

Sound reduction index in accordance with PN - EN ISO 10140-2 (2011)

Laboratory measurements of airborne sound insulation of building elements

Client: **NorDan AS**

Measurement date: **25.04.2018**

Address: **Stasjonsveien 46, N-4460 Moi Norway**

Test specimen: **TEST no. 12, door no. 4**

Top of the door leaf glazed by 8 / 20 / 44.1 Silence (PressGlass)

Bottom of the door leaf: 1mm aluminum plate + 8 / 20 / 44.1 Silence +

5,5 mm HDF + 2mm steel plate + 2,1mm air + 16.5mm acoustic sheet + 8mm HDF

From the outside on the frame and door leaf the aluminum cladding

Additional anti-dust seal on the side edges of the frame

Size of test specimen: **988 x 2088 mm**

Test specimen mounted by: **Gryfitlab Sp. z o.o.**

Mass per unit area: **kg/m²**

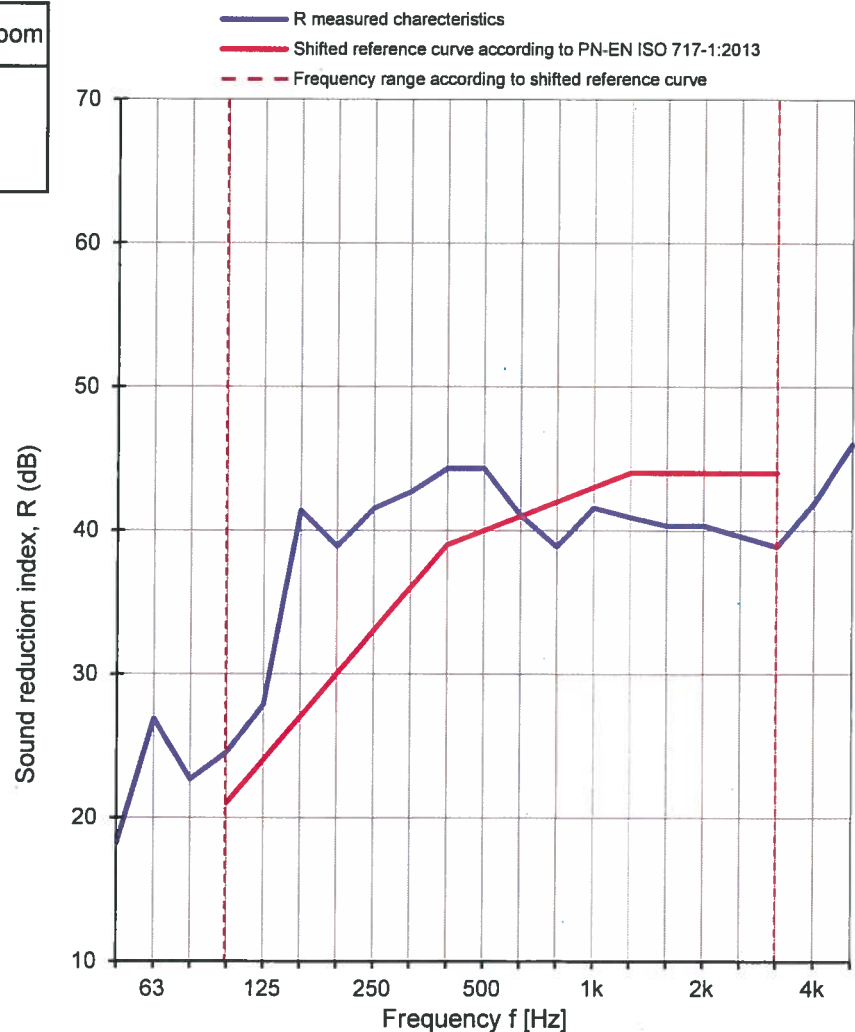
The surface area of test specimen: **2,19 m²**

| Parameter | Receiving room | Source room |
|--------------------------|----------------|-------------|
| Air temp. [°C] | 19,7 | 19,9 |
| Humidity [%] | 59 | 60 |
| Pressure [hPa] | 1005 | 1005 |
| Volume [m ³] | 324 | 372 |

| Frequency [Hz] | Test results with uncertainty | |
|----------------|-------------------------------|----------------------|
| | R [dB] | U _{CR} [dB] |
| 50 | 18,2 | 4,7 |
| 63 | 26,9 | 3,5 |
| 80 | 22,7 | 2,8 |
| 100 | 24,5 | 2,6 |
| 125 | 27,9 | 3,0 |
| 160 | 41,4 | 2,6 |
| 200 | 38,9 | 2,2 |
| 250 | 41,5 | 2,2 |
| 315 | 42,7 | 2,0 |
| 400 | 44,3 | 2,0 |
| 500 | 44,3 | 2,0 |
| 630 | 41,1 | 2,0 |
| 800 | 38,9 | 1,9 |
| 1000 | 41,6 | 1,9 |
| 1250 | 40,9 | 1,9 |
| 1600 | 40,3 | 1,9 |
| 2000 | 40,3 | 1,9 |
| 2500 | 39,6 | 1,9 |
| 3150 | 38,9 | 1,9 |
| 4000 | 41,9 | 1,9 |
| 5000 | 46,0 | 2,0 |

Measurement uncertainty of sound reduction U_{CR}

Confidence level 95% at coverage factor, k=2



Weighted sound reduction index in accordance with PN-EN ISO 717-1:2013

R_w (C; C_{tr}) = 40 (0; -1) dB

C₅₀₋₃₁₅₀ = 0 dB

C₅₀₋₅₀₀₀ = 0 dB

C₁₀₀₋₅₀₀₀ = 1 dB

C_{tr, 50-3150} = -4 dB

C_{tr, 50-5000} = -4 dB

C_{tr, 100-5000} = -1 dB

R_w = 40,9 dB

GRYFITLAB Sp. z o.o. Laboratory of Acoustics

No. of test specimen: GLA-1372.12/18

Date: 25.04.2018

Signature: Robert Dybicz