



**SLOVENSKI STANDARD**  
**oSIST prEN 13172:2023**  
**01-junij-2023**

**Nadomešča:**  
**SIST EN 13172:2012**

---

**Toplotnoizolacijski proizvodi - Skupna pravila vrednotenja**

Thermal insulation products - Common evaluation rules

Wärmedämmstoffe - Gemeinsame Bewertungsregeln

Produits isolants thermiques - Règles d'évaluation communes

**Ta slovenski standard je istoveten z: prEN 13172**

**ICS:**

|           |   |  |
|-----------|---|--|
| 91.100.60 | Materiali za toplotno in zvočno izolacijo | Thermal and sound insulating materials |
|-----------|---|--|

**oSIST prEN 13172:2023**

**en,fr,de**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 13172**

March 2023

ICS 91.100.60

Will supersede EN 13172:2012

English Version

## Thermal insulation products - Common evaluation rules

Produits isolants thermiques - Règles d'évaluation  
communes (to be confirmed)

Wärmedämmstoffe - Gemeinsame Bewertungsregeln  
(to be confirmed)

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 88.

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.

This draft European Standard was established by CEN 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, 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, Türkiye and United Kingdom.

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.

**Warning** : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

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

| <b>Contents</b>   | <b>Page</b> |
|---|-------------|
| European foreword.....  | 4           |
| <b>1 Scope</b> .....  | <b>5</b>    |
| <b>2 Normative references</b> .....   | <b>5</b>    |
| <b>3 Terms, definitions and abbreviated terms</b> .....   | <b>5</b>    |
| 3.1 Terms and definitions .....   | 5           |
| 3.2 Abbreviated terms .....   | 6           |
| <b>4 Assessment and Verification of Constancy of Performance</b> .....  | <b>6</b>    |
| 4.1 General.....  | 6           |
| 4.2 Type of production process.....   | 7           |
| 4.3 Product family.....   | 7           |
| <b>5 Verification of constancy of performance - Factory production control</b> .....  | <b>7</b>    |
| 5.1 General.....  | 7           |
| 5.2 Organization .....  | 8           |
| 5.2.1 General.....  | 8           |
| 5.2.2 Responsibility and authority .....  | 8           |
| 5.2.3 Factory production control system review.....   | 8           |
| 5.3 Documents defining the factory production control system.....   | 8           |
| 5.4 Inspection and testing .....  | 9           |
| 5.4.1 General.....  | 9           |
| 5.4.2 Test equipment.....   | 9           |
| 5.4.3 Inspection and testing of raw materials and other constituent materials.....  | 11          |
| 5.4.4 Inspection and testing during production .....  | 11          |
| 5.4.5 Product testing.....  | 11          |
| 5.4.6 Inspection and test status .....  | 13          |
| 5.4.7 Inspection and test records (factory production control log) .....  | 14          |
| 5.5 Actions in the case of non-constancy of performance of the product .....  | 14          |
| 5.6 Handling, storage, packaging, and marking of products .....   | 14          |
| 5.7 Traceability of products .....  | 14          |
| 5.8 Training of persons .....   | 14          |
| <b>6 Assessment of performance (AoP)</b> .....  | <b>15</b>   |
| <b>Annex A (informative) Guidance for conformity of the products under voluntary certification activities (not for CE marking purposes)</b> ..... | <b>16</b>   |
| A.1 Bodies involved in the evaluation of conformity procedure.....  | 16          |
| A.2 Tasks for the accredited body .....   | 16          |
| A.2.1 General.....  | 16          |
| A.2.2 Initial inspection of manufacturing plant and factory production control.....   | 16          |
| A.2.3 Sampling.....   | 17          |
| A.2.4 Initial testing.....  | 17          |
| A.2.5 Continuing surveillance.....  | 18          |

|                |   |           |
|----------------|---|-----------|
| <b>A.3</b>     | <b>Conformity mark.....</b>   | <b>23</b> |
| <b>A.3.1</b>   | <b>General .....</b>  | <b>23</b> |
| <b>A.3.2</b>   | <b>Issuance of certificate of conformity .....</b>  | <b>23</b> |
| <b>A.3.3</b>   | <b>Restriction, suspension or withdrawal of certificate .....</b>                                   | <b>23</b> |
| <b>Annex B</b> | <b>(informative) Guidance for common evaluation of products under AVCP system... 25</b>             |           |
| <b>B.1</b>     | <b>Bodies involved in the assessment and verification of constancy of performance (AVCP).....</b>   | <b>25</b> |
| <b>B.2</b>     | <b>Tasks for the notified body .....</b>  | <b>25</b> |
| <b>B.2.1</b>   | <b>General .....</b>  | <b>25</b> |
| <b>B.2.2</b>   | <b>Initial inspection of manufacturing plant and factory production control .....</b>               | <b>25</b> |
| <b>B.2.3</b>   | <b>Sampling .....</b>   | <b>26</b> |
| <b>B.2.4</b>   | <b>Assessment of Performance .....</b>  | <b>26</b> |
| <b>B.2.5</b>   | <b>Continuing surveillance, assessment and evaluation of the factory production control .....</b>   | <b>27</b> |
| <b>B.3</b>     | <b>Certificate of constancy of performance .....</b>  | <b>28</b> |
| <b>B.3.1</b>   | <b>Issuance of certificate of constancy of performance .....</b>                                    | <b>28</b> |
| <b>B.3.2</b>   | <b>Restriction, suspension or withdrawal of the certificate of constancy of performance .....</b>   | <b>29</b> |
| <b>Annex C</b> | <b>(informative) Criteria for assessing non-conformity – Procedures in case of a complaint.....</b> | <b>30</b> |
| <b>C.1</b>     | <b>Complaint on the product declaration.....</b>  | <b>30</b> |
| <b>C.1.1</b>   | <b>General .....</b>  | <b>30</b> |
| <b>C.1.2</b>   | <b>Complaint on the declared thermal resistance or thermal conductivity .....</b>                   | <b>30</b> |
| <b>C.1.3</b>   | <b>Complaint on other characteristics.....</b>  | <b>31</b> |
| <b>C.2</b>     | <b>Complaint on a lot.....</b>  | <b>31</b> |
|                | <b>Bibliography .....</b>   | <b>32</b> |

**prEN 13172:2023 (E)****European foreword**

This document (prEN 13172:2023) has been prepared by Technical Committee CEN/TC 88 “Thermal insulating materials and products”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13172:2012.

The main changes compared with EN 13172:2012 are as follows:

- the adaptation of this document to the terminology used in the European Regulation No 305/2011 (i.e. Construction Products Regulation - CPR) with AVCP system;
- the removal of references to third parties, bodies and manufacturers into clauses and annexes that can be used in conjunction with harmonized technical specifications;
- the addition of products for civil engineering applications in the scope of this document;
- the addition of a subclause for abbreviated terms;
- the split of Clause 4 into three subclauses;
- the updates and technical adjustments of Clause 5;
- the merging of Annexes B, C and D.

This document is intended to be used as a supporting standard in conjunction with harmonized technical specifications, product standards and any other assessment documents of thermal insulation products to ensure common evaluation rules for all stakeholders.

This document contains three informative annexes:

- Annex A, Guidance for conformity of the products under voluntary certification activities (not for CE marking purposes);
- Annex B, Guidance for common evaluation of the products under AVCP system;
- Annex C, Criteria for assessing non-conformity – Procedure in case of a complaint.

## 1 Scope

This document specifies common evaluation rules useful for the verification of the assessment and verification of constancy of performance of a thermal insulation product with harmonized technical specifications, product standards and any other assessment documents. Harmonized technical specifications, product standards and other assessment documents are called European product specifications in this document.

This document applies to factory made products for buildings, factory made products for building equipment and industrial installations, *in situ* products for buildings, *in situ* products for building equipment and industrial installations, to products for civil engineering applications, and to external thermal insulation composite kits.

## 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 12664, *Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods — Dry and moist products of medium and low thermal resistance*

EN 12667, *Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods — Products of high and medium thermal resistance*

EN 12939, *Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods — Thick products of high and medium thermal resistance*

<https://standards.iteh.ai/catalog/standards/sist/e804dce9-f1a9-4c6a-b07d-67accffb63d5/osist-pren-13172-2023>

## 3 Terms, definitions and abbreviated terms

### 3.1 Terms and definitions

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

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

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

#### 3.1.1

##### **product**

thermal insulation product produced under conditions which are presumed uniform to a given specification and placed on the market

#### 3.1.2

##### **factory production control**

documented, permanent and internal control of production in a factory

**prEN 13172:2023 (E)****3.1.3****production line**

assemblage of equipment that produces products using a continuous process

**3.1.4****production unit**

assemblage of equipment that produces products using a discontinuous process

**3.1.5****manufacturing plant**

all the production equipment on the same site including all production lines and units

**3.1.6****satellite plant**

manufacturing plant sharing their factory production control system with a main manufacturing plant on which they depend

**3.1.7****assessment of the performance**

assessment of the performance of the product carried out on the basis of type testing (including sampling), calculation, tabulated values or descriptive documentation of the product

**3.1.8****verification of constancy of performance**

factory production control system, procedures regular inspections and tests and/or assessments ensuring that the performance in relation to the declared characteristics are maintained

**3.2 Abbreviated terms**

AoP is the Assessment of the Performance

VoCP is the Verification of Constancy of Performance

AVCP is Assessment and verification of constancy of performance

DoP is Declaration of Performance

FPC is Factory Production Control

**4 Assessment and Verification of Constancy of Performance****4.1 General**

The assessment and verification of constancy of performance shall include all parts of the tasks given in Clause 5 of this document.

NOTE 1 Annex A is included for the purposes of voluntary activities.

NOTE 2 Annex C is included for the purposes of describing how the case of a complaint may be handled.

NOTE 3 The Annex ZA of the relevant harmonized standard or the European Assessment Document assigns the AVCP tasks for CE marking activities.



## 4.2 Type of production process

Thermal insulation can be commonly manufactured using two types of production processes:

- For continuous production processes both AoP and VoCP, each production line is considered separately.
- For discontinuous or batch production processes both AoP and VoCP, production units using the same process in one manufacturing plant are considered together (as if one production line).

## 4.3 Product family

Products may be grouped into families for the purposes of assessment (i.e. AoP and VoCP) subject to the following conditions:

- They shall have the same type of production process and shall be derived from the same family of raw material; a distinction is made between glass wool and stone wool and between foams with different blowing agents.
- They shall differ only in aspects that do not influence the characteristics defined in the relevant European product specification.
- They shall be covered by a single European product specification.
- Products which differ only with regard to some characteristics may be grouped together by their common characteristics.
- Products which are identical except for the facing and for which the different facings have been shown to have the same effect on the declared characteristics (e.g. regarding thermal characteristics, the gas tight facings of some PU products), may be grouped.

Products covered by more than one European product specification may be grouped for verification of constancy of performance only providing that:

- They have a common production specification and that they are from the same type of production process and the same family of raw material, e.g. cellular glass for the EN 13167 and EN 14305.

The characteristics outside these common families shall be tested product by product.

Products which are outside the scope of a European product specification cannot be grouped for declaration purposes with products declared under the scope of that European product specification.

Providing that a product within the family complies of the European product specification then all products within the same family shall be deemed to comply with the European product specification for the characteristics concerned. If the same product fails to comply with the European product specification then the whole family shall be assumed to have failed to comply with the European product specification.

## 5 Verification of constancy of performance - Factory production control

### 5.1 General

Factory production control shall be fulfilled for each manufacturing plant.

## 5.2 Organization

### 5.2.1 General

Factory production control shall be operated according to an FPC system that shall be established, documented, operated and maintained to ensure that the products comply with the declared performance.

The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.

### 5.2.2 Responsibility and authority

The responsibility, authority and the interrelationships between all persons who manage, perform, or verify work affecting constancy of the performance of the product, shall be assigned. This applies particularly to persons who need the organisational freedom and authority to

- a) initiate action to prevent the occurrence of non-constancy of performance of product;
- b) identify and record any product deviations from other than declared performances (e.g. aspect, packaging, ...).

### 5.2.3 Factory production control system review

The factory production control system shall be reviewed at appropriate intervals to ensure its continuing suitability and effectiveness. Records of such reviews shall be maintained.

NOTE FPC system review is usually included as part of the management review.

## 5.3 Documents defining the factory production control system

Documents defining the factory production control system shall be relevant to the production and process control used during manufacture of the product. All the elements and provisions shall be documented in a systematic manner in the form of written policies and procedures.

Documents defining the factory production control system shall provide the following details:

- a) the factory production control system aims and the organizational structure, responsibilities and authority with regard to constancy of performance of product;
- b) the procedures for specifying and verifying the raw materials and other constituent materials;
- c) the production control and other techniques, processes and systematic actions that will be used;
- d) the inspections and tests to be carried out before, during and after manufacture, together with their frequency (see 5.4) and possible retest procedures (see 5.5);
- e) the procedures for handling, storage, packaging, marking and labelling the product (see 5.6);
- f) the procedures for affixing traceability product codes and/or markings (see 5.7);
- g) the procedures for all persons to receive training in the activities affecting the constancy of performance of the product (see 5.8).

NOTE Documents defining FPC system can be in any format and media and from any source.

Documents defining the factory production control system shall be drawn up and kept up-to-date.

## 5.4 Inspection and testing

### 5.4.1 General

All necessary facilities, equipment and persons shall be available to carry out the inspections and tests. Inspections and tests shall be operated according to the FPC system. In case of subcontracting, these provisions shall be applied too.

Inspection and testing shall be performed by persons qualified for such tasks on the basis of documented appropriate education, training, skills or experience.

Equipment shall be used in a manner that ensures that any measurement uncertainty is not greater than the necessary measurement capability.

### 5.4.2 Test equipment

#### 5.4.2.1 General

Tests to demonstrate constancy of the performance of the finished product shall be performed using equipment in accordance with the test methods referred to in the European product specification.

The on-going suitability of the test equipment shall be ensured.

The test equipment (including software) shall be capable of achieving the accuracy specified by the test methods referred to in the European product specification.

#### 5.4.2.2 Calibration

The accuracy of the test equipment shall be ensured by periodic calibration. All calibrations and calibration checks shall be traceable to relevant internationally or, failing that, nationally recognized reference test specimens (standards). Where no such reference test specimens exist, the basis used for calibration shall be documented.

NOTE Calibration is the right term for the first time “calibration” and in the case of a calibration check leads to adjustment of the equipment. The calibration check, e.g. annually for Heat Flow Meter (HFM) equipment (see Table 1) is the right term to use in case of no adjustment of the equipment. To simplify the text here the term “calibration” is used both for calibration and calibration check.

Compliance criteria for each piece of equipment shall be defined.

The equipment shall be calibrated or verified

- before being placed into service;
- periodically respecting the minimum frequencies specified in Table 1;
- after any repair or adjustment (see 5.4.2.4);
- to verify the test results obtained before being taken out of service. If internal checks are sufficient (e.g. for Heat Flow Meter (HFM) equipment) then this calibration is not needed.

Equipment not listed in Table 1 shall be calibrated in accordance with the documented procedures.

The calibration results shall be assessed and the results of such assessments shall be documented. The calibration records shall be maintained for a period of 10 years.

## prEN 13172:2023 (E)

## 5.4.2.3 Internal checks on equipment

In addition to the traceable calibration, internal checks to verify the stability of the equipment shall be carried out. Compliance criteria for results of internal checks shall be defined. Internal checks shall be carried out at frequencies respecting the minimum frequencies given in Table 1.

Equipment not listed in Table 1 shall be checked in accordance with the documented procedures. Records of internal checks shall be maintained for a period of 10 years.

**Table 1 — Minimum frequencies of internal checks and calibrations of test equipment**

| Characteristics   | Internal checks   | Calibration of test equipment  |
|---|---|--|
| Thickness   | Once per month <sup>a, c</sup>                                | Prior to first use of equipment and thereafter annually calibration checks |
| Mass  | Once per month <sup>a, c</sup>                                |  |
| Mechanical characteristics  | -   |  |
| Thermal characteristics <sup>b</sup> :<br>- heat flow meter<br>- guarded hot plate  | Once per two weeks <sup>c</sup><br>Once per year <sup>c</sup> |  |
| <sup>a</sup> A lower frequency of once every 3 months may be used when stability has been verified for a period of at least one year. If any single measurement indicates significant variation, the frequency reverts to once a month.   |   |  |
| <sup>b</sup> For thermal characteristics a part of the calibration shall be to compare test results obtained by the equipment used for the FPC with those obtained by an accredited laboratory under EN 12664, EN 12667 or EN 12939 on the same sample, typically once a year.<br>Test specimens to be used for the calibration and the annual calibration checks shall be traceably calibrated to the reference materials IRMM 440 or ERM-FC440 defining the European thermal conductivity level. The reference materials IRMM 440 or ERM-FC440 can be directly used for the calibration and the annual calibration checks. Test specimens provided by a reference material producer accredited under EN ISO 17034:2016 can be used for the calibration and the annual calibration checks. |   |  |
| <sup>c</sup> For internal checks, test specimens can be used, to verify the stability of the performance of the equipment provided that the stability of the specimens is ensured.  |   |  |

## 5.4.2.4 Defective equipment

Equipment that has been subjected to abuse or mishandling, which gives suspect results or has been shown to be defective or outside specified limits, shall be taken out of service immediately and marked as defective.

It shall be examined whether or not defective equipment gives cause for concern regarding the constancy of the performance of the products tested using the defective equipment. This examination shall be documented.

In case of any doubt regarding constancy of the performance of products, 5.5 applies.

After any repair, calibration shall be repeated before the equipment is placed into use.