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Testing laboratory of physical properties of materials, structures and buildings – Zlín, Testing laboratory No. 1007.1, accredited by the CAI according to ČSN EN ISO/IEC 17025:2018

L 1007.1

Test Report No. 231/20

Laboratory Measurement of Airborne Sound Insulation according to ČSN EN ISO 10140-2

Test subject: Insulating triple glass unit FL 8/ 14 Ar/ FL 4/ 14 Ar/ 44.1

Contract No: 415000276

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Customer: **PRESS GLASS SA**
Nowa Wieś, ul. Kopalniana 9
42-262 Poczesna
Poland

Sample accepted on: 21.07 2020
Tested on: 29.07.2020
Tested by the Acoustics Laboratory
Technical head of laboratory: Ing. Miroslav Figalla . . . . . .
Head of testing laboratory No. 1007.1:
Ing. Petra Hrdinová . . . . . .

Date: 03.08.2020

$$R = L_1 - L_2 + 10 \log \frac{S}{A} \qquad \text{(dB)},$$

where L_1 is the average sound pressure level in the source room,
L_2 .. average sound pressure level in the receiving room,
S ... area of the test specimen in m^2,
A ... equivalent absorption area in the receiving room in m^2.

The size of the equivalent absorption area is determined from reverberation time measured according to the ČSN ISO 3382-2 standard using the Sabine´s formula

$$A = \frac{0{,}16\,V}{T}$$

where V is the volume of the receiving room in m^3,
T ... reverberation time in the receiving room in seconds.

A single-number quantity, weighted sound reduction index R_w, and spectrum adaptation terms C, C_{tr} are determined from the values of sound reduction index R in third-octave bands 100 to 3150 Hz, using the reference curve and method according to ČSN EN ISO 717-1. Furthermore, single-number quantities according to ASTM E413-16 and ASTM E1332-16 are determined, see page 5.

6. Test Results

Reg. No.	Product tested	Weighted sound reduction index R_w (C; C_{tr}) dB
129/20	Insulating triple glass unit FL 8/ 14 Ar/ FL 4/ 14 Ar/ 44.1	**41 (-1; -5)**

The course of sound insulation depend on the frequency and further measurement data are shown in standard measuring record on page 4.

7. Measurement Uncertainty

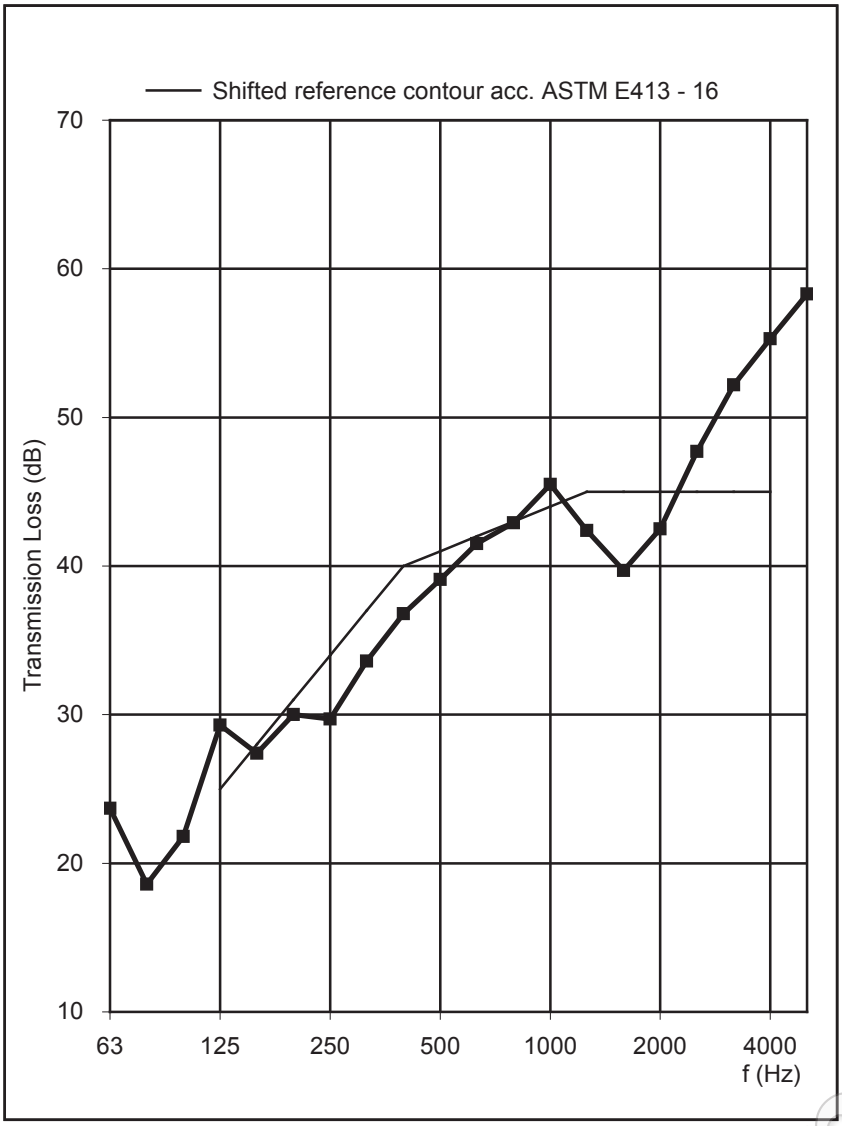
The measurement uncertainty is expressed in accordance with ČSN EN ISO 12999-1 using a standard deviation of reproducibility. Measurement results including uncertainty:
$R_w = (41{,}5 \pm 2{,}4)$ dB
$R_w + C = (39{,}8 \pm 2{,}6)$ dB
$R_w + C_{tr} = (36{,}2 \pm 3{,}0)$ dB.
The values are determined for the extension factor k = 2, which corresponds to a confidence level of 95% for the two-sided test.

In charge for the test: Ing. Miroslav Figalla

Note:

This document is a translation of the Test Report No. 231/20 dated 03.08.2020. In case of ambiguity or doubts, the Czech version prevails.

8. Classification according to ASTM standards



Standard	Quantity	Rating
ASTM E413 – 16	Sound transmission class	STC 41
ASTM E1332 – 16	Outdoor-indoor transmission class	OITC 33

In charge for the test: Ing. Miroslav Figalla