



REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 102332762

Date: November 6, 2015

REPORT NO. 102332762CRT-001e

**SOUND TRANSMISSION LOSS TEST
AND CLASSIFICATION ON A
WALL ASSEMBLY #5**

RENDERED TO

**SAGE MANUFACTURING, LLC
16869 SW 65th #303
LAKE OSWEGO, OR 97035**

INTRODUCTION

This report gives the results of a Sound Transmission Loss test and the determination of the Sound Transmission Class on a wall assembly #5. The test wall was constructed by Intertek using materials supplied by the client. The materials were received at the laboratory on October 16 and November 2, 2015. The materials appeared to be in a new, unused condition.

AUTHORIZATION

Signed Intertek Quotation No. Qu-00650720.

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 and 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 (18 mil) spaced 24 inches on center attached to 18 mil track top and bottom. RC1-H-18 (0.50" x 1.25") resilient channels were installed 24 inches on center on the sound source room side. One layer of 5/8 inch Type C drywall covered the source side and two layers of 5/8 inch Type C drywall covered the receiving room 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 24 inches on center on the source room side and 24 inches on center on the receiving room side. The wall cavities were filled with ROXUL SAFE'N'SOUND[®] insulation.



RESULTS OF TEST

1/3 Octave Band Center Frequency <u>Hz</u>	<u>Sound Transmission Loss in dB</u>
80	19
100	26
125	36
160	40
200	44
250	45
315	47
400	51
500	53
630	56
800	58
1000	60
1250	62
1600	63
2000	59
2500	58
3150	63
4000	66
5000	68
STC – Sound Transmission Class	56

PRECISION

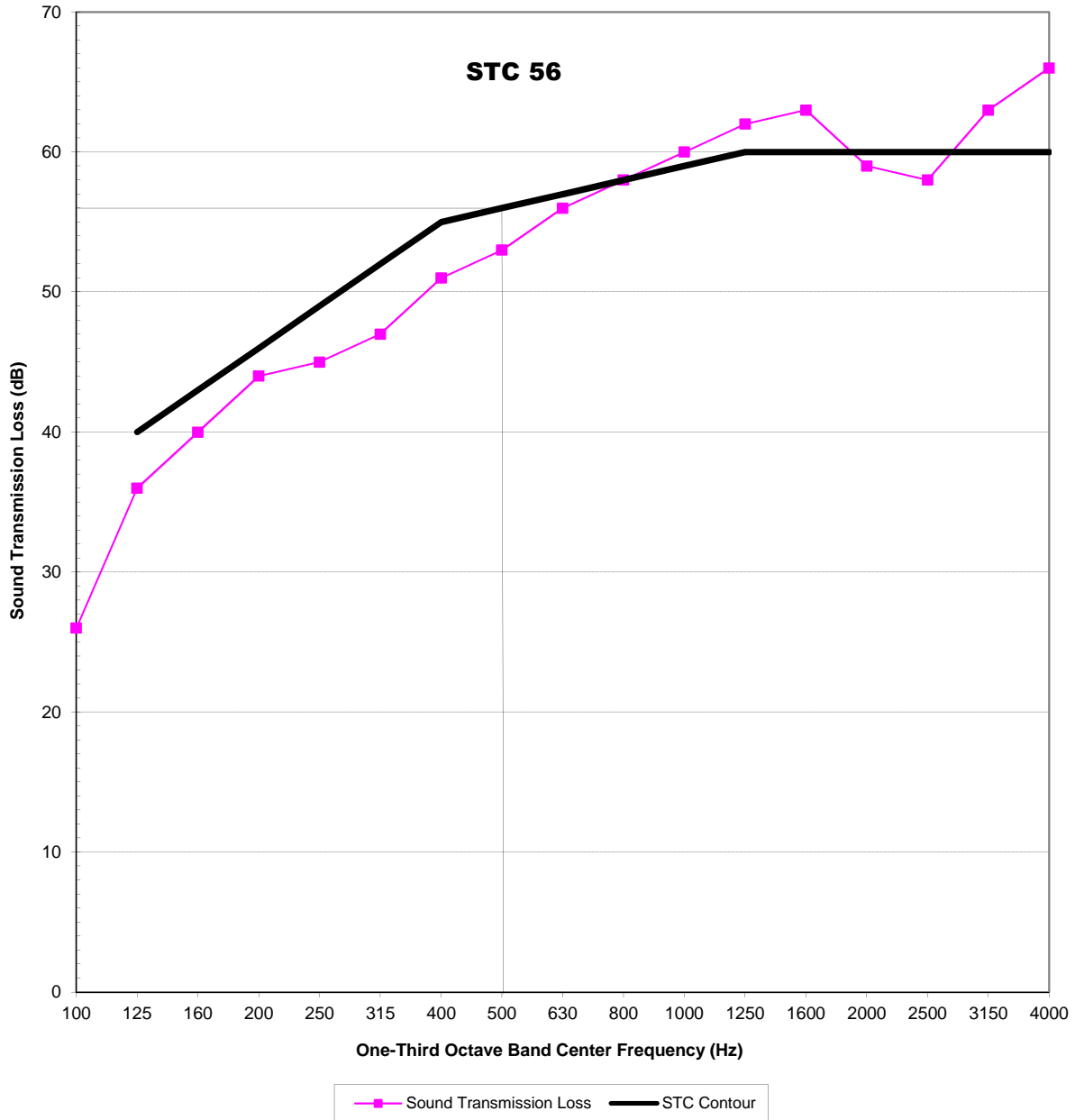
For any pair of rooms and microphone system, the 95% confidence interval Δ TL, for transmission loss must be less than the following.

<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 #5

Sound Transmission Loss



SAGE MANUFACTURING, LLC



REMARKS

1. Ambient Temperature: 70°F
2. Relative Humidity: 36%

CONCLUSION

Date of Test: November 4, 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