# Acoustical Surfaces, Inc.

**SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS**

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SINCE 1896

## REPORT

Intertek ETL SEMKO

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Accredited by the National Voluntary Laboratory Accreditation Program for the Specific Accreditation under Lab Code 100402-0.

Order No. 3124189 Date: May 24, 2007

**REPORT NO. 3124189CRT-002**

**SOUND TRANSMISSION LOSS TEST AND CLASSIFICATION OF A**
ACOUSTI-BOARD Ultra™

RENDERED BY MANUFACTURER AND RELEASED TO:
Acoustical Surfaces, Inc.
123 Columbia Court North
Chaska, MN 55318

## INTRODUCTION

This report gives the results of a Sound Transmission Loss test and the determination of the Sound Transmission Class on a ACOUSTI-BOARD Ultra™.The panel was selected and supplied by the client and received at the laboratories on April 12, 2007. The sample appeared to be in a new, unused condition.

## AUTHORIZATION

Signed Intertek Quotation No. 500033342.

## TEST METHOD

The specimen was tested in accordance with The American Society for Testing and Materials designation ASTM E90-04, "Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions", and classified in accordance with the American Society for Testing and Materials designation ASTM E413-2004, "Classification for Rating Sound Insulation.

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## GENERAL

The sound-insulating property of a partition element is expressed in terms of the sound transmission loss. The procedure for determining this quantity is to mount (and perimeter seal) the test specimen as a partition between two reverberation rooms. Sound is introduced in one of the rooms (the source room) and measurements are made of the noise reduction between source room (10,000 cu .ft.) and receiving room (16,640 cu. ft.). The rooms are so arranged and constructed that the only significant sound transmission between them is through the test specimen.

The test opening is constructed such that it is approximately one inch larger in size than the test specimen. The specimen is placed in the test opening an a half-inch bead of "DUX-SEAL", a dense, non-hardening, clay-like material, to isolate it from the supporting base. The space between the test specimen and the wall opening is sealed on both sides employing the same sealing material.

The purpose of the Sound Transmission Class (STC) is to provide a single figure rating that can be used for comparing the sound-insulating properties of partition elements used for general building design purposes. The higher the rating (STC) the greater the sound insulating properties of the partition.

## DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of a 36 inch wide by 60 inch long by nominal ½ inch thick ACOUSTI-BOARD Ultra™. installed vertically between the reverberation rooms. It weighed 1.2 pounds per square foot.

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**RESULTS OF TEST**

| 1/3 Octave Band Center Frequency Hz | Sound Transmission Loss in dB |
|---|---|
| 80 | 9 |
| 100 | 13 |
| 125 | 12 |
| 160 | 15 |
| 200 | 14 |
| 250 | 14 |
| 315 | 12 |
| 400 | 13 |
| 500 | 13 |
| 630 | 13 |
| 800 | 14 |
| 1000 | 14 |
| 1250 | 14 |
| 1600 | 15 |
| 2000 | 17 |
| 2500 | 18 |
| 3150 | 20 |
| 4000 | 21 |
| 5000 | 22 |
| Sound Transmission Class | 15 |

**PRECISION**

For any pair of rooms and microphone system, the 95% confidence interval ΔTL, for transmission loss must be less than the following.

| Range of One-Third Octave Bands | Transmission Loss Uncertainty, dB Required | Actual |
|---|---|---|
| 125 and 160 | 3 | <1.5 |
| 200 and 250 | 2 | <1.5 |
| 315 - 4000 | 1 | <1 |

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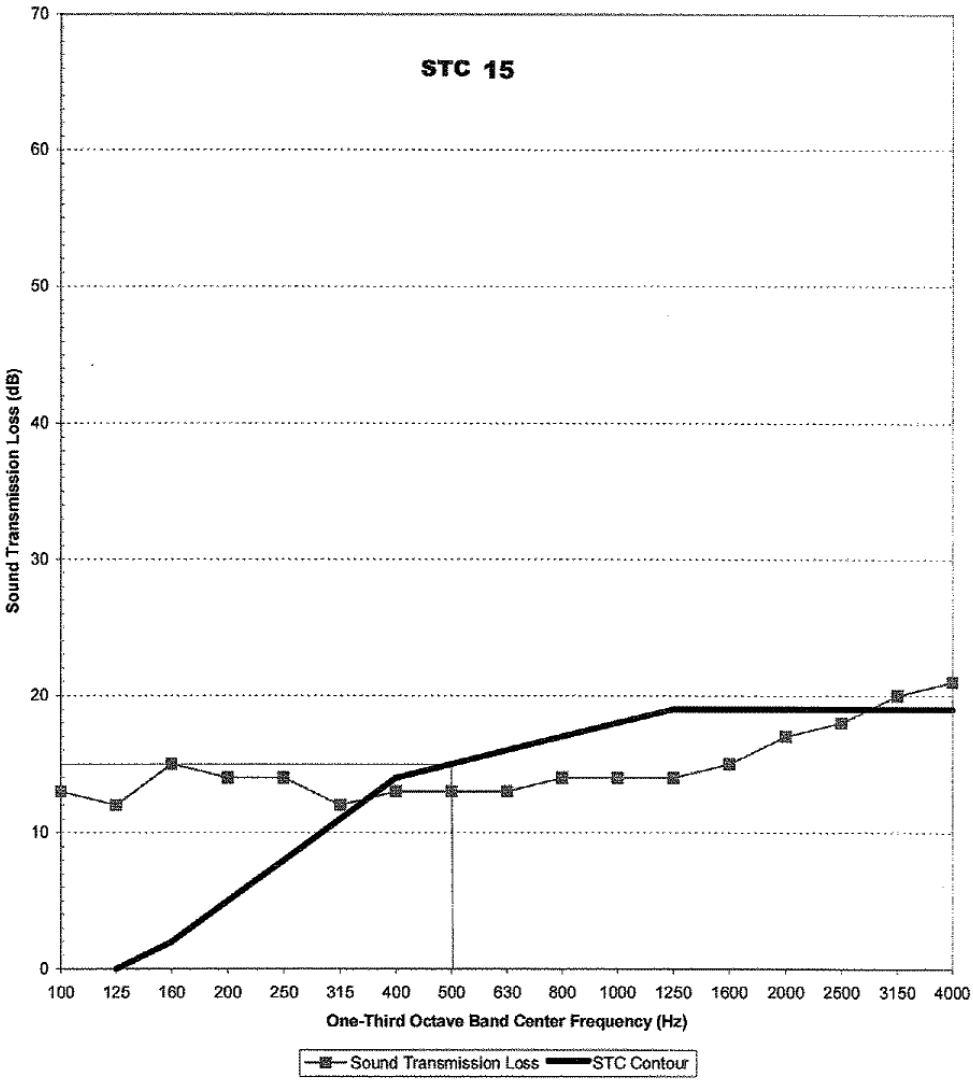
**Sound Transmission Loss**



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## REMARKS

1. Curing Period - None
2. Ambient Temperature: 70°F
3. Relative Humidity: 36%

## CONCLUSION

The test method employed for this test has no pass-fail criteria, therefore, the evaluation of the test results is left to the discretion of the client.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test: May 17, 2007

Report Approved by:

Patrick J. Schoof
Engineering Team Leader
Acoustical Testing

Report Reviewed By:

James R. Kline
Engineer/Quality Supervisor
Acoustical Testing

Attachments: None