and commercial site fuel dispensers*

BS EN 15195 (BS 2000-567), *Liquid petroleum products — Determination of ignition delay and derived cetane number (DCN) of middle distillate fuels by combustion in a constant volume chamber*

BS EN 15751, *Automotive fuels — Fatty acid methyl ester (FAME) fuel and blends with diesel fuel — Determination of oxidation stability by accelerated oxidation method*

BS EN 16144 (BS 2000-567), *Liquid petroleum products — Determination of ignition delay and derived cetane number (DCN) of middle distillate fuels — Fixed range injection period, constant volume combustion chamber method*

BS EN 16329 (BS 2000-612), *Diesel and domestic heating fuels — Determination of cold filter plugging point — Linear cooling bath method*

BS EN 16576, *Automotive fuels — Determination of manganese and iron content in diesel — Inductively coupled plasma optical emission spectrometry (ICP OES) method*

