

Test Report A-2019-370-03

This report is a translation of Test Report No. A-2019-370-02.



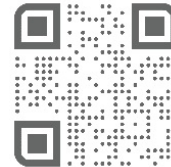
Zertifizierte Güteprüfstelle nach DIN 4109
VMPA-SPG-142-97-NRW

DIBt Anerkennung – Prüfungen im Prüfstand

Staatlich anerkannte Sachverständige für den Schallschutz
und Wärmeschutz IK-Bau NRW

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Customer FALQUON GmbH
Am Hünengrab 18
16928 Pritzwalk
GERMANY



Test Order Impact Sound
Reduction

Test Object floor covering

Picture/ Drawing:



Description: (for a construction from top to bottom)

* customer information

Designation	Thickness [mm]	Weight [g/m ²]
THE FLOOR SPC WOOD, with XPS, new profile	6*	-
PE-foil	-	-

Aachen, 18.11.2019

(Dr.-Ing. Alexander Siebel)

The test report may not be published in excerpts without the approval of the testing laboratory.

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Attachments:

SA – sound absorption in reverberation rooms DIN EN ISO 354:2003-12	
TS – impact sound DIN EN ISO 10140-1 / DIN EN ISO 10140-3	X
GS – walking sound DIN EN 16205:2018-05	
LS – airborne sound insulation DIN EN ISO 10140-2	
IR – sound absorption in impedance tubes DIN EN 10534-1 / DIN EN 10534-2	
DS – dynamic stiffness DIN EN 29052-1 - 1992-08	
TD – technical documentation for sample construction	

The test results relate only to the provided test items.

Reduction of impact sound pressure level in accordance with ISO 10140-3
Laboratory measurements of impact sound insulation of floors

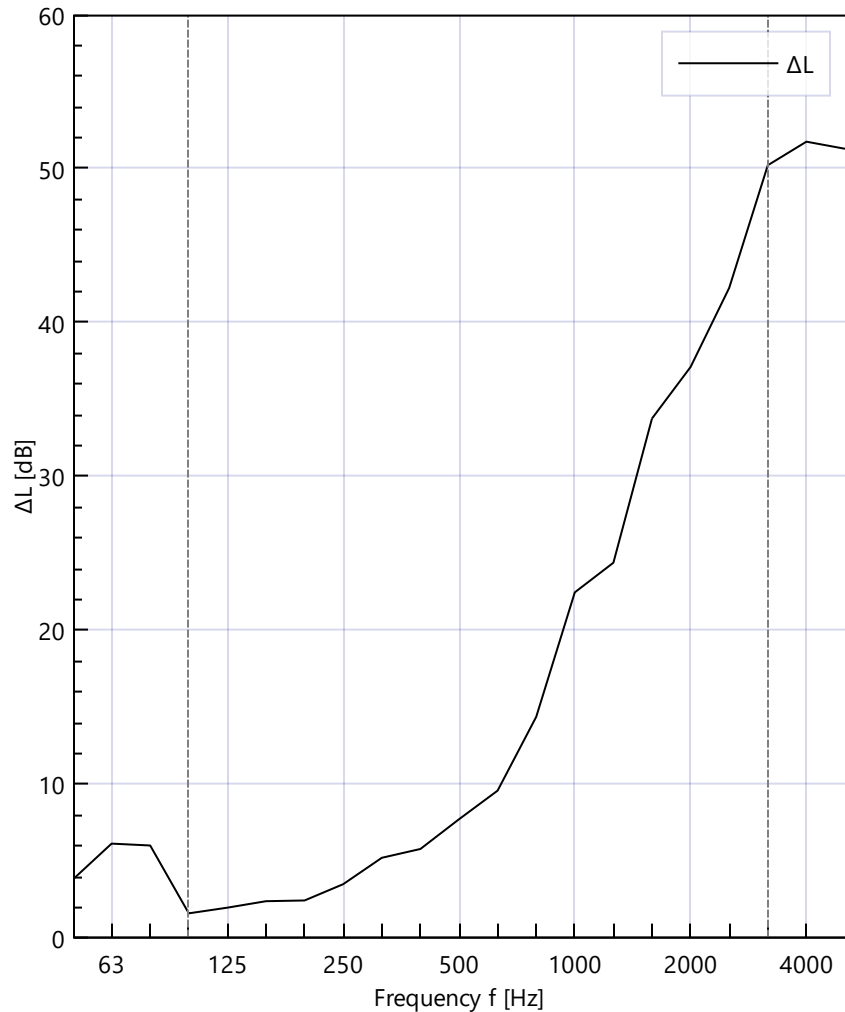
Client: FALQUON GmbH

Date of test: 18/11/2019

Construction:
 THE FLOOR SPC WOOD, mit XPS, neues Profil
 PE-foil

Source room temp. / R.H.: 16,3°C/50%
 categorie/ sample area: I/ ~1,5m²
 Tapping Machine positions: 4
 Microphone positions: 4
 Receiving room volume: 53.6 m³

Frequency f Hz	ΔL 1/3 octave dB
50	3.8
63	6.2
80	6.0
100	1.6
125	2.0
160	2.4
200	2.5
250	3.5
315	5.2
400	5.8
500	7.7
630	9.6
800	14.4
1000	22.5
1250	24.4
1600	33.8
2000	37.1
2500	42.2
3150	50.2
4000	51.7
5000	51.3



Rating in accordance with ISO 717-2:

 $\Delta L_w = 18$ dB $C_{l,\Delta} = -10$ dB; $C_{l,r} = -1$ dB $\Delta L_{lin} = 8$ dB

Evaluation based on laboratory measurement
 results obtained by an engineering method.

No. of test report: A-2019-370-03

Name of test institute: SWA GmbH

Date: 18/11/2019

Signature:

General Annex TS for laboratory impact sound tests

1 Test stand description

Test rooms:	Laboratory of SWA GmbH, Hauptstraße 133, 52477 Alsdorf
Sending room:	4,27 m x 4,45 m x 2,74 m; V = 52,1 m ³ (cubic, with diffusers)
Receiving room:	3,95 m x 4,08 m x 3,33 m; V = 53,6 m ³ (cubic, with diffusers)
Reference ceiling:	4,27 m x 4,45 m; S = 19 m ² 14 cm concrete solid plate ceiling with an area-related mass m' ≈ 322 kg/m ²
Flanking walls:	lime sand brick walls with light weighting facing shells (d = 12cm) with a medium area-related mass of m' ≈ 330 kg/m ²

2 Analysis

The impact sound levels generated by the standardized tapping machine are measured in the receiving room under a solid ceiling without and with a textile floor covering. From the measured values the reduction of impact sound pressure is calculated as follows:

$$\Delta L = L_{n,0} - L_n \text{ in dB}$$

$$L_{n,0} = \text{Impact sound level without floor covering in dB}$$

$$L_n = \text{Impact sound level with floor covering in dB}$$

To determine the weighted impact sound reduction the applicable reference curve is shifted in 1 dB steps into the measured curve so that the sum of the most unfavorable deviations corresponds as close as possible to the value of 32 dB without exceeding this value.

The linear impact sound level ΔL_{lin} you can calculate after the following equation:

$$\Delta L_{lin} = L_{n,r,0,w} + C_{I,r,0} - (L_{n,r,w} + C_{I,r}) = \Delta L_w + C_{I,\Delta}$$

$L_{n,r,w}$ the calculated weighted norm impact sound level of the cover blanket with the blanket edition to be checked is.

$L_{n,r,0,w}$ 78 dB, investigates $L_{n,r,0}$ to 4.3.1 DIN EN ISO 717-2 : 2013.

$C_{I,r}$ Spectrum customization value.

$C_{I,r,0}$ Spectrum customization value.

2.1 Test Standards

Standard: (Issue)	Title
DIN EN ISO 10140-1:2016-12	Akustik – Messung der Schalldämmung von Bauteilen im Prüfstand – Teil 1: Anwendungsregeln für bestimmte Produkte
DIN EN ISO 10140-2:2010-12	Akustik – Messung der Schalldämmung von Bauteilen im Prüfstand – Teil 2: Messung der Luftschalldämmung
DIN EN ISO 10140-3:2015-11	Akustik – Messung der Schalldämmung von Bauteilen im Prüfstand – Teil 3: Messung der Trittschalldämmung
DIN EN ISO 10140-4:2010-12	Akustik – Messung der Schalldämmung von Bauteilen im Prüfstand – Teil 4: Messverfahren und Anforderungen
DIN EN ISO 10140-5:2014-09	Akustik – Messung der Schalldämmung von Bauteilen im Prüfstand – Teil 5: Anforderungen an Prüfstände und Prüfeinrichtungen

2.2 Evaluation Standards

Standard: (Issue)	Title
DIN EN ISO 717-1:2013-06 ²	Akustik – Bewertung der Schalldämmung in Gebäuden und von Bauteilen – Teil 1: Luftschalldämmung
DIN EN ISO 717-2:2013-06 ²	Akustik – Bewertung der Schalldämmung in Gebäuden und von Bauteilen – Teil 2: Trittschalldämmung
DIN EN ISO 12999-1: 2014 ²	Akustik - Bestimmung und Anwendung der Messunsicherheiten in der Bauakustik - Teil 1: Schalldämmung
ASTM E989 – 18 ³	Standard Classification for Determination of Single-Number Metrics for Impact Noise
ASTM E2179 - 03(2016) ³	Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors

² german issue

³ american issue

3 Note

The results are based on measurements performed under laboratory conditions with artificial excitation (standard procedure). The test results are applicable in due consideration of the national provisions and the local circumstances and/or constructions.