

Recognized Testing Laboratory by the VMPA
Acoustic Testing VMPA-SPG-129-97-SN

MFPA Leipzig GmbH

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

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– English Version –

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No. Copy 7

Subject matter: Measurement of dynamic Stiffness in accordance with
DIN EN 29052-1 of an impact sound insulating material named
Acoustic Silence 3 mm

Client: Scan Underlay ApS
Ursusvej 16
8464 Galten – Denmark

Order date: 24-04-2017

Test date: 16-05-2017

Handled by: D. Erler, B. Sc.
Dipl.-Phys. D. Sprinz

This test report comprises 3 sheets.

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DIN EN ISO/IEC 17025.

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1. Task specification

The Dynamic Stiffness of an impact sound insulating materials named *Acoustic Silence 3 mm* shall be measured in accordance with DIN EN 29052-1 by order of the client

Scan Underlay ApS

Ursusvej 16

8464 Galten – Denmark

Dynamic Stiffness s' according to DIN EN 29052-1 is to quote as result.

2. Test procedure

Measurement of Dynamic Stiffness was carried out according to:

- DIN EN 29 052-1: Acoustics; determination of dynamic stiffness; part 1: materials used under floating floors in dwellings; german version EN 29052-1, Ausgabe August 1992

Test setup was arranged according to figure 1 a) and test procedure was met point 7.3 of DIN EN 29 052-1. Excitation was realized with an impuls, acceleration was measured for determination of resonant frequency.

Preparation:

The material three test specimen were used, according to DIN EN 29052-1. Each of the three test specimen was covered with a water-resistant foil of 0.02 mm thickness. Upon the foil a gypsum layer with 5 mm thickness was applied and a steel plate embedded.

3. Test results

- **impact sound insulating material *Acoustic Silence 3 mm***

Dynamic Stiffness s' according to EN 29052-1							
Size of test specimen: 200 mm x 200 mm							
Test specimen No.	Mass [g]	Thickness under static load [mm]	Weight per unit area [kg/m ²]	Frequency [Hz]	s'_{t1} [MN/m ³]	s'_a [MN/m ³]	s' [MN/m ³]
1	41.3	3	1.03	91	68.2	37.0	105.2
2	40.2	3	1.01	84	57.8	37.0	94.8
3	43.3	3	1.08	94	72.1	37.0	109.1
Average	41.6	3	1.04	90	66	37	103

tested on: 16-05-2017

Conditions in the testing laboratory:

temperature:

23 °C

Air humidity:

41 %

¹⁾ Apparent dynamic Stiffness

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

$$s' = 103 \text{ MN/m}^3$$

There were used metrological determined values of the air flow resistivity from the testing institute for the determination of the dynamic Stiffness s'_a of the enclosed air. The value s'_a was determined acc. to point 8.2 a) of DIN EN 29 052-1.

4. Note:


The sound insulation material was delivered to MFPA Leipzig GmbH on 02-05-2017. 3 test specimen were cut out from this material for the measurement by craftsmen of MFPA Leipzig GmbH. The 3 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.

For impact sound insulating materials manufactured without mineralwool and EPS, the value for dynamic stiffness may in principle not use for determination of impact sound reduction according to the german norm DIN 4109, Bbl. 1, Tab. 17, and DIN EN 12354-2, Annex C.

Leipzig, 24 July 2017



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