

TIFII • Charlottenburger Allee 41 • 52068 Aachen • Germany

Egetaepper A/S  
Postfach 190  
7400 HERNING  
DÄNEMARK

## Textiles & Flooring Institute GmbH

Charlottenburger Allee 41 • 52068 Aachen • Germany

Phone: +49 241 9679-00

Fax: +49 241 9679-200

E-mail: postmaster@tfi-online.de

URL: www.tfi-online.de

Amtsgericht Aachen HRB8157 • VAT No.: DE209411312

Sparkasse Aachen • BIC: 390 500 00 • A/C: 1331222

IBAN: DE2239050000001331222 • SWIFT: AACSD33

Managing Director: Dr. Ernst Schröder

## Test Report No. 390766-01

### 1 Procedure

Order ..... Determination of the acoustical characteristics  
 Product name ..... highline loop wt  
 Order by ..... Egetaepper A/S  
 Date of order ..... 26.05.2009  
 Your reference ..... Lenette Ormstrup  
 TFI reference number ..... 09-06-0006  
 Test official at TFI ..... Manuela Schönbein, extension -230

### 2 Short sample description

Product type ..... textile floor covering  
 Type of manufacture ..... tufted  
 Type of surface ..... loop pile  
 Colouring / patterning ..... patterned  
 Fibre composition of use surface ..... 100 % polyamide \*  
 Colour ..... blue, dark blue  
 Type of backing ..... woven textile backing (synthetic) \*

\* Customer's information

### 3 Test results

According to EN ISO 354 : 2003 the tested specimen of the above mentioned quality has a calculated sound absorption coefficient  $\alpha_{\omega}$  of 0,20 (--H) (annex SA).

According to EN ISO 140-8 : 1998 the tested specimen of the above mentioned quality has an acoustical insulation from impact noise of 24 dB (annex TS).

### 4 Annexes

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

Sound Absorption	SA 390766-01
Impact Sound Insulation	TS 390766-01

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

Aachen, 24.06.2009



  
Dr. Ernst Schröder

The present test report is 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

Product name ..... highline loop wt

TFI reference number ..... 09-06-0006

Test date ..... 18.06.2009

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

### 2 Test method

Impact sound transmission according to EN 20354:1993.

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.

#### 4. Test results

Enclosure SA

### Sound absorption

ISO 354 : 2003

Measurement of sound absorption in a reverberation room

Page 2 of 4

Tested material: **article: highline loop wt**

Test room: reverberation room, Hauptstraße 133, 52 477 Alsdorf

Test area: 12,2 m<sup>2</sup>

Test method: method of reverberation room

Date of test: 18.06.2009

#### Description of the test material:

Total thickness: **6,5 mm**

Mass / area: **2,30 kg/m<sup>2</sup>**

laid loose on the floor of the reverberation room

Dimension of the test area:

length: 4,02 m

width: 3,03 m

#### Reverberation room:

Basic plan: trapezoid

Volume: 211 m<sup>3</sup>

Temperature: 20 °C

Humidity: 65 %

f / Hz

f / Hz	125	250	500	1000	2000	4000
$\alpha_s$	0,01	0,05	0,10	0,25	0,37	0,38

Surface areas of reverberation room: 213 m<sup>2</sup>

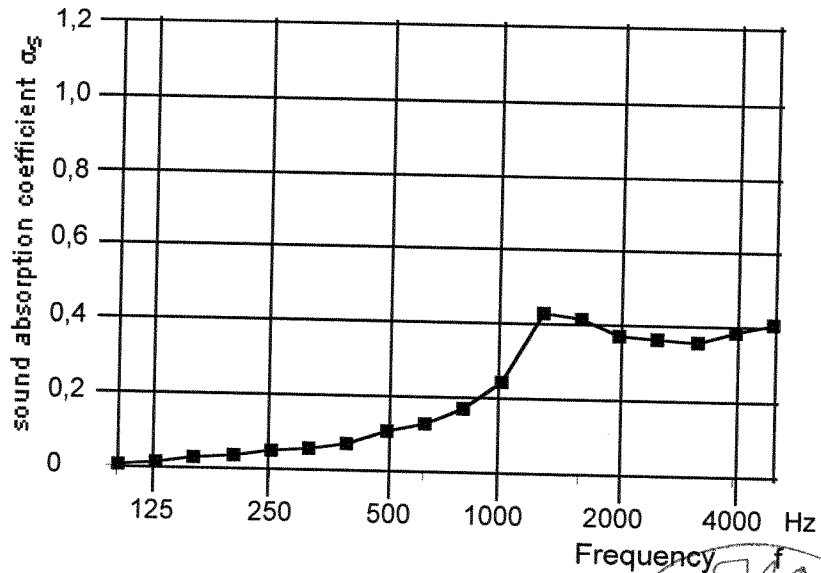
Surface areas of reflectors in reverberation room: 54,5 m<sup>2</sup>

#### Reflectors:

6 Alu panels of 1,0 m/ 2,0 m

7 Plywood panels of 1,5 m/ 1,3 m

1 Alu panels of 1,8 m/ 0,9 m



Test sound: third-octave noise

Reception filter: third-octave

Test report no.:

**390 766**

Aachen

19.06.2009

SWA Schall- und Wärmemeßstelle Aachen GmbH

(Dr.-Ing. L. Siebel)

# 4.1 Valuation of test results

Enclosure SA

Soundabsorber for the application in buildings - valuation of sound absorption  
 Sound absorption of DIN EN ISO 11654 : 1997- 07

Page 3 of 4

Tested material: **article: highline loop wt**  
 Test room: reverberation room, Hauptstraße 133, 52 477 Alsdorf  
 Test area: 12,2 m<sup>2</sup>  
 Test method: method of reverberation room  
 Date of test: 18.06.2009

**Description of the test material:**

Total thickness: **6,5 mm**  
 Mass / area: **2,30 kg/m<sup>2</sup>**  
 laid loose on the floor of the reverberation room

frequency - range  
 of the "shapeindi-  
 cators"

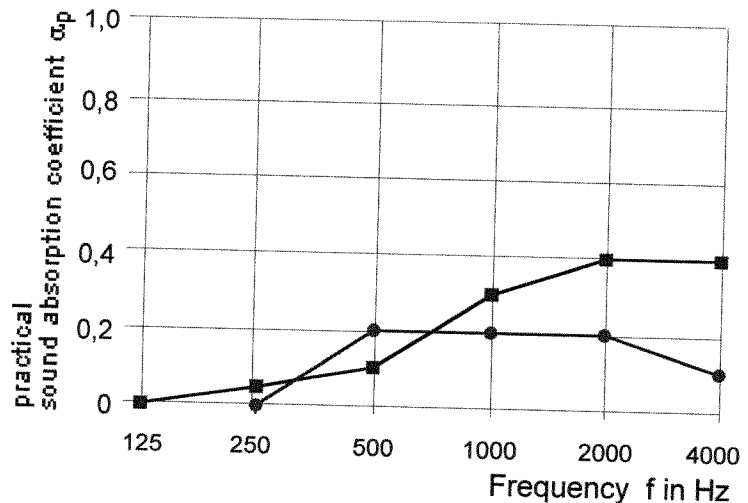
Frequency in Hz	pactical sound absorption coefficient
125	0,00
250	0,05
<u>500</u>	<u>0,10</u>
M 1000	0,30
H 2000	0,40
H 4000	0,40

Results:    
 Relation - curve:  

Reverberation room:  
 Basic plan: trapezoid  
 Volume: 211 m<sup>3</sup>  
 Temperature: 20 °C  
 Humidity: 65 %

Surfaces areas of  
 reverberation  
 room: 213 m<sup>2</sup>

Surfaces areas of  
 reflectors in reverberation  
 room: 54,5 m<sup>2</sup>



Evaluated sound absorptions grade  $\alpha_w$

$\alpha_w : 0,20 ( - - H ) ^ *$

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

Test report no.:

**390 766**

Aachen

19.06.2009

SWA Schall- und Wärmemeßstelle Aachen GmbH

(Dr.-Ing. L. Siebel)

## 4.2 Test results

Enclosure SA

### Reverberation times

Page 4 of 4

Measurement of sound absorption in a reverberation room

Tested material: **article: highline loop wt**

Test room: reverberation room, Hauptstraße 133, 52 477 Alsdorf

Test area: 12,2 m<sup>2</sup>

Test method: method of reverberation room

Date of test: 18.06.2009

#### Description of the test material:

Total thickness: **6,5 mm**Mass / area: **2,30 kg/m<sup>2</sup>**

laid loose on the floor of the reverberation room

Dimension of the test area:

length: 4,02 m

width: 3,03 m

#### Reverberation times:

f / Hz	To / s	T1 / s
100	11,47	11,16
125	8,01	7,71
160	6,82	6,42
200	7,24	6,68
250	7,23	6,45
315	6,25	5,55
400	6,55	5,58
500	6,75	5,39
630	6,75	5,16
800	6,53	4,67
1000	6,32	4,07
1250	6,14	3,17
1600	5,78	3,13
2000	5,37	3,13
2500	4,65	2,90
3150	3,88	2,60
4000	3,25	2,25
5000	2,60	1,89

Number of loudspeaker positions: 2

Test sound: third-octave noise

Number of microphone positions: 2 x 6

Reception filter: third-octave

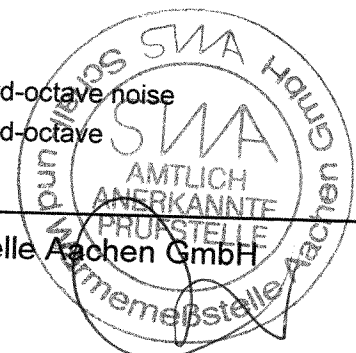
Test report no.:

**390 766**

Aachen

19.06.2009

SWA Schall- und Wärmemeßstelle Aachen GmbH



## Annex TS – Impact Sound Insulation

### 1 Procedure

Product name ..... highline loop wt  
TFI reference number ..... 09-06-0006  
Test date ..... 18.06.2009

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

### 2 Test method

Impact sound transmission according to EN ISO 140-8:1998.

The standard describes a method to measure the impact sound absorption of floor coverings at laboratory conditions, by means of a standardised hammer device.

### 3 Remarks

Additionally, the calculated value according to EN ISO 717-2:1997 is indicated.

The test was carried out by a subcontractor.

**4. Test results**

Enclosure TS

**Impact sound insulation of ISO 140-8 : 1998 - 03**

Page 2 of 2

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

Tested material: **article: highline loop wt**  
 Test rooms: 02 u. K2, Hauptstraße 133, 52 477 Alsdorf  
 Test area: 4,24 m x 4,15 m Test area of slab  
 Date of test: 18.06.2009

**Description of the test material:**

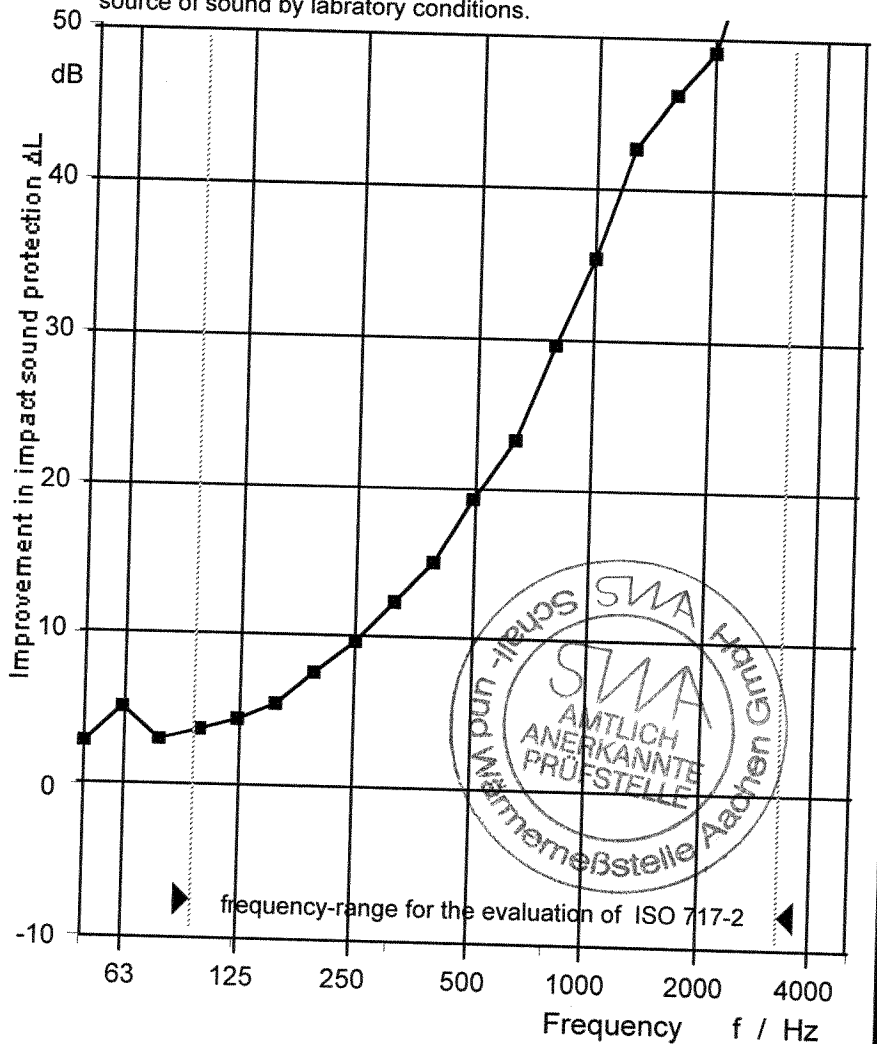
Total thickness: **6,5 mm**  
 Mass / area: **2,30 kg/m<sup>2</sup>**  
 laid loose on a 140 mm thick reinforced concrete floor slab. Test material: 4 x 1m x 1m

**Receiving room:**

Volume: 58,9 m<sup>3</sup>  
 Temperature: 20 °C  
 Humidity: 65 %

The results are based on tests, which were effected with on artificial source of sound by laboratory conditions.

Frequency	Ln	ΔL
Hz	Bare floor dB	dB
50		3,0
63		5,3
80		3,2
100	61,0	3,9
125	61,4	4,6
160	64,8	5,7
200	63,7	7,8
250	65,4	9,8
315	65,6	12,4
400	66,1	15,1
500	66,0	19,3
630	66,4	23,3
800	66,3	29,6
1000	66,2	35,4
1250	66,6	42,6
1600	67,2	46,1
2000	67,1	48,9
2500	67,0	---
3150	66,4	---
4000		---
5000		---



Reception filter: third-octave  
 Calculation according ISO 717-2:

Impact sound improvement index $\Delta L_w = 24 \text{ dB}$ $(VM = 24 \text{ dB})$	non rated reduction of impact sound insulation $\Delta L_{lin} = \Delta L_w + C_{I,\Delta}$ $\Delta L_{lin} = 13 \text{ dB}$	$C_{I,\Delta} = -11 \text{ dB}$ $C_{I,r} = 0 \text{ dB}$ $C_{I,r,50-2500} = 3 \text{ dB}$
--	--	---

Test report no.:

**390 766**  
 Aachen 19.06.2009

SWA Schall- und Wärmemeßstelle Aachen GmbH

*(Signature)*  
 (Dr.-Ing. L. Siebel)