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English Version

Laboratory installations - Ventilation systems in laboratories

Installations de laboratoire - Systèmes de ventilation pour laboratoires

Laboreinrichtungen - Lufttechnik in Laboratorien

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European foreword

This document (CEN/TS 17441:2020) has been prepared by Technical Committee CEN/TC 332 "Laboratory equipment", the secretariat of which is held by DIN.

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Introduction

Operation of ventilation systems in laboratory buildings or in individual laboratory rooms requires particular care and attention due to its safety relevance. This applies for users of ventilation systems as well as for operators of laboratory buildings.

This technical specification supports design, planning, execution and maintenance tasks of these ventilation systems. A special expertise with regard to the operation and function of laboratories and the effectiveness of technical laboratory equipment is required, particularly because of the many possible interfaces for extract air equipment relevant to safety.

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1 Scope

This document applies for the planning, design, installation and commissioning of ventilation systems in laboratories. It also applies for scientific classrooms in schools when equipped with a ventilation system.

The application of this document depends not on the term laboratory in its narrower sense but this document also applies also for laboratory-related rooms in which work with dangerous or health hazardous substances is performed.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 12128:1998, *Biotechnology — Laboratories for research, development and analysis — Containment levels of microbiology laboratories, areas of risk, localities and physical safety requirements*

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

EN 14175-2, *Fume cupboards — Part 2: Safety and performance requirements*

EN 14175-7, *Fume cupboards — Part 7: Fume cupboards for high heat and acidic load*

EN 14470-1, *Fire safety storage cabinets — Part 1: Safety storage cabinets for flammable liquids*

EN 14470-2, *Fire safety storage cabinets — Part 2: Safety cabinets for pressurised gas cylinders*

EN 16798-1, *Energy performance of buildings — Ventilation for buildings — Part 1: Indoor environmental input parameters for design and assessment of energy performance of buildings addressing indoor air quality, thermal environment, lighting and acoustics — Module M1-6*

EN 16798-3:2017, *Energy performance of buildings — Ventilation for buildings — Part 3: For non-residential buildings — Performance requirements for ventilation and room-conditioning systems (Modules M5-1, M5-4)*

CEN/TR 16798-4:2017, *Energy performance of buildings — Ventilation for buildings — Part 4: Interpretation of the requirements in EN 16798-3 — For non-residential buildings — Performance requirements for ventilation and room-conditioning systems (Modules M5-1, M5-4)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12792 and the following apply. For the different types of air in a laboratory or in a laboratory building EN 16798-3:2017, Table 6, applies.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp/ui>