



MFPA Leipzig GmbH

Leipzig Institute for Materials Research and Testing

Testing, Inspection and Certification Authority for Construction Products and Construction Types

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Sound Insulation

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Testing laboratory accredited by DAkkS GmbH according to DIN EN ISO/IEC 17025.
Recognized Testing Laboratory by the VMPA

Acoustic Testing VMPA-SPG-129-97-SN

Test Report No. PB 2.3/24-044-1

July 3rd 2024

No. Copy: 1

Subject matter: Measurement of the Dynamic Stiffness of an impact sound insulating product named *Acoustic Silence 1050 – 5* in accordance to DIN EN 29052-1

Client: Scan Underlay
Ursusvej 16
DK-8464 Galten

Date of order: 19-03-2024

Date of test: 15-04-2024

Person in charge: J. Richter, B. Eng.
Dipl.-Phys. D. Sprinz

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1 Task Specification

Determination of the Dynamic Stiffness of an impact sound insulating product named *Acoustic Silence 1050 – 5* in accordance to DIN EN 29052-1 by order of the manufacturer

Scan Underlay
Ursusvej 16
DK-8464 Galten

2 Test procedure

The measurement of the Dynamic Stiffness was carried out according to:

- DIN EN 29052-1: Acoustics, determination of dynamic stiffness; part 1: materials used under floating floors in dwellings; German version EN 29052-1, issue August 1992

The test procedure is accredited by DAkkS GmbH according to DIN EN ISO / IEC 17025.

The test setup was arranged according to figure 1 a) and test procedure was met point 7.3 of DIN EN 29052-1. Excitation was realized with an impulse, acceleration was measured for determination of resonant frequency.

Preparation:

Each of the three test specimens were covered with a water-resistant foil of 0.02 mm thickness. Upon the foil a gypsum layer with at least 5 mm thickness was applied and a steel plate embedded.

3 Test Results

Test specimen No.	Mass [g]	Thickness under static load [mm]	Weight per unit area [kg/m ²]	Frequency [Hz]	s' _t ¹⁾ [MN/m ³]	s' _a [MN/m ³]	s' [MN/m ³]
1	47	4	1,18	57	26,8	27,8	54,6
2	48	4	1,20	54	23,9	27,8	51,7
3	40	4	1,00	53	22,8	27,8	50,6
Average	45	4	1,13	55	25	28	52

test date: 15-04-2024

conditions in the testing laboratory:

temperature: 20 °C Air humidity: 40 %

¹⁾ apparent Dynamic Stiffness

The result for the Dynamic Stiffness s' according to DIN EN 29052-1 is

$$s' = 52 \text{ MN/m}^3$$

Metrological determined values of the length-related flow resistance from the testing institute were used for the determination of the Dynamic Stiffness s'_a of the enclosed air. The value s'_a was determined acc. to point 8.2 b) of DIN EN 29052-1.

4 Notes

The impact sound insulating material was delivered to the MFA Leipzig GmbH on 15-03-2024. Three test specimens were cut out randomly from this material for the measurement by craftsmen of the MFA Leipzig GmbH. The three specimens were consecutively numbered. The mass of the load-bearing plate with the embedded, hardened gypsum layer was determined on the test date for each specimen.


In Germany for insulation materials that do not comply with DIN 4108-10, application abbreviation DES, the value of the dynamic stiffness s' must not be used to determine the impact sound reduction according to DIN 4109-34: 2016-07, equation 3 and figure 1, equation 5 and Figure 2.

The results of the tests exclusively relate to the items tested. This document does not replace a certificate of conformity or suitability according to national and European building codes.

Leipzig, July 3rd 2024

i.A. Bernd
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Head of Work Group

J. Richter
J. Richter, B. Eng.
Testing Engineer



The stamp is circular and contains the MFA Leipzig GmbH logo, the text 'SAC 02 NB 0800', and a small blue dot.