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Client Report

B-3453.17

Airborne Sound Transmission Loss Measurement Performed on One (1) Wall Assembly with 25 mm (1") Supress Panel

for

Supress Products LLC
P.O. Box 3472
San Rafael, CA, USA
94912

06 February 2007

National Research Council Canada | Conseil national de recherches Canada

Canada

Airborne Sound Transmission Loss Measurement Performed on One Wall Assembly with 25 mm (1") Supress Panel for Supress Products LLC

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Reference: Agreement dated September 26, 2006
Program: Indoor Environment

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Client: Supress Products

Specimen: 25 mm (1") Supress Panels

Specimen ID: B3453-17W

Construction Dates: February 1, 2006

Test Specimen:

The wall had a double row of wood studs; on the exterior face of both sides were 25 mm thick Supress panels identified by the client as SED4448. The double row of 38 x 89 mm wood studs were spaced 610 mm on center and an air space of 76 mm was left between the two rows of wood studs. The 89 mm thick, R12 glass fibre batts were installed in the cavities of the double row of wood studs. The joints of the 25 mm thick Supress panels were caulked with Supress acoustical sound sealant, then covered with a metal tape. The joints of the two layers of Supress panels were staggered by 610 mm. The Supress panels were attached vertically to the studs with 51 mm long, type S drywall screws. The screw spacing for the base layer of Supress panels was 610 mm on center, along the edges and in the field and for the face layer of Supress panels, 406 mm on center, along the edges and in the field.

Specimen Properties

Element	Actual Thickness (mm)	Surface weight (kg/m²)	Mass (kg)
Supress Panel - SED4448		21.52	192.0
Supress Panel - SED4448		21.32	190.2
Glass Fibre Batts		1.01	9.0
Wood Studs		4.27	38.1
Air			-
Wood Studs		4.19	37.4
Glass Fibre Batts		0.96	8.6
Supress Panel - SED4448		21.65	193.1
Supress Panel - SED4448		21.04	187.7
Total	356		856.1

Test Specimen Installation:

During the measurements, the test specimen was mounted in the IRC acoustical wall test opening which measures approximately 3.66 m x 2.44 m.

The perimeter of the specimen was sealed on both sides with caulking and then covered with a metal tape.

The area used for the calculation of the airborne sound transmission loss was 8.92 m².

Airborne sound transmission loss measurements were conducted in accordance with the requirements of ASTM E90-04, "Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements".

Client:	Supress Products
Specimen ID:	B3453-17W
Test ID:	TLA-07-009
Tested:	2-Feb-07

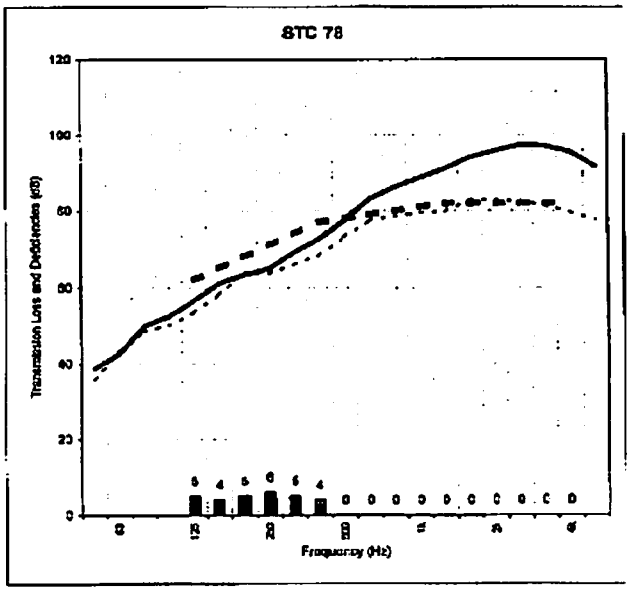
Small Room Volume: 138 m^3

Large Room Volume: 250 m^3

Measured Temperature and Relative Humidity During

	Temperature, °C		Humidity %	
Room	Min	Max	Min	Max
Small	19.1	19.4	33.0	34.7
Large	22.8	23.0	55.4	63.8

Frequency (Hz)	Airborne Sound Transmission Loss (dB)	95% Confidence Limits
50	39 *	
63	43 *	
80	50 *	± 4.0
100	53 *	± 3.9
125	57 *	± 2.0
160	61 c	± 1.4
200	63	± 0.8
250	65	± 1.0
315	69	± 0.8
400	73	± 0.7
500	78	± 0.5
630	83 c	± 0.6
800	86 c	± 0.6
1000	89 *	± 0.4
1250	91 *	± 0.4
1600	94 *	± 0.4
2000	96 *	± 0.3
2500	97 *	± 0.5
3150	97 *	± 0.4
4000	95 *	± 0.6
5000	92 *	± 0.5
Sound Transmission Class (STC) = 78		



In the graph:
Solid line is the measured sound transmission loss for this specimen. Dashed line is the STC contour fitted to the measured values according to ASTM E413-04. The dotted line is 10 dB below the flanking limit established for this facility. For any frequency where measured transmission loss is above the dotted line, the reported value is potentially limited by vibration transmission via laboratory surfaces, and the true value may be higher than that measured.

Bars at bottom of graph show deficiencies. At each frequency the difference between the shifted reference contour value and the measured data is calculated. Only deficiencies, that is, where the measured data are less than the reference contour, are counted in the fitting procedure for the STC, defined in ASTM E413.

In the table:
Values marked "c" indicate that the measured background level was between 5 dB and 10 dB below the combined receiving room level and background level. The reported values have been corrected according to the procedure outlined in ASTM E90-04.

Values marked "*" indicate that the measured background level was less than 5 dB below the combined receiving room level and background level. The reported values provide an estimate of the lower limit of airborne sound transmission loss.

Note: At all frequencies, the measured sound transmission loss for this specimen was less than 10 dB below the limiting transmission loss established for flanking (structure-borne) transmission via facility surfaces. Hence the measured values and the STC are potentially limited by flanking and the true values may be higher than those measured.

The results reported above apply only to the specific sample submitted for measurement. No responsibility is assumed for performance of any other specimen.