

Air Leakage Test Report

In Compliance with ISO9972:2015 – Europe



Test date:

2018-02-24

Summary

 FanTestic	version: 5.9.86	licensed to: blowerdoor.kiev.ua
Test date: 2018-02-24	By: blowerdoor.kiev.ua	
Customer:		
Building Lot Number:		
Building address:		

Test description

The air leakage test was performed according to standard ISO9972:2015 “Thermal performance of buildings – Determination of air permeability of buildings – Fan pressurization method”.

Programm of the test:

1. Building survey and test planning with Customer
2. Building preparation (Method 1 and/or Method 2)
3. Building data calculation
4. Equipment delivery and setup on the site
5. Test performing with depressurization up to -75Pa (ISO9972:2015 standard – 25Pa at least)
6. Leak location with thermal camera and smoke machine
7. Test performing with pressurization up to 75Pa (ISO9972:2015 standard 25Pa at least)
8. Leak location with thermal camera and smoke machine
9. Reporting

Building and Test Information

Building volume [m ³]:	528
Envelope Area [m ²]:	403.4
Floor Area [m ²]:	168
Building Height (from ground to top) [m]:	9
Altitude [m]:	190
Accuracy of volume measurements:	2%
Accuracy of envelope area measurements:	2%
Accuracy of floor area measurements:	2%
Number of building storeys:	3

Results

Method 1 (building in use)	
Air flow at 50 Pa, [m ³ /h]	4769.2
Air changes at 50 Pa, n_{50}[/h]	9.033
Specific leakage rate (envelope) at 50 Pa, [m ³ /h/m ²]	11.8216
Effective leakage area at 50 Pa, [cm ²]	1454
Specific effective leakage area (envelope) at 50 Pa, [cm ² /m ²]	3.6033

Method 2 (building envelope)	
Air flow at 50 Pa, [m ³ /h]	3994.7
Air changes at 50 Pa, n_{50}[/h]	7.566
Specific leakage rate (envelope) at 50 Pa, [m ³ /h/m ²]	9.9019
Effective leakage area at 50 Pa, [cm ²]	1218
Specific effective leakage area (envelope) at 50 Pa, [cm ² /m ²]	3.0182

Reference to local and international airtightness norms

Construction norms	n50
Ukraine DBN class C (method 2)	<2.0
Ukraine DBN class B (method 2)	<1.5
Ukraine DBN class A (method 2)	<0.8
Germany Passive House (method 1)	<0.6
Germany Energy Saving Ordinance (EnEV) of 01.02.2001 (method 2)	<3.0 (natural ventilation)
Germany Energy Saving Ordinance (EnEV) of 01.02.2001 (method 2)	<1.5 (mechanical ventilation)

Obtained n50 value does not correspond to the local normative value.

Reference to blowerdoor.kiev.ua practice

Blowerdoor.kiev.ua practice n50 values: 0.58 < n50 < 22.5

Obtained n50 value are better than 28% of the total number of tested buildings.

Building envelope area and volume calculation

Building envelope A_E calculated according ISO9972EU Standard using information based on pdf files

- 2 Обміри 1-го поверху.pdf
- 3 Обміри 2-го поверху.pdf
- 4 Обміри 3-го поверху.pdf

presented by Customer

Table Nr.1

A_E	Building envelope area	403.4 m ²
V	Bulding volume	528m ³

Pictures



