SLOVENSKI STANDARD
SIST EN 13172:2012

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Toplotnoizolacijski proizvodi - Vrednotenje skladnosti

Thermal insulation products - Evaluation of conformity

Wärmedämmstoffe - Konformitätsbewertung

Produits isolants thermiques - Évaluation de la conformité

Ta slovenski standard je istoveten z: EN 13172:2012

ICS:

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

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EUROPEAN STANDARD

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EN 13172

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ICS 91.100.60

Supersedes EN 13172:2008

English Version

Thermal insulation products - Evaluation of conformity

Produits isolants thermiques - Évaluation de la conformité

Wärmedämmstoffe - Konformitätsbewertung

This European Standard was approved by CEN on 9 December 2011.

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.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 13172:2012) has been prepared by Technical Committee CEN/TC 88 “Thermal insulating materials and products”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by July 2012, and conflicting national standards shall be withdrawn at the latest by July 2012.

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 13172:2008.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association

The main changes to EN 13172:2008 are:

a) Clause 5.4.2 text has been reorganised and reworded to distinguish clearly between calibration (check of calibration) and internal checks on equipment;

b) Clause 5.4.5 text has been reworded to distinguish clearly between ITT and FPC. Also the use of statistics to reduce testing frequencies in case of "safe" values has been extended to other characteristics than dimensions;

c) Table A.1 has been divided into two tables, Table A.1 for building insulation products and Table A.2 for building equipment and industrial installations. Some adjustments of testing frequencies for the characteristics in the tables have been introduced.

This European Standard contains six informative annexes:

— Annex A, Certification of conformity (not for CE marking purposes);

— Annex B, Certification of conformity (for products of reaction to fire classes under system 1);

— Annex C, Declaration of conformity by the manufacturer (for the performance requirements under system 3);

— Annex D, Declaration of conformity by the manufacturer (for products of reaction to fire classes under system 4);

— Annex E, Guidance on the use of annex(es);

— Annex F, Criteria for assessing non-conformity – Procedure in case of a complaint.

Evaluation of conformity is necessary for products in order to provide support for CE marking and for voluntary certification. The guidance contained in annex ZA of the product standards will determine which of the above annexes shall be used for CE marking.

Annex E describes how to use the annexes together with the main body of this standard to fulfil the requirements to the certification and/or declaration of conformity for a product.

Although the annexes are informative in this standard, their use by the manufacturer will require that they assume a normative status. When an annex is used the requirements in the annex need to be followed, as given in the text.

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the procedures and the criteria for the evaluation of the conformity of a thermal insulating product with the relevant European product specification.

This European Standard 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 and to external thermal insulation composite systems.

2 Normative references

Not applicable

3 Terms and definitions

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

3.1
product
thermal insulation product produced under conditions which are presumed uniform to a given specification and placed on the market

3.2
factory production control
permanent, internal control of production exercised either by the manufacturer or by his agent on the responsibility of the manufacturer himself

NOTE Factory production control comprises operational techniques and all measures necessary to regulate and maintain the conformity of the product to the requirements of the relevant product standard.

3.3
production line
assemblage of equipment that produces products using a continuous process

3.4
production unit
assemblage of equipment that produces products using a discontinuous process

3.5
production plant/factory
all the production equipment on the same site including all production lines and units

3.6
third party
approved organisation or body which is able to provide independent verification or approval

3.7
witness testing
test performed by the manufacturer at his own facilities monitored by the representative of the third party

4 General requirements

The evaluation of conformity involves either a manufacturer or a manufacturer in conjunction with a third party. The procedure is given either in the relevant product standard or agreed between parties; it shall include at least those tasks given in Clause 5. The tasks for the third party and/or the manufacturer shall be carried out in accordance with the requirements of Clause 7 of the product standard, which makes reference to this standard and one or more of the annexes B, C, or D for the purposes of CE marking.

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

NOTE 2 Annex F is included for the purposes of describing how to handle the case of a complaint (outside the scope of a voluntary certification, in which case the annex A rules apply).

The content of Clause 5 will also be met by supplementing the provisions of EN ISO 9001 with requirements of this standard.

For ITT and FPC, each production line is considered separately.

For ITT and FPC, production units using the same process in one factory are considered together (as if one production line).

Products may be collected into product groups for *declaration and testing purposes* 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 rock wool and between foams with different blowing agents.
- They shall differ only in aspects that do not influence the properties required in the relevant product standard.
- They shall be covered by a single thermal insulation standard, e.g. from the series EN 13162 to EN 13171.
- Products which differ only with regard to some properties may be grouped together by their common properties.
- Products which are identical except the facing and for which the different facings have been shown to have the same effect on the declared characteristics (e.g. regarding thermal properties, the gas tight facings of some PU products), may be grouped.

Products covered by more than one European Standard may be grouped for *testing purposes 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 properties outside this (these) common group(s) shall be tested product by product.

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

Providing that a product within the group meets the requirements of the product standard then all products within the same group shall be deemed to comply with the product standard for the properties concerned. If the same product fails to comply with the product standard then the whole group shall be assumed to have failed to comply with the product standard.

5 Requirements for factory production control - Tasks for the manufacturer

5.1 General

This clause specifies the requirements for factory production control that shall be fulfilled by the manufacturer for each factory

5.2 Organisation

5.2.1 General

Factory production control shall be operated according to a documented system that shall be given in a quality manual.

5.2.2 Responsibility and authority

The responsibility, authority and the interrelationships between all personnel who manage, perform, or verify work affecting quality, shall be defined. This applies particularly to personnel who need the organisational freedom and authority to

a) initiate action to prevent the occurrence of product non-conformity;

b) identify and record any product quality problems.

5.2.3 Management representative for factory production control

At every place of production, a representative, with the appropriate knowledge and production experience, shall be appointed by the manufacturer and given responsibility for managing and supervising factory production control procedures and for ensuring that the requirements of this standard are implemented and maintained.

5.2.4 Management review

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

5.3 Quality manual

The manufacturer's documentation and procedures shall be relevant to the production and process control used during manufacture of the product, and shall provide the following details in a quality manual:

a) the quality aims and the organizational structure, responsibilities and authority of the management with regard to product conformity;

b) the procedures for specifying and verifying the raw materials and other constituent materials;

c) the manufacturer's 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 all personnel to receive training in the activities affecting quality (see 5.8).

5.4 Inspection and testing

5.4.1 General

All necessary facilities, equipment and personnel shall be available to carry out the inspections and tests. The manufacturer, or his representative, may employ, under contract, a subcontractor who has the facilities, equipment and personnel to carry out the inspection and tests on behalf of the manufacturer. The manufacturer shall be responsible for control, calibration, and maintenance of testing, measuring, and inspection equipment, whether owned by or on loan to the manufacturer or a subcontractor.

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

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

5.4.2 Test equipment

5.4.2.1 General

Tests to demonstrate conformity of the finished product to the relevant product standard shall be performed using equipment in accordance with the test methods referred to in the product standard.

The manufacturer shall ensure the on-going suitability of the test equipment.

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

5.4.2.2 Calibration

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

The manufacturer shall define compliance criteria for each piece of equipment.

The equipment shall be calibrated

— before being placed into service;

— periodically at a frequency described by the manufacturer respecting the minimum frequencies specified in Table 1;

— after any repair (see 5.4.2.4);

— to verify the test results obtained before being taken out of service. If internal checks are sufficient (e.g. Heat Flow Meter (HFM) equipment) then this calibration is not needed.

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

The manufacturer shall assess the calibration results and document the results of such assessments. The calibration records shall be maintained for a period of 10 years.

5.4.2.3 Internal checks on equipment

In addition to the traceable calibration, the manufacturer shall carry out internal checks to verify the stability of the equipment. The manufacturer shall define compliance criteria for results of internal checks. 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 manufacturer's documented procedures. Records of internal checks shall be maintained for a period of 10 years.

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

Properties	Internal checks	Calibration of test equipment
Thickness	Once per month[a]	Prior to first use of equipment and thereafter annually
Mass	Once per month[a]	
Mechanical properties	-	
Thermal properties [b]:		
- heat flow meter	Once per two weeks	
- guarded hot plate	Once per year	

[a] 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.

[b] For thermal properties a part of the calibration shall be to compare test results obtained by the manufacturer with those obtained by an approved body on the same sample. The reference test specimen to be used is the IRMM 440 defining the European thermal conductivity level.

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.

The manufacturer shall examine whether or not defective equipment gives cause for concern regarding the conformity of the products tested using the defective equipment. This examination shall be documented.

In case of any doubt regarding conformity of products, 5.5 applies.

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

5.4.3 Inspection and testing of raw materials and other constituent materials

The manufacturer shall ensure that raw materials and other constituent materials conform to his specified requirements. In determining the checks necessary consideration shall be given to the control exercised by the supplier and the documented evidence of conformity supplied (often referred to as supplier certified components or certified raw materials).

The manufacturer shall ensure that incoming raw materials and other constituent materials are used or processed only after they have been verified as conforming to the specified requirements. Where incoming material is released for urgent production purposes prior to verification it shall be identified and recorded in order to permit immediate recall in the event of non-conformity.