SLOVENSKI STANDARD
SIST EN 14064-2:2010

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Toplotnoizolacijski proizvodi za stavbe - Razsuti proizvodi iz mineralne volne (MW) - 2. del: Specifikacija za vgrajene proizvode

Thermal insulation products for buildings - In-situ formed loosefill mineral wool (MW) products - Part 2: Specification for the installed products

Wärmedämmstoffe für Gebäude - An der Verwendungsstelle hergestellte Wärmedämmung aus Mineralwolle (MW) - Teil 2: Spezifikation für die eingebauten Produkte

Produits isolants thermiques pour le bâtiment - Isolation thermique formée sur chantier à base de laine minérale (MW) - Partie 2 : Spécification des produits installés

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ICS:

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

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English Version

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Foreword

This document (EN 14064-2:2010) 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of an identical text or by endorsement, at the latest by August 2010, and conflicting national standards shall be withdrawn at the latest by August 2010.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

EN 14064, *Thermal insulation products for buildings — In-situ formed loose-fill mineral wool (MW) products*, consists of two parts which form a package. The first part, which is the harmonised part satisfying the mandate, the CPD and is the basis for the CE marking, covers the products, which are placed on the market. The second part (this European Standard), which is the non-harmonised part, covers the specification for the installed products.

Part 1 of EN 14064 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

Attention is drawn to the need to take into account any complementary Member State rules (e.g. installation rules) which together with this European Standard ensures the fitness for purpose of the installed product.

This European Standard contains five annexes:

- Annex A (normative) Lofts – Determination of installed insulation thickness – Pin and plate method
- Annex B (normative) Masonry cavity walls – Determination of average cavity width
- Annex C (normative) Masonry cavity walls and frame constructions – Coverage test box
- Annex D (normative) Masonry cavity walls – Use of endoscope to check adequacy of fill
- Annex E (normative) Guidance for the installer – Suitability of the building, training, pre-checks and installation declaration

This European Standard is one of a series for mineral wool, expanded clay, expanded perlite, exfoliated vermiculite, polyurethane/polyisocyanurate, cellulose and bound expanded polystyrene in-situ formed insulation products used in buildings, but this standard may be used in other areas where appropriate.

The reduction in energy used and emissions produced during the installed life of insulation products exceeds by far the energy used and emissions made during the production and disposal processes.

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 and the United Kingdom.

1 Scope

This European Standard specifies the requirements for blown loose-fill mineral wool products installed in lofts, masonry cavity walls and frame constructions.

This European standard is a specification for the installed insulation products.

This European standard describes, when taken together with Part 1 of EN 14064, the product characteristics that are linked to the essential requirements of the EU Construction Products Directive. It also specifies the checks and tests to be used for the declarations made by the installer of the product and the rules for the evaluation of conformity.

This standard does not specify the required level of a given property to be achieved by a product to demonstrate fitness for purpose in a particular application. The levels required for a given application are to be found in regulations or non-conflicting standards. For example, see the note in the scope of Part 1 of EN 14064 regarding the possibility of special water penetration tests in different Member States.

Products with a declared thermal conductivity at 10 °C greater than 0,060 W/(m·K) are not covered by this standard.

This European Standard does not cover factory made mineral wool products in the form of mats, batts, rolls or boards.

This standard does not cover products intended for airborne sound insulation and for acoustic absorption applications.

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 14064-1:2010, *Thermal insulation products for buildings — In-situ formed loose-fill mineral wool (MW) products — Part 1: Specification for the loose-fill products before installation*

3 Terms, definitions, symbols and abbreviations

3.1 Terms and definitions

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

3.1.1
mineral wool
insulation material having a woolly consistency, manufactured from molten rock, slag or glass

[EN ISO 9229:2007]

3.1.2
installed declared insulation thickness
insulation thickness as installed by the installer, prior to any settlement

3.1.3
frame construction
walls with wood or metal studs, sloping roof with insulation between rafters

3.1.4
settlement
decrease of installed insulation thickness in lofts or height in cavities and frame constructions with time, expressed as a percentage of the initial installed thickness

3.1.5
installed declared coverage
mass of insulation per unit area

3.1.6
performance chart
table giving thickness and coverage requirements for different values of declared thermal resistance

3.1.7
system
particular type of loose fill mineral wool insulation used in conjunction with a defined blowing machine with a blowing hose and defined nozzle

3.1.8
blowing hole
hole, cut or formed, in a masonry cavity wall or frame construction, through which the mineral wool is blown

3.2 Symbols and abbreviations

Symbols used in this standard:

d	is the installed declared insulation thickness	mm
λ_i	is one test result of thermal conductivity	W/(m·K)
λ_D	is the declared thermal conductivity	W/(m·K)
R	is the thermal resistance	m^2·K/W
R_D	is the installed declared thermal resistance	m^2·K/W
s	is the relative reduction in thickness, due to settlement	%
W_p	is the short term water absorption	kg/m^2
S	is the symbol of the declared class for settlement	

Abbreviations used in this standard:

MW **M**ineral **W**ool

4 Requirements

4.1 General

The installer shall use an insulation product that complies with EN 14064-1 in a system appropriate to the application.

4.2 Suitability of the building for the installation of the product

The installer shall inspect the building in accordance with manufacturer's guidelines and national regulations, in order to determine whether it is suitable for application of the product. Typical checklist is given in Annex E.

4.3 In-situ measurements and calculations

4.3.1 General

Properties of the installed product shall be assessed in accordance with Clause 5. To comply with this standard, products shall meet the requirements of 4.3.2, and the requirements of 4.3.3 as appropriate.

One test result on a product property is the average of the measured values on the number of test specimens given in Table 1.

The declared thermal resistance level is for the insulation only, disregarding the effects of studs, beams, rafters, etc.

NOTE 1 EN ISO 10456 describes how the design thermal conductivity is calculated from the declared thermal conductivity.

NOTE 2 For calculating the thermal resistance of complete building elements involving the use of these products the procedures given in EN ISO 6946 can be used.

4.3.2 The installed declared thermal resistance of loft insulation

Thermal resistance shall be assessed by the procedure given in 5.2.2:

The mean value for the installed declared insulation thickness shall not be less than the minimum value given by the manufacturer's performance chart. No individual thickness value shall be less than a value which is 30 mm lower than the minimum installed thickness of the performance chart.

The installed number of bags and the installed coverage shall not be less than the minimum given by the performance chart.

In case of dispute, the frame method according to 5.2.2.4 and the thickness test method of Annex A shall be used to determine thickness and installed declared coverage.

The thermal resistance level for the installed insulation shall be declared in accordance with the performance chart given by the manufacturer.

NOTE Annex I (normative) of EN 14064-1:2010 gives guidance for creating performance charts and examples of performance charts.

4.3.3 The installed declared thermal resistance of masonry cavity wall and frame construction insulation

Thermal resistance shall be assessed by means of the procedure given in 5.2.3.

The number of bags installed shall not be less than the minimum number stated in the manufacturer's performance chart.

The thermal resistance level for the installed insulation shall be declared in accordance with the performance chart given by the manufacturer.

NOTE Annex I (normative) of EN 14064-1:2010 gives guidance for creating performance charts and examples of performance charts.

The installed declared thermal resistance can also be calculated using the formula:

$$R_D = d \cdot \frac{1}{\lambda_D} \quad (1)$$

where

R_D is the installed declared thermal resistance, in square metre·Kelvins per watt (m^2·K/W);

d is the cavity/frame width, in metres (m);

λ_D is the declared thermal conductivity, in watts per metre·Kelvin (W/(m·K)).

The value of the thermal resistance level shall be rounded downward to the nearest 0,05 m^2·K/W and declared in steps of 0,05 m^2·K/W.

5 Test methods

5.1 Conditioning

No special conditioning of the test specimens is needed unless otherwise specified in the test standards. In case of dispute, the test specimens shall be stored at (23 ± 2) °C and (50 ± 5) % relative humidity for at least 6 h prior to testing.

5.2 Testing

5.2.1 General

Table 1 gives the dimensions of the test specimens, the minimum number of test specimens required to get one test result and any specific conditions which are necessary.

Table 1 — Test methods, test specimens and conditions

Clause	Title	Test method	Test specimen		Specific conditions
			Dimensions mm	Number to get one test result	
4.2	Thermal resistance of installed loft insulation	5.2.2.2 to 5.2.2.4	—	10 per 100 m^2	Thickness and number of bags
			≥ 0,12 m^2	1	Frame method in case of dispute
4.3	Thermal resistance of cavity wall and frame construction insulation	5.2.3.2 to 5.2.3.4	—	10 per 100 m^2	Cavity width and number of bags
			≥ 0,5 m × 0,5 m × 0,06 m		In case of dispute

5.2.2 Installed declared thermal resistance of loft insulation

5.2.2.1 General

Installed declared thermal resistance shall be assessed by measurement of:

a) installed declared insulation thickness according to 5.2.2.2;

b) installed number of bags and installed declared coverage according to 5.2.2.3.

In case of dispute, the frame method according to 5.2.2.4 shall be used.

5.2.2.2 Installed declared insulation thickness

At least ten thickness measurements in different places shall be made for each 100 m^2 of loft area. A pin or ruler graduated in millimetres or markers on the construction shall normally be used for these measurements.

In case of dispute the thickness shall be measured with the pin and plate method in accordance with Table 3 and Annex A.

5.2.2.3 Installed declared coverage

The installed coverage shall be calculated by dividing the total weight of product installed by the area of the installation. The total weight of the product shall be obtained from the number of bags used.

In case of dispute the installed coverage shall be determined according to 5.2.2.4.

5.2.2.4 Frame method for the determination of installed declared coverage

A circular frame with an area of at least 0,12 m^2 shall be carefully pressed through the insulation after installation. The insulation material inside the frame shall be taken out as a specimen and weighed. The installed declared coverage shall be calculated as the mass of the specimen divided by the area of the frame.