

Scan-Mikael Oy

Ääneneristävyyden mittaukset VTT Expert Services Oy:n tutkimushalli 1:ssä 26-27.11.2013

Alustavat tulokset on esitetty taulukossa 1

Taulukko 1 . Seinille on esitetty ilmääneneristysluku R_w . Lisäksi taulukossa on esitetty luvut R_w+C ja R_w+C_{tr} , joissa ilmääneneristyslukuun on lisätty taajuusalueelle 100-3150 Hz määritetyt spektrisovitusermit C ja C_{tr} .

Seinärakenne	R_w dB	$R_w + C$ dB	$R_w + C_{tr}$ dB
1. Tuplilasinen siirtolasiseinä (87 mm) Lasi: 8 lam ja 4/4 Optiphon	43	41	38
2. Yksilasininen siirtolasiseinä Lasi: 6/6 lam	34	33	32
3. Tuplilasinen kiinteä seinä (45 mm) liukuovella n.(110 mm/ lev. n.1040mm) Lasi: seinät 2 x10 mm, ovet 2 x 8 mm	40	38	35
4. Rakenne 3. yksilasisella (8mm) ovella (toinen ovi auki asennossa)	29	28	27
5. Yksilasininen kiinteä seinä Lasi: seinä 10 mm, ovi 8 mm	28	27	26

Ilmääneneristyslukua R_w+C_{tr} voidaan käyttää esim. kaupunkiliikennemelun ääneneristävyyttä arvioitaessa ja lukua R_w+C esim. arvioitaessa ilmääneneristävyyttä suihkukoneiden lentomelulle lentokentän läheisyydessä.

(Viite: ISO 717:1:1996 Annex A Table A.1)

Espoo 27.11.2013

Veijo Sivonen
p.020 722 6985

Sound reduction index according to ISO 10140-2

Laboratory measurements of airborne sound insulation of building elements

Client: Scan-Mikael Oy
 Manufacturer:
 Test room identification:
 Test specimen mounted by:
 Product identification:

Date of test: 26.11.2013

Description of the specimen: 1. tuplalasin siirtoseinä. Lasit 8 mm ja 4/4 Optiphon

Barometric pressure: 102,5 kPa

Size of test opening: 12,00 m²

Mass per unit area: kg/m²

Temperature: 21,0 °C

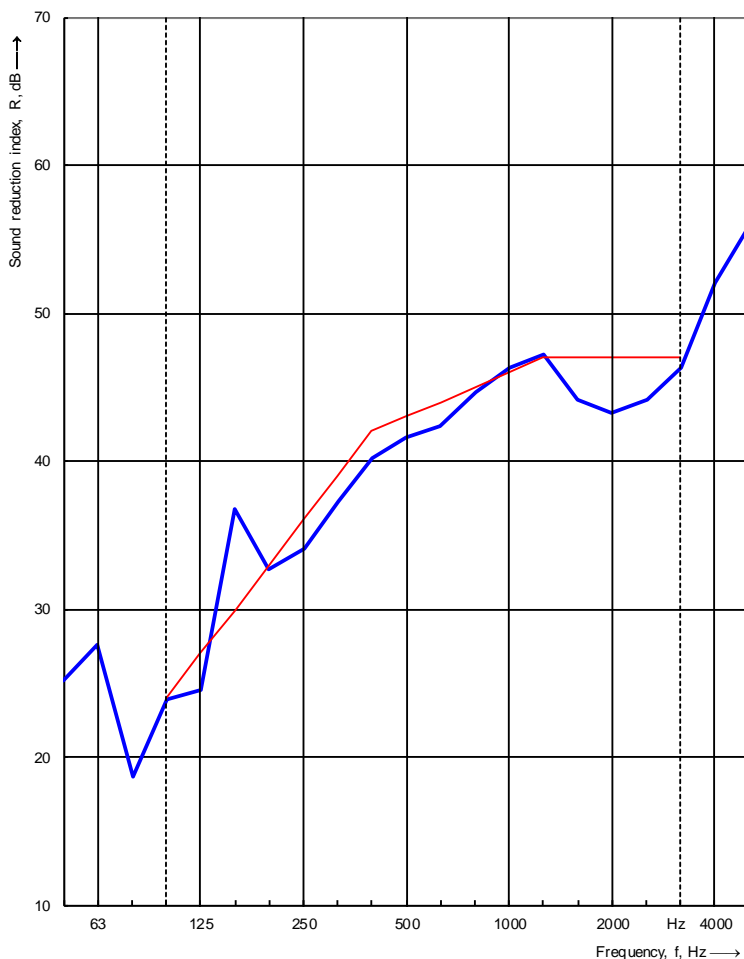
Air humidity: 36 %

Source room volume: 102 m³

Receiving room volume: 131,0 m³

----- Frequency range according to the
 ———— curve of shifted reference values (ISO 717-1)

Frequency f [Hz]	R 1/3 octave [dB]
50	25,2
63	27,6
80	18,7
100	23,9
125	24,5
160	36,8
200	32,7
250	34,1
315	37,3
400	40,2
500	41,6
630	42,3
800	44,6
1000	46,3
1250	47,2
1600	44,1
2000	43,3
2500	44,2
3150	46,3
4000	52,0
5000	55,9



Rating according to ISO 717-1

$R_w(C;C_{tr}) = 43 (-1 ; -5)$ dB

Evaluation based on laboratory measurement results
 obtained in one-third-octave bands by an engineering method.

$C_{50-3150} = -2$ dB $C_{50-5000} = -1$ dB $C_{100-5000} = 0$ dB

$C_{tr,50-3150} = -7$ dB $C_{tr,50-5000} = -7$ dB $C_{tr,100-5000} = -5$ dB

Company:

No. of test report:

Date: 26.11.2013

Signature:

Sound reduction index according to ISO 10140-2

Laboratory measurements of airborne sound insulation of building elements

Client: Scan-Mikael Oy

Date of test: 26.11.2013

Manufacturer:

Test room identification:

Test specimen mounted by:

Product identification:

Description of the specimen: 2. Yksilasinainen siirtolasiseinä. Lasi 6/6 lam.

Barometric pressure: 102,5 kPa

Size of test opening: 12,00 m²

Mass per unit area: kg/m²

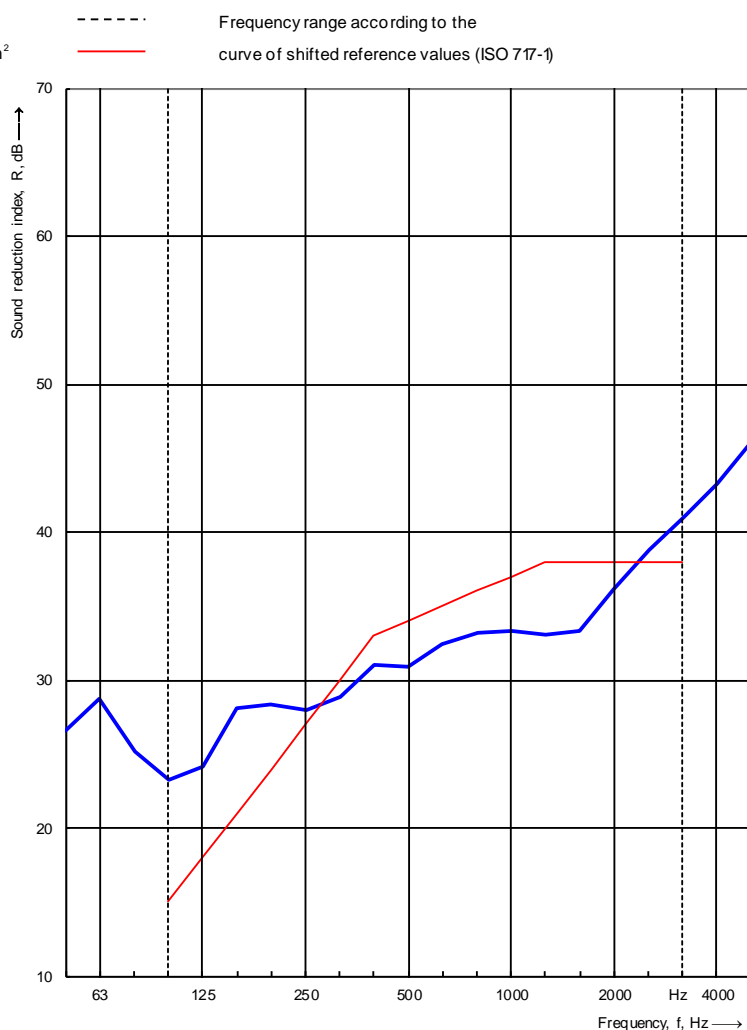
Temperature: 21,0 °C

Air humidity: 36 %

Source room volume: 102 m³

Receiving room volume: 131,0 m³

Frequency f [Hz]	R 1/3 octave [dB]
50	26,5
63	28,7
80	25,2
100	23,3
125	24,1
160	28,1
200	28,3
250	27,9
315	28,8
400	31,0
500	30,9
630	32,4
800	33,2
1000	33,3
1250	33,0
1600	33,3
2000	36,1
2500	38,8
3150	40,9
4000	43,3
5000	46,1



Rating according to ISO 717-1

$R_w(C;C_{tr}) = 34$ (-1 ; -2) dB

Evaluation based on laboratory measurement results obtained in one-third-octave bands by an engineering method.

$C_{50-3150} = -1$ dB $C_{50-5000} = 0$ dB $C_{100-5000} = 0$ dB

$C_{tr,50-3150} = -2$ dB $C_{tr,50-5000} = -2$ dB $C_{tr,100-5000} = -2$ dB

Company:

No. of test report:

Date: 26.11.2013

Signature:

Sound reduction index according to ISO 10140-2

Laboratory measurements of airborne sound insulation of building elements

Client: Scan-Mikael Date of test: 27.11.2013
 Manufacturer:
 Test room identification:
 Test specimen mounted by:
 Product identification:

Description of the specimen: 3. Tuplasininen kiinteä seinä. Lasit: seinät 2 x 10 mm ja ovet 2 x 8 mm

Barometric pressure: 102,5 kPa

Size of test opening: 12,00 m²

Mass per unit area: kg/m²

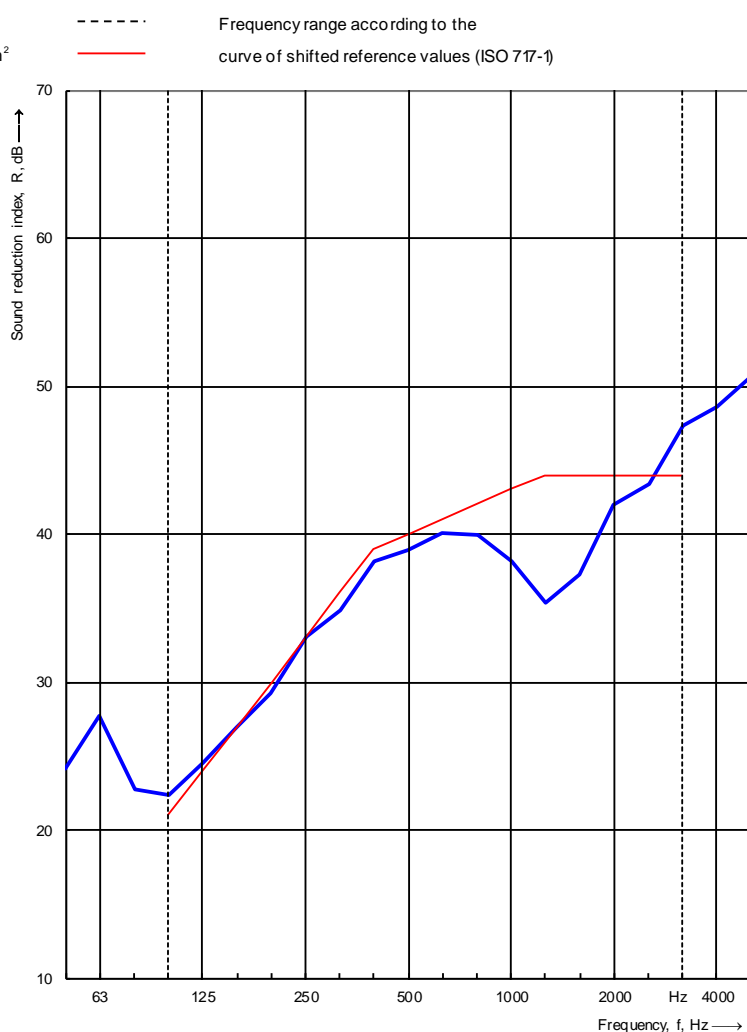
Temperature: 21,0 °C

Air humidity: 36 %

Source room volume: 102 m³

Receiving room volume: 131,0 m³

Frequency f [Hz]	R 1/3 octave [dB]
50	24,2
63	27,7
80	22,7
100	22,3
125	24,5
160	27,0
200	29,2
250	33,1
315	34,9
400	38,2
500	38,9
630	40,1
800	40,0
1000	38,1
1250	35,4
1600	37,3
2000	42,0
2500	43,4
3150	47,3
4000	48,6
5000	50,6



Rating according to ISO 717-1

$$R_w(C;C_{tr}) = 40 \text{ (-2 ; -5) dB}$$

Evaluation based on laboratory measurement results
 obtained in one-third-octave bands by an engineering method.

$$C_{50-3150} = -2 \text{ dB } C_{50-5000} = -1 \text{ dB } C_{100-5000} = -1 \text{ dB}$$

$$C_{tr,50-3150} = -6 \text{ dB } C_{tr,50-5000} = -6 \text{ dB } C_{tr,100-5000} = -5 \text{ dB}$$

Company:

No. of test report:

Date: 27.11.2013

Signature:

Sound reduction index according to ISO 10140-2

Laboratory measurements of airborne sound insulation of building elements

Client: Scan-Mikael Date of test: 27.11.2013
 Manufacturer:
 Test room identification:
 Test specimen mounted by:
 Product identification:

Description of the specimen: 4. tuplalasin kiinteä seinä liukuovella. Lasit. Seinä 2 x 10 mm ja liukuovi yhdellä lasilla 8mm (toinen liukuovi oli auki asennossa).

Barometric pressure: 102,5 kPa

Size of test opening: 12,00 m²

Mass per unit area: kg/m²

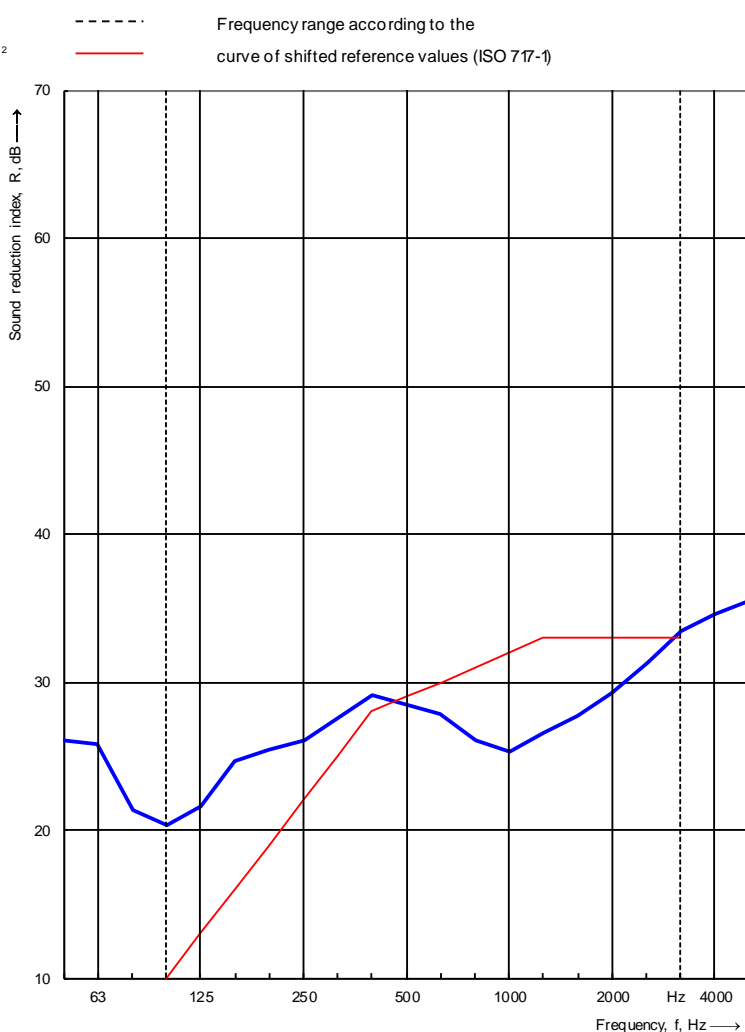
Temperature: 21,0 °C

Air humidity: 36 %

Source room volume: 102 m³

Receiving room volume: 131,0 m³

Frequency f [Hz]	R 1/3 octave [dB]
50	26,0
63	25,8
80	21,3
100	20,3
125	21,6
160	24,6
200	25,4
250	26,0
315	27,6
400	29,1
500	28,5
630	27,8
800	26,1
1000	25,3
1250	26,5
1600	27,7
2000	29,2
2500	31,3
3150	33,4
4000	34,6
5000	35,5



Rating according to ISO 717-1

$R_w(C;C_{tr}) = 29 (-1 ; -2)$ dB

Evaluation based on laboratory measurement results

obtained in one-third-octave bands by an engineering method.

$C_{50-3150} = -1$ dB $C_{50-5000} = 0$ dB $C_{100-5000} = 0$ dB

$C_{tr,50-3150} = -2$ dB $C_{tr,50-5000} = -2$ dB $C_{tr,100-5000} = -2$ dB

Company:

No. of test report:

Date: 27.11.2013

Signature:

Sound reduction index according to ISO 10140-2

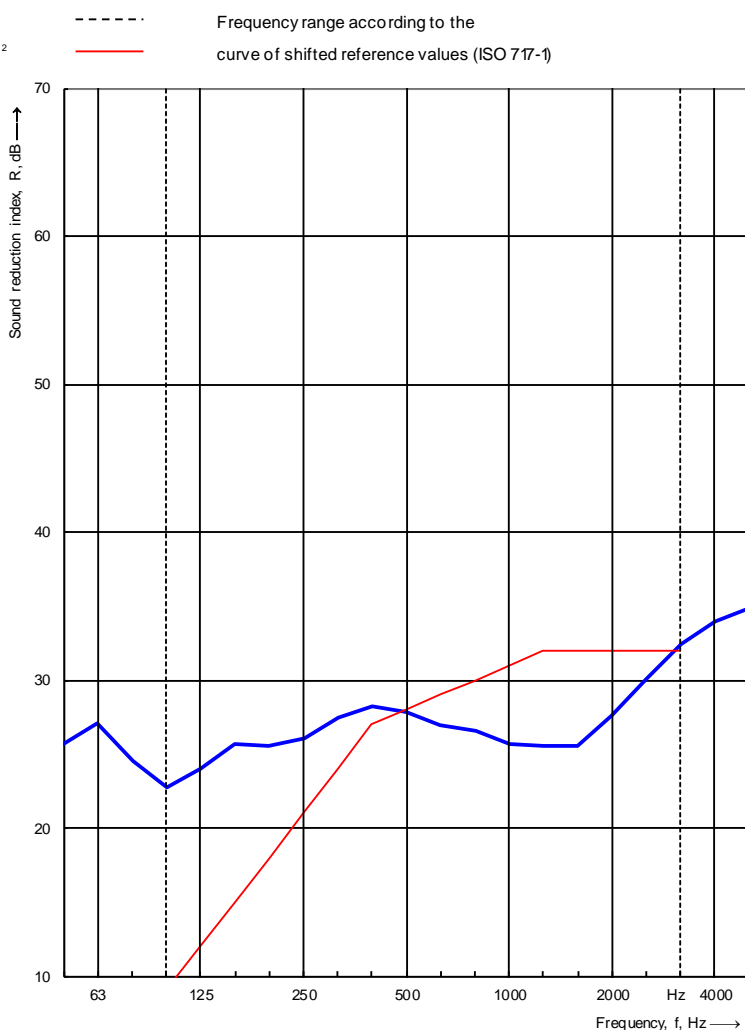
Laboratory measurements of airborne sound insulation of building elements

Client: Scan-Mikael Date of test: 27.11.2013
 Manufacturer:
 Test room identification:
 Test specimen mounted by:
 Product identification:

Description of the specimen: 5.Yksilasinen kiinteä seinä, liukuovella. Lasit seinä 10 mm, ovi 8 mm.

Barometric pressure: 102,5 kPa
 Size of test opening: 12,00 m²
 Mass per unit area: kg/m²
 Temperature: 21,0 °C
 Air humidity: 36 %
 Source room volume: 102 m³
 Receiving room volume: 131,0 m³

Frequency f [Hz]	R 1/3 octave [dB]
50	25,7
63	27,1
80	24,5
100	22,7
125	24,0
160	25,7
200	25,5
250	26,0
315	27,4
400	28,2
500	27,8
630	27,0
800	26,5
1000	25,7
1250	25,5
1600	25,6
2000	27,6
2500	30,1
3150	32,4
4000	33,9
5000	34,9



Rating according to ISO 717-1

$$R_w(C;C_{tr}) = 28 \text{ (-1 ; -2) dB}$$

Evaluation based on laboratory measurement results obtained in one-third-octave bands by an engineering method.

$$C_{50-3150} = -1 \text{ dB } C_{50-5000} = 0 \text{ dB } C_{100-5000} = 0 \text{ dB}$$

$$C_{tr,50-3150} = -2 \text{ dB } C_{tr,50-5000} = -2 \text{ dB } C_{tr,100-5000} = -2 \text{ dB}$$

Company:

No. of test report:

Date: 27.11.2013

Signature: