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ALLEMANN GmbH - Holz
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Determination of air permeability, resistance to water penetration and resistance to wind load according to EN13241:2003+A2:2016 – Development testing

(1 appendix)

Test object

(see drawings and figures in appendix 1)

Client: ALLEMANN GmbH
Product name: Swing door wood (one sealing level), without step through door
Type of door: Outwards opening side hung double garage door of wood, 250772 Pos 5
Daylight size: Width 4500 mm, Height 4030 mm
Rise number: 2889

The door was supplied and installed by the client in the opening of an airtight chamber, with its exterior facing inwards towards the chamber, see description, figures and drawings in appendix 1.

Summary of classification

Air permeability according to EN 12426:2000:	Class 4
Resistance to water penetration, EN 12425:2000:	Class 3,70 Pa, after adjustment
Resistance to wind load according to EN 12424:2000:	Class 3, 700 Pa

Test procedure

Air permeability

A positive air pressure was established in the chamber and the air leakage was measured at 50 Pa. Air leakage from the actual test rig itself was subtracted from this measurement.

The tests were carried out in accordance with EN 12427:2000.

Resistance to water penetration

Water was applied through three horizontal rows of nozzles with eleven nozzles on each row. The upper row supplied 2±0.2 l/min of water per nozzle. The two lower rows supplied 1±0.1 l/min of water per nozzle.

The test was carried out in accordance with EN 12489:2000.

Resistance to wind load

The door was tested in an air pressure chamber. Before the test measures were taken to minimize air leakage in the door and its supporting construction. The air pressure in the test chamber was increased in steps in accordance with the different classes given in EN 12424:2000. The test was carried out in accordance with EN 12444:2000.

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Accred. No. 1002
Testing
ISO/IEC 17025

Conditions of test

The test results refer only to the tested object.

Date of test:	2025-05-12 – 2025-05-13
Place of test:	RISE, Borås, House 2
Equipment used:	Test rig no. KWP04678 och measuring equipment 200746, 202429
Air tightening against the test rig:	On the test objects outside face vertical edges
Estimated error margin:	Air pressure difference $\pm 2 \text{ Pa} \leq 100 \text{ Pa}$, $\pm 2 \% > 100 \text{ Pa}$, air flow $\pm 5\%$, water flow $\pm 5\%$
Management of measurement uncertainty:	No account of measurement uncertainty taken for classification
Accreditation includes:	Air permeability according to EN 12426:2000 Watertightness according to EN 12425:2000 Resistance to wind load according to EN 12424:2000
Test climate: (2025-05-12)	Air temperature 21,6 °C, RH 34,7 %, air pressure 997,0 hPa
(2025-05-13)	Air temperature 21,2 °C, RH 40,0 %, air pressure 994,4 hPa
Water temperature:	According to the standard
Conditioning:	Laboratory climate after arrival at RISE

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RISE Research Institutes of Sweden AB Building physics & sustainable buildings - Building physics testing

Performed by



Richard Dawson

Examined by



Börje Gustavsson

Appendix