

Acoustical Testing Laboratory



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under Lab Code 200291

TEST REPORT

for

IMT Modular Partitions LTD.
80 Clayson Road
Toronto, ON M9M 2G7
Shay Sekler / 416-743-4513

Sound Transmission Loss Test ASTM E 90 - 09 / E 413 - 04 On

Wall Partition Assembly

IMT Wall System with Solid Skins

Report Number: NGC 2010023

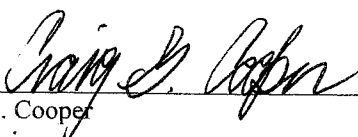
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Assignment Number: G-593

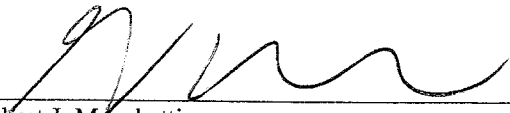
Test Date: 05/06/2010

Report Date: 05/24/2010

Submitted by: _____


Craig G. Cooper
Test Engineer

Reviewed by: _____


Robert J. Menchetti
Director of Laboratory and
Testing Services

The results reported above apply to specific samples submitted for measurement.

No responsibility is assumed for performance of any other specimen.

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Test Method: This test method conforms explicitly with the American Society for Testing and Materials Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements - Designation: E 90 - 09 / E 413 - 04.

Specimen Description: The test specimen was a partition assembly constructed within the 12 ft. Wide by 9 ft. High (3657mm W by 2743mm H) test opening. The test specimen was described by client as, IMT Modular Partition System with Solid Skins.

Standard direction of sound from Source Room (Room 1) to Receiving Room (Room 2).

The wall system was assembled in the test opening by the client and consisted of:
Metal 2-1/2 in. wide x 2-3/8 in. high x 144 in. long horizontally (64mm x 60mm x 3658mm) mounted C channel that was screw attached to the top and bottom of the test opening, 0.26 PSF. Metal 4 in. wide x 1-1/4 in. high x 107-3/4 in. long (102mm x 32mm x 2737mm) vertically mounted wall starter C channel was set in place on the left and right outside perimeter of the test opening, 0.23 PSF. Four 2-1/4 in. deep x 1-1/4 in. wide (57mm x 32mm) flange metal Type 2700 posts, 0.23 PSF, were vertically mounted between the top and bottom channels with two of the posts, each, set adjacent to an outside starter channel. One post installed at 48 in. (1219mm) O.C. from one outside post and the other post installed 44-3/4 in. (1137mm) from the other outside post. The posts had two evenly spaced vertical rows of slots on each side. Four (two top and two bottom) cross member channels per span between posts were installed for additional support. The cross members consisted of a total of eight 48 in. (1219mm) channels, 0.09 PSF, and four 44-1/2 in. (1130mm) long channels, 0.04 PSF. The cavity between the posts and outer skins was filled with 2 in. thick mineral wool, 0.49 PSF. The outer skins (laminated particle board) on each side of the partition consisted of one 44-3/4 in. wide x 106-1/2 in. high x 5/8 in. thick (1137mm x 2705mm x 16mm), and two 48 in. wide x 106-1/2 in. high x 5/8 in. (1219mm x 2705mm x 16mm) thick solid panel sections, 4.11 PSF. The panels had attached clips on the back side for attaching to the posts using the slots in the posts. The seams between panels and at the outer perimeter were sealed with rubber gasketing.

The total partition assembly weight was: 587 lbs. (266 kg), 5.44 PSF (26.6 kg/m²).

The perimeter of the wall system was sealed with acoustical caulk.

Test samples were received from client and installed by client and tested by lab personnel.

Preconditioning: NA

Test Results: The results of the tests are given on pages 3 and 4.

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| Sound Transmission Loss Test Data | | | | | | | |
|---|----------|---------|---------|--------------------------------|------------|-------------|------|
| Test: ASTM E 90 - 09 / ASTM E 413 - 04 | | | | | | | |
| Test Report: NGC2010023 | | | | Date: 5/6/2010 | | | |
| Specimen Size [m ²]: 10.1 | | | | | | | |
| Source room | | | | Receiving room | | | |
| Volume [m ³]: 91.6 | | | | Volume [m ³]: 98.7 | | | |
| Rm Temp [°C]: 20.5 | | | | Rm Temp [°C]: 21.0 | | | |
| Humidity [%]: 48 | | | | Humidity [%]: 49 | | | |
| Sound Transmission Class STC [dB]: | | | | 43 | | | |
| Sum of Unfavorable Deviations [dB]: 28 | | | | | | | |
| Max. Unfavorable Deviation [dB]: 8 | | | | at 125 Hz | | | |
| Frequency [Hz] | STL [dB] | L1 [dB] | L2 [dB] | d [dB/s] | Corr. [dB] | u.Dev. [dB] | ΔSTL |
| 100 | 15 | 94.3 | 80.9 | 30.2 | 1.6 | | 0.0 |
| 125 | 19 | 93.9 | 76.3 | 23.2 | 1.4 | 8 | 1.0 |
| 160 | 26 | 94.2 | 72.6 | 12.6 | 4.4 | 4 | 1.9 |
| 200 | 31 | 93.9 | 67.5 | 11.8 | 4.6 | 2 | 1.3 |
| 250 | 38 | 94.9 | 62.5 | 12.5 | 5.6 | | 0.5 |
| 315 | 41 | 95.9 | 59.6 | 12.2 | 4.7 | | 0.5 |
| 400 | 47 | 94.4 | 52.4 | 12.5 | 5.0 | | 0.4 |
| 500 | 50 | 96.2 | 51.0 | 12.1 | 4.8 | | 0.3 |
| 630 | 52 | 96.2 | 49.2 | 11.7 | 5.0 | | 0.1 |
| 800 | 54 | 96.4 | 47.4 | 12.0 | 5.0 | | 0.1 |
| 1000 | 54 | 97.0 | 47.6 | 12.8 | 4.6 | | 0.1 |
| 1250 | 52 | 97.5 | 49.4 | 14.4 | 3.9 | | 0.1 |
| 1600 | 45 | 97.4 | 55.9 | 17.1 | 3.5 | 2 | 0.1 |
| 2000 | 40 | 96.1 | 59.2 | 21.1 | 3.1 | 7 | 0.0 |
| 2500 | 42 | 95.1 | 54.7 | 24.4 | 1.6 | 5 | 0.0 |
| 3150 | 48 | 95.0 | 49.1 | 26.2 | 2.1 | | 0.0 |
| 4000 | 49 | 95.4 | 47.2 | 30.2 | 0.8 | | 0.0 |
| 5000 | 47 | 96.3 | 49.6 | 34.4 | 0.3 | | 0.0 |

STL = Sound Transmission Loss, dB
L1 = Source Room Level, dB
L2 = Receiving Room Level, dB
d = Decay Time, dB/second
Δ STL = Uncertainty for 95% Confidence Level

The results reported above apply to specific samples submitted for measurement.
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Sound Transmission Loss Test Data

Per: ASTM E 90 - 09 / ASTM E 413 - 04

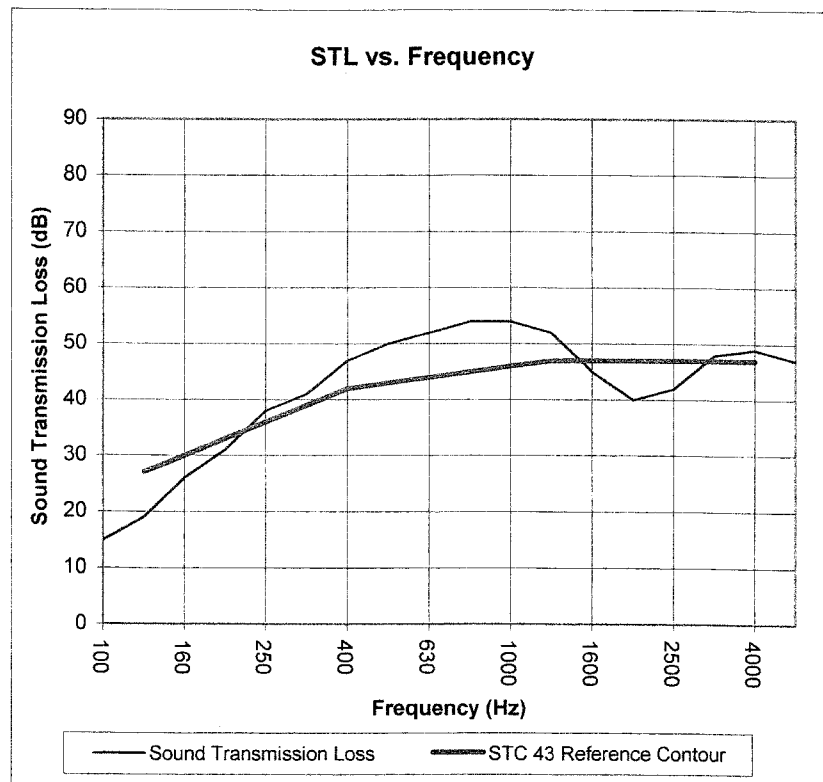
Test Report: NGC2010023

Test Date: 5/6/2010

Specimen Size [m²]: 10.1

Sound Transmission Class STC = 43 dB

| Frequency [Hz] | STL [dB] | ΔSTL |
|----------------|----------|------|
| 100 | 15 | 1.9 |
| 125 | 19 | 1.3 |
| 160 | 26 | 0.5 |
| 200 | 31 | 0.5 |
| 250 | 38 | 0.4 |
| 315 | 41 | 0.3 |
| 400 | 47 | 0.1 |
| 500 | 50 | 0.1 |
| 630 | 52 | 0.1 |
| 800 | 54 | 0.1 |
| 1000 | 54 | 0.1 |
| 1250 | 52 | 0.0 |
| 1600 | 45 | 0.0 |
| 2000 | 40 | 0.0 |
| 2500 | 42 | 0.0 |
| 3150 | 48 | 0.0 |
| 4000 | 49 | 0.0 |
| 5000 | 47 | 0.0 |



* Due to high insulating value of specimen, background levels limit results at these frequencies.

STL = Sound Transmission Loss, dB
 Δ STL = Uncertainty for 95% Confidence Level

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