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## SOUND TRANSMISSION LOSS TEST REPORT NO. TL09-539

CLIENT: DMFCWBS, LLC<br>9100 Centre Pointe Drive, Suite 210<br>West Chester, OH 45069<br>TEST DATE: 14 September 2009

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## INTRODUCTION

The methods and procedures used for this test conform to the provisions and requirements of ASTM E 90-04, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions. Copies of the test standard are available at www.astm.org. The test chamber source and receiving room volumes are 204 and 148.4 cubic meters respectively. Western Electro-Acoustic Laboratory is accredited by NVLAP (National Voluntary Laboratory Accreditation Program) Lab Code 100256-0 for this test procedure. NVLAP is part of the United States Department of Commerce, National Institute of Standards and Technology (NIST). This test report relates only to the item(s) tested. Any advertising that utilizes this test report or test data must not imply product certification or endorsement by WEAL, NVLAP, NIST or the U.S. Government.

## DESCRIPTION OF TEST SPECIMEN

The test specimen was a wall assembly constructed from metal studs and type X gypsum board. The studs and tracks were ProSTUD-015 ( 25 GA equivalent) $3-5 / 8$ inch ( 92 mm ) metal. The studs were spaced horizontally at 24 inches ( 610 mm ) O.C. The frame was isolated from the test opening with $1 / 4$ inch $(6.4 \mathrm{~mm})$ neoprene pads. On both sides, one layer of $5 / 8$ inch $(15.9 \mathrm{~mm})$ thick type X gypsum board was screwed to the studs at 8 inches $(203 \mathrm{~mm})$ O.C. around the perimeter and 12 inches ( 305 mm ) O.C. in the field with $1-1 / 4$ inch $(31.8 \mathrm{~mm}) \# 6$ drywall screws. All gypsum board was oriented vertically and the joints were staggered on opposite sides of the wall. All joints and perimeters were sealed with a bead of caulking and metal foil tape. Screw heads were covered with metal foil tape. The overall dimensions of the wall assembly were 96 inches ( 2.44 m ) wide by 96 inches ( 2.44 m ) high by $4-7 / 8$ inches ( 124 mm ) thick. The overall weight of the assembly was estimated to be $307 \mathrm{lbs}(139 \mathrm{~kg})$ for a calculated surface density of $4.80 \mathrm{lbs} . / \mathrm{ft}^{2}\left(23.4 \mathrm{~kg} / \mathrm{m}^{2}\right)$.

## RESULTS OF THE MEASUREMENTS

One-third octave band sound transmission loss values are plotted and tabulated on the attached sheet. ASTM minimum volume requirements are met at 80 Hz and above. The Sound Transmission Class rating determined in accordance with ASTM E 413-04 was STC-43.


Respectfully submitted, Western Electro-Acoustic Laboratory


WESTERN ELECTRO-ACOUSTIC LABORATORY
Report No. TL09-539


| $1 / 3$ OCT BND CNTR FREQ |  |  | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TL in dB |  |  | 14 | 15 | 19 | 23 | 28 | 35 | 35 | 36 | 41 | 46 |
| 95\% Confidence in dBdeficiencies |  |  | 1.42 | 1.92 | 2.07 | 1.47 | 0.89 | 0.76 | 0.80 | 0.52 | 0.36 | 0.38 |
|  |  |  |  |  |  | (4) | (2) |  | (1) | (3) | (1) |  |
| 1/3 OCT BND CNTR FREQ |  |  | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 | 5000 |
| TL in dB |  |  | 47 | 50 | 52 | 54 | 51 | 39 | 40 | 43 | 50 | 52 |
| 95\% Confidence in dB deficiencies |  |  | 0.29 | 0.44 | 0.38 | 0.39 | 0.36 | 0.56 | 0.55 | 0.31 | 0.32 | 0.50 |
|  |  |  |  |  |  |  |  | (8) | (7) | (4) |  |  |
| $\begin{aligned} & \text { EWR } \\ & 44 \end{aligned}$ | OITC |  |  | ec | n | : | sq |  |  |  |  | STC |
|  | 31 |  |  |  | tur |  |  |  |  |  |  | $43$ |

Test Date: 14 September 2009
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