

# SVENSK STANDARD

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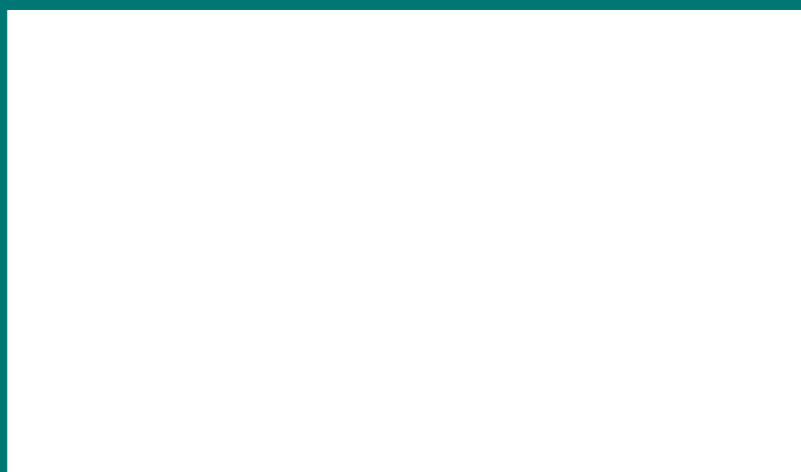
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### **Värmeisolering och lättfyllning för anläggningskonstruktioner – Fabrikstillverkade produkter av expanderad styrencellplast (EPS) – Egenskapsredovisning**

**Thermal insulation and light weight fill products for civil engineering  
applications – Factory made products of expanded polystyrene (EPS) –  
Specification**



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EUROPEAN STANDARD

**EN 14933**

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2007

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ICS 83.100; 93.010

English Version

**Thermal insulation and light weight fill products for civil  
engineering applications - Factory made products of expanded  
polystyrene (EPS) - Specification**

Produits isolants thermiques et de remblayage pour les  
applications de génie civil - Produits manufacturés en  
Polystyrène expansé (EPS) - Spécifications

Wärmedämmung und leichte Füllprodukte für  
Anwendungen im Tiefbau - Werkmäßig hergestellte  
Produkte aus expandiertem Polystyrol (EPS) - Spezifikation

This European Standard was approved by CEN on 13 July 2007.

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: rue de Stassart, 36 B-1050 Brussels**

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## Foreword

This document (EN 14933:2007) 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of an identical text or by endorsement, at the latest by March 2008, and conflicting national standards shall be withdrawn at the latest by March 2008.

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).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This European Standard is one of a series of standards for products used for insulation in buildings, insulation of building equipment and industrial installations and in civil engineering applications.

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, 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.

**EN 14933:2007 (E)****1 Scope**

This European Standard specifies the requirements for factory made products of expanded polystyrene which are used for frost insulation of roads, railways, trafficked areas, light weight fill for reduction of horizontal and vertical earth pressure and other civil engineering applications.

The products are manufactured in the form of boards or blocks. The standard also covers specially cut shaped boards or blocks.

The standard describes product characteristics and includes procedures for testing, evaluation of conformity, marking and labelling.

The standard does not specify the required class or level of a given property to be achieved by a product to demonstrate fitness for purpose in a particular application. The classes and levels required for a given application are to be found in regulations or non-conflicting standards.

For applications where thermal resistance is required, products with a declared thermal resistance lower than 0,25 m<sup>2</sup>·K/W or a declared thermal conductivity greater than 0,060 W/(m·K) are not covered by this standard. This standard does not cover in situ insulation products and products intended to be used for the insulation of buildings, of building equipment and industrial installations or products intended for acoustic insulation.

**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 822, *Thermal insulating products for building applications — Determination of length and width*

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

EN 824, *Thermal insulating products for building applications — Determination of squareness*

EN 825, *Thermal insulating products for building applications — Determination of flatness*

EN 826, *Thermal insulating products for building applications — Determination of compression behaviour*

EN 1602, *Thermal insulating products for building applications — Determination of the apparent density*

EN 1604, *Thermal insulating products for building applications — Determination of dimensional stability under specified temperature and humidity conditions*

EN 1605, *Thermal insulating products for building applications — Determination of deformation under specified compressive load and temperature conditions*

EN 1606, *Thermal insulating products for building applications — Determination of compressive creep*

EN 12085, *Thermal insulating products for building applications - Determination of linear dimensions of test specimens*

EN 12086, *Thermal insulating products for building applications — Determination of water vapour transmission properties*

EN 12087, *Thermal insulating products for building applications — Determination of long-term water absorption by immersion*

EN 12088, *Thermal insulating products for building applications — Determination of long-term water absorption by diffusion*

EN 12089, *Thermal insulating products for building applications — Determination of bending behaviour*

EN 12091, *Thermal insulating products for building applications — Determination of freeze-thaw 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*

EN 13172:2001, *Thermal insulating products — Evaluation of conformity*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using test data from reaction to fire tests*

EN 13793, *Thermal insulating products for building applications — Determination of behaviour under cyclic loading*

EN 13823, *Reaction to fire tests for building products — Building products excluding floorings exposed to thermal attack by a single burning item*

EN ISO 1182, *Reaction to fire tests for building products — Non combustibility test (ISO 1182:2002)*

EN ISO 1716, *Reaction to fire tests for building products — Determination of the heat of combustion (ISO 1716:2002)*

EN ISO 9229:2007, *Thermal insulation — Vocabulary (ISO 9229:2007)*

EN ISO 11925-2, *Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 2: Single-flame source test (ISO 11925-2:2002)*

ISO 12491, *Statistical methods for quality control of building materials and components*

### **3 Terms, definitions, symbols, units and abbreviated terms**

#### **3.1 Terms and definitions**

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

##### **3.1.1 Terms and definitions as given in EN ISO 9229:2007**

###### **3.1.1.1**

###### **expanded polystyrene (EPS)**

rigid cellular plastic material, manufactured by moulding beads of expandable polystyrene or one of its copolymers, with an air filled closed cellular structure