

**Bitumen and bituminous binders -
Accelerated long-term ageing
conditioning by the rotating cylinder
method (RCAT)**

Bitumen and bituminous binders - Accelerated long-term ageing conditioning by the rotating cylinder method (RCAT)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 15323:2007 sisaldab Euroopa standardi EN 15323:2007 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 31.05.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 15323:2007 consists of the English text of the European standard EN 15323:2007.</p> <p>This document is endorsed on 31.05.2007 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>
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<p>Käsitlusala:</p> <p>This European standard specifies an accelerated ageing/conditioning procedure for bitumen, bituminous binders and bituminous mastics. The procedure involves rotating cylinder ageing (RCA), i.e binder ageing at moderate temperatures in a large cylinder rotating in an oven under oxygen flow conditions. Prior to long-term ageing with this method, samples are prepared in the condition they would be applied to the road. This method is also applicable to modified binders and bituminous mastics.</p>	<p>Scope:</p> <p>This European standard specifies an accelerated ageing/conditioning procedure for bitumen, bituminous binders and bituminous mastics. The procedure involves rotating cylinder ageing (RCA), i.e binder ageing at moderate temperatures in a large cylinder rotating in an oven under oxygen flow conditions. Prior to long-term ageing with this method, samples are prepared in the condition they would be applied to the road. This method is also applicable to modified binders and bituminous mastics.</p>
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ICS 91.100.50

Võtmesõnad:

English Version

**Bitumen and bituminous binders - Accelerated long-term
ageing/conditioning by the rotating cylinder method (RCAT)**

Bitumes et liants bitumineux -
Vieillessement/conditionnement long-terme accéléré par la
méthode du cylindre tournant (RCAT)

Bitumen und bitumenhaltige Bindemittel - Beschleunigte
Langzeit-Alterung mit dem Verfahren mit rotierendem
Zylinder (RCAT)

This European Standard was approved by CEN on 24 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.



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Foreword

This document (EN 15323:2007) 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 October 2007, and conflicting national standards shall be withdrawn at the latest by October 2007.

This European Standard is based upon documents [1], [2] and [3], referenced in Bibliography.

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 an accelerated ageing/conditioning procedure for bitumen, bituminous binders and bituminous mastics. The procedure involves rotating cylinder ageing (RCA), i.e binder ageing at moderate temperatures in a large cylinder rotating in an oven under oxygen flow conditions. Prior to long-term ageing with this method, samples are prepared in the condition they would be applied to the road.

This method is also applicable to modified binders and bituminous mastics.

NOTE For binders used in hot asphalt applications pre-conditioning of the sample would typically be by one of the methods given in EN 12607-1 or EN 12607-2 or directly in the RCAT cylinder to an equivalent ageing level. For binders used in bituminous emulsion and cut-back application, stabilising the sample would typically be by methods given in EN 14895. For bituminous emulsion, stabilising the sample can also be realised directly in the RCAT cylinder under a nitrogen flow (quantity-temperature-time have still to be experienced).

WARNING — Use of this document can involve hazardous materials, operations and equipment, in particular, the use of a flow of oxygen as ageing atmosphere. 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 establish appropriate health and safety practices and determine the applicability of regulatory limitations prior to use.

If there is a likelihood that more than 1 % mass fraction in a binder of volatile components is present, this procedure must not be used.

2 Normative references

The following referenced standards 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 12594, *Bitumen and bituminous binders — Preparation of test samples*

EN 12607-1, *Bitumen and bituminous binders – Determination of the resistance to hardening under the influence of heat and air – Part 1: RTFOT method*

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

EN 14895, *Bitumen and bituminous binders – Stabilisation of binder from bituminous emulsions or from cut-back and fluxed bituminous binders*

3 Terms and definitions

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

3.1

rotating cylinder ageing test

RCAT

ageing procedure performed using a rotating cylinder

3.2

short-term ageing/conditioning

conditioning a binder undergoes during the method described in EN 12607-1 and EN 12607-2 or directly in the rotating cylinder to an equivalent level of ageing