

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

Laboratory measurements of airborne sound insulation of building elements

Client: **NorDan Sp. z o.o.**

Measurement date: **24.09.2021**

Address: **Powodowo 54, 64-200 Wolsztyn**

Test specimen: **Wooden fixed frame**

Pi LNR: 35

Construction: TL, ND Ntech Villa Fixed frame 105mm

Filling by:

A1 panel 35 mm

Frame thickness: 105 mm

Description of the test facility, test specimen and test arrangement:

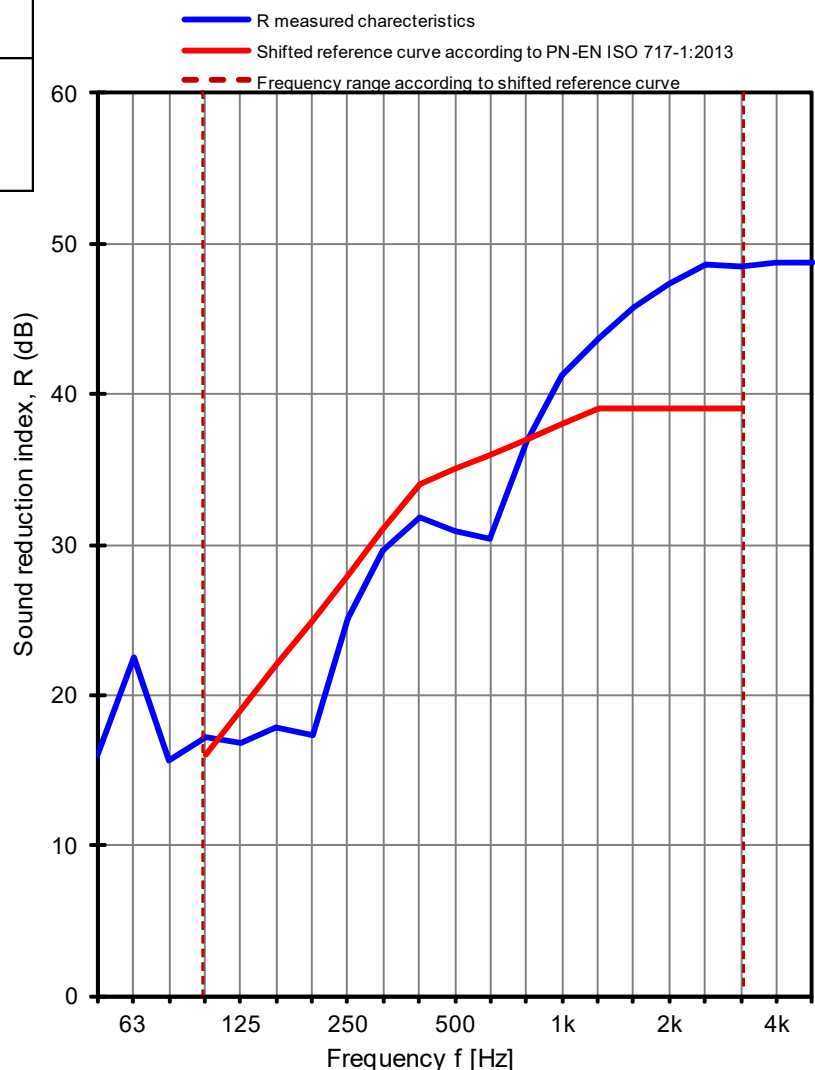
Size of test specimen: **1230 x 1480 mm**

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

The surface area of test specimen: **1,90 m²**

| Parameter | Receiving room | Source room |
|--------------------------|----------------|-------------|
| Air temp. [°C] | 19,6 | 19,6 |
| Humidity [%] | 56 | 55 |
| Pressure [hPa] | 1009 | 1009 |
| Volume [m ³] | 372 | 324 |

| Frequency [Hz] | Test results with uncertainty | |
|----------------|-------------------------------|----------------------|
| | R [dB] | U _{CR} [dB] |
| 50 | 15,9 | 3,6 |
| 63 | 22,4 | 3,5 |
| 80 | 15,7 | 2,1 |
| 100 | 17,2 | 3,0 |
| 125 | 16,9 | 1,4 |
| 160 | 17,8 | 1,6 |
| 200 | 17,3 | 2,0 |
| 250 | 25,1 | 1,3 |
| 315 | 29,6 | 1,1 |
| 400 | 31,8 | 1,0 |
| 500 | 31,0 | 0,8 |
| 630 | 30,4 | 0,8 |
| 800 | 36,8 | 0,7 |
| 1000 | 41,2 | 0,7 |
| 1250 | 43,7 | 0,7 |
| 1600 | 45,8 | 0,8 |
| 2000 | 47,3 | 0,8 |
| 2500 | 48,6 | 0,9 |
| 3150 | 48,5 | 0,9 |
| 4000 | 48,8 | 1,0 |
| 5000 | 48,8 | 1,3 |



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 717-1:2021-06E

R_w (C; C_{tr}) = 35 (-2; -7) dB

C₅₀₋₃₁₅₀ = -2 dB

C₅₀₋₅₀₀₀ = -1 dB

C₁₀₀₋₅₀₀₀ = -1 dB

C_{tr, 50-3150} = -8 dB

C_{tr, 50-5000} = -8 dB

C_{tr, 100-5000} = -7 dB

R_w = 35,1 dB

GRYFITLAB Sp. z o.o. Laboratory of Acoustics

No. of test specimen: GLA-1559.24 / 21

Date: 24.09.2021

Signature: Robert Dybicz

Figure 14. Characteristics of airborne sound insulation of test specimen No. GLA-1544.24 / 21