



# REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 102074951

Date: March 11, 2015

**REPORT NO. 102074951CRT-002f**

**SOUND TRANSMISSION LOSS TEST  
AND CLASSIFICATION ON A  
WALL ASSEMBLY #6**

**RENDERED TO**

**SAGE MANUFACTURING, LLC  
R-STUD  
111 SW FIFTH AVE, SUITE 3150  
PORTLAND, OR 97140**

## **INTRODUCTION**

This report gives the results of a Sound Transmission Loss test and the determination of the Sound Transmission Class on a wall assembly #6. The test wall was constructed by Intertek using the R-Studs supplied by the client. The studs were selected by Intertek were received at the laboratory on March 4, 2015. The materials appeared to be in a new, unused condition.

## **AUTHORIZATION**

Signed Intertek Quotation No. 500576923.

## **TEST METHOD**

The specimen was tested in accordance with the American Society for Testing and Materials designation ASTM E90-2009, "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 E413-2010, "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 metal stud wall section. The wall assembly measured 168 inches wide by 104 inches tall consisting of 3 5/8 inch metal R-Studs spaced 24 inches on center with one layer of 5/8 inch Type X drywall covering each side. The studs were attached to the top and bottom tracks on one side using 3/8 inch Type S pan head screws. The drywall was attached using Type S bugle head screws spaced 16 inches on center around the perimeter and 16 inches on center in the field. The wall cavities were filled with ROXUL SAFE'N'SOUND<sup>®</sup> insulation.



**RESULTS OF TEST**

<u>1/3 Octave Band Center Frequency Hz</u>	<u>Sound Transmission Loss in dB</u>
80	11
100	15
125	26
160	33
200	39
250	41
315	45
400	46
500	50
630	52
800	55
1000	57
1250	59
1600	58
2000	50
2500	47
3150	53
4000	57
5000	60
STC – Sound Transmission Class	50

**PRECISION**

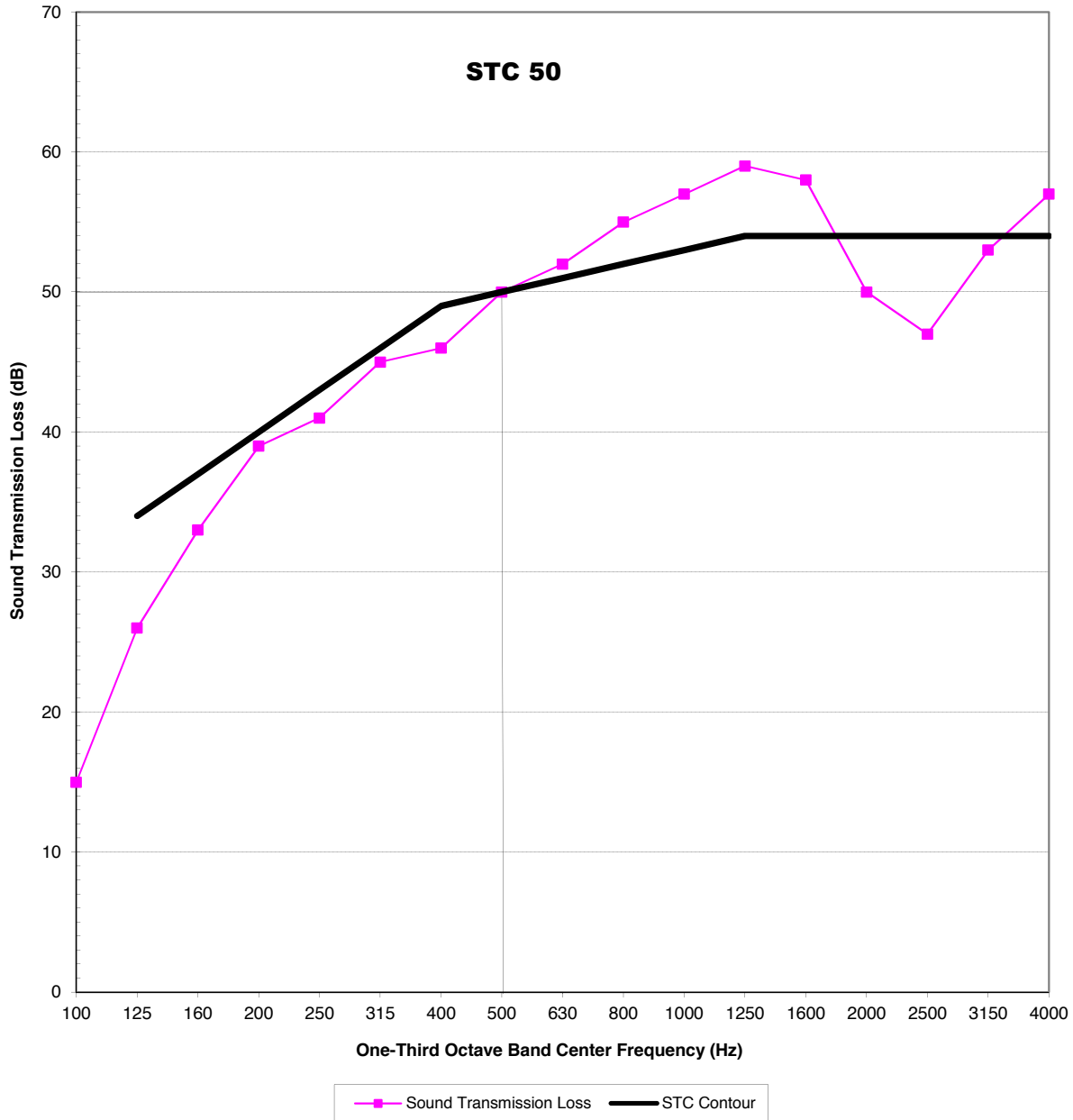
For any pair of rooms and microphone system, the 95% confidence interval  $\Delta$  TL, for transmission loss must be less than the following.

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



# WALL ASSEMBLY #6

## Sound Transmission Loss



**SAGE MANUFACTURING, LLC**

**REMARKS**

1. Ambient Temperature: 69°F
2. Relative Humidity: 30%

**CONCLUSION**

Date of Test: March 6, 2015

Report Approved by:

A handwritten signature in cursive script that reads "Brian Cyr".

Brian Cyr  
Engineer  
Acoustical Testing

Report Reviewed By:

A handwritten signature in cursive script that reads "James R. Kline".

James R. Kline  
Engineer/Quality Supervisor  
Acoustical Testing

Attachments: None