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Täitematerjalide mehaaniliste ja füüsikaliste omaduste katsetamine. Osa 9: Kulumiskindluse määramine abrasiivsele hõõrdkulumisele naastrehvide toimel. Põhjamaade katse

Tests for mechanical and physical properties of aggregates - Part 9: Determination of the resistance to wear by abrasion from studded tyres - Nordic test

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1097-9

January 2014

ICS 91.100.15

Supersedes EN 1097-9:1998

English Version

Tests for mechanical and physical properties of aggregates - Part 9: Determination of the resistance to wear by abrasion from studded tyres - Nordic test

Essais pour déterminer les propriétés mécaniques et physiques des granulats - Partie 9: Détermination de la résistance à l'usure par abrasion provoquée par les pneus à crampons - Essai scandinave

Prüfverfahren für mechanische und physikalische Eigenschaften von Gesteinskörnungen - Teil 9: Bestimmung des Widerstandes gegen Verschleiß durch Spikereifen - Nordische Prüfung

This European Standard was approved by CEN on 3 November 2013.

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Foreword

This document (EN 1097-9:2014) has been prepared by Technical Committee CEN/TC 154 “Aggregates”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by July 2014 and conflicting national standards shall be withdrawn at the latest by July 2014.

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 1097-9:1998.

The main technical changes compared to EN 1097-9:1998 are the following:

1) Scope: rewritten to allow the use of other methods under precise conditions;

5) Apparatus: Possibility to use other suitable equipment for drying aggregates than the prescribed ventilated oven. Steel quality has been updated;

6) Preparation of test specimens: rewritten (*Mass of test portion:* Formula revised, *Loading the drum:* Order changed);

8) Calculation and expression of results: the re-testing criteria has been amended and supplemented with Dixon test guidelines;

9) Test report: required and optional data have harmonized according to document CEN/TC 154/SC 6 – N 1120.

The test procedure specified in this European Standard has been developed in Finland, Norway and Sweden where studded tyres are frequently used during cold seasons.

This European Standard forms part of a series of tests for mechanical and physical properties of aggregates. Test methods for other properties of aggregates are covered by the following European Standards:

EN 932, *Tests for general properties of aggregates*

EN 933, *Tests for geometrical properties of aggregates*

EN 1367, *Tests for thermal and weathering properties of aggregates*

EN 1744, *Tests for chemical properties of aggregates*

EN 13179, *Tests for filler aggregate used in bituminous mixtures*

EN 1097, *Tests for mechanical and physical properties of aggregates,* consists of the following parts:

— *Part 1: Determination of the resistance to wear (micro-Deval)*

— *Part 2: Methods for the determination of resistance to fragmentation*

— *Part 3: Determination of loose bulk density and voids*

— *Part 4: Determination of the voids of dry compacted filler*

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— *Part 5: Determination of the water content by drying in a ventilated oven*

— *Part 6: Determination of particle density and water absorption*

— *Part 7: Determination of the particle density of filler — Pyknometer method*

— *Part 8: Determination of the polished stone value*

— *Part 10: Water suction height*

— *Part 11: Determination of compressibility and confined compressive strength of lightweight aggregates*

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, 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.

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1 Scope

This European Standard describes the reference method, used for type testing and in case of dispute, for determination of the resistance of coarse aggregate to wear by abrasion from studded tyres. For other purposes, in particular factory production control, other methods may be used, provided that an appropriate working relationship with the reference method has been established.

The test is applicable to aggregates with a size fraction of 11,2 mm to 16 mm.

NOTE An alternative size fraction 8/11,2 mm for different end uses is given in Annex A.

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 932-2:1999, *Tests for general properties of aggregates - Part 2: Methods for reducing laboratory samples*

EN 932-5, *Tests for general properties of aggregates - Part 5: Common equipment and calibration*

EN 933-1, *Tests for geometrical properties of aggregates - Part 1: Determination of particle size distribution - Sieving method*

EN 933-2, *Tests for geometrical properties of aggregates - Part 2: Determination of particle size distribution - Test sieves, nominal size of apertures*

EN 1097-6:2013, *Tests for mechanical and physical properties of aggregates - Part 6: Determination of particle density and water absorption*

EN ISO 4788, *Laboratory glassware - Graduated measuring cylinders (ISO 4788)*

ISO 3290-1, *Rolling bearings — Balls — Part 1: Steel balls*

ISO 9329-4, *Seamless steel tubes for pressure purposes — Technical delivery conditions — Part 4: Austenitic stainless steels*

3 Terms and definitions

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

3.1
test specimen
sample used in a single determination when a test method requires more than one determination of a property

3.2
laboratory sample
sample intended for laboratory testing

3.3
constant mass
mass determined after successive weighings at least 1 h apart not differing by more than 0,1 %

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