



## Floor heating – Systems and components – Part 1: Definitions and symbols

The European Standard EN 1264-1:1997 has the status of a Swedish Standard. This document contains the official English version of EN 1264-1:1997.

Swedish Standards corresponding to documents referred to in this Standard are listed in "Catalogue of Swedish Standards", issued by SIS. The Catalogue lists, with reference number and year of Swedish approval, International and European Standards approved as Swedish Standards as well as other Swedish Standards.

## Golvvärme – System och komponenter – Del 1: Definitioner och symboler

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English version

**Floor heating – Systems and components –  
Part 1: Definitions and symbols**

Chauffage par le sol – Systèmes et  
composants – Partie 1: Définitions et  
symboles

Fußboden-Heizung – Systeme und  
Komponenten – Teil 1: Definitionen und  
Symbole

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**CEN**

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## **Foreword**

**This European Standard has been prepared by Technical Committee CEN/TC 130 "Space heating appliances without integral 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of an identical text or by endorsement, at the latest by February 1998, and conflicting national standards shall be withdrawn at the latest by February 1998.**

**According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.**

## **Introduction**

This European Standard for floor heating systems consists of the following parts :

- Part 1 : Definitions and Symbols
- Part 2 : Determination of the thermal output
- Part 3 : Dimensioning
- Part 4 : Installation

## **1 Scope**

This European Standard is applicable to hot water floor heating systems in residential, office and other buildings, the use of which corresponds to or is similar to that of residential buildings.

This European Standard is not applicable to floor heating systems in wood flooring.

It also applies as appropriate to the use of other heating media instead of water.

The important definitions and symbols for hot water heating systems are specified in this standard.

## **2 Normative references**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate place in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies :

EN 1264 - 3:1997      Floor heating - Systems and components - Part 3 : Dimensioning

## **3 Definitions**

For the purposes of this standard, the following definitions apply :

### **3.1 floor heating installation**

Installation consisting of floor heating, heating circuit distributors and control equipment.

#### **3.1.1 floor heating**

Floor heating system where pipes carrying water with or without additives as a heating medium are laid in the floor.

### **3.1.2 heating circuit**

Section of floor heating connected to a heating circuit distributor which can be independently switched and controlled.

### **3.1.3 heating circuit distributor**

Common connection point for several heating circuits.

## **3.2 nominal heat loss of a floor heated room ( $Q_{N,r}$ )**

The quantity of heat per time unit leaving the building to the external environment under determined nominal conditions and depending on the climatic data, on the location of the building, use and thermal properties of the building.

## **3.3 design thermal output ( $Q_H$ )**

Thermal output resulting from the nominal heat loss of an floor heated room  $Q_{N,r}$

## **3.4 nominal indoor room temperature ( $\theta$ )**

Resultant temperature defined as the average of the dry air temperature and the mean radiant temperature [1],[2].

NOTE : The resultant temperature is considered as the relevant for thermal comfort assessment and heat loss calculations. This value of internal temperature is used for the calculation method

## **3.5 heating floor area**

Area of the floor covered by the heating system between the outer pipes respectively the outer edges of the system with the addition of a strip whose width is equal to half the pipe spacing but not exceeding 0,15 m.

## **3.6 furniture area**

Area of the floor surface not covered by a heating system, intended for permanent placement of furnishings forming part of the building.

## **3.7 peripheral area**

Floor surface which is heated to a higher temperature and is generally an area of 1 m maximum in width along exterior walls. It is not an occupied area.

## **3.8 occupied area**

Area within the heated floor surface occupied for long periods.

**NOTE :** It consists of the heated floor surface less the peripheral area.

### **3.9 supplementary heating equipment**

Additional heating facility (e. g. convectors, radiators) with the additional heat output  $Q_{out}$ ; it may have its own control equipment.

### **3.10 floor heating components**

Components of floor heating are:

- insulating layer (for thermal and footstep noise insulation)
- the protection layer (to protect the insulating layer)
- the heating pipes or plane sections
- the load and thermal distribution layer (screed)
- floor covering
- other items such as conducting devices, peripheral strips, attachment items etc.

**NOTE:** The components may be different depending on the system.

### **3.11 types of floor heating structures**

#### **3.11.1 systems with pipes inside the screed type A and C**

Systems with heating pipes completely or partially embedded in the screed (see Figure 1).

#### **3.11.2 systems with pipes below screed type B**

Systems with heating pipes laid in the thermal insulating layer below the screed (see Figure 1).

#### **3.11.3 systems with plane sections (similar Type B)**

Systems with an inline and/or cross flow in the hollow sections in the total area (see Figure 1).