

Ehitiste hügrotermiline jõudlus. Kliimaatiliste andmete arvutamine ja esitamine. Osa 2: Normatiivse jahutuskooormuse andmed tundide lõikes

Hygrothermal performance of buildings - Calculation and presentation of climatic data - Part 2: Hourly data for design cooling load

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 15927-2:2009 sisaldab Euroopa standardi EN ISO 15927-2:2009 ingliskeelset teksti.

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English Version

Hygrothermal performance of buildings - Calculation and
presentation of climatic data - Part 2: Hourly data for design
cooling load (ISO 15927-2:2009)

Performance hygrothermique des bâtiments - Calcul et
présentation des données climatiques - Partie 2: Données
horaires pour la charge de refroidissement de conception
(ISO 15927-2:2009)

Wärme- und feuchteschutztechnisches Verhalten von
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Teil 2: Stundendaten zur Bestimmung der Kühllast (ISO
15927-2:2009)

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Foreword

This document (EN ISO 15927-2:2009) has been prepared by Technical Committee CEN/TC 89 "Thermal performance of buildings and building components", the secretariat of which is held by SIS, in collaboration with Technical Committee ISO/TC 163 "Thermal performance and energy use in the built environment".

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of an identical text or by endorsement, at the latest by August 2009, and conflicting national standards shall be withdrawn at the latest by August 2009.

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Introduction

The choice of design load for space cooling is a matter of balancing user needs against cost. On the one hand, users expect a cooling system to maintain the internal temperatures needed for health and comfort; on the other hand, very high cooling loads can arise from extreme meteorological conditions. It is usually uneconomic to design cooling systems for rare extremes, as this leads to high capital cost and, usually, to lower operational efficiency of the system. The highest cooling loads occur with a combination of high daily mean dry-bulb temperature and dewpoint temperature, high daily total irradiation, low daily swing in temperature and low wind speed. Data are therefore needed on the values of these parameters when they occur in combination at specific return periods.

Hygrothermal performance of buildings — Calculation and presentation of climatic data —

Part 2: Hourly data for design cooling load

1 Scope

This part of ISO 15927 gives the definition and specifies methods of calculation and presentation of the monthly external design climate to be used in determining the design cooling load of buildings and the design of air conditioning systems.

Depending on the building type, a range of parameters can be used to define the individual days of hourly or three-hourly data in each calendar month that impose a cooling load likely to be exceeded on 5 %, 2 % and 1 % of days.

The parameters that are always used in the selection are dry-bulb temperature and total global solar irradiation (or sunshine hours). The daily swing in dry-bulb temperature, dewpoint temperature and wind speed and any other parameters relevant to particular buildings may also be included.

Hourly peak values of dry-bulb temperature and dewpoint temperature are needed for the design of air conditioning systems.

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.

ISO 15927-1, *Hygrothermal performance of buildings — Calculation and presentation of climatic data — Part 1: Monthly means of single meteorological elements*

World Meteorological Organization (WMO), *Guide to Meteorological Instruments and Methods of Observation*, No. 8, 6th Edition, 1996¹⁾

1) World Meteorological Organization: <http://www.wmo.ch/pages/catalogue/New%20HTML/frame/engfil/8.html>.