

<b>STN</b>	<b>Asfalty a asfaltové spojivá Stanovenie kinematickej viskozity</b>	<b>STN EN 12595</b>  65 7075
------------	--	--

Bitumen and bituminous binders - Determination of kinematic viscosity

Táto norma obsahuje anglickú verziu európskej normy.

This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 09/23

Obsahuje: EN 12595:2023

Oznámením tejto normy sa ruší

STN EN 12595 (65 7075) z mája 2015

**137371**

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2023

Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii v znení neskorších predpisov.

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 12595**

July 2023

ICS 75.140; 91.100.50

Supersedes EN 12595:2014

English Version

**Bitumen and bituminous binders - Determination of  
kinematic viscosity**

Bitumes et liants bitumineux - Détermination de la  
viscosité cinématique

Bitumen und bitumenhaltige Bindemittel -  
Bestimmung der kinematischen Viskosität

This European Standard was approved by CEN on 28 May 2023.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN 12595:2023 (E)**

<b>Contents</b>	<b>Page</b>
<b>European foreword .....</b>	<b>3</b>
<b>1 Scope.....</b>	<b>5</b>
<b>2 Normative references.....</b>	<b>5</b>
<b>3 Terms and definitions .....</b>	<b>5</b>
<b>4 Principle .....</b>	<b>6</b>
<b>5 Apparatus .....</b>	<b>6</b>
<b>6 Preparation of test samples .....</b>	<b>8</b>
<b>7 Procedure .....</b>	<b>8</b>
<b>7.1 Test conditions .....</b>	<b>8</b>
<b>7.2 Determination and measurement .....</b>	<b>9</b>
<b>8 Calculation.....</b>	<b>9</b>
<b>9 Expression of results .....</b>	<b>10</b>
<b>10 Precision .....</b>	<b>10</b>
<b>10.1 Repeatability .....</b>	<b>10</b>
<b>10.2 Reproducibility.....</b>	<b>10</b>
<b>11 Test report.....</b>	<b>11</b>
<b>Annex A (normative) Specifications of viscometers.....</b>	<b>12</b>
<b>Annex B (informative) Calibration of viscometers .....</b>	<b>18</b>
<b>Annex C (informative) Example for calculation of results .....</b>	<b>21</b>
<b>Bibliography .....</b>	<b>23</b>

## European foreword

This document (EN 12595:2023) has been prepared by Technical Committee CEN/TC 336 “Bituminous binders”, the secretariat of which is held by AFNOR.

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 January 2024, and conflicting national standards shall be withdrawn at the latest by January 2024.

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.

This document supersedes EN 12595:2014.

In comparison with the previous edition, the main technical changes are:

- deletion of note in scope and new note added to scope regarding assumption of Newtonian behaviour under test conditions;
- removal of dated reference in normative references (ISO 2592);
- formula for the relationship between dynamic and kinematic viscosity added in 3.1;
- “accuracy” changed to “maximum permissible error” in several Clauses (5.2, 5.4, 5.5 and 5.6);
- references to mercury thermometers and total immersion thermometer in 5.2 deleted;
- new sub-Clause 5.7 added on Calibration/Verification;
- additional information on use of viscometers and references to figures added in 7.1;
- mandatory use of two BS/IP/RF viscometers for one determination of kinematic viscosity;
- precision on time for thermal equilibrium and removal of note in 7.2;
- information on validity of individual test data to calculate mean value added in Clause 8; including a new Note 1 and renumbering existing note to Note 2;
- key added to Figures A.1, A.2 and A.3 and correct diameter of bulb in key of Figure A.1;
- Figures A.2 and A.3 revised;
- Table B.1 updated with informative values for viscosity standards;
- Annex C deleted;
- new Annex C introduced with examples on calculation;
- ASTM E77-98 deleted from Bibliography;
- reference to ASTM D2170-01 in Bibliography has been updated and reference (footnote) to Institute of Petroleum deleted.

**EN 12595:2023 (E)**

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom

## 1 Scope

This document specifies a method for the determination of the kinematic viscosity of bituminous binders at 60 °C and 135 °C, in a range from 6 mm<sup>2</sup>/s to 300 000 mm<sup>2</sup>/s. Other temperatures are possible if calibration constants are known. Bituminous emulsions are not covered within the scope of this method.

Results for this method can be used to calculate dynamic viscosity when the density of the test material is known or can be determined.

NOTE This document assumes Newtonian behaviour of the sample at test conditions.

**WARNING** — The use of this document can involve hazardous materials, operations and equipment. This document does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this document to identify the hazards and assess the risks involved in performing this test method and to implement sufficient control measures to protect individual operators (and the environment). This includes appropriate safety and health practices and determination of the applicability of regulatory limitations prior to use.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 58, *Bitumen and bituminous binders - Sampling bituminous binders*

EN 12594, *Bitumen and bituminous binders - Preparation of test samples*

EN 12607-2, *Bitumen and bituminous binders - Determination of the resistance to hardening under influence of heat and air - Part 2: TFOT method*

EN ISO 2592, *Petroleum and related products - Determination of flash and fire points - Cleveland open cup method (ISO 2592)*

EN ISO 3696:1995, *Water for analytical laboratory use - Specification and test methods (ISO 3696)*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**