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## Ventilatie voor niet-residentiële gebouwen - Prestatie-eisen voor ventilatie- en kamerbehandelingssystemen

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

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

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

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

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

This European Standard was approved by CEN on 16 January 2004.

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COMITÉ EUROPÉEN DE NORMALISATION
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## Contents

# FOREWORD

This document (EN 13779:2004) 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of an identical text or by endorsement, at the latest by March 2005, and conflicting national standards shall be withdrawn at the latest by March 2005.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard : Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

# INTRODUCTION

This document provides guidance 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.

- Relevant parameters of the indoor environment.
- Definitions of data design assumptions and performances.
- Communication between the various parties involved in the system completion.

# 1. Scope

This document applies to the design of ventilation and room conditioning systems for non-residential buildings subject to human occupancy. It focuses on the definitions of the various parameters that are relevant for such systems. Naturally ventilated buildings are outside the scope of this document.

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 document shall 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. National regulations must always be followed, even when they are out of the range given in this document.

# 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.

| | |
|---|---|
| prEN 12097 | *Ventilation for buildings - Ductwork - Requirements for ductwork components to facilitate maintenance of ductwork systems* |
| EN 12237 | *Ventilation for buildings - Ductwork - Strength and leakage of circular sheet metal ducts* |
| EN 12464-1 | *Light and lighting – Lighting of work places – Part 1: Indoor work places* |
| EN 12599:2000 | *Ventilation for buildings - Test procedures and measuring methods for handing over installed ventilation and air conditioning systems* |
| CR 12792:1997 | *Ventilation for buildings – Symbols and terminology* |
| EN ISO 7730 | *Moderate thermal environments - Determination of the PMV and PPD indices and specification of the conditions for thermal comfort (ISO 7730:1994)* |

# 3. Terms and definitions

## 3.1 General

For the purposes of this document, the terms and definitions given in CR 12792 apply.

## 3.2 Types of air

The types of air are defined in 5.1.

## 3.3 Occupied zone

The definition of the occupied zone is dependent on the geometry and the use of the room and shall be specified case by case. Usually the term “occupied zone” is used only for areas designed for human occupancy and is defined as a volume of air that is confined by specified horizontal and vertical planes. The vertical planes are usually parallel with the walls of the room. Usually there is also a limit placed on the height of the occupied zone. Thus, the occupied zone in a room is that space in which the occupants are normally located and where the requirements for the indoor environment shall be satisfied. Definitions are given in 6.2.

## 3.4 Ventilation effectiveness

The ventilation effectiveness describes the relation between the pollution concentrations in the supply air, the exhaust air and the indoor air in the breathing zone (within the occupied zone). It is defined as