Client

Kemi-Torniolaakso Education Consortium
Urheilukatu 6
95400 Tornio1

Order

Based on the agreement dated 9 December 2016, Virpi Lilja. (VTT-O-168598-15/A)

Contact

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Task

Determination of airtightness 60 and 80 mm thick CLT panels from Oy Crosslam Kuhmo Ltd

Sample

The 60 mm and 80 mm thick CLT panels were supplied by the manufacturer to VTT Expert Services Oy on 18 December 2015. The panels were stored in a hall to acclimatise at a relative humidity of RH 25±5%and a temperature of +22±2°C until testing.

Tests carried out

The air permeability of the panels was determined in accordance with standard EN 1026 [1], which specifies the airtightness of doors and windows.

Installation and measurement

The panels were sealed along their outer edges with Ceresit CL51 waterproofing compound to prevent edge leakage. The panels were then installed by VTT Expert Services Oy into the opening of the test chamber (dimensions 2200 mm × 2200 mm). Photographs of the sealing process and related details are shown in Appendix 3.

The installations were carried out on 10 March and 12 March 2015, and the measurements were taken on 11 March and 14 March 2015 at the VTT Expert Services Oy Research Hall (address: Tekniikantie 15 A, 02150 Espoo). The test was carried out by Ville Joensuu, a tester at VTT Expert Services Oy. The tests are described in Appendix 1 and the test equipment used is listed in Appendix 2.

The temperature and relative humidity in the test chamber during the tests were as follows:

- air temperature	21 °C
- relative humidity, RH	25–27 %
- air pressure	102 kPa

Results

Even at the highest over- and under-pressure levels of 600 Pa, the air leaks measured—both with and without plastic sheeting—remained below 0.01 m^3/m^2, and the measured leakage was almost 100 per cent attributable to the test apparatus itself. No numerical results are given, as they fall outside the limits of measurement accuracy.

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Ville Joensuu

Review of results Both the 60 mm and 80 mm thick CLT panels were, for all practical purposes, completely airtight.

Espoo, 17 March 2016
Pekka Sipari
Senior Specialist
Ville Joensuu
Tester

VTT Expert Services Oy is a notified body No. 0809
The FINAS Accreditation Service has accredited our laboratory (T001, VTT Expert Services Oy) to carry out the testing specified in this test report.

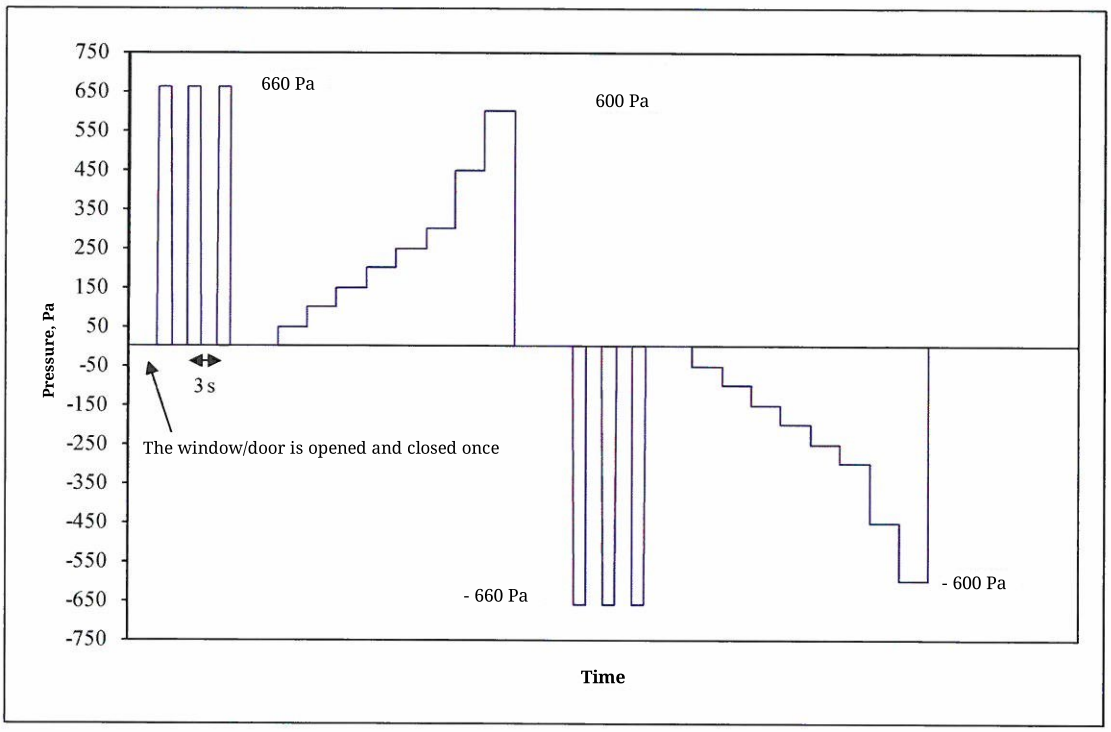
REFERENCES [1] *EN 1026 Windows and doors – Air permeability – Test method*

APPENDICES 3

DISTRIBUTION Client Original
Archive Original

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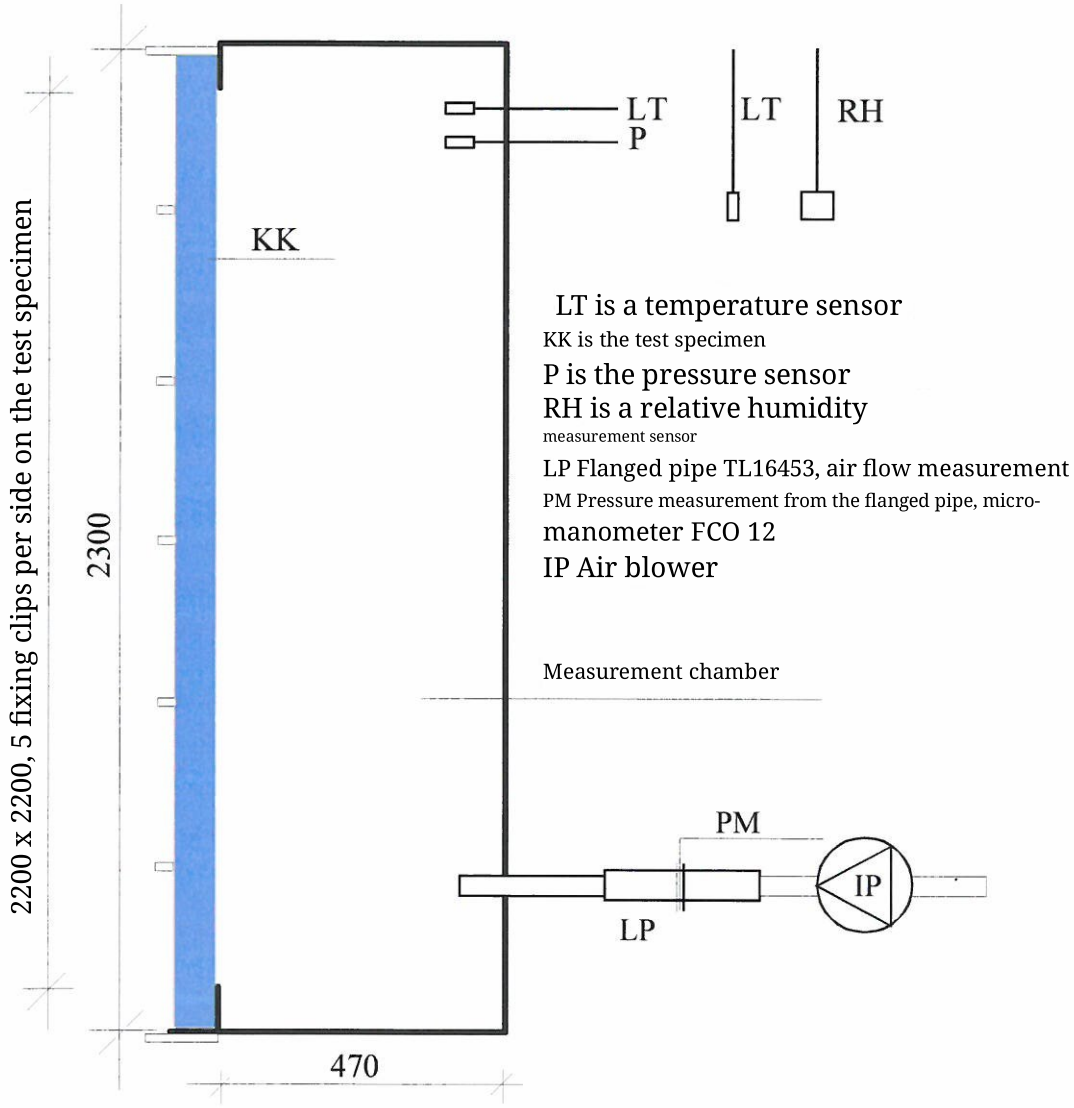
Air tightness EN 1026



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TEST EQUIPMENT

AIRTIGHTNESS OF STRUCTURES, GENERAL OVERVIEW



LT is a temperature sensor
KK is the test specimen
P is the pressure sensor
RH is a relative humidity
measurement sensor
LP Flanged pipe TL16453, air flow measurement
PM Pressure measurement from the flanged pipe, micro-
manometer FCO 12
IP Air blower

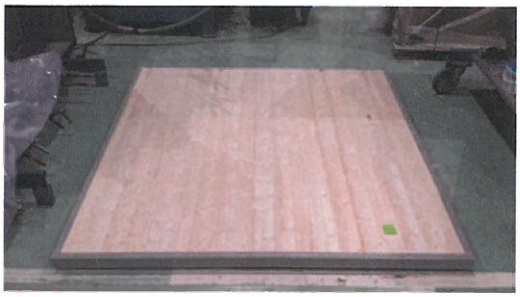
Measurement chamber

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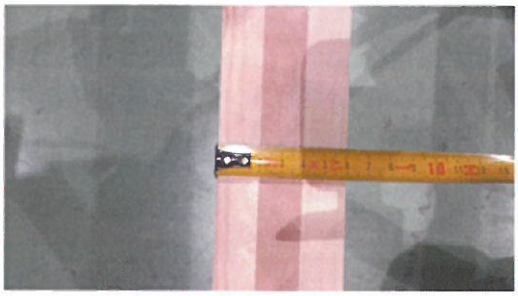
PHOTOGRAPHS



Photograph 1. Sealing of the panel edges with insulation



Photograph 2. Sealed panel edges



Photograph 3. Checking the panel thickness



Photograph 4. Marking on the board



Photograph 5. Panel in the airtightness testing apparatus

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