ÉMI Nonprofit limited liability company for quality control and innovation in building
Engineering Services Directorate, ÉMI Construction Testing Laboratory
Address: H-2000 Szentendre, Dózsa György út 26.
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Testing laboratory accredited by NAH under No NAH-1-1110/2023/K.

Project number: M1-A135X-27718-2023

TEST REPORT

Trade name of the product(s) and/or name of the test:	**24 cm thick Evoceramic 24 VB brick walling**
Customer (applicant):	**Cemacon S.A.** 400347 Cluj-Napoca, Calea Turzii nr. 178K Romania
Technical specification (product standard):	**MSZ EN ISO 10140-2:2011** Acoustic. Laboratory measurement of sound insulation of building elements. Part 2: Measurement of airborne sound insulation
Place of tests:	**Central Testing Laboratory** H-2000 Szentendre, Dózsa György út 26. Building O

15 January 2024.

The test results apply only to the individual tested.
Without the written permission of the laboratory the test report may only be duplicated in full.
*The expertise and interpretation in the test report means an activity performed in non-accredited status.
The report contains 4 numbered pages and 2 annexes.

1. DATA

Customer:	Cemacon S.A. 400347 Cluj-Napoca, Calea Turzii nr. 178K Romania
Contact person:	Dipl. Ing. Ferenc Boros Product Manager
Manufacturer:	Cemacon S.A. 400347 Cluj-Napoca, Calea Turzii nr. 178K Romania
Name of the tested structures:	Masonry made from 24 cm thick Evoceramic 24 VB bricks with double sided plaster. Size of the bricks: 430 x 240 x 238 mm

1. TESTS

The airborne sound insulation tests were made according to the MSZ EN ISO 10140-2:2011 standards. The determination of the weighted airborne sound insulation characteristics is made according to MSZ EN ISO 717-1:2021 standards.

The tests meet the requirements of the MSZ EN ISO 10140-1:2011, MSZ EN ISO 10140-1:2010/A1:2012 and MSZ EN ISO 10140-1:2010/A2:2014 standards for the laboratory airborne sound insulation of the special products as well as the MSZ EN ISO 10140-4:2011 standard for test procedures. The laboratory and the measuring devices meet the requirements of the MSZ EN ISO 10140-5:2011 and the MSZ EN ISO 10140-5:2010/A1:2014 for the test rooms and measuring devices.

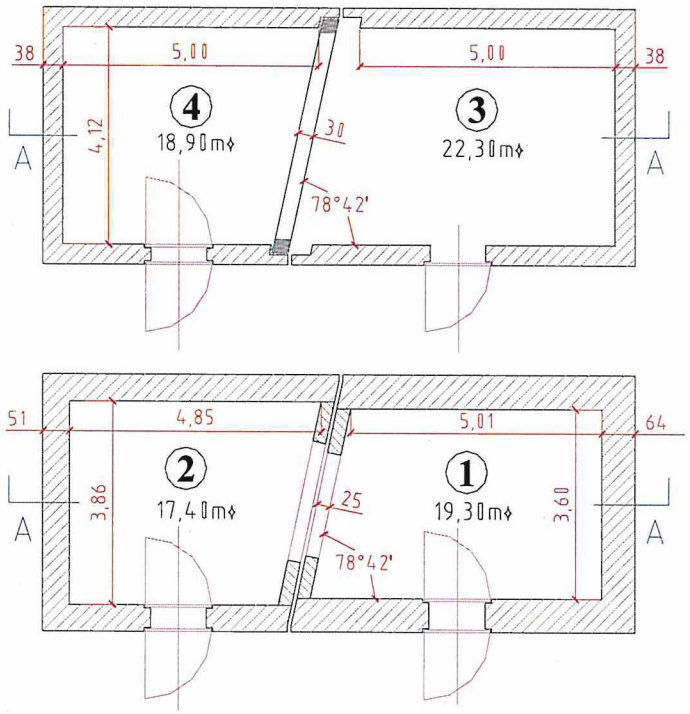
Instruments used for the test were as follows:

Name of the instrument	Measuring range of the instrument	ID number of the instrument	Controlled condition of the instrument
Brüel&Kjaer PULSE 3160A042 LAN-XI measuring system	1 Hz-20kHz	1147	calibrated
Brüel&Kjaer 4190 microphone	5 Hz – 20 kHz dynamic range: 15 dB – 148 dB	1102.1 1102.2	calibrated
Brüel&Kjaer 2669 microphone pre-amplifier	3 Hz-200kHz (±0,5 dB, zaj:<10 µV)	1103.1 1103.2	calibrated
RION NC73 acoustic calibrator	(+5C° - 35C°) 94dB-re 1000 Hz ± 0,5dB	1141	calibrated
NTI Audio dodecahedron sound source set (DS2 sound source, PA3 amplifier)	50Hz-10kHZ LW = 120,5 dB	1149	checked

The samples was shipped by the customer. The wall build up by the ÉMI Non-profit Limited Liability Company for Quality Control and Innovation in Building, under the instructions and supervision of the client.

The data and characteristics of the specimen as well as the results of the tests are included in the attached test sheet.

The airborne sound insulation test was carried out in the Central Material and Structure Testing Laboratory – Acoustical Unit of the ÉMI Non-profit Llc. (H-2000 Szentendre, Dózsa György út 26. Building O). Arrangement of the test rooms of the laboratory is shown in the following figure.



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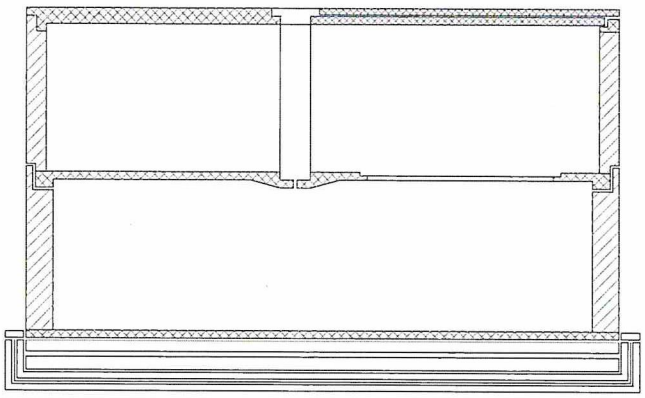


2. RESULTS

Weighted laboratory airborne sound insulation number
of the 24 cm thick Evoceramic 24 VB wall (Annex 1)
according to MSZ EN ISO 717-1:2021 standard:

R_w (C; C_{tr}) = 54 (-1; -4) dB

Detailed data of the tests as well as the test results are included in the attached test sheet. The test results characterize only the airborne sound insulation capability of the related structure.

3. DECLARATION (by MSZ EN ISO/IEC 17025 chapter 7.8.6)

Without the written permission of the laboratory the test report may only be duplicated in full.

4. ANNEXES

Annex no. 1: 24 cm thick Evoceramic 24 VB wall – airborne sound insulation test sheet (page 1)
Annex no. 2: 24 cm thick Evoceramic 24 VB wall – data, figures and photos (page 1)

Szentendre, 15 January 2023.

Report compiled by: Laszlo Ilyes test engineer

Supervised by:

Péter Sólyomi
head of laboratory

Approved by:

Ákos Darányi
head of ÉMILAB laboratory

ÉMI ÉPÍTÉSÜGYI MINŐSÉGELLENŐRZŐ INNOVÁCIÓS NONPROFIT KFT.
51.
SZÉKHELY
2000 Szentendre,
Dózsa György út 26.
POSTACÍM
2001 Szentendre, Pf.: 180
ADÓSZÁM
20783185-2-13

Tested structure:	Laboratory
24 cm thick Evoceramic 24 VB brick walling	**AIRBORNE SOUND INSULATION** test according to MSZ EN ISO 10140-2:2011 standard

Drawings and data concerning the tested structure and test conditions::

Weight of the tested bricks: 18,2 kg/piece (average of 3 pieces)

Nominal size of the bricks: 430 x 240 x 238mm
Masonry mortar: Baumit MM 50
Plastering: Baumit MPI 25
Primer (guz): Baumit Spritz 4
Plaster: 1,5 cm (both side)

Further data are available in Annex no. 2

Customer:
Cemacon S.A.
400347 Cluj-Napoca, Calea Turzii nr. 178K Romania

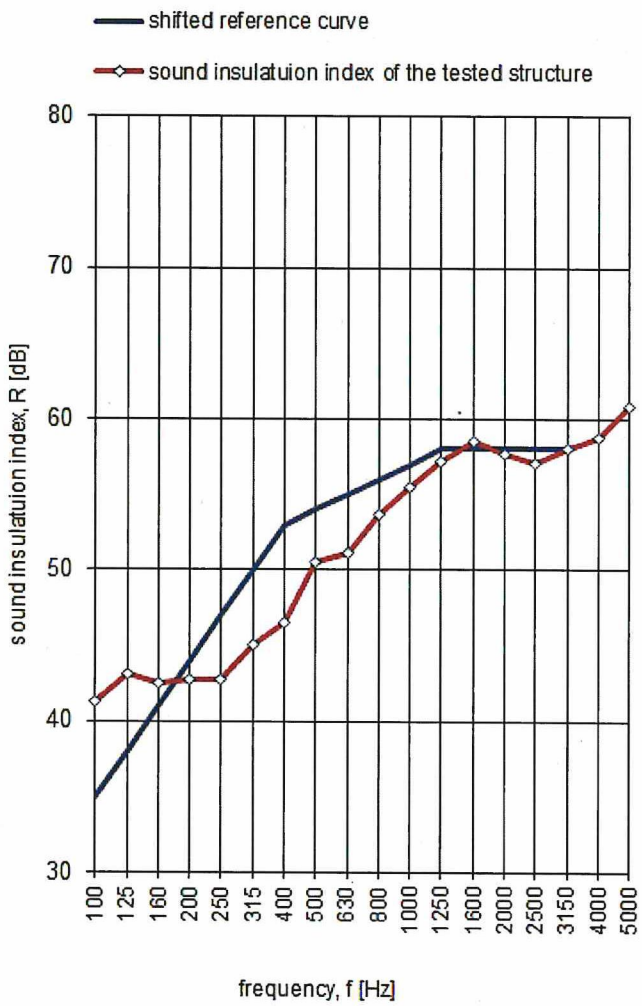
Area of the tested walling: 2,78 x 4,20 m
Specific weight of tested structure: - kg/m2

Test location:
ÉMI Non-profit Llc.
Central Testing Laboratory

Measuring room 1
- volume: 52,9 m3
- temperature: 20 ◦C
- relative humidity: 55 %
- static pressure: 101,32 kPa

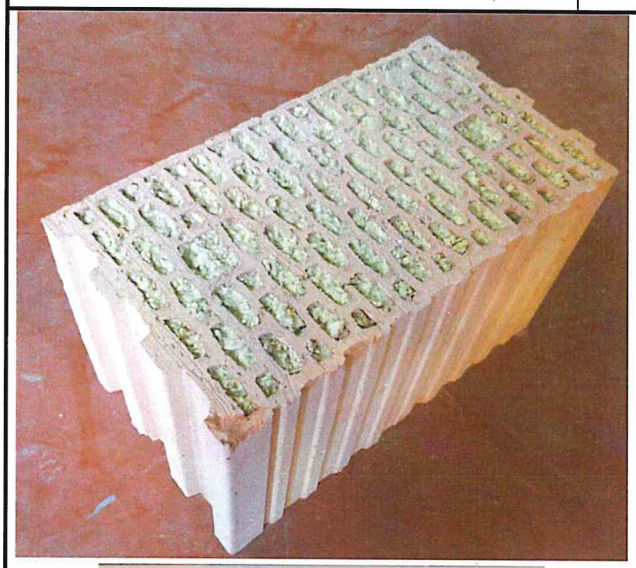
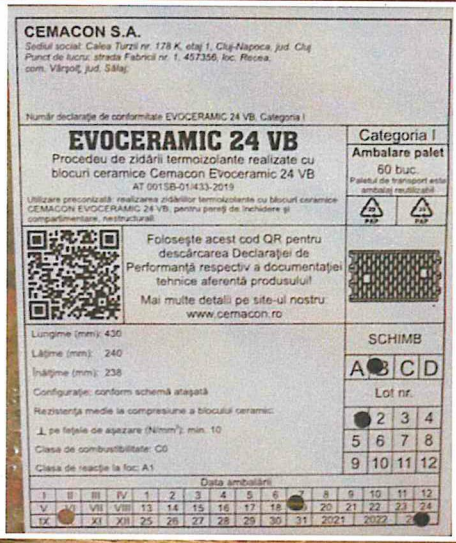
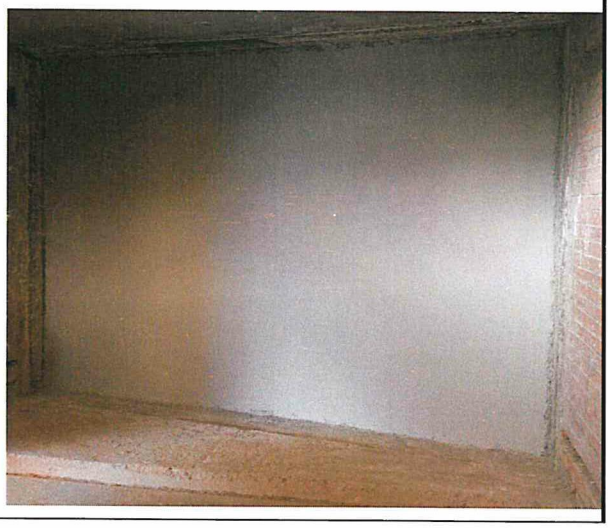
Measuring room 2
- volume: 50,4 m3
- temperature: 20 ◦C
- relative humidity: 51 %
- static pressure: 101,10 kPa

Test made by:
Laszlo Ilyes
Antal Vadász



Date of test:
15 December 2023.

Evaluation according to
MSZ EN ISO 717-1:2021 standard:
R_w (C; C_{tr}) = 54 (-1; -4) dB

f [Hz]	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
R [dB]	41,3	43,1	42,5	42,7	42,7	45,0	46,5	50,5	51,2	53,7	55,5	57,2	58,6	57,7	57,1	58,1	58,8	60,8

Tested structure:	Laboratory
24 cm thick Evoceramic 24 VB brick walling	**AIRBORNE SOUND INSULATION** test according to MSZ EN ISO 10140-2:2011 standard