



TEST REPORT No. 312272

Place and date of issue: Bellaria-Igea Marina - Italy, 30/12/2013

Customer: C&P COSTRUZIONI S.r.l. - Via D'Este 5/7 - 5/8 - 42028 POVIGLIO (RE) - Italy

Date test requested: 14/10/2013

Order number and date: 61053, 14/10/2013

Date specimen received: 03/12/2013

Test date: 16/12/2013

Purpose of test: determination of air permeability of a wall in accordance with standard UNI EN 12114:2001

Test site: Istituto Giordano S.p.A. - Via Erbosa, 72 - 47043 Gatteo (FC) - Italy

Specimen origin: sampled and supplied by the Customer

Identification of specimen received: No. 2013/2447

Specimen name*

The shuttering blocks used to build the test specimen are called "ISOTEX HDIII 30/7 Graphite BLOCKS".

(*) according to that stated by the Customer.

Comp. AV
Revis. RP

This test report consists of 9 sheets.
This document is the English translation of the test report No. 312272 dated 30/12/2013 issued in Italian; in case of dispute the only valid version is the Italian one. Date of translation: 26/06/2015.

Sheet
1 of 9

Description of specimen*

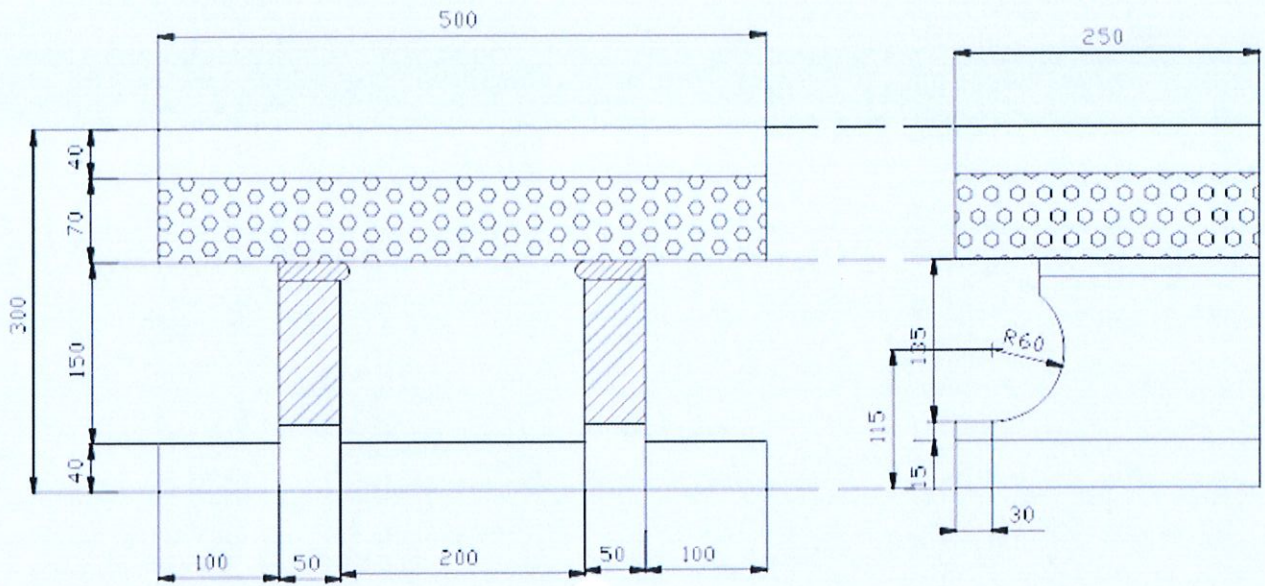
The test specimen is a partition wall, nominal thickness 315 mm, covered, on one face only, by a layer of conventional cement-mortar plaster, average measured thickness 15 mm, and having the dimensions given in the following table.

Nominal width	2500 mm
Nominal height	2500 mm
Overall area	6,25 m ²

More specifically, the specimen is a wall made from ISOTEX HDIII 30/7 mineralised-wood-chip concrete shuttering blocks, dry laid with a half-block stagger between courses and filled with concrete, measured thickness 150 mm, having the following physical properties:

Measured length	500 mm
Measured height	250 mm
Measured thickness	300 mm
Measured weight	10 kg

(*) according to that stated by the Customer.



Drawing of shuttering block used to build the specimen

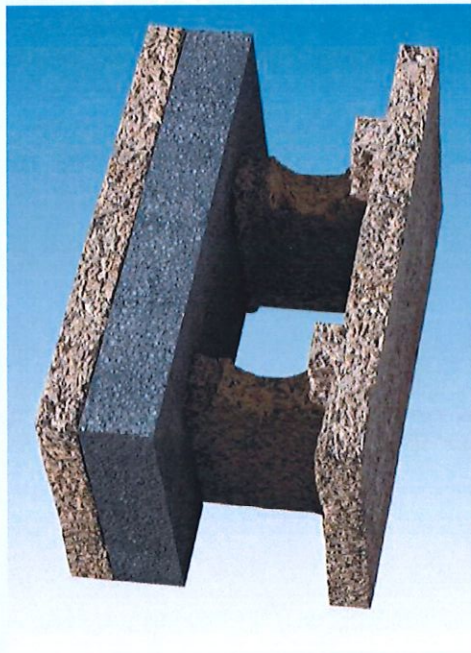
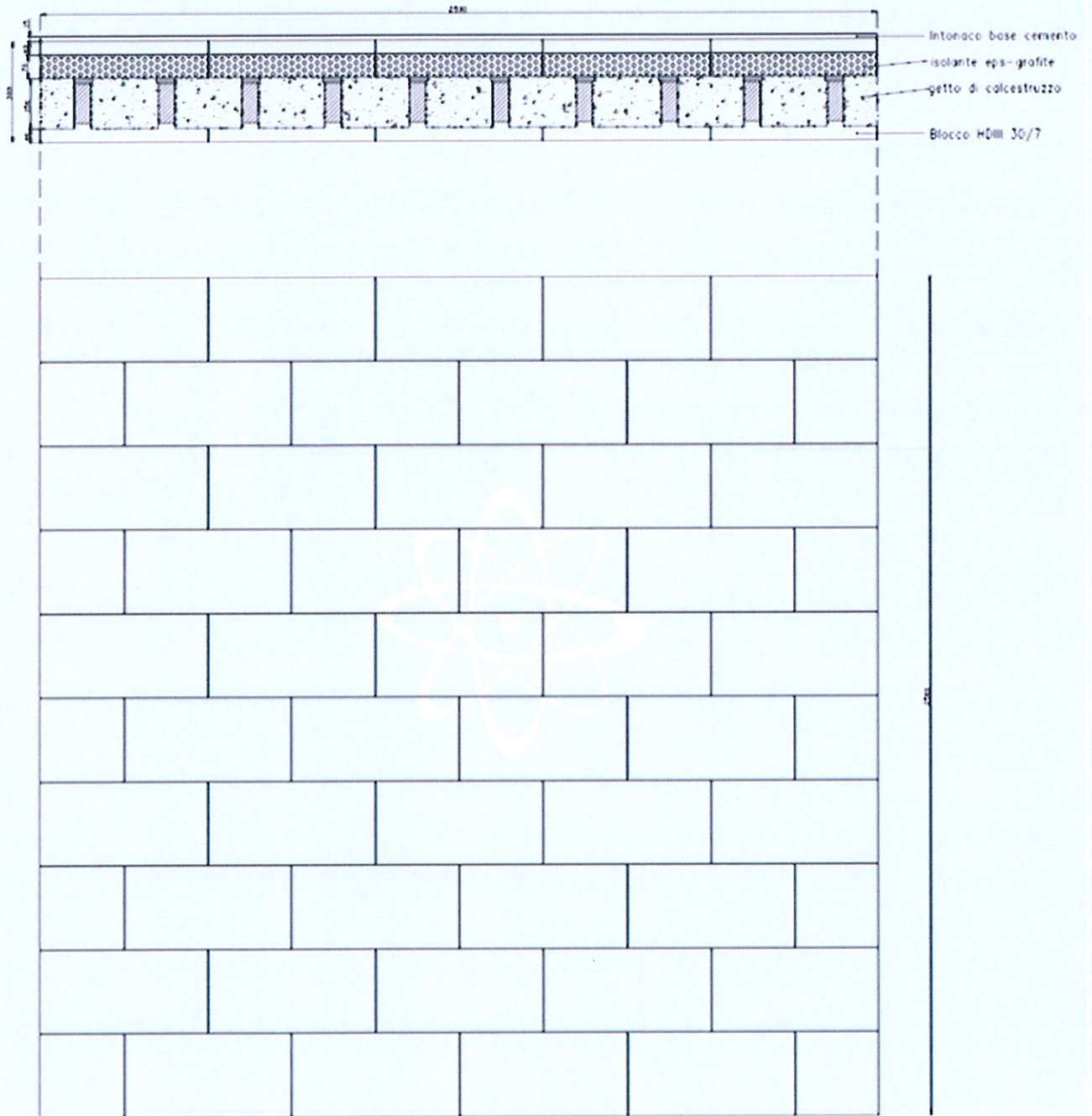


Photo of shuttering block used to build the specimen

SPECIMEN SCHEMATIC DRAWING





Specimen photos

Normative References

The test was carried out in accordance with the requirements of standard UNI EN 12114:2001 dated 30/09/2001 "Thermal performance of buildings - Air permeability of building components and building elements - Laboratory test method".

Test apparatus

The test was carried out using a computerised semiautomatic control and measurement system capable of performing all tests with the parameters requested by the normative reference and fitted with the following equipment:

- for the measurement of air flow rate: pressure differential devices (orifice plates, nozzles and Venturi tubes) compliant with standards ASME MFC-14M:2003 "Measurement of fluid flow using small bore pre-

cision orifice meters”, UNI EN ISO 5167-1:2004 dated 01/10/2004 “Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 1: General principles and requirements” and UNI EN ISO 5167-2:2004 dated 01/10/2004 “Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 2: Orifice plates”;

- for measuring pressure inside the test chamber: differential pressure transducers with calibration certificate.

Test method

After conditioning for 7 days under laboratory conditions (15 °C), the specimen was fitted to the test rig and subjected in sequence to:

- measurement of air permeability under positive pressure;
- measurement of air permeability under negative pressure.

Environmental conditions during test

Atmospheric pressure	(1035 ± 5) mbar
Ambient temperature	(15 ± 3) °C
Relative humidity	(32 ± 10) %

Test results

Air permeability under positive pressure

Positive pressure		Air flow rate*	
nominal [Pa]	test [Pa]	total [m ³ /h]	related to overall area** [m ³ /h·m ²]
50	48,9	2,6	0,41 ± 0,02
100	98,2	4,3	0,68 ± 0,02
200	195,4	6,9	1,11 ± 0,02
500	499,5	15,7	2,52 ± 0,05
1000	1002,1	35,3	5,64 ± 0,16

(*) figures refer to pressure of 101,3 kPa and temperature of 293 K.

(**) uncertainty considers contributions caused by measurement of the following quantities: air flow rate, test chamber pressure and size of specimen; expanded uncertainty has been calculated using a coverage factor "k" of 2, corresponding to a confidence level of 95,45 %.

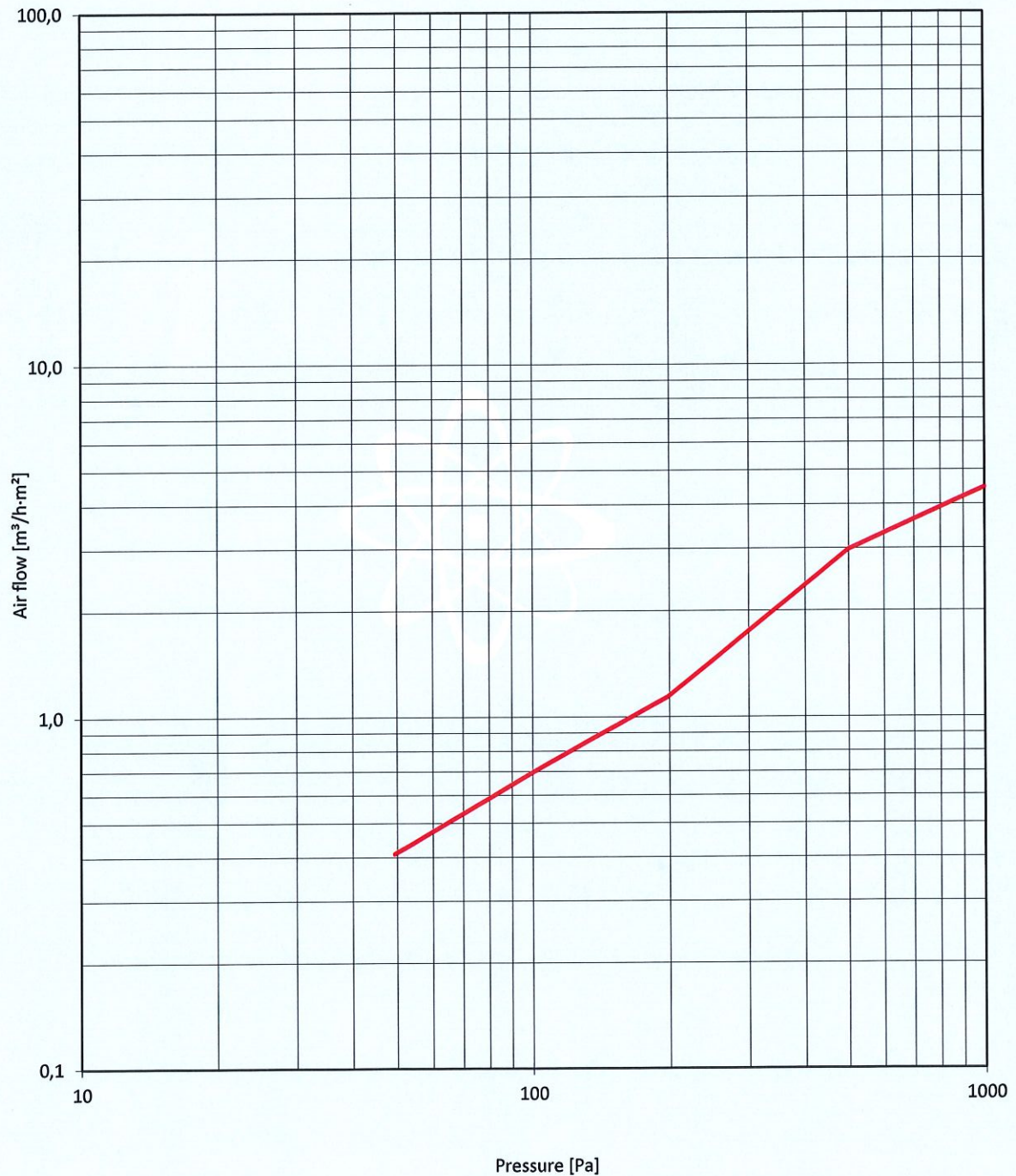
Air permeability under negative pressure

Negative pressure		Air flow rate*	
nominal [Pa]	test [Pa]	total [m ³ /h]	related to overall area** [m ³ /h·m ²]
50	49,4	2,6	0,41 ± 0,02
100	98,6	4,3	0,69 ± 0,02
200	198,2	7,1	1,14 ± 0,02
500	498,6	18,6	2,98 ± 0,06
1000	999,7	27,9	4,46 ± 0,11

(*) figures refer to pressure of 101,3 kPa and temperature of 293 K.

(**) uncertainty considers contributions caused by measurement of the following quantities: air flow rate, test chamber pressure and size of specimen; expanded uncertainty has been calculated using a coverage factor "k" of 2, corresponding to a confidence level of 95,45 %.

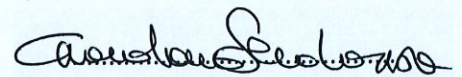
**DIAGRAM OF AIR PERMEABILITY
RELATED TO OVERALL AREA
(negative pressure)**



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Firmato digitalmente da GIORDANO SARA LORENZA