

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

(Identical to IP 533:2005)

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British Standard

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National foreword

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Summary of pages

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

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Foreword

This document (EN 14771:2005) 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of an identical text or by endorsement, at the latest by November 2005, and conflicting national standards shall be withdrawn at the latest by November 2005.

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and 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 referenced documents are indispensable for the application of this European Standard. 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 European Standard, the following terms and definitions apply.

3.1 flexural creep stiffness

$S(t)$

ratio obtained by dividing the bending stress by the bending strain; 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

the 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 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 The test load of 930 mN to 1030 mN is used in this method.