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Test Report No. 431240-01

1 Procedure

Order.....Sound absorption according to
EN ISO 354:2003
Impact sound insulation according to
EN ISO 10140:2010
Sample designation.....Highline 910 ab
Order by.....Egetaepper A/S
Date of order19.07.2013
Your referenceLene M. Weissenborn
TFI reference number.....13-07-0235
Test official at TFI.....Dipl.-Ing. Cornelia Radine, extension -150

2 Short sample description

Product typetextile floor covering
Type of manufacturetufted
Type of surfacecut pile
Colouring / patterningbrown / plain
Fibre composition of use surface.....not tested
Type of backing.....needed fleece backing

3 Test results

Impact sound insulation (Annex TS).....31 dB

Sound absorption (Annex SA) α_{0} = 0,30 (H *)

4 Annexes

The individual results as well as type and extent of the tests can be found in the following annexes:

Sound Absorption	SA 431240-01
Impact Sound Insulation	TS 431240-01

The annexes marked ^a are based on tests accredited according to EN ISO/IEC 17025.

Aachen, 26 August 2013



Dr. Ernst Schröder

The present document is provided with a qualified electronic signature and is valid without autograph signature.

This report only applies to the tested samples and has been established to the best of our knowledge. Only the entire report shall be reproduced. Under no circumstances, extracts shall be used. Furthermore, we apply the "General Terms and Conditions for the Execution of Contracts" of the Textiles & Flooring Institute GmbH, also with regard to the order execution.

Annex SA – Sound Absorption

1 Procedure

Sample designation.....Highline 910 ab

TFI reference number..... 13-07-0235

Testing period08 August 2013

The product identification characteristics can be found on the first page of the test report, respectively in annex KM.

2 Test method

Sound absorption according to EN ISO 354:2003

The standard describes a method to measure the sound absorption level in a room.

3 Remarks

Additionally, the practical and the calculated sound absorption levels according to EN ISO 11654-2:1997-07 are indicated.

The test was carried out by a subcontractor.

Sound absorption according DIN EN ISO 354 : 2003 - 12(D)

Measurement of sound absorption in a reverberation room

Product name: Highline 910 ab
Construction: textile floor covering
Total thickness: 10,50 mm
Mass / area: 2,40 kg/m²
Test area: 12,62 m² 4,02 m x 3,14 m
Installation: Typ A laid loose on the floor of the reverberation room
Date of test: 08.08.2013

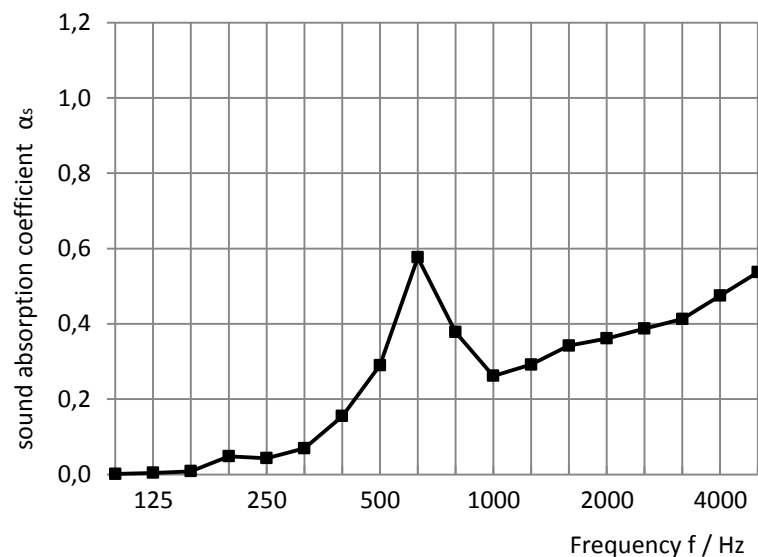
Test room: Room 06, Hauptstraße 133, 52477 Alsdorf
Test method: method of reverberation room **Basic plan:** trapezoid
Volume: 211 m³ **Surface area:** 213 m²

Reflectors: 6 alu panels of 1,0 m x 2,0 m
 7 plywood panels of 1,5 m x 1,3 m
 1 alu panel of 1,8 m x 0,9 m

Test sound: third-octave noise **2 loudspeaker positions**
Reception filter: third octave **12 microphone positions**

Temperature: 20 °C
Humidity: 54%

f / Hz	α_s
100	0,00
125	0,00
160	0,01
200	0,05
250	0,04
315	0,07
400	0,15
500	0,29
630	0,58
800	0,38
1000	0,26
1250	0,29
1600	0,34
2000	0,36
2500	0,39
3150	0,41
4000	0,48
5000	0,54



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Aachen,

26.08.2013

SWA Schall- und Wärmemesstelle Aachen GmbH

(Dr.-Ing. A. Siebel)

Sound absorptions according DIN EN ISO 11654 : 1997 - 07

Soundabsorption for the application in buildings - valuation of sound absorption

Product name: Highline 910 ab
Construction: textile floor covering
Total thickness: 10,50 mm
Mass / area: 2,40 kg/m²
Test area: 12,62 m² 4,02 m x 3,14 m
Installation: Typ A laid loose on the floor of the reverberation room
Date of test: 08.08.2013

Test room: Room 06, Hauptstraße 133, 52477 Alsdorf
Test method: method of reverberation room **Basic plan:** trapezoid
Volume: 211 m³ **Surface area:** 213 m²

Reflectors: 6 alu panels of 1,0 m x 2,0 m
 7 plywood panels of 1,5 m x 1,3 m
 1 alu panel of 1,8 m x 0,9 m

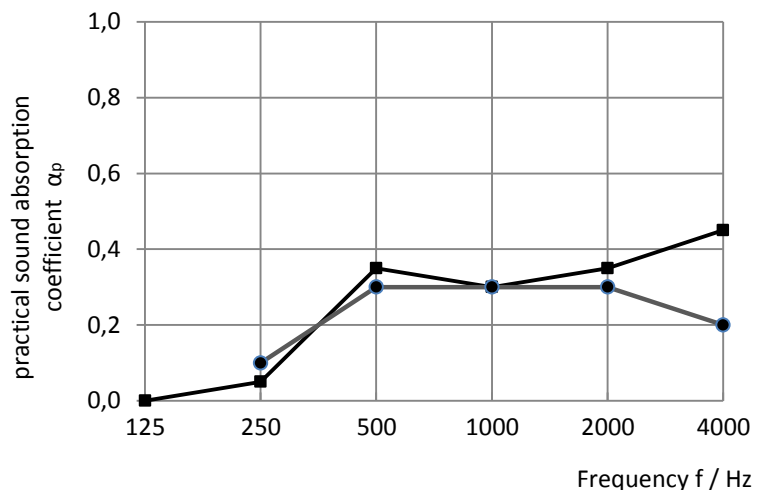
Test sound: third-octave noise **2 loudspeaker positions**
Reception filter: third octave **12 microphon positions**

Temperature: 20 °C
Humidity: 54%

f / Hz	α_p
125	0,00
250	0,05
500	0,35
1000	0,30
2000	0,35
4000	0,45

frequency - range of the "shapeindicators"

L
M
M
H
H



Evaluated sound absorptions grade α_w
 $\alpha_w = 0,30$ (H) *

*) It is recommended insistently to use this singular valuation with complete curve of sound absorption grade.

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Id: 137/477

Aachen, 26.08.2013

(Dr.-Ing. A. Siebel)

Reverberation times

Measurement of sound absorptions in a reverberation room

Product name: Highline 910 ab
Construction: textile floor covering
Total thickness: 10,50 mm
Mass / area: 2,40 kg/m²
Test area: 12,62 m² 4,02 m x 3,14 m
Installation: Typ A laid loose on the floor of the reverberation room
Date of test: 08.08.2013

Test room: Room 06, Hauptstraße 133, 52477 Alsdorf
Test method: method of reverberation room **Basic plan:** trapezoid
Volume: 211 m³ **Surface area:** 213 m²

Reflectors: 6 alu panels of 1,0 m x 2,0 m
 7 plywood panels of 1,5 m x 1,3 m
 1 alu panel of 1,8 m x 0,9 m

Test sound: third-octave noise 2 loudspeaker positions
Reception filter: third octave 12 microphon positions

Temperature: 20 °C
Humidity: 54%

Test results:

f / Hz	T1 / s	T2 / s
100	8,89	8,85
125	7,58	7,49
160	7,06	6,91
200	7,78	6,83
250	6,86	6,18
315	6,31	5,43
400	6,27	4,61
500	6,68	3,89
630	6,68	2,76
800	6,44	3,39
1000	6,31	3,92
1250	6,20	3,72
1600	5,98	3,40
2000	5,48	3,16
2500	4,74	2,82
3150	4,07	2,51
4000	3,39	2,12
5000	2,74	1,77



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Aachen,

26.08.2013

(Dr.-Ing. A. Siebel)

Annex TS – Impact Sound Insulation

1 Procedure

Sample designation Highline 910 ab

TFI reference number 13-07-0235

Testing period 08 August 2013

The product identification characteristics can be found on the first page of the test report, respectively in annex KM.

2 Test method

Impact sound insulation according to EN ISO 10140:2010 (all parts) (formerly EN ISO 140-8:1998)

The standard describes a method to measure the impact sound insulation of building products in a test stand.

3 Remarks

Additionally, the calculated value according to EN ISO 717-2:2013 is indicated.

The test was carried out by a subcontractor.

Impact sound insulation according ISO 10140 (all parts)

Measurement of impact sound insulation by a floor covering on a solid strings floor

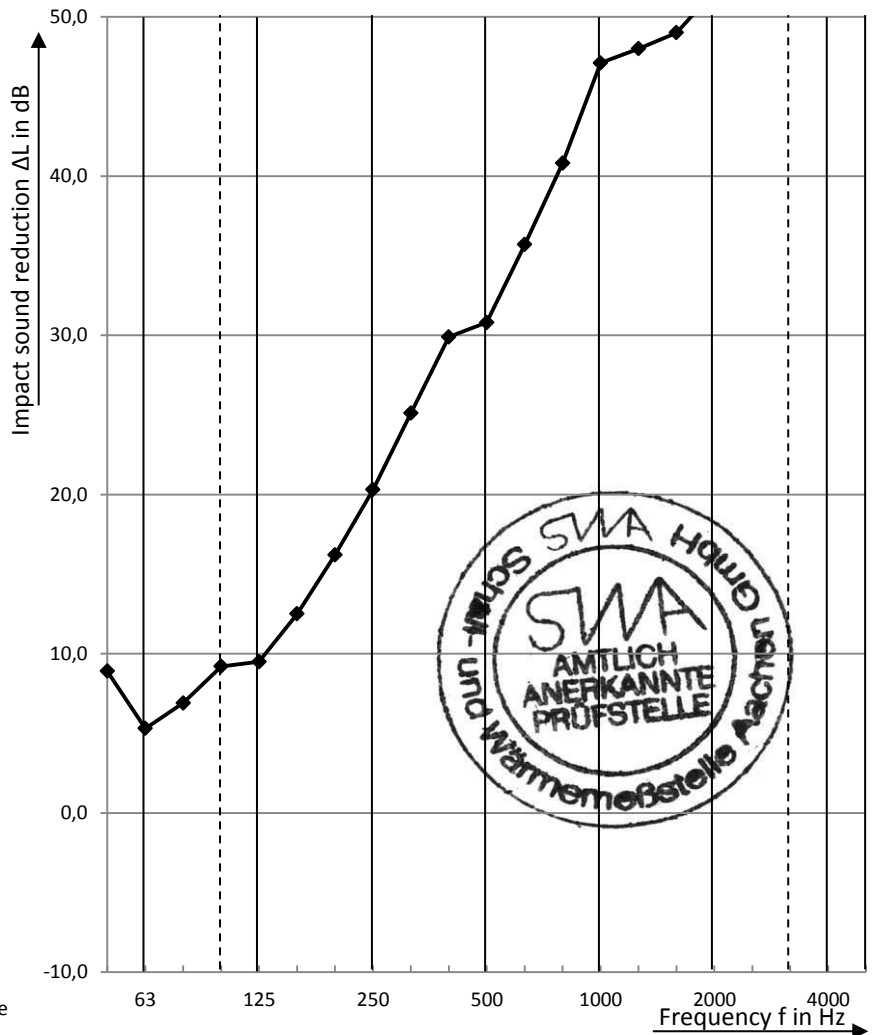
Product name: Highline 910 ab
Construction: textile floor covering
Date of test: 08.08.2013
Description of test material:
 Total thickness: 10,5 mm
 Mass / area: 2,40 kg/m²
 Type of reference cover: on a solid strings floor
 comments: --

Classification: category I according to ISO 10140
installation: laid loose
setting time: - h
installed by: laboratory

test room: O2 and K2, Hauptstraße 133, 52477 Alsdorf, Germany
climate in the source room in the receiving room

air temperature: 20 °C 20 °C
humidity: 56% 58%

Frequency f [Hz]	L _{n,0} third-octave [dB]	ΔL third-octave [dB]
50	56,5	8,9
63	62,7	5,3
80	57,4	6,9
100	57,2	9,2
125	67,5	9,5
160	62,6	12,5
200	64,1	16,2
250	67,1	20,3
315	65,3	25,1
400	64,7	29,9
500	65	30,8
630	65,3	35,7
800	66,4	40,8
1000	67,8	47,1
1250	67,7	48,0
1600	68,2	49,0
2000	68,8	51,6
2500	68,6	54,0
3150	67,9	54,1
4000	66,9	53,9
5000	64,4	52,1



*Airborne noise correction for the measured value

Calculation according to ISO 717-2

ΔL_w = 31 dB ΔL_{in} = 19 dB
C_{i,Δ} = -12 dB C_{i,r} = 1 dB C_{i,r,50-2500} = 5 dB

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

Test report no.: 431 240
 ID: 137/477
 Aachen, 12.04.2013

SWA Schall- und Wärmemesststelle Aachen GmbH
 (Dr.-Ing. A. Siebel)