Schall- und Wärmemessstelle Aachen GmbH

Schallschutzprüfstelle VPMA · Zertifiziert
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Staatlich anerkannte Sachverständige für den
Schallschutz und Wärmeschutz · IK-Bau NRW

Blower Door Messungen · Gebäudethermografie ·
Energieberatung · EnEV-Nachweise Wohn-
gebäude · EnEV-Nachweise Nicht-Wohngebäude

Geschäftsführer:
Dr.-Ing. Lothar Siebel
Dipl.-Ing. Bernd Gebing

Steuer-Nr. 201/5992/3795
USt.-IdNr. DE123595587

Aachen, 26.06.2019

Report No.: A-2019-134

Impact Insulation Class according ASTM E492

Delta Impact Insulation Class according ASTM E 2179

Calculation of impact sound from ISO to ASTM standard

Product name:	**LVT 2.5mm, Verklebung Eurocol 542, Jumpax Basic 7mm (3mm +4mm Klebeseiten zueinander), HeatFoil 1.2mm**
Original report:	**TS 481425**

Applicant:

Unifloor Underlay Systems
Arnsbergstraat 4
7418 EZ Deventer
Netherlands

(Dr.-Ing. A. Siebel)

Number of pages: 2 pages and 3 supplement

1 Test

Impact Insulation Class according ASTM E492
Delta Impact Insulation Class according ASTM E 2179

Calculation of impact sound from ISO to ASTM standard

2 Annex

Calculation - Impact Insulation Class according ASTM E492

Calculation - Delta Impact Insulation Class according ASTM E 2179

Original Report

Impact Insulation Class according ASTM E492

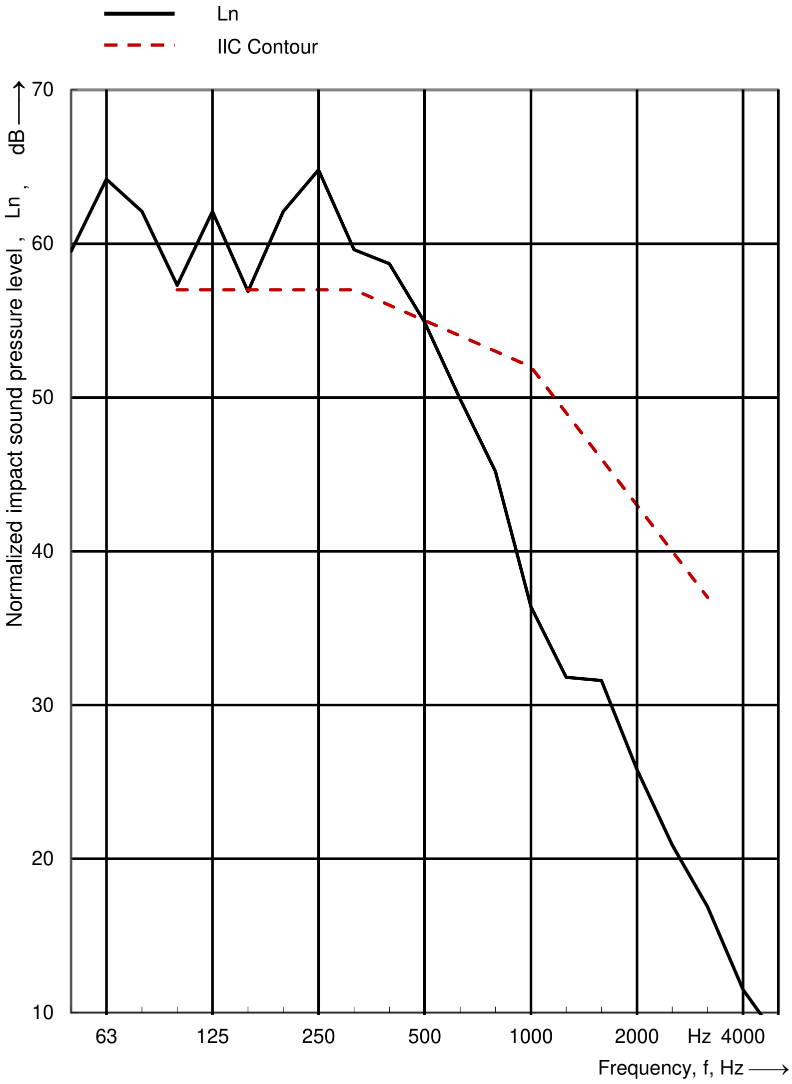
Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine

Product name: LVT 2.5mm, Verklebung Eurocol 542, Jumpax Basic 7mm (3mm +4mm Klebeseiten zueinander), HeatFoil 1.2mm

Installed by: compare original report

Construction: (from top to bottom) compare original report

Frequency f [Hz]	Ln 1/3 octave [dB]
50	59,5
63	64,2
80	62,1
100	57,3
125	62,1
160	56,9
200	62,1
250	64,8
315	59,6
400	58,7
500	54,9
630	49,9
800	45,2
1000	36,4
1250	31,8
1600	31,6
2000	25,8
2500	20,9
3150	16,9
4000	11,5
5000	8,3



Impact insulation class IIC = 55 dB

Measurement according DIN EN ISO 10140

Evaluation according to ASTM E989

Report no.: A-2019-134

Schall- und Wärmemessstelle Aachen GmbH

Delta Impact Insulation Class according ASTM E 2179

Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete

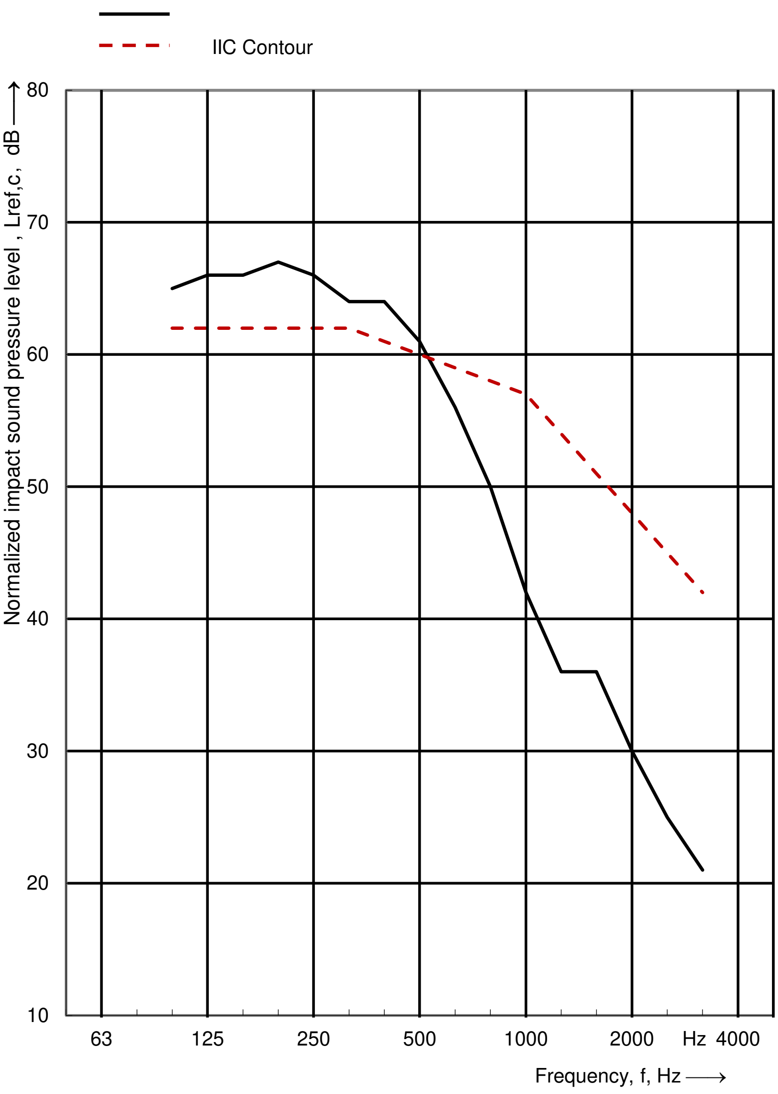
Product name: LVT 2.5mm, Verklebung Eurocol 542, Jumpax Basic 7mm (3mm +4mm Klebeseiten zueinander), HeatFoil 1.2mm

Installed by: compare original report

Construction: compare original report
(from top to bottom)

$L_{ref,c} = L_{ref} - L_d$

Frequency f [Hz]	Lref,c 1/3 octave [dB]
50	-
63	-
80	-
100	65
125	66
160	66
200	67
250	66
315	64
400	64
500	61
630	56
800	50
1000	42
1250	36
1600	36
2000	30
2500	25
3150	21
4000	-
5000	-



Increase in Impact Insulation Class ΔIIC = 22 dB

Measurement according DIN EN ISO 10140
Evaluation according ASTM E 2179 / ASTM E 989

Report no.: A-2019-134

SWA Schall- und Wärmemessstelle Aachen GmbH

Impact sound insulation according ISO 10140-1

Laboratory measurements of the reduction of transmitted impact noise by floor coverings on a heavyweight reference floor

Annex TS − Impact sound insulation

TFI sample number: 18-08-0160, 18-08-0161, 18-08-0175, 18-08-0176 Testing period: 17.08.2018

Product name:

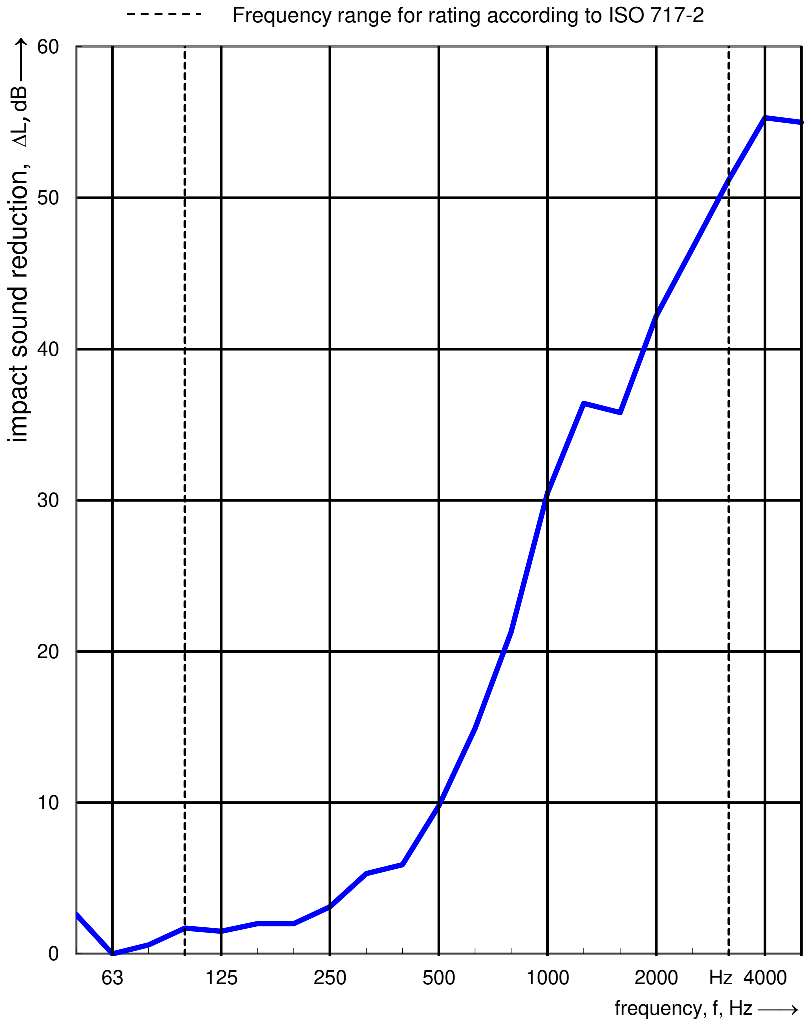
"DRAFT Annex"

Construction: (from top to bottom)
LVT 2.5mm (18-08-0175)
Verklebung Eurocol 542 (18-08-0176)
Jumpax Basic 7mm (3mm +4mm Klebeseiten zueinander) (18-08-0160)
HeatFoil 1.2mm (18-08-0161)

Receiving room:		Source room:	
Volume:	53,6 m³	Volume:	52,1 m³
Air temperature:	22,3 °C	Air temperature:	22,4 °C
Relative air humidity:	76,5 %	Relative air humidity:	65,1 %
Static pressure:	100,0 kPa	Type of reference floor:	Heavyweight

Frequency f [Hz]	$L_{n,0}$ 1/3 oct. [dB]	ΔL 1/3 oct. [dB]
50	62,1	2,6
63	64,2	0,0
80	62,7	0,6
100	59,0	1,7
125	63,6	1,5
160	58,9	2,0
200	64,1	2,0
250	67,9	3,1
315	64,9	5,3
400	64,6	5,9
500	64,7	9,8
630	64,8	14,9
800	66,5	21,3
1000	66,9	30,5
1250	68,2	36,4
1600	67,4	35,8
2000	68,0	42,2
2500	67,6	46,7
3150	68,1	51,2
4000	66,8	55,3
5000	63,3	55,0 [1]

[1] Zu hoch



Evaluation according to ISO 717-2

ΔL_w = 18 dB $C_{I,\Delta}$ = -10 dB $C_{I,r}$ = -1 dB

ΔL_{lin} = 8 dB

The results are based on measurements, which were performed under laboratory conditions with artificial excitation (standard procedure).

Impact sound insulation according ISO 10140-1

TS 481425

Evaluation according to ISO 717-2

ΔL_w = 18 dB $C_{I,\Delta}$ = -10 dB $C_{I,r}$ = -1 dB

The results are based on measurements, which were performed under laboratory conditions with artificial excitation (standard procedure).

Weighted normalized impact sound pressure level $L_{n,0,w}$ = 74 dB
Weighted normalized impact sound pressure level $L_{n,w}$ = 54 dB
Weighted normalized impact sound pressure level $L_{n,r,w}$ = 60 dB

Frequency [Hz]	ΔL [dB]	$L_{n,0}$ [dB]	L_n [dB]	$L_{n,r}$ [dB]
50	2,6	62,1	59,5	
63	0,0	64,2	64,2	
80	0,6	62,7	62,1	
100	1,7	59,0	57,3	65,3
125	1,5	63,6	62,1	66,0
160	2,0	58,9	56,9	66,0
200	2,0	64,1	62,1	66,5
250	3,1	67,9	64,8	65,9
315	5,3	64,9	59,6	64,2
400	5,9	64,6	58,7	64,1
500	9,8	64,7	54,9	60,7
630	14,9	64,8	49,9	56,1
800	21,3	66,5	45,2	50,2
1000	30,5	66,9	36,4	41,5
1250	36,4	68,2	31,8	35,6
1600	35,8	67,4	31,6	36,2
2000	42,2	68,0	25,8	29,8
2500	46,7	67,6	20,9	25,3
3150	51,2	68,1	16,9	20,8
4000	55,3	66,8	11,5	
5000	55,0	63,3	8,3	

Receiving room:
Volume: 53,6 m³
Air temperature: 52,1 m³
Relative air humidity: 76,50 %
Static pressure: 100,0 kPa

Senderaum:
Volume: 52,1 m³
Air temperature: 22,4 °C
Relative air humidity: 65,1 %

Type of reference floor: Heavyweight

Messung 5 TS 4P

TFI sample number: 18-08-0160, 18-08-0161, 18-08-0175, 18-08-0176