

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: **20.09.2021**

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

Test specimen: **Wooden door**

Pi LNR: 65

Construction: 1I, ND Ntech Villa Balcony door

Glazed by:

64.2 SR Foil / 24 Ar / 68.2 SR Foil

Door frame thickness: 105 mm

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

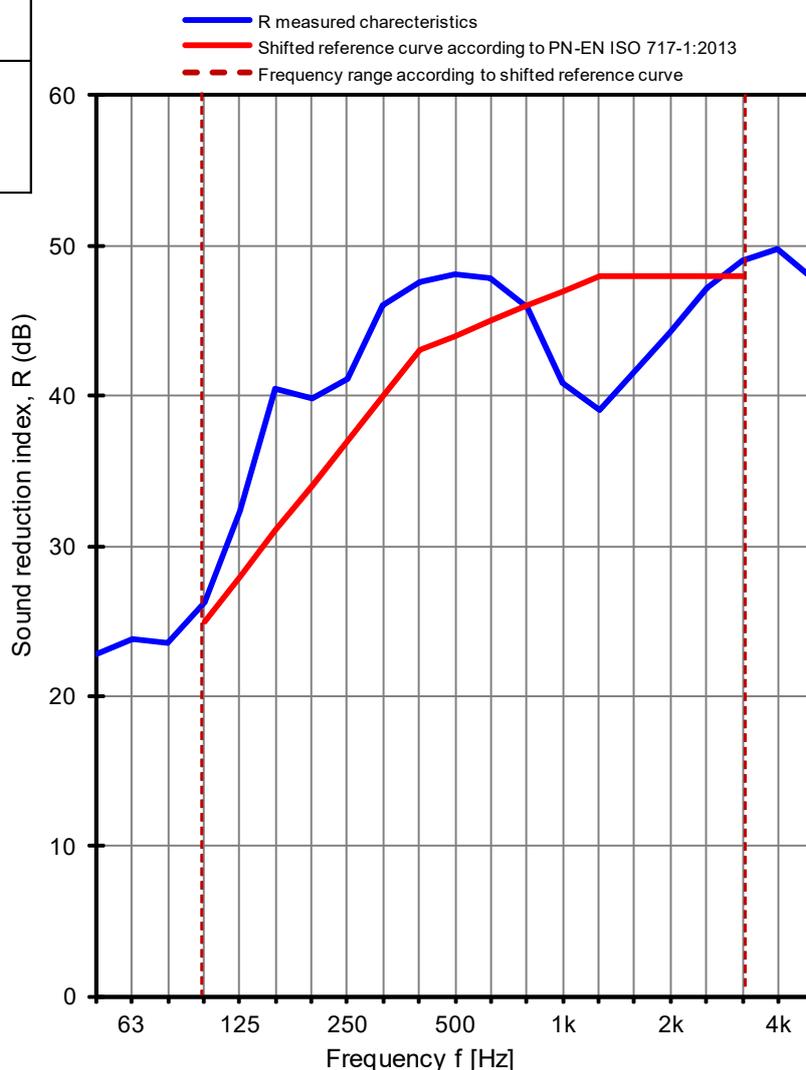
Size of test specimen: **988 x 2088 mm**

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

The surface area of test specimen: **2,15 m²**

Parameter	Receiving room	Source room
Air temp. [°C]	21	21,2
Humidity [%]	51	52
Pressure [hPa]	1020	1020
Volume [m ³]	324	372

Frequency [Hz]	Test results with uncertainty	
	R [dB]	U _{CR} [dB]
50	22,7	3,2
63	23,8	3,0
80	23,5	3,1
100	26,3	1,9
125	32,4	2,1
160	40,5	1,3
200	39,8	1,0
250	41,2	1,3
315	46,0	0,7
400	47,5	0,7
500	48,1	0,8
630	47,9	0,8
800	45,9	0,8
1000	40,8	0,9
1250	39,1	0,9
1600	41,6	0,8
2000	44,2	0,7
2500	47,2	0,8
3150	49,0	0,9
4000	49,7	0,8
5000	47,7	0,8



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}) = 44 (-1; -3) dB

C₅₀₋₃₁₅₀ = -2 dB

C₅₀₋₅₀₀₀ = -1 dB

C₁₀₀₋₅₀₀₀ = -1 dB

C_{tr, 50-3150} = -6 dB

C_{tr, 50-5000} = -6 dB

C_{tr, 100-5000} = -3 dB

R_w = 44,9 dB

GRYFITLAB Sp. z o.o. Laboratory of Acoustics

No. of test specimen: GLA-1559.1 / 21

Date: 20.09.2021

Signature: Robert Dybicz

Figure 8. Characteristics of airborne sound insulation of test specimen No. GLA-1559.1 / 21