

DIN EN 17888-1:2024-11 (E)

Thermal performance of buildings - In situ testing of building test structures - Part 1: Data collection for aggregate heat loss test

Contents		Page
European foreword		4
Introduction		5
1	Scope	6
2	Normative references	6
3	Terms, definitions, symbols and units	7
3.1	Terms and definitions	7
3.2	Symbols and units	10
4	Principle	10
5	Requirements for the building test structure	10
5.1	Design requirements for building test structure	10
5.2	Location of the building test structure	11
5.3	Thermal qualification of the building test structure	11
5.4	Design requirements for installation of insulating systems within the building test structure	12
5.5	Non-tested zones (guarded zones)	12
6	Apparatus and associated calibration requirements	13
6.1	Internal apparatus	14
6.1.1	Temperature sensors	14
6.1.2	Relative humidity sensors	14
6.1.3	Electric resistance fan heaters	14
6.1.4	Electric circulation fans	14
6.1.5	Temperature controllers	14
6.1.6	Energy meters	14
6.1.7	Data logger	14
6.1.8	Extension leads	14
6.2	External apparatus	15
6.2.1	Weather station including Pyranometer	15
6.2.2	Data logger	15
6.3	Sampling intervals	15
7	Preparation of the building test structure and installation and location of apparatus	16
7.1	General	16
7.2	Location and number of apparatus	16
7.2.1	General	16
7.2.2	Internal air temperature and relative humidity sensors	16
7.2.3	Electric resistance fan heaters	17
7.2.4	Electric air circulation fans	17
7.2.5	Temperature controller	17
7.2.6	Energy meters	17
7.2.7	Data logger	18
7.2.8	Weather station and pyranometer	18
7.3	Measurements of the air tightness and/or air infiltration rate	18
7.4	Establishing and maintaining set point internal conditions	18

8	Test procedure	19
8.1	General test conditions for the building test structure	19
8.2	Pressurization test	20
8.3	Heating	20
8.4	Test duration	21
8.5	Post-test pressurization test	21
9	Data collection	21
9.1	Recording data	21
9.2	Downloading data	21
9.3	Data verification	22
10	Test report	22
10.1	General	22
10.2	Description of test	22
10.3	Control and validation	23
10.4	Results	23
10.5	Appendices	23
	Annex A (informative) Principle of design of multi-zones building test structure	24
	Annex B (informative) Examples of building test structures used in Europe for in situ testing	27
	Annex C (informative) Example of layout of apparatus in a building test structure	30
	Bibliography	31