

**Täitematerjalide geomeetriliste omaduste katsetamine.
Osa 9: Peenosiste hindamine. Metüleensinise katse**

**Tests for geometrical properties of aggregates - Part 9:
Assessment of fines - Methylene blue test**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 933-9:2009+A1:2013 sisaldab Euroopa standardi EN 933-9:2009+A1:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 933-9:2009+A1:2013 consists of the English text of the European standard EN 933-9:2009+A1:2013.
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 03.04.2013.	Date of Availability of the European standard is 03.04.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

**Tests for geometrical properties of aggregates - Part 9:
Assessment of fines - Methylene blue test**

Essais pour déterminer les caractéristiques géométriques
des granulats - Partie 9 : Qualification des fines - Essai au
bleu de méthylène

Prüfverfahren für geometrische Eigenschaften von
Gesteinskörnungen - Teil 9: Beurteilung von Feinanteilen-
Methylenblau-Verfahren

This European Standard was approved by CEN on 12 June 2009 and includes Amendment 1 approved by CEN on 12 February 2013.

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-CENELEC 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-CENELEC 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, 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 United Kingdom.



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Foreword



This document (EN 933-9:2009+A1:2013) 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 October 2013, and conflicting national standards shall be withdrawn at the latest by October 2013.

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 933-9:2009. .

This document includes Amendment 1 approved by CEN on 2013-02-12.

The start and finish of text introduced or altered by amendment is indicated in the text by tags  .

This Standard forms part of a series of tests for geometrical properties of aggregates. Test methods for other properties of aggregates will be covered by parts of the following European Standards:

- EN 932, *Tests for general properties of aggregates*
- EN 1097, *Tests for mechanical and physical 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*

The other parts of EN 933 will be:

- Part 1: Determination of particle size distribution — Sieving method
- Part 2: Determination of particle size distribution — Test sieves, nominal size of apertures
- Part 3: Determination of particle shape — Flakiness index
- Part 4: Determination of particle shape — Shape index
- Part 5: Determination of percentage of crushed and broken surfaces in coarse aggregate particles
- Part 6: Assessment of surface characteristics — Flow coefficient for coarse aggregates
- Part 7: Determination of shell content — Percentage of shells in coarse aggregates
- Part 8: Assessment of fines — Sand equivalent test
- Part 10: Assessment of fines — Grading of fillers (air jet sieving)

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.

1 Scope

This standard describes the reference method used for type testing and in cases of dispute for the determination of the methylene blue value of the 0/2 mm fraction in fine aggregates or all-in aggregates (MB). It also describes the reference method for the determination of the methylene blue value of the 0/0,125 mm fraction (MB_F) in Annex A. For other purposes, in particular factory production control, other methods may be used provided that an appropriate working relationship with the suitable reference method has been established.

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 932-2, *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*

3 Terms and definitions

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

3.1

subsample

sample obtained by means of a sample reduction procedure

3.2

test portion

sample used as a whole in a single test

3.3

finer

particle size fraction of an aggregate which passes the 0,063 mm sieve

3.4

particle size fraction

fraction of an aggregate passing the larger of two sieves and retained on the smaller

NOTE The lower limit can be zero.

3.5

constant mass

successive weighings after drying at least 1 h apart not differing by more than 0,1 %

NOTE In many cases constant mass can be achieved after a test specimen has been dried for a pre-determined period in a specified oven at $(110 \pm 5) ^\circ\text{C}$. Test laboratories can determine the time required to achieve constant mass for specific types and sizes of sample dependent upon the drying capacity of the oven used.