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Ventilation for buildings - Determining performance criteria for residential ventilation systems

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English Version

Ventilation for buildings - Determining performance criteria for residential ventilation systems

Ventilation des bâtiments - Détermination des critères de performance pour les systèmes de ventilation résidentielle

Lüftung von Gebäuden - Bestimmung von Leistungskriterien für Lüftungssysteme in Wohngebäuden

This European Standard was approved by CEN on 7 February 2009.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 15665:2009) 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of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

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Introduction

Nowadays most ventilation requirements either in regulations or in standards are based on required airflow rates. Also, there is relatively limited knowledge about the basis for ventilation flow rates. Airflow rates are however probably the easiest way to express ventilation requirements.

Nevertheless it is worthwhile to consider in a more detailed way the influence of the dilution due to air change on human exposure, in order to understand the ventilation requirements expressed in terms of flow rates.

Figure 1 explains the process from pollutant to health risk.

This European Standard does not deal with health effects, health risks (linked to noise, tobacco), dose and energy impact.

This European Standard is not intended to design and/or dimension a ventilation system.

This European Standard is intended to support any regulation or standard.

This European Standard is intended to give guidance to those with responsibility for producing requirements and standards for residential ventilation systems.

It is recommended that future revisions of relevant regulations and standards should consider the content of this European Standard.

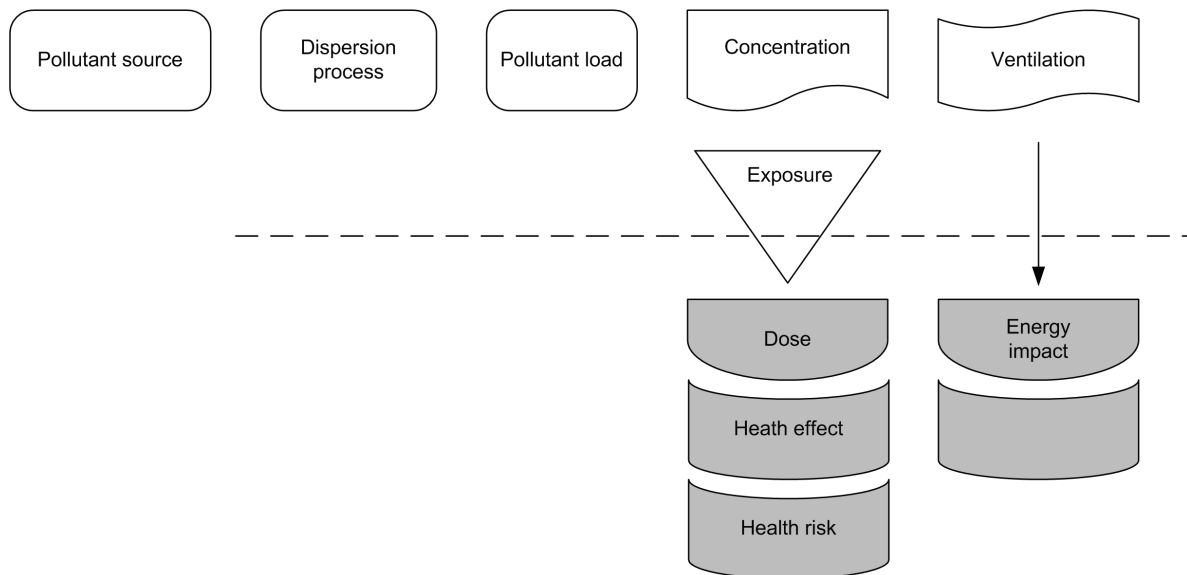


Figure 1 — Pollutant process

1 Scope

This European Standard sets out criteria to assess the performance of residential ventilation systems (for new, existing and refurbished buildings) which serve single family, multi family and apartment type dwellings throughout the year.

This European Standard specifies ways to determine performance criteria to be used for design levels in regulations and/or standards.

These criteria are meant to be applied to, in particular:

- mechanically ventilated building (mechanical exhaust, mechanical supply or balanced system);
- natural ventilation with stack effect for passive ducts;
- hybrid system switching between mechanical and natural modes;
- windows opening by manual operation for airing or summer comfort issues.

This European Standard considers aspects of hygiene and indoor air quality.

Health risk from exposure to tobacco smoke is excluded from this European Standard.

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

EN 15242:2007, *Ventilation for buildings – Calculation methods for the determination of air flow rates in buildings including infiltration*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12792:2003 and the following apply.

3.1

background pollutants

group of indoor pollutants which are continuous and diffuse

NOTE 1 These pollutants are represented by materials, furnishings and products used in the dwelling.

NOTE 2 These pollutants also include those resulting from human occupation such as water vapour and carbon dioxide from respiration.

3.2

specific pollutants

group of indoor pollutants which are of short duration, and in specific locations in the dwelling

NOTE These pollutants are mainly represented by water vapour, carbon dioxide and odours, whose production is related to specific human activities in the dwelling (such as cooking, washing, bathing).

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