

Tests for mechanical and physical properties of
aggregates - Part 8: Determination of the polished stone
value

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 1097-8:2020 sisaldab Euroopa standardi EN 1097-8:2020 ingliskeelset teksti.	This Estonian standard EVS-EN 1097-8:2020 consists of the English text of the European standard EN 1097-8:2020.
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English Version

Tests for mechanical and physical properties of aggregates
- Part 8: Determination of the polished stone value

Essais pour déterminer les caractéristiques
mécaniques et physiques des granulats - Partie 8 :
Détermination du coefficient de polissage accéléré

Prüfverfahren für mechanische und physikalische
Eigenschaften von Gesteinskörnungen - Teil 8:
Bestimmung des Polierwertes

This European Standard was approved by CEN on 24 February 2020.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 1097-8:2020) 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of an identical text or by endorsement, at the latest by October 2020, and conflicting national standards shall be withdrawn at the latest by October 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1097-8:2009.

The main technical changes compared to the previous version are the following:

- Clauses 5 and A.3 about sampling have been deleted as sufficient information is given in the Scope and in 8.1. Consequently, all clauses have been renumbered.
- New Clause 5 Materials has been restructured.
- Grading requirements for corn emery have been completed (Table 1).
- Requirements for emery flour have been added (5.2.2).
- The sources of PSV control stone and friction tester reference stone have been changed (5.2.3 and 5.2.4).
- The feed mechanisms for corn emery and emery flour have been clarified (6.2.5 and 6.2.6).
- The friction tester design has been clarified (6.3).
- The range of test sieves has been extended (6.4).
- The precision of grid sieve bar spacing has been changed (6.5).
- Notes with normative text have been transformed into main text or deleted (6.2.7, 7.4 and A.5.2).
- An illustration of correct and incorrect prepared test specimens has been added (7.5).
- Instructions for clamping specimens around the road wheel have been given (9.3).
- The precision of corn emery feed rate has been changed (9.4).
- The time between water storage and accelerated polishing of specimens has been limited (9.8).
- The friction test procedure has been rewritten and supplemented with illustrations showing the positioning of test specimens (Clause 10).
- The PSV control stone has been changed and the specified range adapted (11.2).
- Formula (1) has been adapted to the new control stone (11.3.3).
- The test report content has been adapted to the current rules (Clause 12).
- The temperature for conditioning rubber-tyred wheels has been changed (C.1.3).

- The verification of the alignment of the road wheel relative to each rubber-tyred wheel has been extensively revised (Annex C).
- The control of sliders and slider rubber in D.2 has been specified.
- Annex E about precision has been removed as the test method has been changed and the former precision results were not acceptable any more.
- A new normative Annex E has been added: "Friction tester reference stone specimen preparation and friction slider conditioning".
- Precision for the aggregate abrasion value has been moved to a new Annex F.
- The Bibliography has been supplemented.

This document forms part of a series of tests for mechanical and physical properties of aggregates. Test methods for other properties of aggregates are covered by Parts of 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*

The other parts of EN 1097 are:

- *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*
- *Part 5: Determination of 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 9: Determination of the resistance to wear by abrasion from studded tyres: Nordic test*
- *Part 10: Water suction height*

In this document, the Annexes A, B, C, D and E are normative and the Annex F is informative.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This document describes the reference method used for type testing and in case of dispute for determining the polished stone value (PSV) of a coarse aggregate used in road surfacings. For other purposes, in particular factory production control, other methods are possible provided that an appropriate working relationship with the reference method has been established. Examples of advanced test methods can be found in the Bibliography.

Annex A describes an optional method for the determination of the aggregate abrasion value (AAV).

NOTE 1 The AAV method is suitable to use when particular types of skid resistant aggregates, (typically those with a PSV of 60 or greater) which can be susceptible to abrasion under traffic, are required.

The sample is taken from normal run of production from the plant.

NOTE 2 Chippings that have been freshly crushed in the laboratory or recovered from bituminous materials may give misleading results.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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*

EN 933-3, *Tests for geometrical properties of aggregates — Part 3: Determination of particle shape – Flakiness index*

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

ISO 48, *Rubber, vulcanized or thermoplastic — Determination of hardness*

ISO 4662, *Rubber, vulcanized or thermoplastic — Determination of rebound resilience*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp/ui>

3.1

batch

production quantity, a delivery quantity, a partial delivery quantity (railway wagon-load, lorry-load, ship's cargo) or a stockpile produced at one time under conditions that are presumed uniform

Note 1 to entry: With a continuous process, the quantity produced during an agreed period is treated as a batch.

3.2

laboratory sample

reduced sample derived from a bulk sample for laboratory testing