ILNAS

Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN ISO 12241:2022

Thermal insulation for building equipment and industrial installations - Calculation rules (ISO 12241:2022, Corrected version 2022-11)

Isolation thermique des équipements de bâtiments et des installations industrielles - Méthodes de calcul (ISO 12241:2022, Version corrigée 2022-11)

Wärmedämmung für haus- und betriebstechnischen Anlagen - Berechnungsregeln (ISO 12241:2022, korrigierte Fassung 2022-11)

06/2022

National Foreword

This European Standard EN ISO 12241:2022 was adopted as Luxembourgish Standard ILNAS-EN ISO 12241:2022.

Every interested party, which is member of an organization based in Luxembourg, can participate for FREE in the development of Luxembourgish (ILNAS), European (CEN, CENELEC) and International (ISO, IEC) standards:

- Participate in the design of standards
- Foresee future developments
- Participate in technical committee meetings

https://portail-qualite.public.lu/fr/normes-normalisation/participer-normalisation.html

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 12241

June 2022

ICS 91.120.10; 91.140.01

Supersedes EN ISO 12241:2008

English Version

Thermal insulation for building equipment and industrial installations - Calculation rules (ISO 12241:2022, Corrected version 2022-11)

Isolation thermique des équipements de bâtiments et des installations industrielles - Méthodes de calcul (ISO 12241:2022, Version corrigée 2022-11)

Wärmedämmung für haus- und betriebstechnischen Anlagen - Berechnungsregeln (ISO 12241:2022, korrigierte Fassung 2022-11)

This European Standard was approved by CEN on 29 May 2022.

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 23 November 2022.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN ISO 12241:2022 E

Contents

Page

European foreword

This document (EN ISO 12241:2022) 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 89 “Thermal performance of buildings and building components” the secretariat of which is held by SIS.

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 2022, and conflicting national standards shall be withdrawn at the latest by December 2022.

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.

This document supersedes EN ISO 12241:2008.

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

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 12241:2022, Corrected version 2022-11 has been approved by CEN as EN ISO 12241:2022 without any modification.

INTERNATIONAL STANDARD

ISO 12241

Third edition
2022-06

Corrected version
2022-11

Thermal insulation for building equipment and industrial installations — Calculation rules

Isolation thermique des équipements de bâtiments et des installations industrielles — Méthodes de calcul

Reference number
ISO 12241:2022(E)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 163, *Thermal performance and energy use in the built environment*, Subcommittee SC 2, *Calculation methods,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 89, *Thermal performance of buildings and building components*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 12241:2008), which has been technically revised.

The main changes are as follows:

— how to calculate the convective part of the external surface coefficient of heat transfer;

— how to introduce thermal bridges in the general heat loss calculation;

— provides detailed data along with the method for calculating fittings (thermal bridges), only informative.

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.

This corrected version of ISO 12241:2022 incorporates the following corrections:

Table 4, page 2: The header (Free convection/Nusselt number) has been removed as the information on page 2 belongs to the "Forced convection" element of the table.

Table A.2: The three instances of "to" were corrected to minus "−".

B.2: In the following formula, 101,510 was corrected to 101,595

$$Nu_{\text{free}} = (0{,}752 + 0{,}303 \cdot (8{,}51 \cdot 10^{8})^{1/6})^{2} = 101{,}595\,.$$

