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Thermal insulation — Vocabulary

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee B/540, Energy performance of materials components and buildings.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Isolation thermique - Vocabulaire (ISO 9229:2020)

Wärmedämmung - Begriffe (ISO 9229:2020)

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European foreword

This document (EN ISO 9229:2020) has been prepared by Technical Committee ISO/TC 163 "Thermal performance and energy use in the built environment" in collaboration with 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of an identical text or by endorsement, at the latest by December 2020, and conflicting national standards shall be withdrawn at the latest by December 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 163, *Thermal performance and energy use in the built environment*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 88, *Thermal insulating materials and products,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 9229:2007), which has been technically revised.

The main changes compared to the previous edition are as follows:

— revised ETICS definition;

— thorough review of cross-references with numerous new additions and corrections;

— double term entries have been either given their own terminology entries or identified as preferred and accepted terms;

— circular definitions have been corrected;

— pipe section superordinate concept changed as parent term and subordinate terms expanded to 1) concentric pipe section, 2) precision v-groove pipe section, 3) cut pipe section, 4) moulded pipe section;

— vapour barrier and vapour retarder definitions have been revised and clarified.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Thermal insulation — Vocabulary

1 Scope

This document provides a vocabulary of terms used in the field of thermal insulation that covers materials, products, components and applications. Some of the terms can have a different meaning when used in other industries or applications.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1 Thermal insulation materials

3.1.1
thermal insulation material
substance that is intended to reduce heat transfer and that derives its insulation properties from its chemical nature, its physical structure or both

3.1.2
cellular plastic
thermal insulation material (3.1.1) made from plastic, in which the density is reduced by the presence of numerous small cavities (cells), which may be interconnecting or not, dispersed throughout the material

3.1.2.1
expanded polystyrene
EPS
rigid *cellular plastic* (3.1.2) *thermal insulation material* (3.1.1) manufactured by moulding beads of expandable polystyrene or one of its co-polymers and that has a substantially closed-cell structure, filled with air

3.1.2.2
extruded polystyrene foam
XPS
rigid *cellular plastic* (3.1.2) *thermal insulation material* (3.1.1) made from polystyrene or one of its co-polymers, which has a closed-cell structure and is produced through an extrusion process

3.1.2.3
flexible elastomeric foam
FEF
pliable *thermal insulation product* (3.2.1) made of natural or synthetic rubber, or a mixture of the two, and containing other polymers and other chemicals that may be modified by organic or inorganic additives

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3.1.2.4
phenolic foam
PF
rigid *cellular plastic* (3.1.2) *thermal insulation material* (3.1.1), the polymer structure of which is made primarily from the poly-condensation of phenol, its homologues and/or derivatives with aldehydes or ketones

3.1.2.5
polyethylene foam
PEF
semi-rigid or flexible *cellular plastic* (3.1.2) *thermal insulation material* (3.1.1) based on polymers derived mainly from ethylene and/or propylene

3.1.2.6
polyurethane foam
PUR
rigid or semi-rigid *cellular plastic* (3.1.2) *thermal insulation material* (3.1.1) with a substantially closed-cell structure based on polyurethanes

3.1.2.7
urea formaldehyde foam
UF
cellular plastic (3.1.2) *thermal insulation material* (3.1.1) with a substantially open-cell structure, based on an amino resin made by the polycondensation of urea with formaldehyde

3.1.2.8
expanded polyvinyl chloride
rigid or semi-rigid *cellular plastic* (3.1.2) *thermal insulation material* (3.1.1) based on vinyl chloride polymers expanded to form a cellular structure consisting substantially of closed cells

3.1.2.9
polyisocyanurate foam
PIR
rigid *cellular plastic* (3.1.2) *thermal insulation material* (3.1.1) with a substantially closed-cell structure based on polymers mainly of the isocyanurate type

3.1.3
cellular glass
CG
rigid *thermal insulation material* (3.1.1) made from expanded glass with a closed-cell structure

3.1.4
calcium silicate
CS
thermal insulation material (3.1.1) comprised of calcium oxide and silicon dioxide, normally reinforced by incorporating fibres

3.1.5
aluminosilicate wool
ASW
amorphous high temperature insulating wool (HTIW) predominantly produced by melting a combination of Al_2O_3 and SiO_2, and may contain ZrO_2 and Cr_2O_3

3.1.6
magnesia
thermal insulation material (3.1.1), composed principally of basic magnesium carbonate that incorporates fibre as a reinforcing agent

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