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Water based surface embedded heating and cooling systems - Part 3: Dimensioning

I.S. EN 1264-3:2009

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English Version

Water based surface embedded heating and cooling systems - Part 3: Dimensioning

Systèmes de surfaces chauffantes et rafraîchissantes
hydrauliques intégrées - Partie 3 : Dimensionnement

Raumflächenintegrierte Heiz- und Kühlsysteme mit
Wasserdurchströmung - Teil 3: Auslegung

This European Standard was approved by CEN on 1 August 2009.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

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Foreword

This document (EN 1264-3:2009) has been prepared by Technical Committee CEN/TC 130 "Space heating appliances without heat sources", the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2010, and conflicting national standards shall be withdrawn at the latest by March 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1264-3:1997. Together with EN 1264-4, this document also supersedes EN 15377-2.

The series of European Standards EN 1264 "*Water based surface embedded heating and cooling systems*" consists of the following parts:

- Part 1: Definitions and symbols;
- Part 2: Floor heating : Prove methods for the determination of the thermal output using calculation and test methods
- Part 3: Dimensioning;
- Part 4: Installation;
- Part 5: Heating and cooling surfaces embedded in floors, ceilings and walls — Determination of the thermal output.

The main change with respect to EN 1264-3:1997 is the expansion of the scope beyond floor heating, with the addition of ceiling and wall heating as well as cooling surfaces in floors, ceilings and walls.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard applies to heating and cooling systems embedded into the enclosure surfaces of the room to be heated or to be cooled.

This document deals with the use in practical engineering of the results coming from part 2 and 5 and is applicable to floor-, ceiling- and wall heating systems, as well floor-, ceiling- and wall cooling systems.

For heating systems, physiological limitations are taken into account when specifying the surface temperatures. In the case of floor heating systems the limitations are realised by a design based on the characteristic curves and limit curves determined in accordance with part 2 of this Standard.

For cooling systems, only a limitation with respect to the dew point is taken into account. In predominating practice, this means that physiological limitations are included as well.

2 Normative References

The following referenced documents are indispensable for the application 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 1264-1:1997, *Water based surface embedded heating and cooling systems - Part 1: Definitions and symbols*

EN 1264-2, *Water based surface embedded heating and cooling systems - Part 2: Floor heating: Prove methods for the determination of the thermal output using calculation and test methods*

EN 1264-4, *Water based surface embedded heating and cooling systems - Part 4: Installation*

EN 1264-5, *Water based surface embedded heating and cooling systems — Part 5: Heating and cooling surfaces embedded in floors, ceilings and walls — Determination of the thermal output*

EN 12831, *Heating systems in buildings — Method for calculation of the design heat load*

EN 15243, *Ventilation for buildings — Calculation of room temperatures and of load and energy for buildings with room conditioning systems*

EN ISO 7730, *Ergonomics of the thermal environment - Analytical determination and interpretation of thermal comfort using calculation of the PMV and PPD indices and local thermal comfort criteria (ISO 7730:2005)*

3 Terms, definitions and symbols

For the purposes of this document, the definitions and symbols given in EN 1264-1:1997 apply.

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