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Building environment design — Embedded radiant heating and cooling systems —

Part 4: Dimensioning and calculation of the dynamic heating and cooling capacity of Thermo Active Building Systems (TABS)

AMENDMENT 1

Conception de l'environnement des bâtiments — Systèmes intégrés de chauffage et de refroidissement par rayonnement —
Partie 4: Dimensionnement et calculs relatifs au chauffage adiabatique et à la puissance frigorifique pour systèmes d'éléments de construction thermoactifs (TABS)

AMENDEMENT 1

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This document was prepared by Technical Committee ISO/TC 205, *Building environment design*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 228, *Heating systems and water based cooling systems in buildings,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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Part 4: Dimensioning and calculation of the dynamic heating and cooling capacity of Thermo Active Building Systems (TABS)

AMENDMENT 1

Introduction, last paragraph

Modify to the following:

ISO 11855-1 specifies the comfort criteria which should be considered in designing embedded radiant heating and cooling systems, since the main objective of the radiant heating and cooling system is to satisfy thermal comfort of the occupants. ISO 11855-2 provides steady-state calculation methods for determination of the heating and cooling capacity. ISO 11855-3 specifies design and dimensioning methods of radiant heating and cooling systems to ensure the heating and cooling capacity. ISO 11855-4 (this document) provides a dimensioning and calculation method to design Thermo Active Building Systems (TABS) – Type V for energy saving purposes, since radiant heating and cooling systems can reduce energy consumption and heat source size by using renewable energy. ISO 11855-5 addresses the installation process for the system to operate as intended. ISO 11855-6 shows a proper control method of the radiant heating and cooling systems to ensure the maximum performance which was intended in the design stage when the system is actually being operated in a building. ISO 11855-7 presents a calculation method for input parameters to ISO 52031.

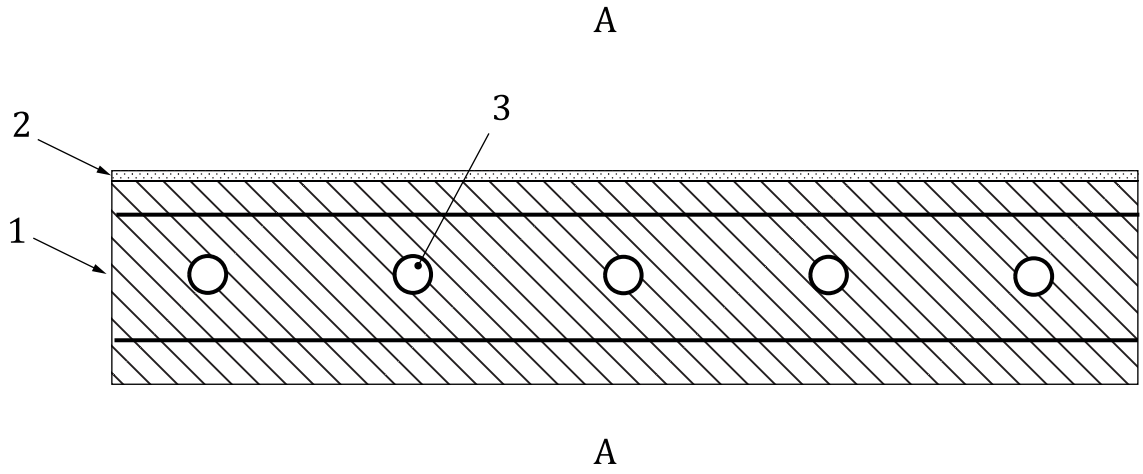
Clause 1, first paragraph

Modify to the following:

This document allows the calculation of peak cooling capacity of Thermo Active Building Systems (TABS) – Type V according to ISO 11855-1, based on heat gains, such as solar gains, internal heat gains, and ventilation, and the calculation of the cooling power demand on the water side, to be used to size the cooling system, as regards, e.g. the chiller size, fluid flow rate.

Clause 5, Figure 1

Modify to the following:



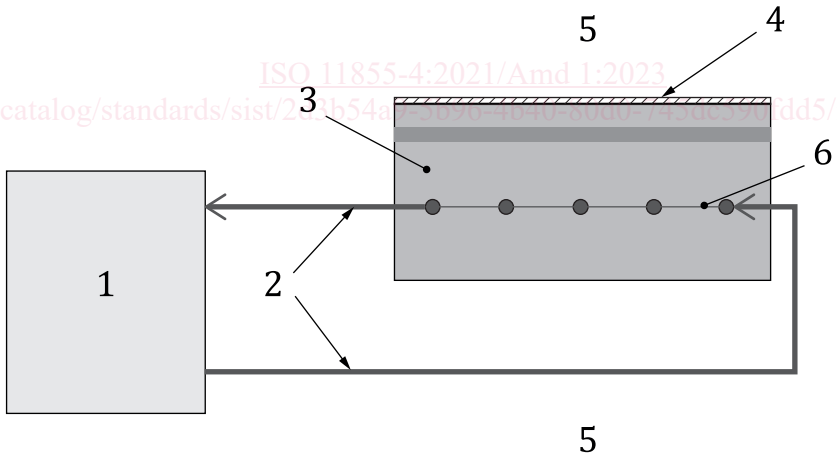
Key

1 structural layer
2 surface layer
3 pipes or electric cables
A room

Figure 1 — Example of position of pipes in TABS

Clause 5, Figure 2

Modify to the following:



Key

1 heating and cooling equipment
2 hydraulic circuit
3 slab including core layer with pipes and reinforcement
4 possible additional resistances (floor covering or suspended ceiling)
5 room below and room above
6 pipe level

Figure 2 — Simple scheme of a TABS