



## WESTERN ELECTRO - ACOUSTIC LABORATORY

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### SOUND TRANSMISSION LOSS TEST REPORT NO. TL13-203

CLIENT: Clark-Dietrich  
9100 Centre Pointe Drive, Suite 210  
West Chester, OH 45069

28 February 2013

TEST DATE: 26 February 2013

#### INTRODUCTION

The test was performed in accordance with ASTM E 90-09, *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions* and ASTM E2235-04<sup>ε1</sup>, *Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods*. Copies of the test standard are available at [www.astm.org](http://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 the United States Department of Commerce, National Institute of Standards and Technology under the National Voluntary Accreditation Program (NVLAP) Lab Code 100256-0 for this test procedure. This test report relates only to the item(s) tested. This report must not be used to claim product certification, approval, or endorsement by WEAL, NVLAP, NIST or any agency of the federal government.

#### DESCRIPTION OF TEST SPECIMEN

The test specimen was a wall assembly constructed from metal studs and Type X gypsum board. The metal studs were 92 mm (3-5/8 inch) ClarkDietrich™ Building Systems ProSTUD 30 mil and were spaced at 610 mm (24 inches) O.C. The head and sill tracks were 92 mm (3-5/8 inch) ClarkDietrich ProTRAK 30 mil. The frame was isolated from the test opening with 6.4 mm (1/4 inch) neoprene pads. Full width Owens Corning R-13 un-faced fiberglass batts, 89 mm (3-1/2 inch) thick, were installed in the stud spaces. On both sides, one layer of 15.9 mm (5/8 inch) thick USG Type X gypsum board was screwed to the studs at 203 mm (8 inches) O.C. around the perimeter and 305 mm (12 inches) O.C. in the field using 28.6 mm (1-1/8 inch) drywall screws. All gypsum board was oriented vertically and the joints were staggered on opposite sides of the wall and between layers. On both sides, the joints and perimeters were sealed with a bead of caulking and metal foil tape. All screw heads were covered with metal foil tape. The overall dimensions of the wall assembly were 2.44 m (96 inches) wide by 2.44 m (96 inches) high by 124 mm (4-7/8 inches) thick. The overall weight of the assembly was estimated to be 153 kg (337 lbs) for a calculated surface density of 25.7 kg/m<sup>2</sup> (5.27 lbs./ft<sup>2</sup>).

#### 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 Outdoor-Indoor Transmission Class rating determined in accordance with ASTM E 1332-10a was OITC-30. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC-37.

Approved:

Stephen A. Martin, Ph.D., P.E.  
Laboratory Director

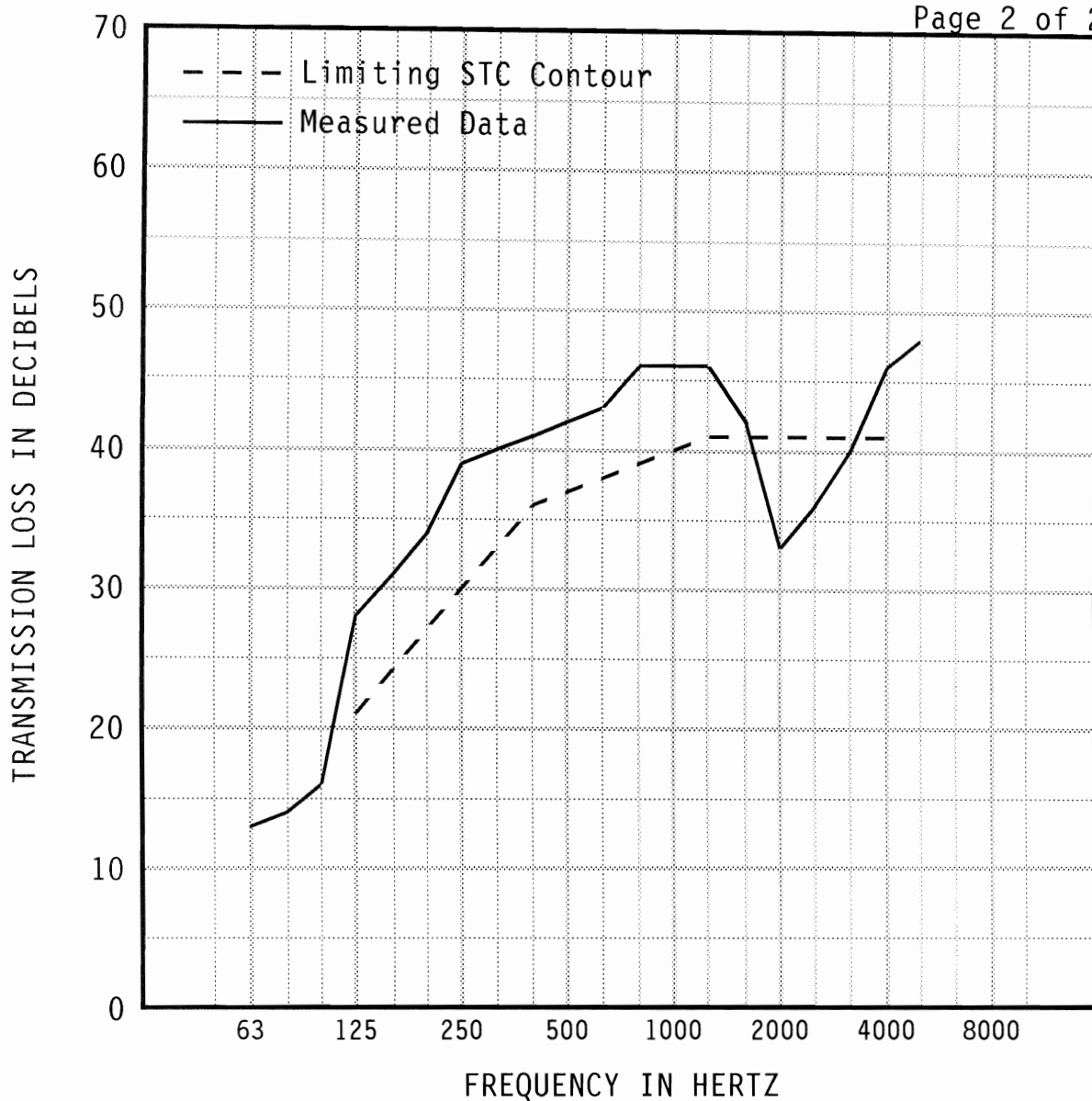
Respectfully submitted,  
Western Electro-Acoustic Laboratory

Raul Martinez  
Acoustical Test Technician

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|                                   |      |  |      |      |      |      |             |             |             |      |                   |
|-----------------------------------|------|--|------|------|------|------|-------------|-------------|-------------|------|-------------------|
| 1/3 OCT BND CNTR                  | FREQ | 63   | 80   | 100  | 125  | 160  | 200         | 250         | 315         | 400  | 500               |
| TL in dB                          |      | 13   | 14   | 16   | 28   | 31   | 34          | 39          | 40          | 41   | 42                |
| 95% Confidence in dB deficiencies |      | 1.42   | 1.92 | 2.07 | 1.47 | 0.89 | 0.76        | 0.80        | 0.52        | 0.36 | 0.38              |
| 1/3 OCT BND CNTR                  | FREQ | 630  | 800  | 1000 | 1250 | 1600 | 2000        | 2500        | 3150        | 4000 | 5000              |
| TL in dB                          |      | 43   | 46   | 46   | 46   | 42   | 33          | 36          | 40          | 46   | 48                |
| 95% Confidence in dB deficiencies |      | 0.29   | 0.44 | 0.38 | 0.39 | 0.36 | 0.56<br>(8) | 0.55<br>(5) | 0.31<br>(1) | 0.32 | 0.50              |
| EWR                               | OITC | Specimen Area: 64 sq.ft.<br>Temperature: 69.1 deg. F<br>Relative Humidity: 33 %<br>Test Date: 26 February 2013 |      |      |      |      |             |             |             |      | STC<br>37<br>(14) |
| 44                                | 30   |  |      |      |      |      |             |             |             |      |                   |

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