

Scan-Mikael Oy

Ääneneristävyyden mittaukset VTT Expert Services Oy:n tutkimushalli 1:ssä 18.12.2013

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 spektrisovitusmitat C ja C_{tr} .

Seinärakenne	R_w dB	$R_w + C$ dB	$R_w + C_{tr}$ dB
1. Tuplilasinen seinä (97 mm) Lasit: 8 ja 5/5 lam(0,38)	43	42	38
2. Tuplilasinen seinä (97 mm) Lasit: 8 ja 12 mm	43	41	38
3. Tuplilasinen seinä (97 mm) Lasit: 6 ja 8 mm	42	40	37
4. Tuplilasinen seinärunko (97 mm) Lasi: Yksilasin 8 mm	32	30	30

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 18.12.2013

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 Micael
 Manufacturer:
 Test room identification:
 Test specimen mounted by:
 Product identification:

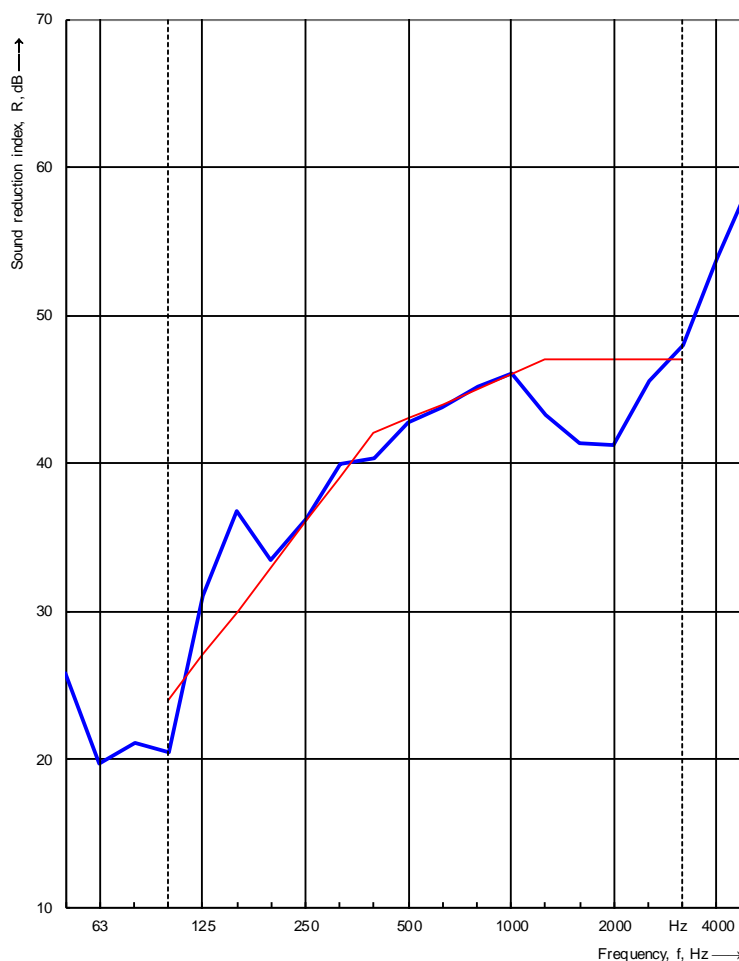
Date of test:

Description of the specimen: 1. Tuplalasinen seinä (97 mm). Lasit 8 ja 5/5 mm lam 80,38 ?

Barometric pressure: kPa
 Size of test opening: 12,00 m²
 Mass per unit area: kg/m²
 Temperature: °C
 Air humidity: %
 Source room volume: 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	25,8
63	19,7
80	21,1
100	20,4
125	31,0
160	36,7
200	33,5
250	36,2
315	39,9
400	40,3
500	42,8
630	43,7
800	45,1
1000	46,0
1250	43,2
1600	41,3
2000	41,2
2500	45,5
3150	48,0
4000	53,8
5000	59,1



Rating according to ISO 717-1

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

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

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

$$C_{tr,50-3150} = -8 \text{ dB} \quad C_{tr,50-5000} = -8 \text{ dB} \quad C_{tr,100-5000} = -5 \text{ dB}$$

Company:

No. of test report:

Date: 18.12.2013

Signature:

Sound reduction index according to ISO 10140-2

Laboratory measurements of airborne sound insulation of building elements

Client: Scan Micaek
 Manufacturer:
 Test room identification:
 Test specimen mounted by:
 Product identification:

Date of test:

Description of the specimen: 2. Tuplalasinen seinä (n.97 mm). Lasit 8 mm ja 12 mm

Barometric pressure: 102,1 kPa

Size of test opening: 12,00 m²

Mass per unit area: kg/m²

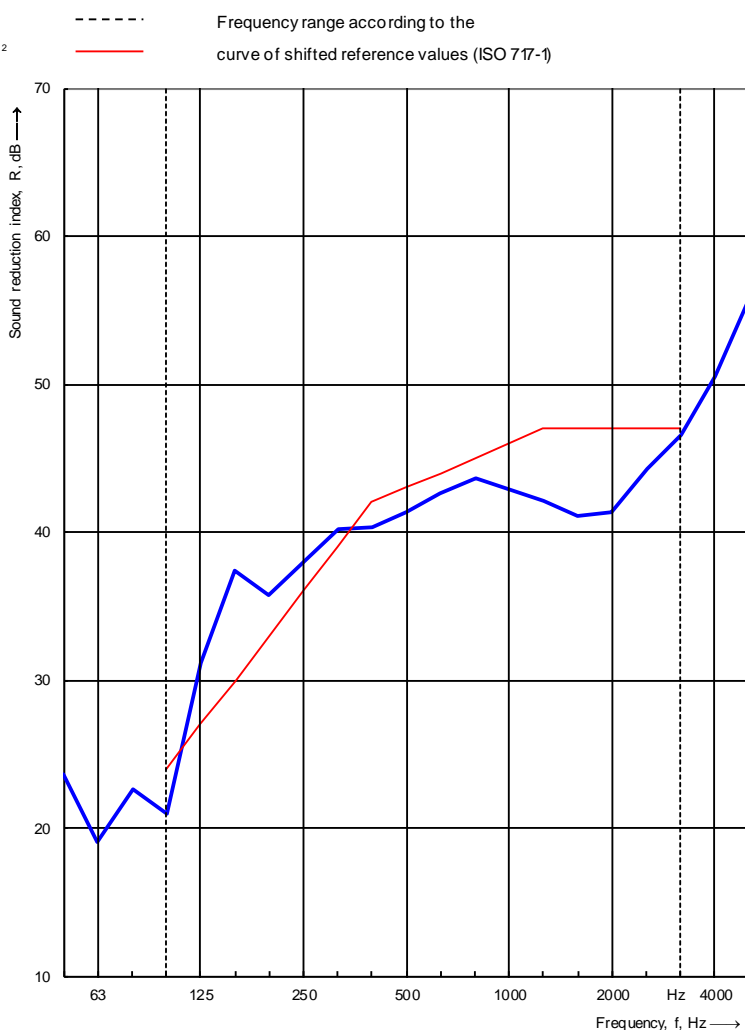
Temperature: 21,0 °C

Air humidity: 63 %

Source room volume: 102 m³

Receiving room volume: 131,0 m³

Frequency f [Hz]	R 1/3 octave [dB]
50	23,6
63	19,0
80	22,6
100	21,0
125	31,2
160	37,4
200	35,7
250	38,0
315	40,2
400	40,3
500	41,4
630	42,6
800	43,6
1000	42,9
1250	42,1
1600	41,1
2000	41,3
2500	44,3
3150	46,6
4000	50,5
5000	55,7



Rating according to ISO 717-1

$$R_w(C;C_{tr}) = 43 \text{ (-2 ; -5) dB}$$

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

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

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

Company:

No. of test report:

Date: 18.12.2013

Signature:

Sound reduction index according to ISO 10140-2

Laboratory measurements of airborne sound insulation of building elements

Client: Scan Micael
 Manufacturer:
 Test room identification:
 Test specimen mounted by:
 Product identification:

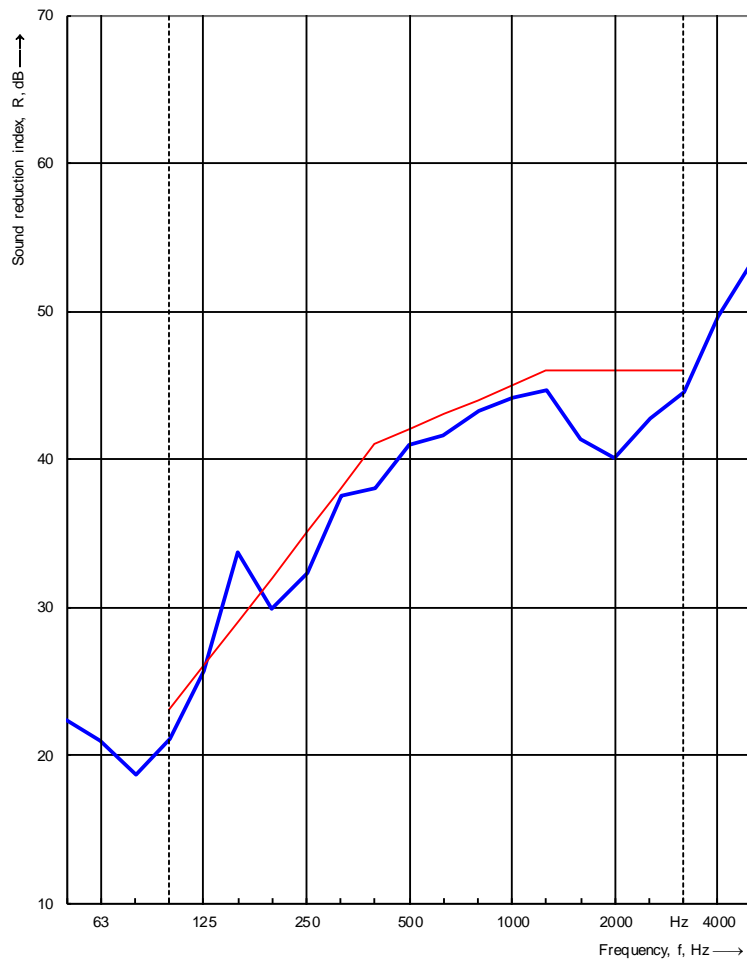
Date of test:

Description of the specimen: 3. Tuplalasinen seinä (n.97 mm) Lasit 6 mm ja 8 mm

Barometric pressure: 102,1 kPa
 Size of test opening: 12,00 m²
 Mass per unit area: kg/m²
 Temperature: 21,0 °C
 Air humidity: 63 %
 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	22,4
63	20,9
80	18,6
100	21,1
125	25,7
160	33,7
200	29,9
250	32,3
315	37,5
400	38,0
500	40,9
630	41,6
800	43,2
1000	44,1
1250	44,7
1600	41,4
2000	40,1
2500	42,8
3150	44,5
4000	49,6
5000	53,3



Rating according to ISO 717-1

$$R_w(C;C_{tr}) = 42 \text{ (-2 ; -5) dB}$$

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

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

$$C_{tr,50-3150} = -8 \text{ dB} \quad C_{tr,50-5000} = -8 \text{ dB} \quad C_{tr,100-5000} = -5 \text{ dB}$$

Company:

No. of test report:

Date: 18.12.2013

Signature:

Sound reduction index according to ISO 10140-2

Laboratory measurements of airborne sound insulation of building elements

Client: Scan Micael
 Manufacturer:
 Test room identification:
 Test specimen mounted by:
 Product identification:

Date of test:

Description of the specimen: 4. Tuplaseinä runko (n 97 mm) jossa yksi lasi 8 mm

Barometric pressure: 102,1 kPa

Size of test opening: 12,00 m²

Mass per unit area: kg/m²

Temperature: 21,0 °C

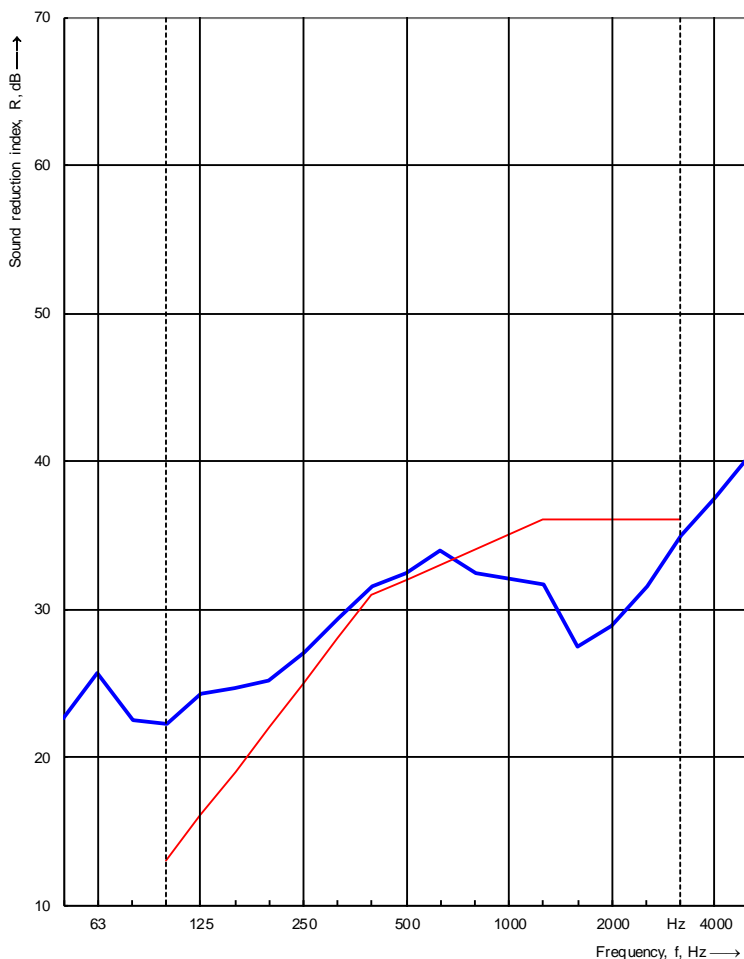
Air humidity: 63 %

Source room volume: 102 m³

Receiving room volume: 131,0 m³

Frequency f [Hz]	R 1/3 octave [dB]
50	22,6
63	25,7
80	22,5
100	22,2
125	24,3
160	24,7
200	25,2
250	27,1
315	29,4
400	31,5
500	32,4
630	33,9
800	32,4
1000	32,1
1250	31,7
1600	27,4
2000	28,9
2500	31,5
3150	35,0
4000	37,5
5000	40,3

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



Rating according to ISO 717-1

$$R_w(C;C_{tr}) = 32 \text{ (-2 ; -2) dB}$$

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

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

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

Company:

No. of test report:

Date: 18.12.2013

Signature: