

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: **21.09.2021**

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

Test specimen: **Wooden door**

Pi LNR: **45**

Construction: **TE, ND Ntech Villa Balcony door**

Glazed by:

44.2 SR Foil / 20 Ar / 44.2 SR Foil

Door frame thickness: **105 mm**

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

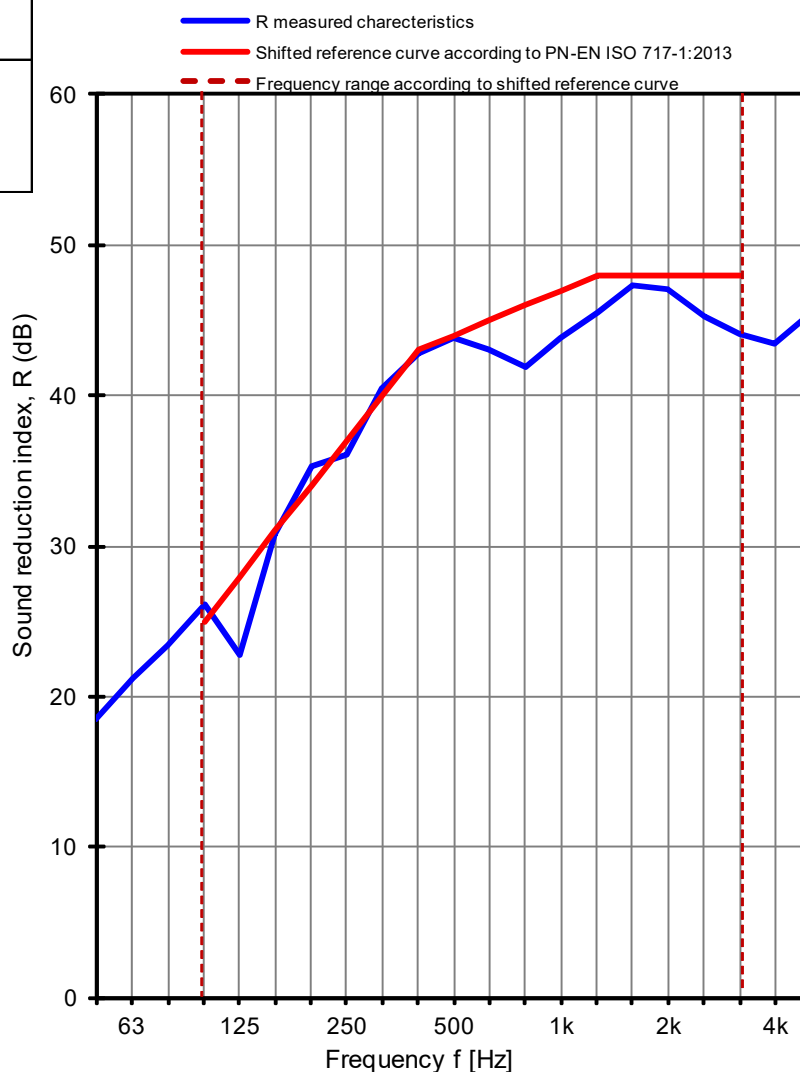
Size of test specimen: **988 x 2088 mm**

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]	20,0	20,0
Humidity [%]	55	56
Pressure [hPa]	1025	1025
Volume [m ³]	324	372

Frequency [Hz]	Test results with uncertainty	
	R [dB]	U _{CR} [dB]
50	18,5	3,2
63	21,3	2,9
80	23,4	2,5
100	26,1	2,0
125	22,8	1,9
160	30,8	1,3
200	35,3	1,3
250	36,1	1,1
315	40,5	0,9
400	42,8	1,2
500	43,8	1,0
630	43,1	0,9
800	41,9	1,0
1000	43,8	0,9
1250	45,6	0,7
1600	47,3	0,7
2000	47,0	0,7
2500	45,3	0,8
3150	44,0	0,9
4000	43,4	0,9
5000	45,5	1,1



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 (-2; -6) dB

C₅₀₋₃₁₅₀ = -2 dB

C₅₀₋₅₀₀₀ = -2 dB

C₁₀₀₋₅₀₀₀ = -1 dB

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

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

C_{tr, 100-5000} = -6 dB

R_w = 44,4 dB

GRYFITLAB Sp. z o.o. Laboratory of Acoustics

No. of test specimen: GLA-1559.10 / 21

Date: 21.09.2021

Signature: Robert Dybicz

Figure 17. Characteristics of airborne sound insulation of test specimen No. GLA-1559.10 / 21