



NSAI
Standards

Irish Standard
I.S. EN 116:2015

Diesel and domestic heating fuels -
Determination of cold filter plugging point -
Stepwise cooling bath method

I.S. EN 116:2015

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

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

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN 116:2015

Published:

2015-08-12

This document was published under the authority of the NSAI and comes into effect on:

2015-08-29

ICS number:

75.160.20

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN 116:2015 is the adopted Irish version of the European Document EN 116:2015, Diesel and domestic heating fuels - Determination of cold filter plugging point - Stepwise cooling bath method

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

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD

EN 116

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2015

ICS 75.160.20

Supersedes EN 116:1997

English Version

Diesel and domestic heating fuels - Determination of cold filter plugging point - Stepwise cooling bath method

Combustibles pour moteurs diesel et pour installations de chauffage domestique - Détermination de la température limite de filtrabilité

Dieselmotoren und Haushaltsheizöle - Bestimmung des Temperaturgrenzwertes der Filtrierbarkeit durch stufenweise Abkühlung

This European Standard was approved by CEN on 15 February 2015.

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

CEN members are the national standards bodies of 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 United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

European foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Principle	5
5 Reagents and materials	5
6 Apparatus	5
7 Sampling	14
8 Preparation of the test sample	14
9 Preparation of apparatus	14
10 Procedure	15
11 Calibration	16
11.1 General.....	16
11.2 Thermometers	16
11.3 Cooling unit	16
11.4 Vacuum unit	16
12 Expression of results	16
13 Precision	16
13.1 General.....	16
13.2 Repeatability.....	16
13.3 Reproducibility.....	17
14 Test report	17
Annex A (normative) Thermometer requirements	18
Bibliography	19

European foreword

This document (EN 116:2015) 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 February 2016, and conflicting national standards shall be withdrawn at the latest by February 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 supersedes EN 116:1997.

Significant technical differences between this European Standard and the previous edition of EN 116 are:

- that an automated method is described in detail beside the former manual procedure;
- the scope and the precision statement have been changed based on a European Round Robin study including current available fuels for use in diesel engines. In addition, Fatty Acid Methyl Esters (FAME) and FAME blends in diesel have been checked.

An alternative technique, i.e. using a linear cooling bath, has been developed as in EN 16329 [1].

Round Robin studies conducted for this revision showed different precision values compared to the previous edition. The studies covered current situation of marketed fuels including non-fossil component or biofuels.

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.

EN 116:2015 (E)

1 Scope

This European Standard specifies a method for the determination of the cold filter plugging point (CFPP) of diesel and domestic heating fuels (see 3.1) using automated test equipment. Manual test equipment may be used, but for referee purposes only automated test equipment is allowed.

This European Standard is applicable to fatty-acid methyl esters (FAME) and to distillate fuels as well as paraffinic diesel fuels, including those containing FAME, flow-improvers or other additives, intended for use in diesel engines and domestic heating installations.

The results obtained from the method specified in this European Standard are suitable for estimating the lowest temperature at which a fuel will give trouble-free flow in the fuel system.

NOTE In the case of diesel fuels the results are usually close to the temperature of failure in service except when the fuel system contains, for example, a paper filter installed in a location exposed to the weather or if the filter plugging temperature is more than 12 °C below the cloud point of the fuel. Domestic heating installations are usually less critical and often operate satisfactorily at temperatures somewhat lower than those indicated by the test results.

The difference in results obtained from the sample “as received” and after heat treatment at 45°C for 30 min before the filtration may be used to investigate complaints of unsatisfactory performance under low temperature conditions.

WARNING — The use of this Standard can involve hazardous materials, operations and equipment. This Standard does not purport to address all of the safety problems associated with its use. It is the responsibility of users of this standard to take appropriate measures to ensure the safety and health of personnel prior to application of the standard, and fulfil statutory and regulatory requirements for this purpose.

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 ISO 3170, *Petroleum liquids — Manual sampling (ISO 3170)*

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

ISO 261, *ISO general purpose metric screw threads — General plan*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
cold filter plugging point
CFPP
highest temperature at which a given volume of fuel fails to pass through a standardized filtration device in a specified time, when cooled under standardized conditions

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-