Bitumen and bituminous binders - Determination of the flexural creep stiffness - Bending Beam Rheometer (BBR)

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NATIONAL FOREWORD

See Eesti standard EVS-EN 14771:2012 sisaldab Euroopa standardi EN 14771:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 14771:2012 consists of the English text of the European standard EN 14771:2012.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 16.05.2012.	Date of Availability of the European standard is 16.05.2012.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 75.140, 91.100.50

EUROPEAN STANDARD

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Supersedes EN 14771:2005

English Version

Bitumen and bituminous binders - Determination of the flexural creep stiffness - Bending Beam Rheometer (BBR)

Bitumes et liants bitumineux - Détermination du module de rigidité en flexion - Rhéomètre à flexion de barreau (BBR)

Bitumen und bitumenhaltige Bindemittel - Bestimmung der Biegekriechsteifigkeit - Biegebalkenrheometer (BBR)

This European Standard was approved by CEN on 7 April 2012.

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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.

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Foreword

This document (EN 14771:2012) has been prepared by Technical Committee CEN/TC 336 “Bituminous binders”, the secretariat of which is held by AFNOR/BNPé.

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of an identical text or by endorsement, at the latest by November 2012, and conflicting national standards shall be withdrawn at the latest by November 2012.

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 14771:2005.

Compared with EN 14771:2005, the following changes have been made:

a) Note added at 3.1;

b) Clause 6: editorial changes and Note at 6.3 added;

c) 7.1: more details on temperature stabilisation and Note 1 added;

d) 8.5: improvement in time related test results validity;

e) Figure 4: improvement in dimension tolerance details;

f) Bibliography added.

This European Standard is based on ASTM D 6648-01 [1].

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, Turkey and the United Kingdom.

1 Scope

This European Standard specifies a method for the determination of the flexural creep stiffness of bituminous binders in the range of 30 MPa to 1 GPa by means of the bending beam rheometer.

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 to determine the applicability of regulatory limitations prior to use.

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 58, *Bitumen and bituminous binders — Sampling bituminous binders*

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

3 Terms and definitions

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

3.1
flexural creep stiffness
S(t)
ratio obtained by dividing the bending stress by the bending strain

Note 1 to entry: The strain will increase with the loading time and therefore the flexural creep stiffness will also be a function of time.

3.2
m-value
absolute value of the slope of the curve of the logarithm of the stiffness versus the logarithm of time

3.3
contact load
P_c
load required to maintain positive contact between the test specimen, supports and the loading shaft

Note 1 to entry: The contact load of 25 mN to 45 mN is used in this method.

3.4
test load
P_t
load used to determine the stiffness of the bituminous binder being tested

Note 1 to entry: The test load of 930 mN to 1030 mN is used in this method.