

## **Bitumen and bituminous binders - Determination of the Fraass Breaking Point**

Bitumen and bituminous binders - Determination of  
the Fraass breaking point

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12593:2007 sisaldab Euroopa standardi EN 12593:2007 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 20.04.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 12593:2007 consists of the English text of the European standard EN 12593:2007.</p> <p>This document is endorsed on 20.04.2007 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p><b>Käsitlusala:</b> This European Standard specifies a method for determining the Fraass breaking point which measures the brittleness of bitumen and bituminous binders at low temperatures.</p>	<p><b>Scope:</b> This European Standard specifies a method for determining the Fraass breaking point which measures the brittleness of bitumen and bituminous binders at low temperatures.</p>
--	--

**ICS** 75.140, 91.100.50

**Võtmesõnad:**

English Version

## Bitumen and bituminous binders - Determination of the Fraass breaking point

Bitumes et liants bitumineux - Détermination du point de fragilité Fraass

Bitumen und bitumenhaltige Bindemittel - Bestimmung des Brechpunktes nach Fraaß

This European Standard was approved by CEN on 3 February 2007.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

## Contents

Page

Foreword.....	3
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions .....	4
4 Principle.....	4
5 Apparatus .....	4
6 Sampling and sample preparation .....	6
7 Procedure .....	7
8 Expression of results .....	8
9 Precision .....	8
10 Test report .....	9
Annex A (normative) Characteristics of the thermometer.....	15

## Foreword

This document (EN 12593:2007) 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 September 2007, and conflicting national standards shall be withdrawn at the latest by September 2007.

This document supersedes EN 12593:1999.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## 1 Scope

This European Standard specifies a method for determining the Fraass breaking point which measures the brittleness of bitumen and bituminous binders at low temperatures.

**WARNING — Use of this European Standard can involve hazardous materials, operations and equipment. This European Standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this European Standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.**

## 2 Normative references

The following referenced standards 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 standard (including any amendments) applies.

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

EN 1425, *Bitumen and bituminous binders - Characterization of perceptible properties*

EN 1427, *Bitumen and bituminous binders - Determination of the softening point - Ring and Ball method*

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

## 3 Terms and definitions

For the purposes of this document, the following term and definition applies.

### 3.1

#### **Fraass breaking point**

temperature, expressed in degrees Celsius, at which a film of bituminous binder of a specified and uniform thickness will break under defined loading conditions

## 4 Principle

A sample of bituminous binder is applied to a metal plate at an even thickness. This plate is submitted to a constant cooling rate and flexed repeatedly until the binder layer breaks; the temperature at which the first crack appears is reported as the Fraass breaking point

## 5 Apparatus

Usual laboratory apparatus and glassware, together with the following:

**5.1 Plates**, made of tempered spring steel with the following dimensions:  $(41,00 \pm 0,05)$  mm long,  $(20,0 \pm 0,2)$  mm wide and  $(0,15 \pm 0,02)$  mm thick. The plates shall be kept flat and protected from corrosion when not in use. Any plate that becomes visibly curved or corroded shall be discarded.