Irish Standard
I.S. EN 16709:2015

Automotive fuels - High FAME diesel fuel (B20 and B30) - Requirements and test methods

I.S. EN 16709:2015

Incorporating amendments/corrigenda/National Annexes issued since publication:

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

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This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

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National Foreword

I.S. EN 16709:2015 is the adopted Irish version of the European Document EN 16709:2015, Automotive fuels - High FAME diesel fuel (B20 and B30) - Requirements and test methods

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16709

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English Version

Automotive fuels - High FAME diesel fuel (B20 and B30) - Requirements and test methods

Carburants pour automobiles - Carburant diesel à haute teneur en EMAG (B20 et B30) - Exigences et méthodes d'essai

Kraftstoffe für Kraftfahrzeuge - Dieselkraftstoffmischungen mit hohem FAME-Anteil (B20 und B30) - Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 29 August 2015.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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European foreword

This document (EN 16709:2015) has been prepared by Technical Committee CEN/TC 19 “Gaseous and liquid fuels, lubricants and related products of petroleum, synthetic and biological origin”, the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by April 2016, and conflicting national standards shall be withdrawn at the latest by April 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document is related to the European Fuels Directive 98/70/EC including amendments 2003/17/EC, 2009/30/EC and 2011/63/EU [1, 2, 3 and 4] and the requirements therein are connected to requirements in this standard.

This document describes two fuel grades in the range of (14 – 20) % (*V/V*) and (24 – 30) % (*V/V*) of fatty acid methyl ester (FAME) in diesel fuel to be used in captive fleet application for designated vehicles[1)], as it is not suitable for all vehicles.

Information on the development of this fuel specification can be found in CEN/TR 16557 [5].

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

[1)] In the sense that they are compatible with the product.

1 Scope

This European Standard specifies requirements and test methods for marketed and delivered high FAME (B20 and B30) diesel fuel for use in diesel engine vehicles designed or subsequently adapted to run on high FAME (B20 and B30) fuel. High FAME (B20 and B30) diesel fuel is a mixture of up to 20 % (*V/V*) in total and up to 30 % (*V/V*) in total respectively fatty acid methyl esters (commonly known as FAME) complying to EN 14214 and automotive diesel fuel complying to EN 590.

For maintenance and control reasons high FAME (B20 and B30) diesel fuel is to be used in captive fleets that are intended to have an appropriate fuel management (see Clause 3).

NOTE 1 For the purposes of this European Standard, the terms "% (*m/m*)" and "% (*V/V*)" are used to represent respectively the mass fraction and the volume fraction.

NOTE 2 In this European Standard, A-deviations apply (see Annex A).

2 Normative references

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

EN 116:2015, *Diesel and domestic heating fuels — Determination of cold filter plugging point — Stepwise cooling bath method*

EN 12916:2006[2], *Petroleum products — Determination of aromatic hydrocarbon types in middle distillates — High performance liquid chromatography method with refractive index detection*

EN 12662:2014, *Liquid petroleum products — Determination of total contamination in middle distillates, diesel fuels and fatty acid methyl esters*

EN 14078:2014, *Liquid petroleum products — Determination of fatty acid methyl ester (FAME) content in middle distillates — Infrared spectrometry method*

EN 14214:2012+A1:2014, *Liquid petroleum products — Fatty acid methyl esters (FAME) for use in diesel engines and heating applications — Requirements and test methods*

EN 15195:2014, *Liquid petroleum products — Determination of ignition delay and derived cetane number (DCN) of middle distillate fuels by combustion in a constant volume chamber*

EN 15751:2014, *Automotive fuels — Fatty acid methyl ester (FAME) fuel and blends with diesel fuel — Determination of oxidation stability by accelerated oxidation method*

EN 16144:2012, *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*

EN 16329:2013, *Diesel and domestic heating fuels — Determination of cold filter plugging point — Linear cooling bath method*

EN 16576:2014, *Automotive fuels — Determination of manganese and iron content in diesel — Inductively coupled plasma optical emission spectrometry (ICP OES) method*

2) Under revision.

EN 23015:1994, *Petroleum products — Determination of cloud point (ISO 3015:1992)*

EN ISO 2719:2002[2)], *Determination of flash point — Pensky-Martens closed cup method (ISO 2719:2002)*

EN ISO 3104:1996, *Petroleum products — Transparent and opaque liquids — Determination of kinematic viscosity and calculation of dynamic viscosity (ISO 3104:1994)*

EN ISO 3170:2004, *Petroleum liquids — Manual sampling (ISO 3170:2004)*

EN ISO 3171:1999, *Petroleum liquids — Automatic pipeline sampling (ISO 3171:1988)*

EN ISO 3405:2011, *Petroleum products — Determination of distillation characteristics at atmospheric pressure (ISO 3405:2011)*

EN ISO 3675:1998, *Crude petroleum and liquid petroleum products — Laboratory determination of density - Hydrometer method (ISO 3675:1998)*

EN ISO 3924:2010[2)], *Petroleum products — Determination of boiling range distribution — Gas chromatography method (ISO 3924:2010)*

EN ISO 4259:2006[2)], *Petroleum products — Determination and application of precision data in relation to methods of test (ISO 4259:2006)*

EN ISO 5165:1998[2)], *Petroleum products — Determination of the ignition quality of diesel fuels — Cetane engine method (ISO 5165:1998)*

EN ISO 6245:2002, *Petroleum products — Determination of ash (ISO 6245:2001)*

EN ISO 12185:1996, *Crude petroleum and petroleum products — Determination of density — Oscillating U-tube method (ISO 12185:1996)*

EN ISO 12937:2000, *Petroleum products — Determination of water — Coulometric Karl Fischer titration method (ISO 12937:2000)*

EN ISO 13032:2012, *Petroleum products — Determination of low concentration of sulfur in automotive fuels — Energy-dispersive X-ray fluorescence spectrometric method (ISO 13032:2012)*

EN ISO 20846:2011, *Petroleum products — Determination of sulfur content of automotive fuels — Ultraviolet fluorescence method (ISO 20846:2011)*

EN ISO 20884:2011, *Petroleum products — Determination of sulfur content of automotive fuels — Wavelength-dispersive X-ray fluorescence spectrometry (ISO 20884:2011)*

3 Captive fleet application

This European Standard is intended to cover fuels for use in captive fleet application for designated vehicles. Captive fleet is defined as a group of vehicles that use dedicated facilities and logistics for supply and storage of their fuel only accessible for them. The vehicles shall receive adequate maintenance as part of an organization or group agreement with the vehicle supplier(s).

NOTE 1 The fleet is usually operated by a single organization, but might also be operated by a consortium of professional vehicle owners.

NOTE 2 The fact that they are dedicated implies that fuel facilities are clearly identified as differing from public fuel facilities, by separate placement, and to which accessibility is limited to only captive fleet users.