DIN EN ISO 9972:2018-12 (E)

Thermal performance of buildings - Determination of air permeability of buildings - Fan pressurization method (ISO 9972:2015)

Contents

Page

European foreword ... **4**

Foreword ... **5**

Introduction ... **6**

1 Scope ... **7**

2 Normative references ... **7**

3 Terms, definitions, and symbols ... **7**
3.1 Terms and definitions ... 7
3.2 Symbols ... 9

4 Apparatus ... **10**
4.1 General ... 10
4.2 Equipment ... 10
4.2.1 Air-moving equipment ... 10
4.2.2 Pressure-measuring device ... 10
4.2.3 Air flow rate measuring system ... 10
4.2.4 Temperature-measuring device ... 10

5 Measurement procedure ... **10**
5.1 Measurement conditions ... 10
5.1.1 General ... 10
5.1.2 Measured extent ... 11
5.1.3 Time of measurement ... 11
5.2 Preparation ... 11
5.2.1 Building preparation methods ... 11
5.2.2 Heating, ventilation and air conditioning systems and other building equipment 11
5.2.3 Intentional openings in the envelope ... 12
5.2.4 Openings inside the measured extent ... 13
5.2.5 Air-moving equipment ... 13
5.2.6 Pressure measuring devices ... 13
5.3 Steps of the procedure ... 14
5.3.1 Preliminary check ... 14
5.3.2 Temperature and wind conditions ... 14
5.3.3 Zero-flow pressure difference ... 14
5.3.4 Pressure difference sequence ... 14

6 Expression of results ... **15**
6.1 Reference values ... 15
6.1.1 Internal volume ... 15
6.1.2 Envelope area ... 15
6.1.3 Net floor area ... 16
6.2 Calculation of the air leakage rate ... 16
6.3 Derived quantities ... 19
6.3.1 General ... 19
6.3.2 Air change rate at reference pressure difference ... 19
6.3.3 Specific leakage rate (envelope) ... 19
6.3.4 Specific leakage rate (floor) ... 20
6.3.5 Effective leakage area ... 20
6.3.6 Specific effective leakage area (envelope) ... 20
6.3.7 Specific effective leakage area (floor) ... 20

7 Test report **21**

8 Uncertainty **21**
8.1 General 21
8.2 Reference value 22
8.3 Overall uncertainty 22

Annex A (informative) **Description of equipment used to pressurize buildings** **23**

Annex B (informative) **Dependence of air density on temperature, dew point,and barometric pressure** **25**

Annex C (informative) **Recommended procedure for estimating uncertaintyin derived quantities** **26**

Annex D (informative) **Beaufort scale of wind (extract)** **29**

Annex E (informative) **Detection of the leakage location** **32**