

DIN V 18599-10:2007-02 (E)

Energy efficiency of buildings - Calculation of the net, final and primary energy demand for heating, cooling, ventilation, domestic hot water and lighting - Part 10: Boundary conditions of use, climatic data

Contents

	Page
Foreword.....	4
Introduction	6
1 Scope	6
2 Normative references	8
3 Terms and definitions, symbols and units.....	8
3.1 Terms and definitions	8
3.2 Symbols, units and subscripts.....	8
4 Relationship between the various parts of the DIN V 18599 series of prestandards	10
4.1 Input parameters from other parts of the DIN V 18599 series of prestandards	10
4.2 Output parameters for other parts of the DIN V 18599 series of prestandards	10
5 Boundary conditions of use, residential buildings	12
6 Boundary conditions of use, non-residential buildings	14
7 Climatic data.....	23
7.1 Reference climate – monthly values.....	23
7.2 Reference climate – design rating values	24
Annex A (informative) Detailed usage profiles for non-residential buildings.....	25
A.1 General.....	25
Annex B (informative) Determination of daytime and night-time hours	58
B.1 General.....	58
B.2 Calculating daytime and night-time hours	58
Annex C (informative) Form for documentation of a usage profile for non-residential buildings.....	60
C.1 General.....	60
C.2 Form for documentation of boundary conditions of use according to DIN V 18599-10.....	60
Bibliography	62

Figures

Figure 1 — Overview of the parts of DIN V 18599	6
Figure 2 — Contents and scope of DIN V 18599-10 (schematic diagram)	7

Tables

Table 1 — Symbols.....	9
Table 2 — Subscripts.....	9
Table 3 — Guideline boundary conditions of use for calculating the energy need of residential buildings	13
Table 4 — Guideline values for the boundary conditions of use of non-residential buildings	18
Table 5 — Guideline values of common boundary conditions applying to all types of usage according to Table 4.....	20
Table 6 — Guideline values for the energy need for domestic hot water supply of non-residential buildings ..	21
Table 7 — Solar irradiance and outdoor temperatures of the reference climate of Germany.....	23

Table 8 — Solar irradiance and outdoor temperature values of the reference climate of Germany to be used for calculating the maximum required heating power and cooling capacity.....	24
Table A.1 — Personal office (single occupant)	25
Table A.2 — Workgroup office	26
Table A.3 — Landscaped office	27
Table A.4 — Meeting, conference or seminar room	28
Table A.5 — Booking hall.....	29
Table A.6 — Retail shop/department store	30
Table A.7 — Retail shop/department store (food department with refrigerated products)	31
Table A.8 — Classroom (schools and nursery schools)	32
Table A.9 — Lecture room, auditorium	33
Table A.10 — Hospital ward or dormitory	34
Table A.11 — Hotel room.....	35
Table A.12 — Canteen.....	36
Table A.13 — Restaurant.....	37
Table A.14 — Kitchen in non-residential building.....	38
Table A.15 — Kitchen – preparation room or storeroom	39
Table A.16 — Toilets and sanitary facilities in non-residential buildings	40
Table A.17 — Other habitable rooms.....	41
Table A.18 — Auxiliary spaces (without habitable rooms).....	42
Table A.19 — Circulation and traffic areas.....	43
Table A.20 — Storeroom.....	44
Table A.21 — Server room, computer centre.....	45
Table A.22 — Workshop	46
Table A.23 — Spectator and audience areas	47
Table A.24 — Theatre foyer	48
Table A.25 — Stage	49
Table A.26 — Fair/congress building	50
Table A.27 — Showrooms and museums.....	51
Table A.28 — Library – reading rooms	52
Table A.29 — Library – open stacks area	53
Table A.30 — Library – magazine and stores	54
Table A.31 — Sports hall.....	55
Table A.32 — Garage buildings (for offices and private use)	56
Table A.33 — Garage buildings (public use).....	57