



# SLOVENSKI STANDARD

## kSIST FprEN 1097-1:2010

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### Preskusi mehanskih in fizikalnih lastnosti agregatov - Bistven element - 1. del: Določevanje odpornosti proti obrabi (mikro Deval)

Tests for mechanical and physical properties of aggregates - Main element - Part 1:  
Determination of the resistance to wear (micro-Deval)

Prüfverfahren für mechanische und physikalische Eigenschaften von Gesteinskörnungen  
- Teil 1: Bestimmung des Widerstandes gegen Verschleiß (Micro-Deval)

Essais pour déterminer les caractéristiques mécaniques et physiques des granulats -  
Partie 1: Détermination de la résistance à l'usure (micro-Deval)

**Ta slovenski standard je istoveten z: FprEN 1097-1**

<https://standards.iteh.ai/catalog/standards/sist/951ed027-50cf-42a8-aeaa-d6e8fbc65d8/sist-en-1097-1-2010>

#### **ICS:**

91.100.15      Mineralni materiali in izdelki      Mineral materials and  
products

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**FINAL DRAFT**  
**FprEN 1097-1**

June 2010

ICS 91.100.15

Will supersede EN 1097-1:1996

English Version

**Tests for mechanical and physical properties of aggregates -  
Main element - Part 1: Determination of the resistance to wear  
(micro-Deval)**

Prüfverfahren für mechanische und physikalische  
Eigenschaften von Gesteinskörnungen - Teil 1:  
Bestimmung des Widerstandes gegen Verschleiß (Micro-  
Deval)

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 154.

If this draft becomes a European Standard, 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.

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## Foreword

This document (FprEN 1097-1:2010) has been prepared by Technical Committee CEN/TC 154 "Aggregates", the secretariat of which is held by BSI.

This document is currently submitted to the Unique Acceptance Procedure.

This document will replace EN 1097-1:1996.

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

- EN 932 (all parts), *Tests for general properties of aggregates*;
- EN 933 (all parts), *Tests for geometrical properties of aggregates*;
- EN 1367 (all parts), *Tests for thermal and weathering properties of aggregates*;
- EN 1744 (all parts), *Tests for chemical properties of aggregates*;
- EN 13179 (all parts), *Tests for filler aggregate used in bituminous mixtures*.

The other Parts of EN 1097 will be:

- *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 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 9: Determination of the resistance to wear by abrasion from studded tyres — Nordic test*;
- *Part 10: Determination of water suction height*.

## FprEN 1097-1:2010 (E)

### 1 Scope

This European Standard describes the reference method used for type testing and in case of dispute for determining the resistance to wear of coarse aggregates (main text) and aggregates for railway ballast (Annex A). 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 sample is normally tested in a wet condition, but the test may also be carried out in a dry condition. This European Standard applies to natural, manufactured or recycled aggregates used in building or civil engineering.

### 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*

EN 933-1:1997, *Tests for geometrical properties of aggregates — Part 1: Determination of particle size distribution — Sieving method*

EN ISO 4788, *Laboratory glassware — Graduated measuring cylinders (ISO 4788:2005)*

ISO 3290, *Rolling bearings — Bearing parts — Balls for rolling bearings*

### 3 Terms and definitions

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

#### 3.1

##### **test portion**

sample used as a whole in a single test

#### 3.2

##### **test specimen**

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

#### 3.3

##### **laboratory sample**

reduced sample derived from a bulk sample for laboratory testing

#### 3.4

##### **constant mass**

mass determined by successive weightings performed at least 1 h apart and not differing by more than 0,1%

NOTE In many cases, constant mass can be achieved after a test portion has been dried for a pre-determined period in a specified oven at  $(110 \pm 5)$  °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.

### 4 Principle

The test determines the micro-Deval coefficient which is the percentage of the original sample reduced to a size smaller than 1,6 mm during rolling.