Bitumen and bituminous binders - Determination of the elastic recovery of modified bitumen

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13398:2010 sisaldab Euroopa standardi EN 13398:2010 ingliskeelset teksti.	This Estonian standard EVS-EN 13398:2010 consists of the English text of the European standard EN 13398:2010.
Standard on kinnitatud Eesti Standardikeskuse 31.08.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 31.08.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 26.05.2010.	Date of Availability of the European standard text 26.05.2010.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 75.140, 91.100.50

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13398

May 2010

ICS 75.140; 91.100.50

Supersedes EN 13398:2003

English Version

Bitumen and bituminous binders - Determination of the elastic recovery of modified bitumen

Bitumes et liants bitumineux - Détermination du retour élastique des bitumes modifiés

Bitumen und bitumenhaltige Bindemittel - Bestimmung der elastischen Rückstellung von modifiziertem Bitumen

This European Standard was approved by CEN on 23 April 2010.

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, Croatia, 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: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword

This document (EN 13398:2010) 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 November 2010, and conflicting national standards shall be withdrawn at the latest by November 2010.

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 13398:2003.

This document contains three significant changes compared to EN 13398:2003:

1) The test temperature is no longer only 25 °C, other temperatures are admissible to perform the test.

2) Dimensioning of the sample and keeping this sample at the specified test temperature are now in line with EN 13589.

3) The formula for calculating the elastic recovery is now expressed by mentioning the elongation L, which also enables to determine the elastic recovery in case of premature .break (i.e. due to brittleness).

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies a method for the determination of the elastic recovery of bituminous binders in a ductilometer at the test temperature (typically 25 °C or 10 °C; other temperatures can be used).

It is especially applicable to bituminous binders modified with thermoplastic elastomers, but can also be used with other bituminous binders which generate only small recovery.

WARNING — The use of this European Standard may 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 documents 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 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 13589, *Bitumen and bituminous binders — Determination of the tensile properties of modified bitumen by the force ductility method*

ISO 5725 (all parts), *Accuracy (trueness and precision) of measurement methods and results*

3 Terms and definitions

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

3.1
bitumen thread
test specimen of moulded bitumen, stretched to a thread

3.2
half-threads
two pieces obtained, when a bitumen specimen has been stretched by 200 mm to a thread and then cut in the middle

3.3
elastic recovery
expressed as a percentage of the distance between the ends of the half-threads, which has developed 30 min after the division relative to the elongation length of 200 mm

4 Principle

A bituminous binder specimen is stretched at the test temperature and a constant rate of 50 mm/min to a predetermined elongation (200 mm). The bitumen thread thus produced is cut in the middle to obtain two halves of thread. After a predetermined time for recovery has elapsed, the shortening of the half threads is measured and expressed as the percentage of the elongation length.