



NSAI
Standards

Irish Standard
I.S. EN 16896:2016

Petroleum products and related products -
Determination of kinematic viscosity -
Method by Stabinger type viscosimeter

I.S. EN 16896:2016

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 16896:2016

Published:

2016-11-16

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

2016-12-04

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 16896:2016 is the adopted Irish version of the European Document EN 16896:2016, Petroleum products and related products - Determination of kinematic viscosity - Method by Stabinger type viscosimeter

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 16896

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2016

ICS 75.160.20

English Version

**Petroleum products and related products - Determination
of kinematic viscosity - Method by Stabinger type
viscosimeter**

Produits pétroliers et produits relatés - Détermination
de la viscosité cinématique - Méthode par Viscometer
Stabinger

Mineralölerzeugnisse und verwandte Produkte -
Bestimmung der kinematischen Viskosität - Verfahren
mit dem Viskosimeter nach dem Stabinger-Prinzip

This European Standard was approved by CEN on 27 August 2016.

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	6
7	Sampling and sample handling	7
7.1	Sampling	7
7.2	Sample handling	7
8	Calibration and verification	7
8.1	General	7
8.2	Verification of calibration	7
9	Apparatus preparation	8
10	Procedure	8
10.1	Filling and cleaning	8
10.2	Manual filling and cleaning using syringes	8
10.3	Manual filling using sample displacement	9
10.4	Automatic filling and cleaning by a sample changer	9
11	Calculation	10
12	Expression of results	10
13	Precision	10
13.1	General	10
13.2	Repeatability, r	10
13.3	Reproducibility, R	10
14	Test report	10
Bibliography		11

European foreword

This document (EN 16896:2016) 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 May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

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

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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 16896:2016 (E)

1 Scope

This European Standard specifies a procedure for the determination of kinematic viscosity (ν) at 40 °C in the range from 2 mm²/s to 6 mm²/s by calculation from dynamic viscosity (η) and density (ρ) of middle distillate fuels, fatty acid methyl ester fuels (FAME) and mixtures of these using the Stabinger-type viscosimeter.

The result obtained using the procedure described in this standard depends on the behaviour of the sample. This European Standard should be used predominantly on liquids whose shear stress and shear rate are proportional (Newtonian flow behaviour). However, if the viscosity changes significantly with the shear rate, comparison with other measuring methods is only permissible at similar shear rates.

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 the 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 3104, *Petroleum products - Transparent and opaque liquids - Determination of kinematic viscosity and calculation of dynamic viscosity (ISO 3104)*

EN ISO 3170, *Petroleum liquids - Manual sampling (ISO 3170)*

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

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

3 Terms and definitions

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

3.1 dynamic viscosity

η

ratio of the applied shear stress to the resulting shear rate of a liquid

3.2 kinematic viscosity

ν

ratio of the dynamic viscosity to the density of a liquid at the same temperature and pressure

Note 1 to entry: The kinematic viscosity is a measure of a liquid's resistance to flow under gravity.

3.3 density

ρ

mass of a substance divided by its volume at a given temperature

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](#)
-