

IEQ, Ventilation and energy performance of buildings

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ABSTRACT

The revision of EN 16798-1 is based on the splitting of the standard into 5 parts:

- 1.1: Principles
- 1.2: Thermal Comfort
- 1.3: Indoor Air Quality
- 1.4: Lighting
- 1.5: Acoustics

Part 1.2 specifies the relevant parameters for determining the indoor thermal comfort in buildings and how these parameters are used for building system design and assessment of energy performance. This document gives input parameters for the design and assessment of the building envelope, heating, cooling, air systems and its control and automation systems. In addition to the parameters, the methods for steady-state and transient cases are considered.

Part 1.3 specifies the relevant parameters for determining the indoor air quality in buildings and how these parameters are used for building systems, design, assessment, operation, and energy performance calculations. This document includes design criteria for the ventilation of buildings in both residential and non-residential buildings. This document gives the relevant input parameters for the design and assessment of the ventilation, air treatment systems, building automation and control systems. In addition, it proposes different methods (maybe additional performance-based method and airborne transmission method) for determining the indoor air quality and classes for different limit values. An important point of revision is dealing with method alignment. In addition to air change rates, the possibilities of air cleaning are increasingly being considered.

In the revision, transient aspects and performance-based designs will be given greater weight. At the interface with the EPBD, the definition of key performance indicators (KPIs) like for example a yearly thermal comfort score (TCS) is important and will be an essential part of EN 16798. Further coordination between EN 16798-1 and ISO 17772-1 is still open.

KEYWORDS

Thermal comfort, Indoor air quality, Ventilation design, Ventilation assessment, Key performance indicator