

DIN EN ISO 11855-1:2016-11 (E)

Building environment design - Design, dimensioning, installation and control of embedded radiant heating and cooling systems - Part 1: Definition, symbols and comfort criteria (ISO 11855-1:2012)

Contents		Page
European foreword		3
Foreword		4
Introduction		5
1	Scope	6
2	Normative references	6
3	Terms and definitions	6
4	Symbols and abbreviations	15
5	Comfort criteria	20
5.1	General thermal comfort	20
5.1.1	Operative temperature	21
5.1.2	Definition	21
5.1.3	PMV (predicted mean vote)/PPD (predicted percentage of dissatisfied)	21
5.2	Local thermal comfort	22
5.2.1	Surface temperature limit	22
5.2.2	Radiant temperature asymmetry	23
5.2.3	Vertical air temperature difference	24
5.3	Acoustical comfort	25
5.3.1	Water velocity and noise	25
5.3.2	Acoustical comfort in water based heating and cooling systems	25
5.3.3	Acoustical comfort in Thermally Active Building Systems (TABS)	26
Annex A (informative) Floor surface temperature for thermal comfort		27
A.1	Acceptable range of floor surface temperature	27
A.2	Relation between floor temperature and skin temperature in electric heating system	28
A.3	Relation between skin temperature and discomfort	29
Annex B (informative) Draught		30
B.1	Equations for the calculation of maximum air velocity and minimum air temperature along the floor caused by cold draught from cooled surfaces	30
Bibliography		31