



**SLOVENSKI STANDARD**  
**oSIST prEN 12350-2:2017**  
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**Preskušanje svežega betona - 2. del: Preskus s posedom stožca**

Testing fresh concrete - Part 2: Slump-test

Prüfung von Frischbeton - Teil 2: Setzmaß

Essais pour béton frais - Partie 2 : Essai d'affaissement

**Ta slovenski standard je istoveten z: prEN 12350-2**

<https://standards.iteh.ai/catalog/standards/sist/5594b26b-bc7f-474b-8cf5-db4dcc90966b/sist-en-12350-2-2019>

**ICS:**

91.100.30	Beton in betonski izdelki	Concrete and concrete products
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**oSIST prEN 12350-2:2017**

**en,fr,de**



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NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 12350-2**

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ICS 91.100.30

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English Version

## Testing fresh concrete - Part 2: Slump-test

Essais pour béton frais - Partie 2 : Essai d'affaissement

Prüfung von Frischbeton - Teil 2: Setzmaß

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 104.

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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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## European foreword

This document (prEN 12350-2:2017) has been prepared by Technical Committee CEN/TC 104 “Concrete and related products”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

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 will supersede EN 12350-2:2009.

This standard is one of a series concerned with testing concrete.

This series EN 12350, *Testing fresh concrete*, includes the following parts:

- *Part 1: Sampling and common apparatus*
- *Part 2: Slump test*
- *Part 3: Vebe test*
- *Part 4: Degree of compactability*
- *Part 5: Flow table test*
- *Part 6: Density*
- *Part 7: Air content – Pressure methods*
- *Part 8: Self-compacting concrete – Slump-flow test*
- *Part 9: Self-compacting concrete – V-funnel test*
- *Part 10: Self-compacting concrete – L-box test*
- *Part 11: Self-compacting concrete – Sieve segregation test*
- *Part 12: Self-compacting concrete – J-ring test*

The following amendments have been made to the 2009 edition of this standard:

- a) editorial revisions;
- b) reference to common apparatus and specifications given in EN 12350-1;
- c) reference and procedure for slump retention testing;
- d) option to include specified slump class or slump target value in the report.

## prEN 12350-2:2017 (E)

### 1 Scope

This European standard specifies a method for determining the consistence of fresh concrete by the slump test.

The slump test is sensitive to changes in the consistence of concrete, which correspond to slumps between 10 mm and 210 mm. Beyond these extremes the measurement of slump can be unsuitable and other methods of determining the consistency should be considered.

If the slump continues to change over a period of 1 min after withdrawing of the cone, the slump test is not suitable as a measure of consistence.

The test is not suitable when the declared value of  $D$  of the coarsest fraction of aggregates actually used in the concrete ( $D_{\max}$ ) is greater than 40 mm.

### 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 12350-1, *Testing fresh concrete - Part 1: Sampling*

### 3 Principle

The fresh concrete is compacted into a hollow cone in the shape of a frustum of a cone. When the cone is withdrawn upwards, the distance the concrete has slumped provides a measure of the consistency of the concrete.

### 4 Apparatus

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The apparatus listed below for the execution of this test method shall be in accordance with the specification given in EN 12350-1 and as specified below:

#### 4.1 Hollow cone

#### 4.2 Compacting rod

#### 4.3 Funnel (optional)

#### 4.4 Rule

#### 4.5 Base plate/surface

#### 4.6 Remixing container or tray

#### 4.7 Shovel

#### 4.8 Moist cloth.

#### 4.9 Scoop

#### 4.10 Timer

#### 4.11 Sealed container (when slump retention is to be measured)

## 5 Test sample

The sample of the concrete shall be obtained in accordance with EN 12350-1.

The sample shall be re-mixed using the remixing container or tray and the shovel or scoop before carrying out the test. Where the sample is intended to be used to measure slump retention at a specified time, the concrete from the sealed container shall be emptied on the remixing container or tray and re-mixed using the shovel or scoop before carrying out the test.

NOTE Alternative sampling procedures may be given in national standards or provisions in the place of use of the concrete.

## 6 Procedure

Dampen the cone and base plate, remove any excess moisture and place the cone on the horizontal base plate/surface. During filling of the cone hold it firmly against the base plate/surface by clamping in place, or by standing on the two foot pieces.

Fill the cone in three layers, each approximately one-third of the height of the cone when compacted. Compact each layer with 25 strokes of the tamping rod. Uniformly distribute the strokes over the cross-section of each layer. For the bottom layer this will necessitate inclining the rod slightly and positioning approximately half the strokes spirally toward the centre. Compact the first layer throughout its depth, taking care not striking the base. Compact the second layer and the top layer each throughout its depth, so that the strokes just penetrate into the immediately underlying layer. In filling and compacting the top layer, heap the concrete above the cone before tamping is started.

If the tamping operation of the top layer results in subsidence of the concrete below the top edge of the cone, add more concrete to keep an excess above the top of the cone at all times. After the top layer has been compacted, strike off the surface of the concrete with a trowel or by means of a sawing and rolling motion of the compacting rod.

Remove spilled concrete from the base plate/surface. Remove the cone from the concrete by raising it carefully in a vertical direction.

Perform the operation of raising the cone in 2 s to 5 s, by a steady upward lift, with no lateral or torsional motion being imparted to the concrete.

Carry out the operation from the start of the filling to the removal of the cone without interruption and complete it within 150 s.

Immediately after removal of the cone, measure and record the slump  $h$  by determining the difference between the height of the cone and that of the highest point of the slumped test specimen as shown in Figure 1.

The consistency of a concrete mix changes with time, due to hydration of the cement and, possibly, loss of moisture. Tests on different samples should, therefore, be carried out at a constant time interval after mixing, if strictly comparable results are to be obtained.

## 7 Test result

The test is only valid if it yields a true slump, this being a slump in which the concrete remains substantially intact and symmetrical as shown in Figure 2 a).

If the specimen shears, as shown in Figure 2 b), another sample shall be taken and the procedure repeated.

If two consecutive tests show a portion of the concrete shearing off from the mass of the test specimen, the concrete lacks the necessary plasticity and cohesiveness for the slump test to be suitable.