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Ventilation for buildings — Design and dimensioning of residential ventilation systems

ICS 91.140.30

BSI British Standards

National foreword

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Cross-references

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English Version

Ventilation for buildings - Design and dimensioning of residential ventilation systems

Ventilation des bâtiments - Conception et dimensionnement des systèmes de ventilation résidentiels

Lüftung von Gebäuden - Ausführung und Bemessung der Lüftungssysteme von Wohnungen

This Technical Report was approved by CEN on 30 January 2006. It has been drawn up by the Technical Committee CEN/TC 156.

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Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This Technical Report (CEN/TR 14788:2006) has been prepared by Technical Committee CEN/TC 156 “Ventilation of buildings”, the secretariat of which is held by BSI.

1 Scope

This Technical Report specifies recommendations for the performance and design of ventilation systems which serve single family, multi family and apartment type dwellings during both summer and winter. It is of particular interest to architects, designers, builders and those involved with implementing national, regional and local regulations and standards.

Four basic ventilation strategies are covered; natural ventilation, fan assisted supply air ventilation, fan assisted exhaust air ventilation and fan assisted balanced air ventilation. Combinations of these systems are not excluded and a ventilation system may serve only one dwelling *(individual system)* or more than one dwelling *(central system)*. The ventilation aspects of combined systems (ventilation with heating and/or cooling) are covered.

The ventilation of garages, common spaces, roof voids, sub-floor voids, wall cavities and other spaces in the structure, under, over or around the living space are not covered.

Ventilation systems covered by this Technical Report may affect the entry and dilution of radon and other gases from the ground but these effects are not covered in this Technical Report. Ventilation systems designed to reduce the entry of radon and other gases from the ground are not covered by this Technical Report.

2 References

The following referenced documents are indispensable for the application of this Technical Report. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 779, *Particulate air filters for general ventilation — Determination of the filtration performance*

EN 1507, *Ventilation for buildings — Sheet metal air ducts with rectangular section — Requirements for strength and leakage*

ENV 12097, *Ventilation for buildings — Ductwork — Requirements for ductwork components to facilitate maintenance of ductwork systems*

EN 12236, *Ventilation for buildings — Ductwork hangers and supports — Requirements for strength*

EN 12237, *Ventilation for buildings — Ductwork — Strength and leakage of circular sheet metal ducts*

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

EN 13141-1, *Ventilation for buildings — Performance testing of components/products for residential ventilation — Part 1: Externally and internally mounted air transfer devices*

EN 13465, *Ventilation for buildings — Calculation methods for the determination of air flow rates in dwellings*

EN 14134, *Ventilation for buildings — Performance testing and installation checks of residential ventilation systems*

EN 13779, *Ventilation for non-residential buildings — Performance requirements for ventilation and room conditioning systems*

EN 20140-10, *Acoustics — Measurement of sound insulation in building and building elements — Part 10: Laboratory measurement of airborne sound insulation of small building elements (ISO 140-10:1991)*

EN ISO 140-3, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 3: Laboratory measurement of airborne sound insulation of building elements (ISO 140-3:1995)*

EN ISO 10211-1, *Thermal bridges in building construction — Heat flow and surface temperatures — Part 1: General calculation method (ISO 10211-1:1995)*