BRITISH STANDARD

BS EN 13779:2007

Ventilation for non-residential buildings — Performance requirements for ventilation and room-conditioning systems

ICS 91.140.30

BSI British Standards

National foreword

This British Standard is the UK implementation of EN 13779:2007. It supersedes BS EN 13779:2004 which is withdrawn.

With respect to the Energy Performance of Buildings Directive (EPBD) requirements, attention is drawn to the text of the fifth paragraph of the EN foreword. This recognizes at the present time that, if there is a conflict, existing national regulations take precedence over any requirements set out in this standard.

The UK participation in its preparation was entrusted to Technical Committee RHE/2, Ventilation for buildings, heating and hot water services.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

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English Version

Ventilation for non-residential buildings - Performance requirements for ventilation and room-conditioning systems

Ventilation dans les bâtiments non résidentiels - Exigences de performances pour les systèmes de ventilation et de climatisation

Lüftung von Nichtwohngebäuden - Allgemeine Grundlagen und Anforderungen für Lüftungs- und Klimaanlagen

This European Standard was approved by CEN on 26 March 2007.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.

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Foreword

This document (EN 13779:2007) has been prepared by Technical Committee CEN/TC 156 “Ventilation for buildings”, the secretariat of which is held by BSI.

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 October 2007, and conflicting national standards shall be withdrawn at the latest by October 2007.

This document supersedes EN 13779:2004.

This standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association (Mandate M/343), and supports essential requirements of EU Directive 2002/91/EC on the energy performance of buildings (EPBD). It forms part of a series of standards aimed at European harmonisation of the methodology for the calculation of the energy performance of buildings. An overview of the whole set of standards is given in CEN/TR 15615, Explanation of the general relationship between various CEN standards and the Energy Performance of Buildings Directive (EPBD) ("Umbrella document").

Attention is drawn to the need for observance of all relevant EU Directives transposed into national legal requirements. Existing national regulations with or without reference to national standards, may restrict for the time being the implementation of the European Standards mentioned in this report.

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 United Kingdom.

Introduction

This standard provides guidance especially for designers, building owners and users, on ventilation, air-conditioning and room-conditioning systems in order to achieve a comfortable and healthy indoor environment in all seasons with acceptable installation and running costs. The standard focuses on the system-aspects for typical applications and covers the following:

— Aspects important to achieve and maintain a good energy performance in the systems without any negative impact on the quality of the internal environment.

— Relevant parameters of the indoor environment.

— Definitions of data design assumptions and performances.

Relationships between this standard and related standards are the following:

<table>
<tr><td>building type →

purpose ↓</td><td>residential</td><td>non-residential</td></tr>
<tr><td>calculation /ventilation rates

calculation/ ventilation energy</td><td colspan="2">EN 15242

EN 15241</td></tr>
<tr><td>design; system performance</td><td>CEN/TR 14788[a]</td><td>EN 13779rev</td></tr>
<tr><td>criteria for the indoor environment</td><td colspan="2">EN 15251</td></tr>
<tr><td colspan="3">[a] A new Work Item (WI 00156105) has been established to revise and upgrade into a European Standard.</td></tr>
</table>

Natural ventilation systems are not covered by this standard.

1 Scope

This European Standard applies to the design and implementation of ventilation and room conditioning systems for non-residential buildings subject to human occupancy, excluding applications like industrial processes. It focuses on the definitions of the various parameters that are relevant for such systems.

The guidance for design given in this standard and its annexes are mainly applicable to mechanical supply and exhaust ventilation systems, and the mechanical part of hybrid ventilation systems.

Applications for residential ventilation are not dealt with in this standard. Performance of ventilation systems in residential buildings are dealt with in CEN/TR 14788.

The classification uses different categories. For some values, examples are given and, for requirements, typical ranges with default values are presented. The default values given in this standard are not normative as such, and should be used where no other values are specified. Classification should always be appropriate to the type of building and its intended use, and the basis of the classification should be explained if the examples given in the standard are not to be used.

NOTE Different standards may express the categories for the same parameters in a different way, and also the category symbols may be different.

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 308, *Heat exchangers — Test procedures for establishing performance of air to air and flue gases heat recovery devices*

EN 12097, *Ventilation for Buildings — Ductwork — Requirements for ductwork components to facilitate maintenance of ductwork systems*

EN 12599:2000, *Ventilation for buildings — Test procedures and measuring methods for handing over installed ventilation and air conditioning systems*

EN 12792:2003, *Ventilation for buildings — Symbols, terminology and graphical symbols*

EN 13053:2006, *Ventilation for buildings — Air handling units — Rating and performance for units, components and sections*

prEN 15232, *Energy performance of buildings — Impact of Building Automation, Controls and Building Management*

EN 15239, *Ventilation for buildings — Energy performance of buildings — Guidelines for inspection of ventilation systems*

EN 15240, *Ventilation for buildings — Energy performance of buildings — Guidelines for inspection of air-conditioning systems*

EN 15241, *Ventilation for buildings — Calculation methods for energy losses due to ventilation and infiltration in commercial buildings*

EN 15242, *Ventilation for buildings — Calculation methods for the determination of air flow rates in buildings including infiltration*