

International Standards for the Indoor Environment Revision of ISO17772-1 dealing with Indoor Environmental Quality

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ABSTRACT

On the international level ISO (International Organization for Standardization), CEN (European Committee for Standardization) and ASHRAE (American Society of Heating, Refrigerating and Air Conditioning Engineers) are writing standards related to the indoor environment. This presentation will focus on the development of standards for the indoor thermal environment and indoor air quality. The focus will be on the revision of ISO 17772-1/2. This standard was developed in parallel with CEN 16798-1/2 and both are now both being revised. The standards specify the relevant parameters for determining the indoor environmental quality (thermal comfort, air quality, lighting, acoustic) in buildings and how these parameters are used for building systems, design, assessment, operation, and energy performance calculations.

The standards are applicable where the criteria for indoor environmental quality are set for human occupancy and where the production or process does not have a major impact on indoor environmental quality.

The standards do not specify design methods but gives the relevant input parameters for the design and assessment of buildings, heating- cooling- and ventilation systems, together with building automation and control systems. In addition, it proposes methods for determining the indoor environmental quality and classes for different limit values.

The talk will focus on thermal comfort and indoor air quality. In the revision the part of the standard dealing with lighting and acoustic will be extended and developed by the appropriate ISO-CEN TC's.

Topics to be included or extended in the standards are yearly key performance indicator (KPI's) for indoor environmental quality, use of air cleaning to partly substitute for ventilation, use of CO₂ as indicator for ventilation/air quality, ventilation during a pandemic and cross contamination, personalized environmental control systems (PECS).

The recommendations for acceptable indoor environments are specified as classes. This allows for national differences in the requirements and also for designing buildings for different quality levels. This will require a better dialogue between the client (builder, owner) and the designer.

KEYWORDS

Standards; indoor environmental quality; thermal comfort, indoor air quality, ventilation;