

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: 80

Construction: 1I, ND Ntech Villa Balcony door

Glazed by:

33.1 PVB / 16 Ar / 4

Door frame thickness: 105 mm

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

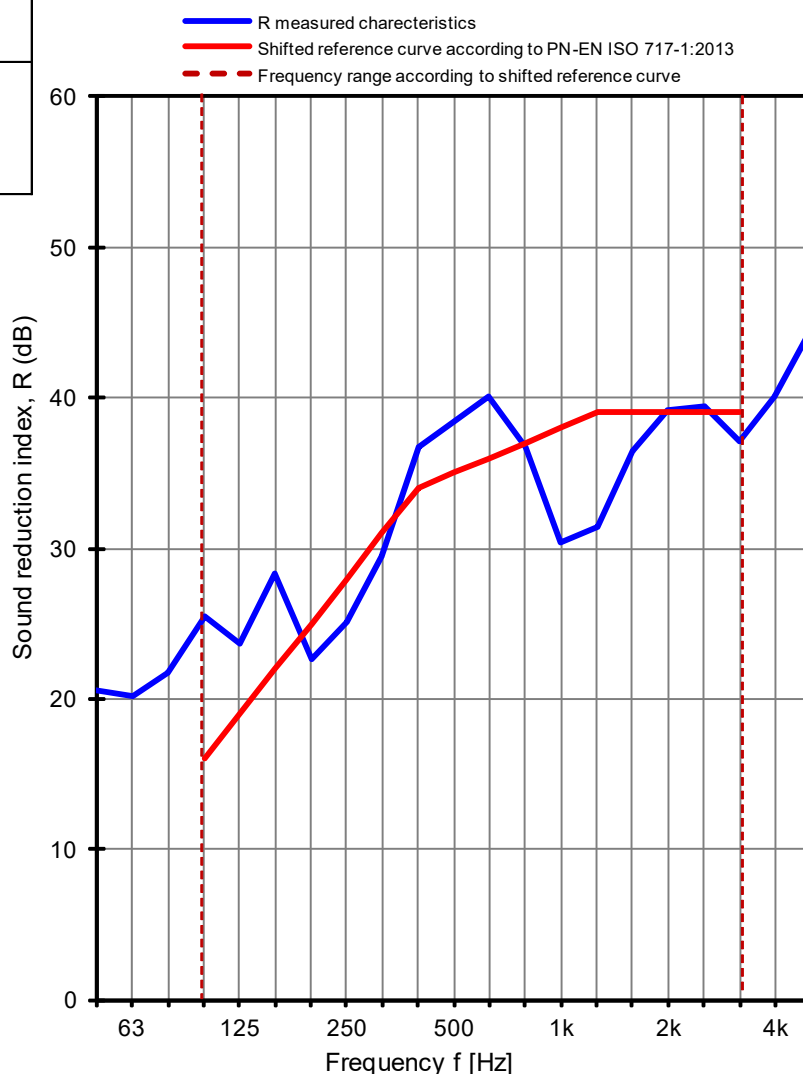
Size of test specimen: **988 x 2088 mm**

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]	20,2	20,2
Humidity [%]	50	51
Pressure [hPa]	1020	1020
Volume [m ³]	324	372

Frequency [Hz]	Test results with uncertainty	
	R [dB]	U _{CR} [dB]
50	20,5	3,9
63	20,2	3,8
80	21,7	2,7
100	25,4	2,0
125	23,7	1,7
160	28,3	1,3
200	22,6	1,5
250	25,1	1,0
315	29,5	1,0
400	36,8	1,1
500	38,4	0,9
630	40,1	0,7
800	36,7	0,9
1000	30,4	1,0
1250	31,5	0,8
1600	36,5	0,8
2000	39,2	0,7
2500	39,5	0,8
3150	37,1	1,2
4000	40,1	0,9
5000	44,6	1,2



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 (-1; -3) dB

C₅₀₋₃₁₅₀ = -1 dB

C₅₀₋₅₀₀₀ = -1 dB

C₁₀₀₋₅₀₀₀ = 0 dB

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

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

C_{tr, 100-5000} = -4 dB

R_w = 35,6 dB

GRYFITLAB Sp. z o.o. Laboratory of Acoustics

No. of test specimen: GLA-1559.4 / 21

Date: 20.09.2021

Signature: Robert Dybicz

Figure 11. Characteristics of airborne sound insulation of test specimen No. GLA-1559.4/ 21