Audiotec
INGENIERÍA ACÚSTICA

LABORATORY ACOUSTIC TEST REPORT

GERFLOR
1 Chem. du Bois des Lots,
Saint-Paul-Trois-Châteaux, 26130,
France

Horizontal enclosure:
Load-bearing element: Reference concrete slab, 140 mm thickness + Creation 55 Clic Acoustic flooring, 6 mm thickness

Ref: CAM25040010/MEJ_IMP

Date of Issue:
September 25, 2025

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TEST REPORT

PLACE OF TEST	**Standardized Test Chambers of AUDIOTEC C/ Juanelo Turriano, 4. Boecillo Technology Park. Boecillo (Valladolid), Spain**
TEST	Laboratory measurement of impact noise reduction transmitted through floor coverings on standardized heavy floors.
SAMPLE	**Load-bearing element:** Reference concrete slab, 140 mm thickness. **Floor covering:** Creation 55 Clic Acoustic flooring, 6 mm thickness.
TEST METHOD:	**UNE EN ISO 10140-1:2022. Annex H** **UNE EN ISO 10140-3:2022**
CUSTOMER	**GERFLOR**
DATE OF ISSUE:	**August 13, 2025**

Performed by:

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Laboratory Technician

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Signed.: Ángel Arenaz Gombau
Technical Director of Laboratory

ENAC
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ISO 17025
Nº149 / LE367

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1.- REPORT PURPOSE

Evaluation of impact noise reduction transmitted through floor coverings on a standardized heavy floor slab of 140 mm thickness, expressed as the weighted reduction in impact sound pressure level, Lw (ΔLw), for the following sample:

Construction system identification Horizontal system comprised of:

- Load-bearing element: Reference concrete slab, 140 mm thickness.
- Floor covering: Creation 55 Clic Acoustic flooring, 6 mm thickness.

Based on its characteristics, the floor covering is categorized as Category II as defined in clause H.2.2.2 of Annex H to UNE EN ISO 10140-1:2022.

The test was performed in the standardized chambers of AUDIOTEC at the Boecillo Technology Park (Valladolid).

- The sample was installed by operators subcontracted by Audiotec and tested by Audiotec technicians.
- Descriptions of thickness, densities, and material composition were provided by the client, and in the case of weight and thickness, they were verified by Audiotec.
- Audiotec Ingeniería Acústica SA declines all liability for any variations in these quantities.
- Audiotec is not responsible for the information contained in this report that appears to have been provided or indicated by the client. Such information provided by the client is not covered by the accreditation.

2.- TEST PROCEDURE

2.1- Procedures and Standards Used

The test was conducted in accordance with the following standards and laboratory procedures:

- *UNE EN ISO 10140-3:2022. Acoustics. Laboratory measurement of impact sound insulation of building elements.*
- *Annex H of UNE EN ISO 10140-1:2022 (Floor coverings. Improvement of impact sound insulation).*
- *Annex C of UNE EN ISO 10140-5:2022 (Standard floors for measuring the improvement in impact sound insulation provided by floor coverings).*
- *Measurement and calculation procedures set out in specific test procedures PE-37 and PE-39 of the AUDIOTEC Acoustics Laboratory.*

2.2- Methodology and Test Parameters

The test chambers comply with the provisions and requirements established in UNE EN ISO 10140-5:2022. They are vertically adjacent chambers: the lower (receiving) chamber is fixed and located below ground level, and the upper chamber, where the impact machine is placed, is mobile and positioned on the floor assembly under test. Both chambers have an irregular prismatic shape with no parallel edges. The receiving (lower) chamber is below street level; its walls are 30 cm thick concrete with interior acoustic linings composed of 15 mm gypsum board, having a volume of 52.8 m³. The walls of the upper chamber comprise a 15 cm thick exterior sandwich metal structure reinforced with insulating and sound-absorbing materials, and an interior acoustic lining.

Two tests were performed: first with the complete system and then with the load-bearing system. The methodology is described below:

For each test, a standardized impact machine was placed sequentially in five positions distributed over the surface under test.

For the complete system, for each impact machine position, three measurements were performed with a rotating microphone in the diffuse field area of the receiving chamber. The microphone was kept at a minimum distance of 0.7 m from the side walls and at least 1 m from the test specimen at all times. The microphone sweep radius was 1 m with a minimum tilt of 10°.

For the load-bearing system test, for each impact machine position, three measurements were made with a rotating microphone in the diffuse field area of the receiving chamber. The microphone was kept at a minimum distance of 0.7 m from the side walls and at least 1 m from the specimen; the sweep radius was 1 m with a minimum tilt of 10°.

Each measurement lasted 48 seconds after signal stabilization, with a rotation period of 16 seconds, thus covering 3 complete revolutions.

Measurements were taken in one-third octave bands from 100 Hz to 5,000 Hz. Subsequently, with the impact machine stopped, the background noise level in the receiving room was measured. For the complete system test, this was performed with the rotating microphone under the same conditions as when the machine was operating. The same procedure was followed for the load-bearing system.

Finally, the reverberation time in the receiving chamber was measured. Two source positions separated by more than 3 m were used. For each source position, three microphone positions were used in the receiving chamber to measure reverberation. All were located more than 1 m from the side walls, at least 1.8 m apart from each other, and 2 m from the sound source. Two measurements were taken at each position, and the respective averages were calculated. TR20 was measured.

2.3.- Instrumentation Used

The equipment employed in the test was as follows:

- Standardized impact machine Brüel & Kjær, Type 3207, S/N 3302870.
- Noise source Brüel & Kjær, Type 4292, S/N 004007.
- PULSE Analyzer model B&K 3560-B-030, S/N 2538701.
- Amplifier PHONIC MAX 860, S/N ABA2GBA171.
- One-third octave equalizer, BEHRINGER, Model DEQ2496.
- Microphone B&K 4189, S/N 2534182, with preamplifier B&K 2669, S/N 2532870.
- Calibrator/Verifier B&K Type 4231, Class 1, S/N 2136530.
- Thermo-anemometer BARIGO, Model No. 525.
- Analyzer B&K Type 2260, Class 1, S/N 2497415.

2.4.- Product Identification and Sample Description

PRODUCT	DIMENSIONS	BRAND / MODEL	ESSENTIAL PROPERTIES	
Reinforced concrete reference slab (load-bearing element)	400 x 440 cm	--	Surface mass:	351 kg/m^2
CREATION 55 SOLID CLIC floor covering	--	Gerflor / CREATION 55 SOLID CLIC	Thickness	6 mm

Sample description:

Load-bearing element: Reference concrete slab, 14 cm thickness.

Floor covering: Creation 55 Clic Acoustic flooring, 6 mm thickness.

2.5.- Sample Installation Procedure

In the existing opening between the source and receiving chambers, the standardized reference reinforced concrete slab with a thickness of 14 cm was installed.

On top of the slab, the Creation 55 Clic Acoustic floor covering, 6 mm thick, was installed directly on the heavy slab.

Approximate nominal system thickness: 146 mm (140 mm load-bearing system slab + 6 mm Creation 55 Clic Acoustic floor). The surface mass of the system is 358.78 kg/m² (351 kg/m² for the reference slab + 7.78 kg/m² for the vinyl floor).

The measurement opening dimensions are 3.30 m wide by 3.675 m long.
The common surface area between the two chambers is 12.12 m².
The total approximate sample area is 14.58 m².
The tested sample was installed by AUDIOTEC personnel.

The volume of the upper chamber is 58.35 m³ and that of the receiving (lower) chamber is 52.83 m³.

Environmental Conditions (reference floor test):

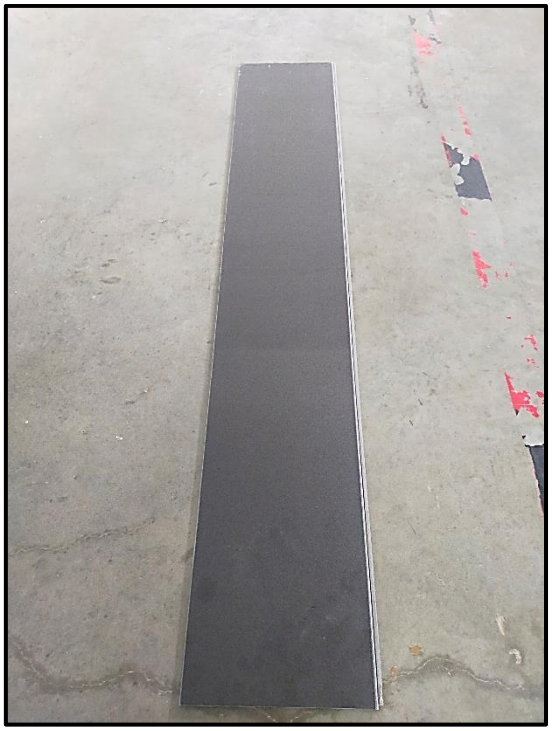
	Temperature (ºC)		Relative humidity (%)		Atmospheric Pressure (mba)	
Chamber	**Inicial**	**Final**	**Inicial**	**Final**	**Inicial**	**Final**
Source	30.3	30.3	34	34	1026	1026
Receiving	29.6	29.6	35	35		

Environmental Conditions (complete system test):

	Temperature (ºC)		Relative humidity (%)		Atmospheric Pressure (mba)	
Chamber	**Inicial**	**Final**	**Inicial**	**Final**	**Inicial**	**Final**
Source	30.2	30.3	34	34	1026	1026
Receiving	29.5	29.5	36	36		

2.7.- Assembly Photographs

Upper Surface



Lower Surface

3.- TEST RESULTS

For the tested system, the following are presented on a dedicated page, among other data:

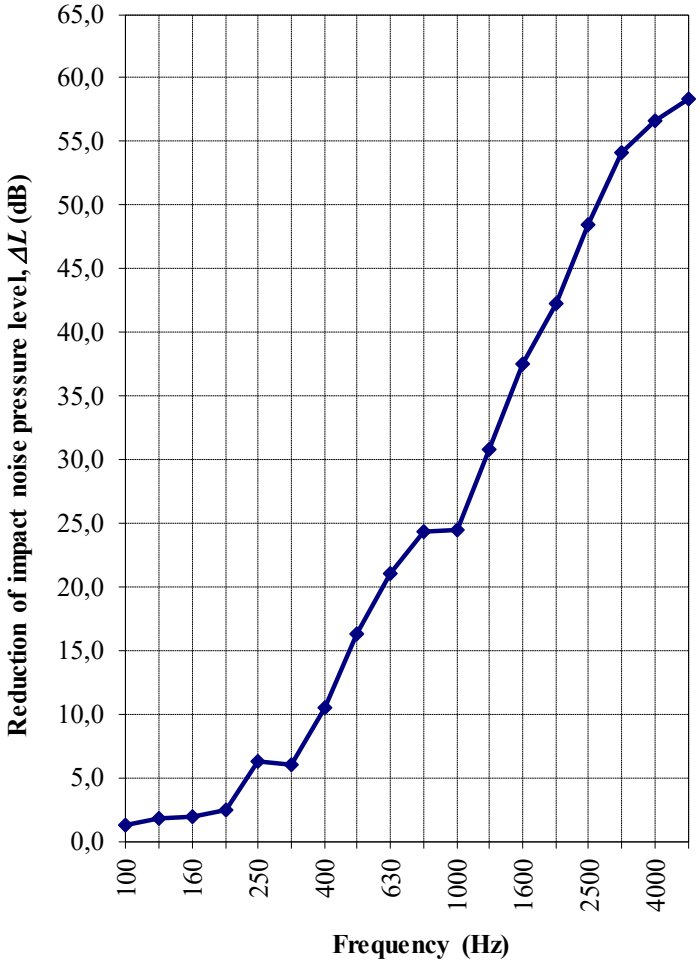
- A brief description of the tested sample
- A table and graph showing the values of impact noise pressure level reduction due to the floor covering under test as a function of frequency, ΔL.
- A table with the normalized impact noise pressure level of the heavy floor used in the test as a function of frequency, L_{n0}.
- A global value of the weighted impact noise pressure level reduction, ΔLw, as well as the global values of L_{nwr} and L_{nw0}, calculated according to standard UNE EN ISO 717-2 (latest version)

Notes:

- The results of this test only concern the objects presented for testing and under the conditions and circumstances in which the measurements were performed.
- Measurement uncertainty is available to the client at the AUDIOTEC Acoustics Laboratory.
- This report may not be reproduced by any means unless done in its entirety and with authorization from the AUDIOTEC S.A. Acoustics Laboratory.
- Standard UNE EN ISO 10140-3:2022 supersedes the standard UNE EN ISO 10140-3:2011.
- Annex H of standard UNE EN ISO 10140-1:2022 supersedes Annex H of standard UNE EN ISO 10140-1:2016.

Customer: GERFLOR
Date of Issue: 18/08/2025
Construction system identification
Load-bearing element: Reference concrete slab, 140 mm thickness.
Floor covering: Creation 55 Clic Acoustic flooring, 5 mm thickness.
Test method: UNE-EN ISO 10140-1, Annex H. Cat. II y UNE EN ISO 10140-3:2022
Thickness: 146 mm;
Surface mass: 358,78 kg/m2

Frec. f Hz	$L_{n,0}$ dB	ΔL dB
100	58,4	1,2
125	60,5	1,7
160	66,3	1,9
200	63,6	2,5
250	67,5	6,3
315	73,2	6,0
400	72,5	10,5
500	73,7	16,3
630	74,0	21,0
800	73,6	24,3
1000	71,6	24,5
1250	70,3	30,8
1600	71,3	37,5
2000	70,4	42,3
2500	70,0	48,5
3150	70,3	54,1
4000	69,1	56,7
5000	68,0	58,3



Weighted reduction of impact sound pressure level according to UNE EN ISO 717-2 Standard

ΔL_w = 20 dB CIΔ = -11 dB Ln w,r = 58 dB CI,r = 0 dB
Ln w,0 = 77 dB CI,0 = -9 dB

Date of Issue: 18/08/2025

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