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REPORT 10179600

Measurements

on office screens – Ecophon Akusto Screen A

22 May 2013

By: Marius Castberg Bråthen / Klas Hagberg

Assignment ref.: 10179600		
Dated: 22 May 2013		
Revised:		
Representative: Klas Hagberg	Status: Final	

## REPORT 10179600

### Measurements on office screens – Ecophon Akusto Screen A

In accordance with:

- SS-ISO 10053 Acoustics - Measurement of office screen sound attenuation under specific laboratory conditions
- SS-ISO 354 Acoustics - Measurement of sound absorption in a reverberation room

#### Client


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## 1 Test method

### 1.1 Sound attenuation according to SS – ISO 10053

Measurements of sound attenuation was performed according to SS – ISO 10053 by Klas Hagberg outside S-line office in Hallsberg, the 27<sup>th</sup> October 2009 and reported by ÅF-INGEMANSSON 20<sup>th</sup> November 2009, Report number 548417 A. Calculations of weighted screen attenuation were done according to SS – ISO 10053.

### 1.2 Sound absorption according to SS – ISO 354

Measurement of sound absorption was performed according to SS – ISO 354 by Klas Hagberg in the laboratory of Akustikverkstan, Skultorp, the 17<sup>th</sup> November 2009 and reported by ÅF-INGEMANSSON 20<sup>th</sup> November 2009, Report number 548417 A.

## 2 Results


### 2.1 Sound attenuation according to SS – ISO 10053

Table 1: Measurement results according to SS - ISO 10053

Sound attenuation		
Object	$\Delta L_{s,w}$	Appendix
Ecophon Akusto Screen A, size 1800 x 1820 (mm) (screen with 400 mm glass), (test screen length: 12 m)	12 dB	A
Ecophon Akusto Screen A, size 1200 x 1420 (mm) (test screen length: 12 m)	10 dB	B

### 2.2 Sound absorption according to SS – ISO 354

Sound absorption of the test objects are given as absorption area per object, see table 2 and appendix C and D.

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**Table 2: Absorption area per unit in m<sup>2</sup>Sabine according to SS - ISO 354**

<b>Object \ Frequency [Hz]</b>	<b>125</b>	<b>250</b>	<b>500</b>	<b>1000</b>	<b>2000</b>	<b>4000</b>
Ecophon Akusto Screen A, size 1800 x 1820 (mm) (2.4 m <sup>2</sup> )	0.5	1.9	3.8	4.3	4.1	4.1
Ecophon Akusto Screen, size 1200 x 1420 (mm) (1.7 m <sup>2</sup> )	0.2	0.5	1.5	2.4	2.7	2.7

Göteborg, 22 Maj 2013

WSP Acoustics

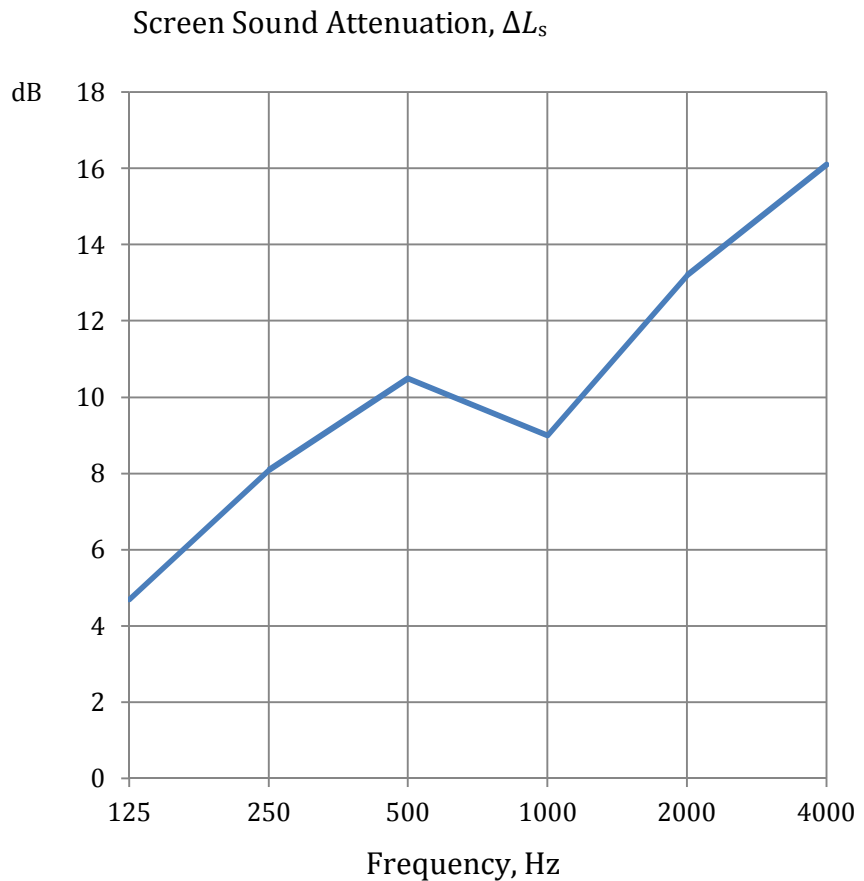
Marius Castberg Bråthen / Klas Hagberg

## SOUND ABSORPTION MEASURED AND EVALUATED ACCORDING TO ISO 10053

CLIENT: Ecophon

OBJECT: Ecophon Akusto Screen A, 1800×1820 mm<sup>2</sup>: Fabric on both sides and a 400 mm high glass screen on top (total screen area 3,28 m<sup>2</sup>). Absorptive area 2,6 m<sup>2</sup> on each side of a compact wooden board.

1/3 octave band (hz)	Screen Sound attenuation, $\Delta L_s$ (dB)	
	1/3 octave band	Octave band
50		
63		-
80		
100		
125		4.7
160		
200		
250		8.1
315		
400		
500		10.5
630		
800		
1000		9.0
1250		
1600		
2000		13.2
2500		
3150		
4000		16.1
5000		



$\Delta L_{s,w} = 12$  dB

### CONDITIONS

Date of test: 09-10-27

Date: 2013-05-22

Object surface: 3.3 m<sup>2</sup>

Screen length tested: 12 m

Rel. humidity: - %

Temperature: 8°C

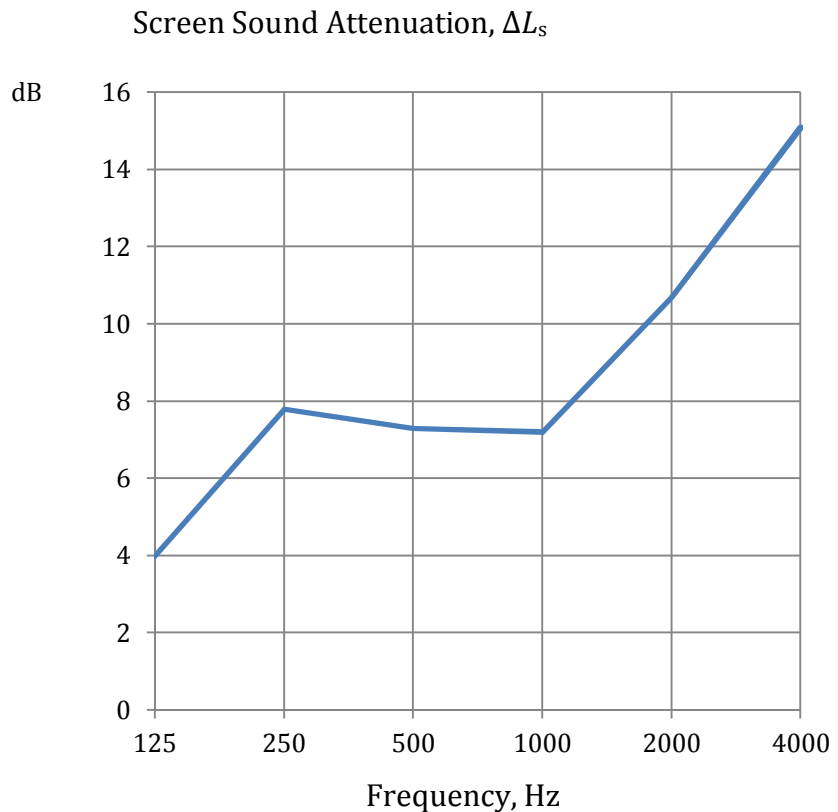
Test report: 13-05-22

Signature: Klas Hagberg

## SOUND ABSORPTION MEASURED AND EVALUATED ACCORDING TO ISO 10053

CLIENT: Ecophon  
 OBJECT: Ecophon Akusto Screen A, 1200×1420 mm<sup>2</sup>: Fabric on both sides (total screen area 1,70 m<sup>2</sup>). Absorptive area 1,7 m<sup>2</sup> on each side of a compact wooden board.

1/3 octave band (hz)	Screen Sound attenuation, $\Delta L_s$ (dB)	
	1/3 octave band	Octave band
50		
63		-
80		
100		
125		4.0
160		
200		
250		7.8
315		
400		
500		7.3
630		
800		
1000		7.2
1250		
1600		
2000		10.7
2500		
3150		
4000		15.1
5000		



$$\Delta L_{s,w} = 10 \text{ dB}$$

### CONDITIONS

Date of test: 09-10-27  
 Date: 2013-05-22

Object surface: 1.7 m<sup>2</sup>  
 Screen length tested: 12 m

Rel. humidity: - %  
 Temperature: 8°C

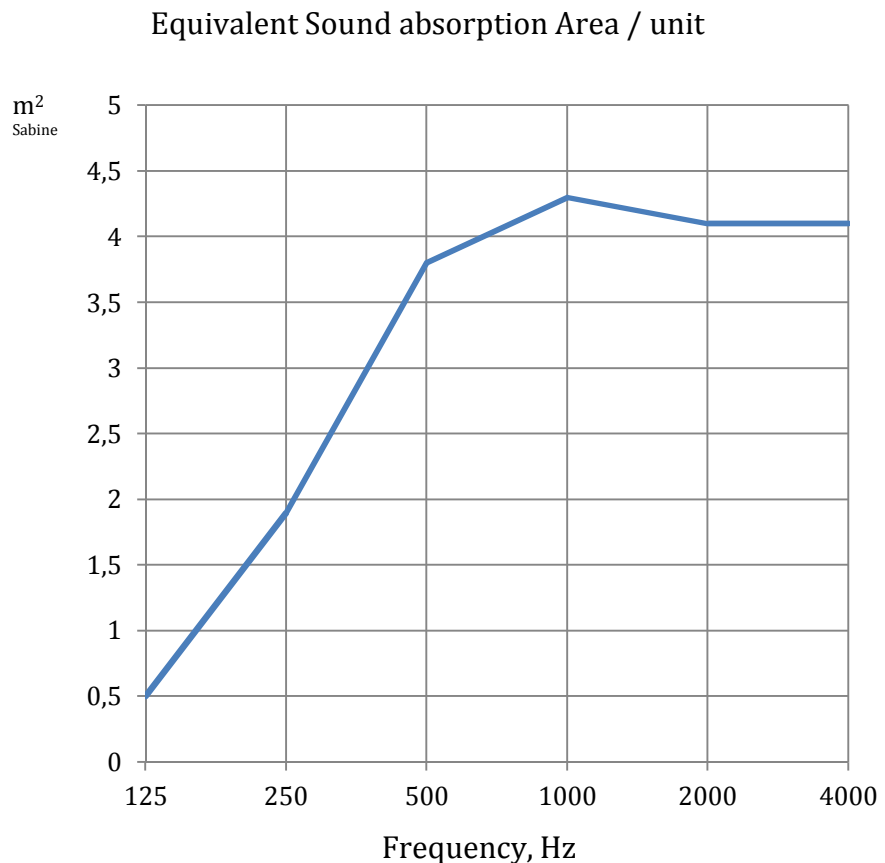
Test report: 13-05-22  
 Signature: Klas Hagberg

## SOUND ABSORPTION MEASURED AND EVALUATED ACCORDING TO ISO 354 AND SS 25269 (proposal).

CLIENT: Ecophon

OBJECT: Ecophon Akusto Screen A, 1800×1820 mm<sup>2</sup>: Fabric on both sides and a 400 mm high glass screen on top (total screen area 3,28 m<sup>2</sup>). Absorptive area 2,6 m<sup>2</sup> on each side of a compact wooden board.

1/3 octave band (hz)	Equivalent sound Absorption area / object (m <sup>2</sup> )	
	1/3 octave band	Octave band
50		
63		-
80		
100		
125		0.5
160		
200		
250		1.9
315		
400		
500		3.8
630		
800		
1000		4.3
1250		
1600		
2000		4.1
2500		
3150		
4000		4.1
5000		



### CONDITIONS

Date of test: 09-11-17  
Date: 2013-05-22

Object surface: 3.3 m<sup>2</sup>  
Reverberation room volume: 200 m<sup>3</sup>

Rel. humidity: - %  
Temp: 10°C

Test report: 13-05-22  
Signature: Klas Hagberg

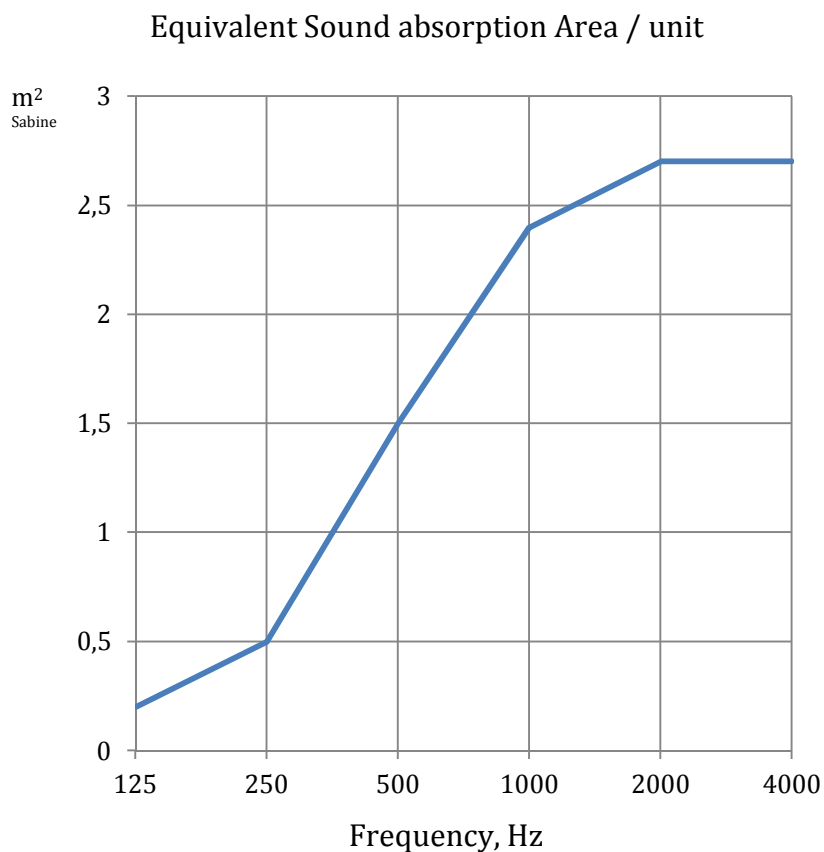


## SOUND ABSORPTION MEASURED AND EVALUATED ACCORDING TO ISO 354 AND SS 25269 (proposal).

CLIENT: Ecophon

OBJECT: Ecophon Akusto Screen A, 1200×1420 mm<sup>2</sup>: Fabric on both sides (total screen area 1,70 m<sup>2</sup>). Absorptive area 1,70 m<sup>2</sup> on each side of a compact wooden board.

1/3 octave band (hz)	Equivalent sound Absorption area / object (m <sup>2</sup> )	
	1/3 octave band	Octave band
50		
63		-
80		
100		
125		0.2
160		
200		
250		0.5
315		
400		
500		1.5
630		
800		
1000		2.4
1250		
1600		
2000		2.7
2500		
3150		
4000		2.7
5000		



### CONDITIONS

Date of test: 09-11-17  
Date: 2013-05-22

Object surface: 1,7 m<sup>2</sup>  
Reverberation room volume: 200 m<sup>3</sup>

Rel. humidity: xx%  
Temp: 10°C

Test report: 13-05-22  
Signature: Klas Hagberg