



SLOVENSKI STANDARD
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**Toplotnoizolacijski proizvodi za opremo stavb in industrijske inštalacije -
Proizvodi iz ekspaniranega perlita (EP), oblikovani na mestu vgradnje - 2. del:
Specifikacija za vgrajene izolacijske proizvode**

Thermal insulation products for building equipment and industrial installations - In-situ thermal insulation formed from expanded perlite (EP) products - Part 2: Specification for the installed products

Wärmedämmstoffe für die Haustechnik und für betriebstechnische Anlagen - An der Verwendungsstelle hergestellte Wärmedämmung mit Produkten aus expandiertem Perlit (EP) - Teil 2: Spezifikation für die eingebauten Produkte

Produits isolants thermiques pour l'isolation du bâtiment et les installations industrielles - Isolation thermique formée en place à base de granulats légers de perlite expansée (EP) - Partie 2: Spécification de produits mis en place

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Foreword

This document (FprEN 15599-2:2009) 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 Unique Acceptance Procedure.

This European Standard 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, which is the non-harmonised part, covers the specification for the installed products.

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 is one of a series for polyurethane/polyisocyanurate, expanded perlite and exfoliated vermiculite in-situ formed insulation products used in building equipment and industrial installations, but this standard may be used in other areas where appropriate. EN 14316-1 covers the use of expanded perlite in buildings.

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.

FprEN 15599-2:2009 (E)

1 Scope

This European Standard specifies the requirement for expanded perlite products which are used for in-situ thermal insulation of building equipment and industrial installations with an operating temperature in the range of approximately -270 °C to +650 °C.

This European Standard specifies the requirements for the four types of expanded perlite products, Perlite Aggregate (EPA), Coated Perlite (EPC), Hydrophobic Perlite (EPH) and Premixed Perlite (EPM), containing less than 1 % by mass organic material as determined by Annex C in prEN 15599-1.

This European Standard is a specification for the installed products.

This European Standard also specifies the checks and test procedures to be used for the declaration made by the installer of the product.

This European Standard does not specify the required level of all properties to be achieved by a product to demonstrate fitness for purpose in a particular application. The required levels are to be found in regulations or non-conflicting standards.

This European Standard does not include factory made insulation products of formed shapes and boards made with expanded perlite.

The products covered by this European Standard are not intended to be used primarily for airborne sound insulation or sound absorption applications although they may improve the performance of the installation in these respects when installed for their primary insulation intended use.

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 823:1994, *Thermal insulating products for building applications — Determination of thickness*

prEN 15599-1, *Thermal insulation products for building equipment and industrial installations - In-situ thermal insulation formed from expanded perlite (EP) products - Part 1: Specification for bonded and loose-fill products before installation*

3 Terms and definitions

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

3.1 Definitions

3.1.1

expanded perlite

lightweight granular (insulation) material manufactured from naturally occurring volcanic rock expanded by heat to form a cellular structure

[EN ISO 9229]

3.1.2**loose fill insulation**

in-situ insulation formed by pouring the granular material into the void or cavity, without the use of a bonding material

3.1.3**bonded insulation**

in-situ insulation formed by bonding the expanded perlite to itself, or to itself and a surface

3.1.4**specifier**

specifier is the person responsible for the amount and thickness of the insulation and the type of product to be used in a particular installation

3.1.5**installer**

person, company or organization which is responsible for the process of installing the insulation product

3.2 Symbols and abbreviations**3.2.1 Symbols used in this part of the standard**

d is the required thickness of the product	m
λ_D is the declared thermal conductivity	W/(m·K)
R_s is the specified thermal resistance	m ² ·K/W

3.2.2 Abbreviations used in this part of the standard

EP is expanded perlite as defined in 3.1.1.

4 Requirements**4.1 General**

The installer shall use an insulation product that complies with prEN 15599-1.

The installer shall inspect the proposed installation, in order to determine whether it is suitable for application of the product.

4.2 Thermal resistance

The required thermal resistance is obtained using the specified thickness of expanded perlite. The thickness shall be calculated by the specifier before installation starts, according to the formula $d = R_s \lambda_D$. The required thickness shall be compared with the design specification to confirm the suitability of this product.

4.3 Installed declared insulation thickness

The mean value of the installed declared thickness shall not be less than the thickness calculated in accordance with Clause 4.2. No individual value shall be less than 80 % of the specified value.

FprEN 15599-2:2009 (E)**4.4 Cavity fill**

The cavity shall be filled as specified by the specifier.

5 In-situ measurements**5.1 Installed declared insulation thickness**

The installed declared insulation thickness of the insulation layer shall be measured by the installer.

The method of verification will vary depending on the application. Verification shall include reference to guides or level marks placed before installation and direct measurement after installation using a calibrated depth gauge. At least five insulation thickness measurements in different places shall be made for each 100 m² insulation area. In case of dispute the installed insulation thickness shall be measured in accordance with EN 823:1994 Annex A, pin and plate method.

5.2 Width of cavities

The width of a cavity shall be determined by reference to design drawings or use of a suitable test. This determination will normally be carried out by the specifier, before installation starts.

5.3 Cavity fill

For insulation applied in a cavity the installer shall check to ensure that the cavity is filled as specified.

6 Installer's declaration

The installer (in conjunction with the specifier) shall declare to the customer that the work has been carried out in accordance with the requirements of this standard using an insulation product that complies with prEN 15599-1.

The installer shall state at least the following information:

- trade name and designation code of the installed product;
- declared thermal resistance;
- required thermal resistance;
- required thickness;
- installed declared thickness;
- volume of insulation material used;
- date of installation.

The installer shall also declare that the work has been carried out according to the specified procedure.