

REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 101114117

Date: March 25, 2013

REPORT NO. 101114117CRT-001a

SOUND TRANSMISSION LOSS TESTS AND CLASSIFICATION OF AN AT-05 ACOUSTICAL LOUVER

RENDERED TO

STEELCON LLC
47287 STATE ROUTE 558
NEW WATERFORD, OH 44445

INTRODUCTION

This report gives the results of Sound Transmission Loss tests and the determination of the Sound Transmission Class on an AT-05 Acoustical Louver. The sample was selected and supplied by the client and received at the laboratories on March 22, 2013 and appeared to be in new, unused condition.

AUTHORIZATION

Signed Intertek Quotation No. 500434808.

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" and in accordance with ASTM Standard E1332-2010a entitled, "Standard Classification for Determination of Outdoor-Indoor Transmission Class".

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.

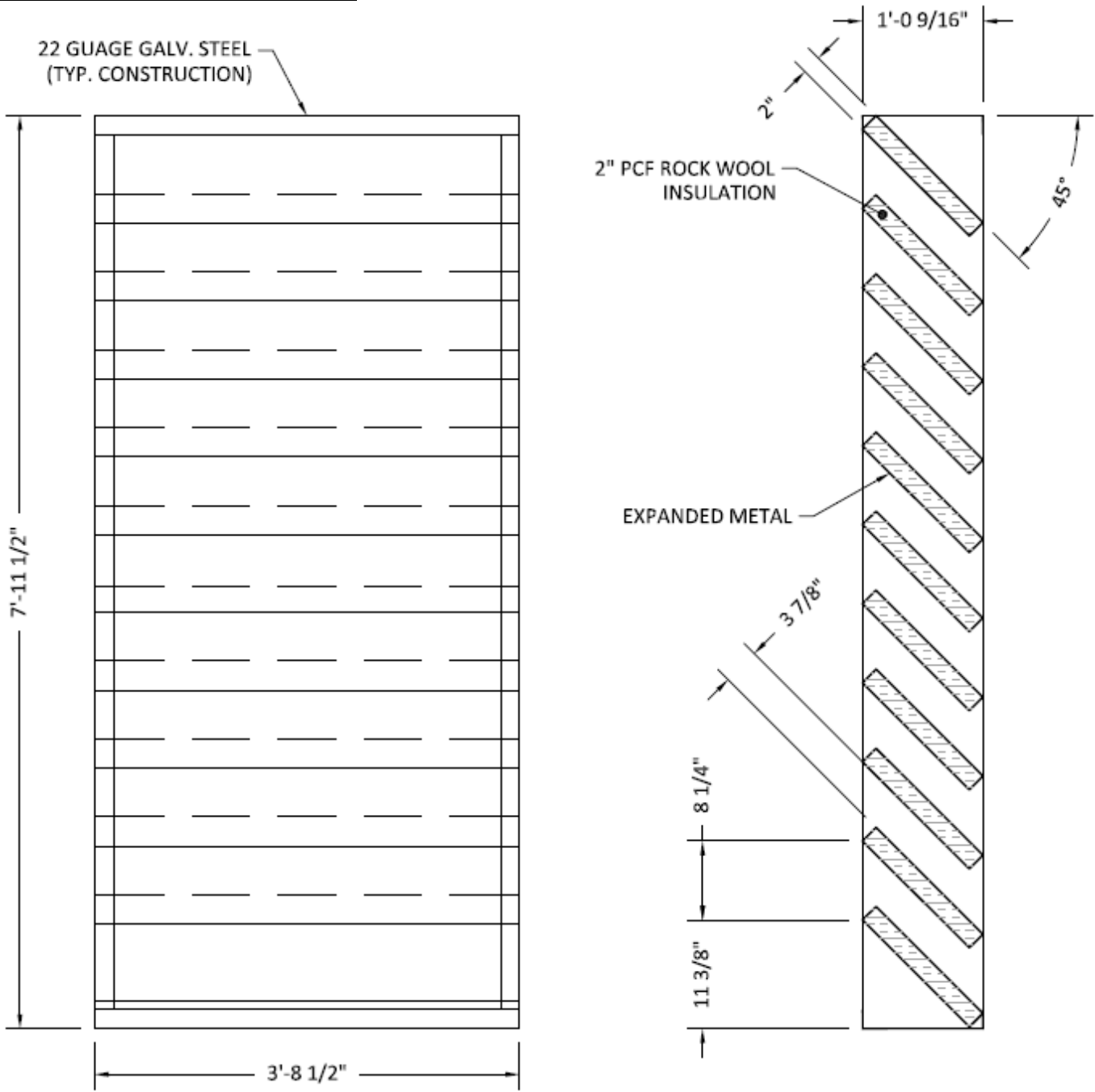
The purpose of the Outdoor-Indoor Transmission (OITC) is to provide a single number rating that can be used for comparing building façade designs, including walls, doors, windows and combinations thereof. This rating is designed to correlate with subjective impressions of the ability of building elements to reduce the overall loudness of ground and air transportation noise. It is intended to be used as a rank ordering device.

DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of an AT-05 Acoustical Louver. The sample measured 45 inches wide by 96 inches high. The louver was installed in the wall between the two reverberation rooms with the exposed insulation side facing the source room.

The client supplied drawing is attached on the following page.

DRAWING OF TEST SAMPLE



SH20130329-AT-05 ACOUSTICAL LOUVER
SCALE: NTS

RESULTS OF TESTS

1/3 Octave
Band
Center
Frequency
Hz

Sound Transmission Loss in dB

Test Number 1 – AT-05 Acoustical Louver

80	0
100	0
125	1
160	1
200	3
250	5
315	5
400	7
500	9
630	10
800	13
1000	16
1250	18
1600	20
2000	21
2500	22
3150	22
4000	20
5000	18
STC	14
OITC	8

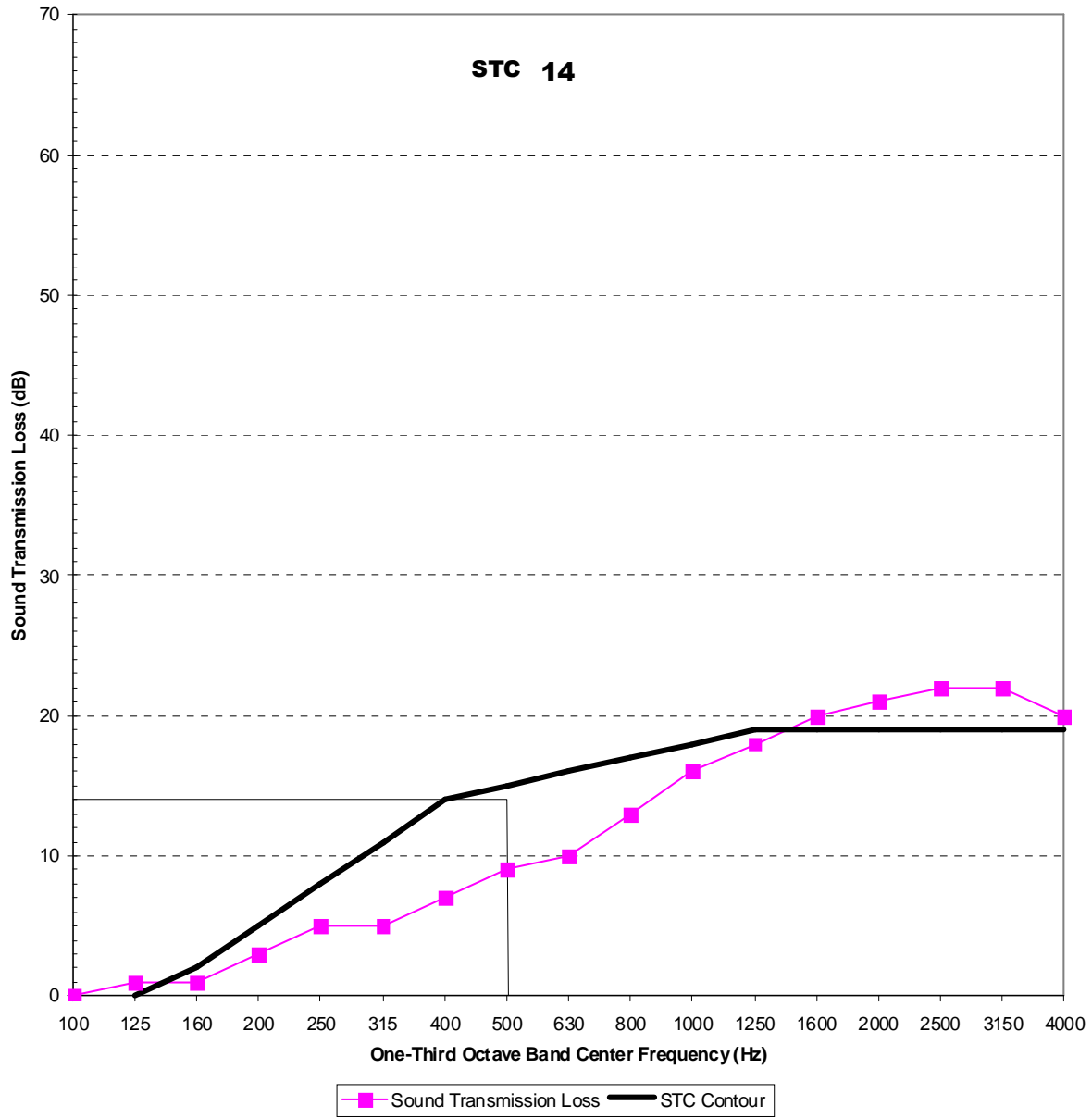
PRECISION

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

TEST NUMBER 1

Sound Transmission Loss



STEELCON, LLC

REMARKS

1. Ambient Temperature: 69°F
2. Relative Humidity: 26%

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: March 22, 2013

Report Approved by:



Brian Cyr
Engineer
Acoustical Testing

Report Reviewed By:



James R. Kline
Engineer/Quality Supervisor
Acoustical Testing

Attachments: None



FOR THE SCOPE OF
ACCREDITATION UNDER NVLAP
LAB CODE 100402-0.

REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 101114117

Date: March 25, 2013

REPORT NO. 101114117CRT-001b

SOUND TRANSMISSION LOSS TEST AND CLASSIFICATION OF AN AT-01 ACOUSTICAL BUILDING PANEL

RENDERED TO

**STEELCON LLC
47287 STATE ROUTE 558
NEW WATERFORD, OH 44445**

INTRODUCTION

This report gives the results of a Sound Transmission Loss test and the determination of the Sound Transmission Class on an AT-01 Acoustical Building Panel. The sample was selected and supplied by the client and received at the laboratories on March 22, 2013 and appeared to be in new, unused condition.

AUTHORIZATION

Signed Intertek Quotation No. 500434808.

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" and in accordance with ASTM Standard E1332-2010a entitled, "Standard Classification for Determination of Outdoor-Indoor Transmission Class".

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.

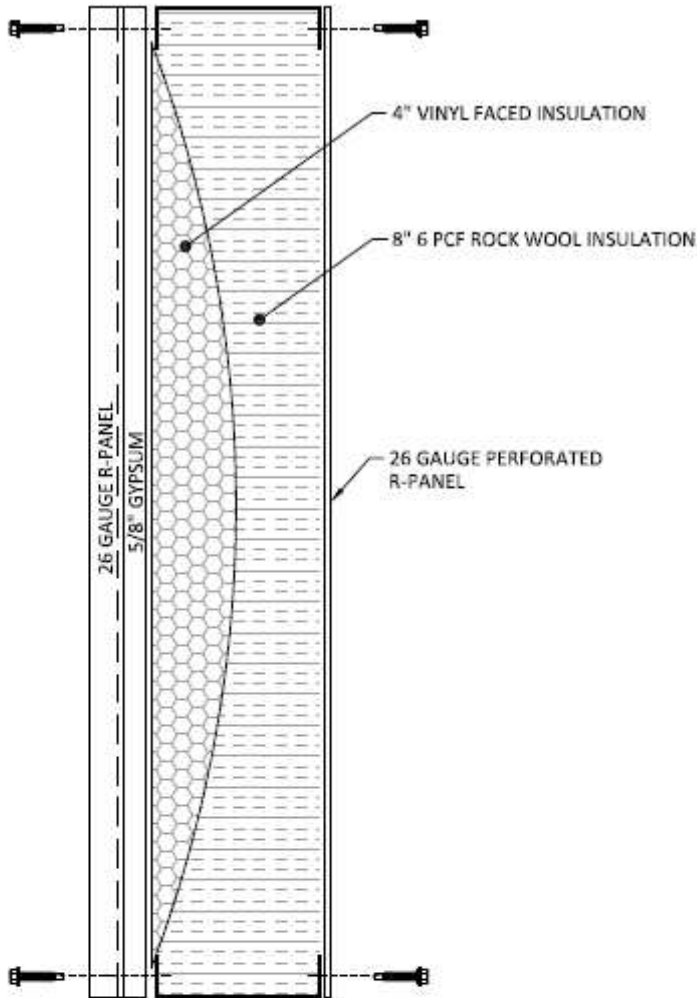
The purpose of the Outdoor-Indoor Transmission (OITC) is to provide a single number rating that can be used for comparing building façade designs, including walls, doors, windows and combinations thereof. This rating is designed to correlate with subjective impressions of the ability of building elements to reduce the overall loudness of ground and air transportation noise. It is intended to be used as a rank ordering device.

DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of an AT-01 Acoustical Building Panel. The sample measured 45 inches wide by 96 inches high. The sample was installed in the wall between the two reverberation rooms with the exposed insulation side facing the source room.

The client supplied drawing is attached on the following page.

DRAWING OF TEST SAMPLE



SH20130329-AT-01 ACOUSTICAL PANEL
SCALE: NTS

ACOUSTICAL PANEL CONSTRUCTION		
LAYER	DESCRIPTION	THICKNESS
1	26 GAUGE R-PANEL	.0179"
2	GYPSUM	5/8"
3	VINYL FACED INSULATION	4"
4	ROCK WOOL 6 PCF INSULATION	8"
5	26 GAUGE PERFORATED R-PANEL	.0179"

RESULTS OF TEST

1/3 Octave
Band
Center
Frequency
Hz

Sound Transmission Loss in dB

Test Number 1 – AT-01 Acoustical Building Panel

80	15
100	18
125	24
160	26
200	31
250	37
315	37
400	38
500	40
630	41
800	40
1000	39
1250	43
1600	45
2000	46
2500	47
3150	51
4000	53
5000	55
STC	42
OITC	30

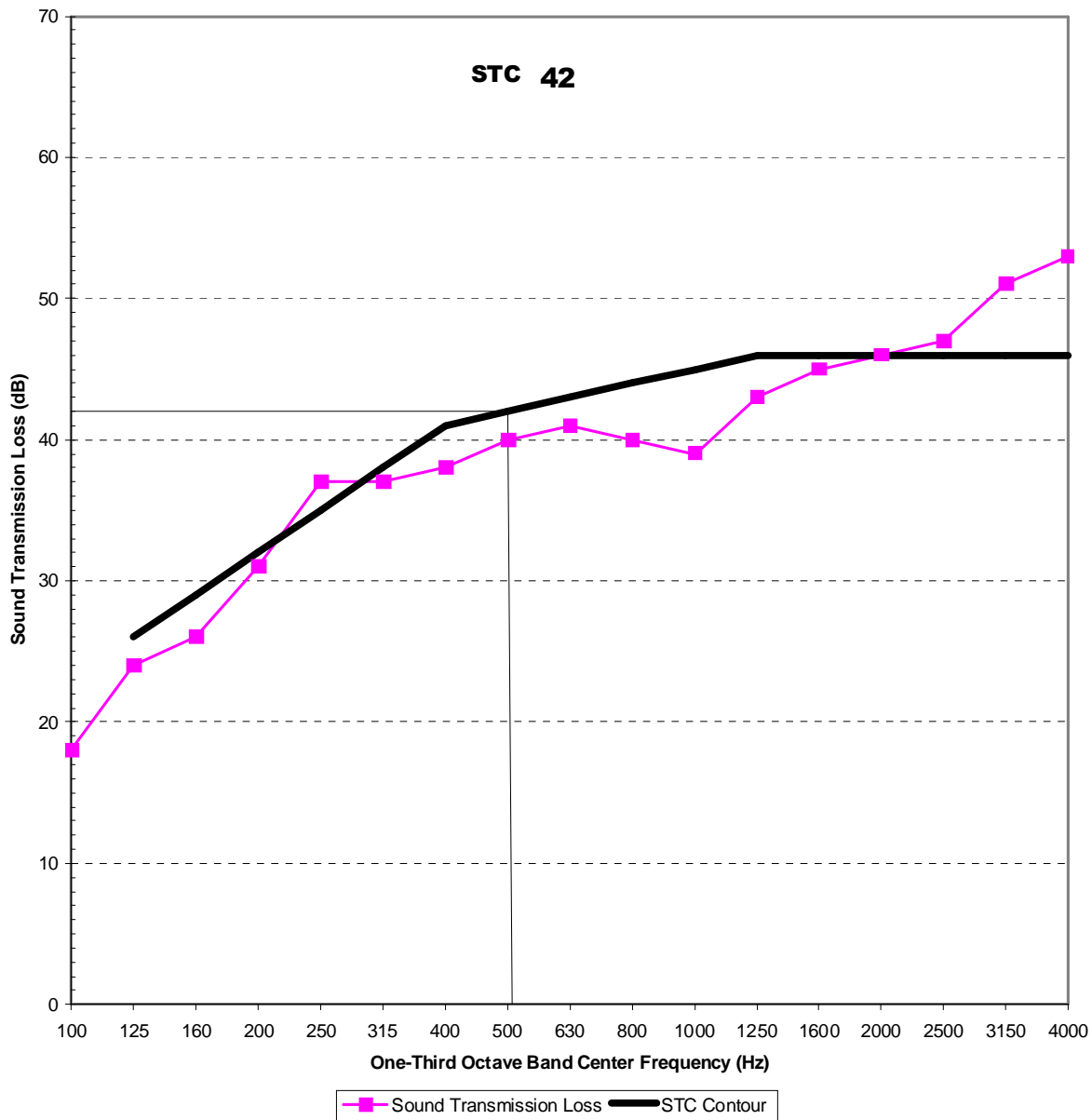
PRECISION

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

TEST NUMBER 1

Sound Transmission Loss



STEELCON, LLC

REMARKS

1. Ambient Temperature: 69°F
2. Relative Humidity: 26%

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: March 22, 2013

Report Approved by:



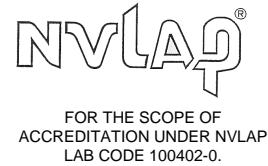
Brian Cyr
Engineer
Acoustical Testing

Report Reviewed By:



James R. Kline
Engineer/Quality Supervisor
Acoustical Testing

Attachments: None



REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 101114117

Date: March 25, 2013

REPORT NO. 101114117CRT-001c

SOUND TRANSMISSION LOSS TEST AND CLASSIFICATION OF AN AT-02 ACOUSTICAL BUILDING PANEL

RENDERED TO

STEELCON LLC
47287 STATE ROUTE 558
NEW WATERFORD, OH 44445

INTRODUCTION

This report gives the results of a Sound Transmission Loss test and the determination of the Sound Transmission Class on an AT-02 Acoustical Building Panel. The sample was selected and supplied by the client and received at the laboratories on March 22, 2013 and appeared to be in new, unused condition.

AUTHORIZATION

Signed Intertek Quotation No. 500434808.

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" and in accordance with ASTM Standard E1332-2010a entitled, "Standard Classification for Determination of Outdoor-Indoor Transmission Class".

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.

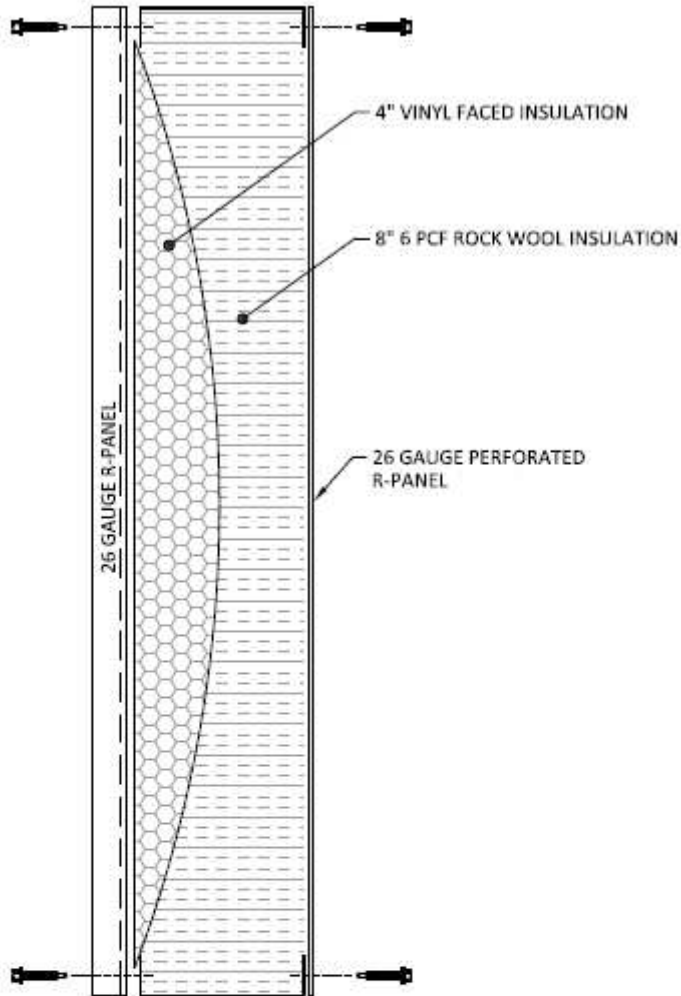
The purpose of the Outdoor-Indoor Transmission (OITC) is to provide a single number rating that can be used for comparing building façade designs, including walls, doors, windows and combinations thereof. This rating is designed to correlate with subjective impressions of the ability of building elements to reduce the overall loudness of ground and air transportation noise. It is intended to be used as a rank ordering device.

DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of an AT-02 Acoustical Building Panel. The sample measured 45 inches wide by 96 inches high. The sample was installed in the wall between the two reverberation rooms with the exposed insulation side facing the source room.

The client supplied drawing is attached on the following page.

DRAWING OF TEST SAMPLE



SH20130329-AT-02 ACOUSTICAL PANEL
SCALE: NTS

ACOUSTICAL PANEL CONSTRUCTION		
LAYER	DESCRIPTION	THICKNESS
1	26 GAUGE R-PANEL	.0179"
2	VINYL FACED INSULATION	4"
3	ROCK WOOL 6 PCF INSULATION	8"
4	26 GAUGE PERFORATED R-PANEL	.0179"

RESULTS OF TEST

1/3 Octave
Band
Center
Frequency
Hz

Sound Transmission Loss in dB

Test Number 1 – AT-02 Acoustical Building Panel

80	13
100	12
125	16
160	19
200	24
250	33
315	36
400	41
500	44
630	46
800	45
1000	43
1250	45
1600	45
2000	44
2500	44
3150	48
4000	52
5000	54
STC	40
OITC	25

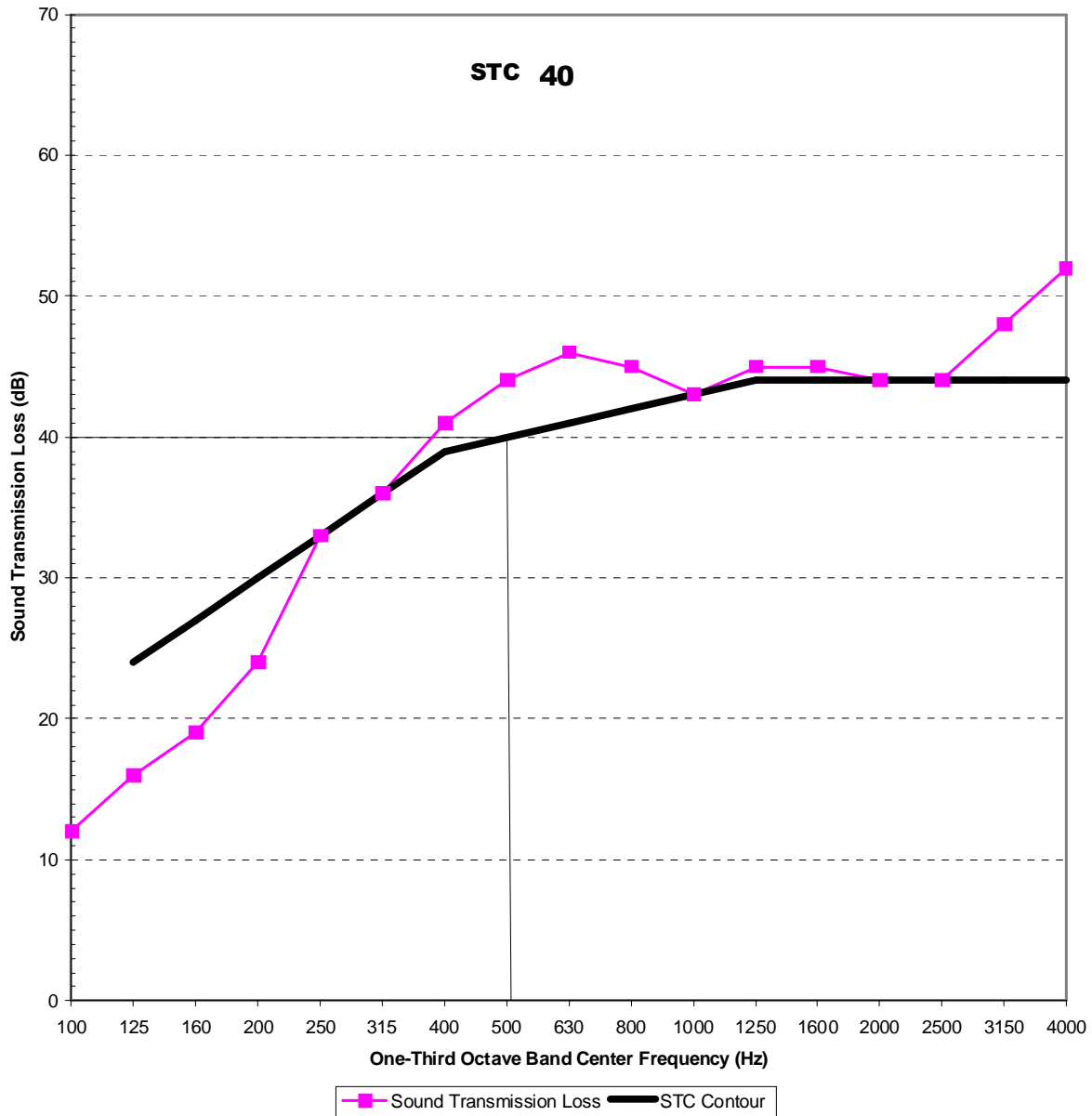
PRECISION

For any pair of rooms and microphone system, the 95% confidence interval ΔTL , 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

TEST NUMBER 1

Sound Transmission Loss



STEELCON, LLC

REMARKS

1. Ambient Temperature: 69°F
2. Relative Humidity: 26%

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: March 22, 2013

Report Approved by:



Brian Cyr
Engineer
Acoustical Testing

Report Reviewed By:



James R. Kline
Engineer/Quality Supervisor
Acoustical Testing

Attachments: None



FOR THE SCOPE OF
ACCREDITATION UNDER NVLAP
LAB CODE 100402-0.

REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 101114117

Date: March 25, 2013

REPORT NO. 101114117CRT-001d

SOUND TRANSMISSION LOSS TEST AND CLASSIFICATION OF AN AT-03 ACOUSTICAL BUILDING PANEL

RENDERED TO

STEELCON LLC
47287 STATE ROUTE 558
NEW WATERFORD, OH 44445

INTRODUCTION

This report gives the results of a Sound Transmission Loss test and the determination of the Sound Transmission Class on an AT-03 Acoustical Building Panel. The sample was selected and supplied by the client and received at the laboratories on March 22, 2013 and appeared to be in new, unused condition.

AUTHORIZATION

Signed Intertek Quotation No. 500434808.

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" and in accordance with ASTM Standard E1332-2010a entitled, "Standard Classification for Determination of Outdoor-Indoor Transmission Class".

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.

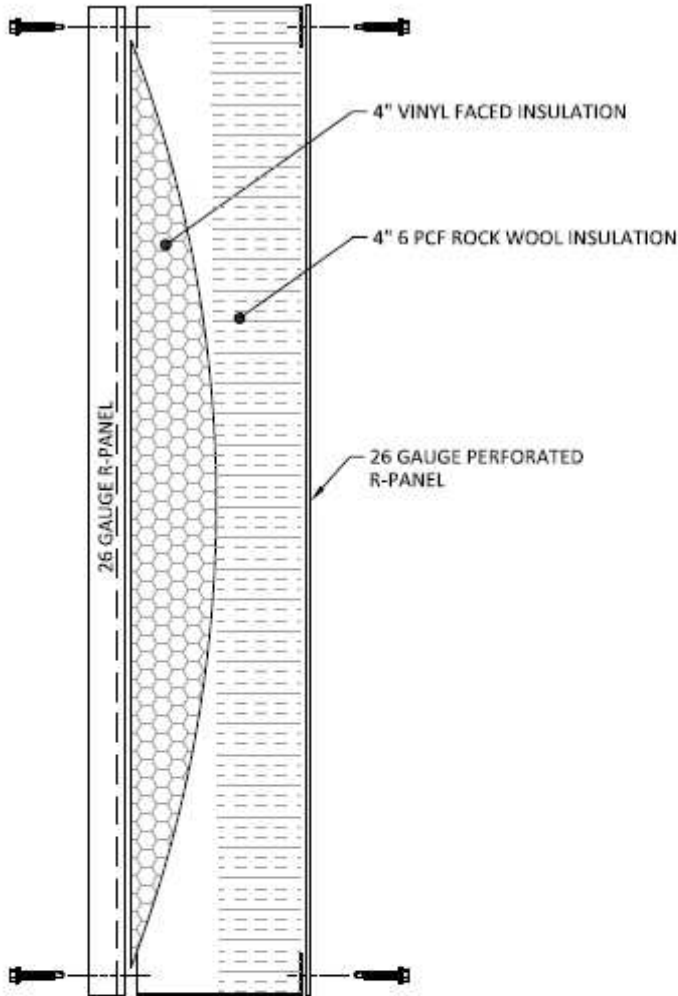
The purpose of the Outdoor-Indoor Transmission (OITC) is to provide a single number rating that can be used for comparing building façade designs, including walls, doors, windows and combinations thereof. This rating is designed to correlate with subjective impressions of the ability of building elements to reduce the overall loudness of ground and air transportation noise. It is intended to be used as a rank ordering device.

DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of an AT-03 Acoustical Building Panel. The sample measured 45 inches wide by 96 inches high. The sample was installed in the wall between the two reverberation rooms with the exposed insulation side facing the source room.

The client supplied drawing is attached on the following page.

DRAWING OF TEST SAMPLE



SH20130329-AT-03 ACOUSTICAL PANEL
SCALE: NTS

ACOUSTICAL PANEL CONSTRUCTION		
LAYER	DESCRIPTION	THICKNESS
1	26 GAUGE R-PANEL	.0179"
2	VINYL FACED INSULATION	4"
3	ROCK WOOL 6 PCF INSULATION	4"
4	26 GAUGE PERFORATED R-PANEL	.0179"

RESULTS OF TEST

1/3 Octave
Band
Center
Frequency
Hz

Sound Transmission Loss in dB

Test Number 1 – AT-03 Acoustical Building Panel

80	12
100	9
125	11
160	14
200	21
250	26
315	28
400	34
500	41
630	43
800	43
1000	44
1250	44
1600	45
2000	43
2500	44
3150	46
4000	50
5000	53
STC	35
OITC	21

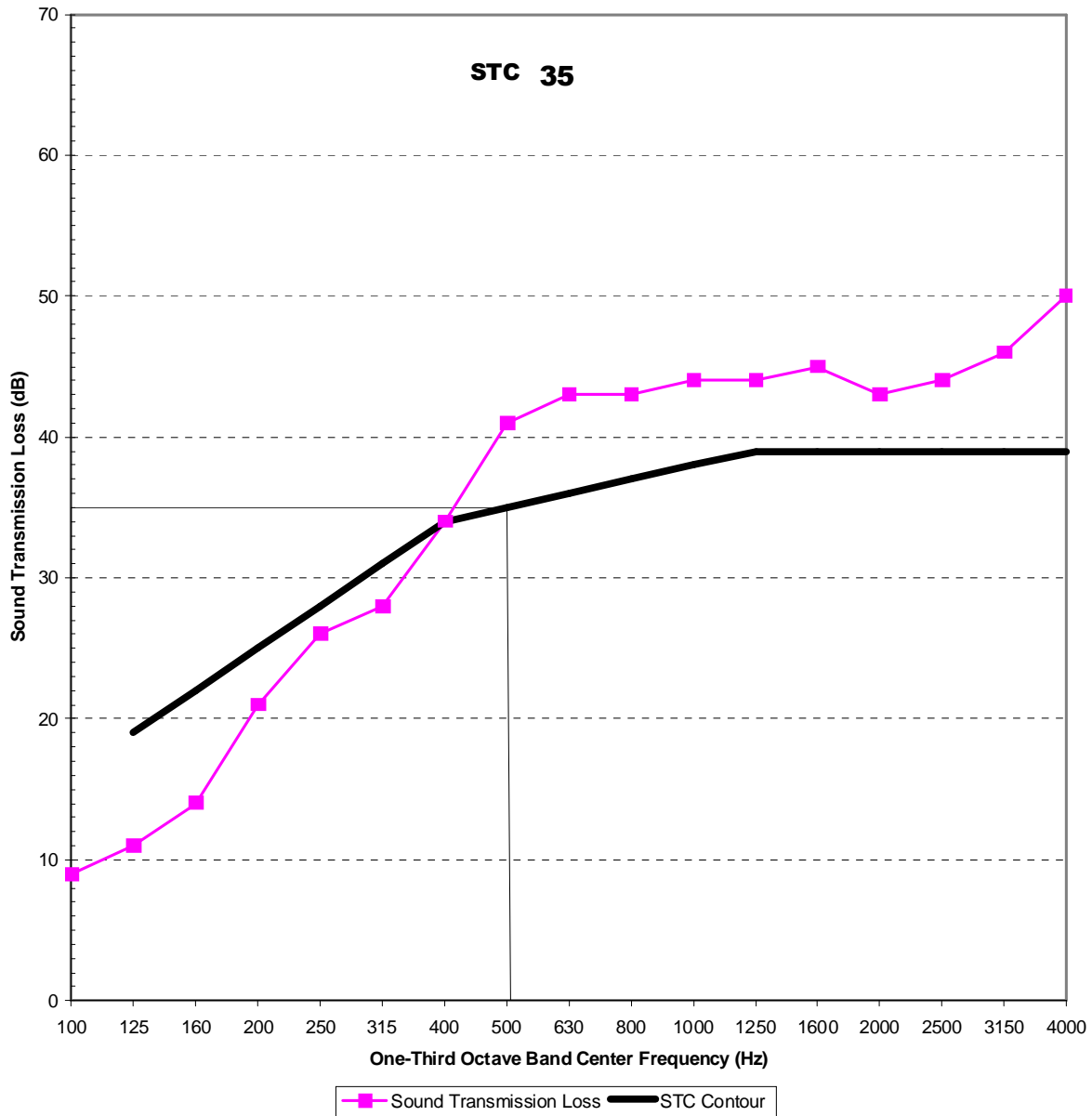
PRECISION

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

TEST NUMBER 1

Sound Transmission Loss



STEELCON, LLC

REMARKS

1. Ambient Temperature: 69°F
2. Relative Humidity: 26%

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: March 22, 2013

Report Approved by:



Brian Cyr
Engineer
Acoustical Testing

Report Reviewed By:



James R. Kline
Engineer/Quality Supervisor
Acoustical Testing

Attachments: None



FOR THE SCOPE OF
ACCREDITATION UNDER NVLAP
LAB CODE 100402-0.

REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 101114117

Date: March 25, 2013

REPORT NO. 101114117CRT-001e

SOUND TRANSMISSION LOSS TEST AND CLASSIFICATION OF AN AT-04 ACOUSTICAL BUILDING PANEL

RENDERED TO

STEELCON LLC
47287 STATE ROUTE 558
NEW WATERFORD, OH 44445

INTRODUCTION

This report gives the results of a Sound Transmission Loss test and the determination of the Sound Transmission Class on an AT-04 Acoustical Building Panel. The sample was selected and supplied by the client and received at the laboratories on March 22, 2013 and appeared to be in new, unused condition.

AUTHORIZATION

Signed Intertek Quotation No. 500434808.

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" and in accordance with ASTM Standard E1332-2010a entitled, "Standard Classification for Determination of Outdoor-Indoor Transmission Class".

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.

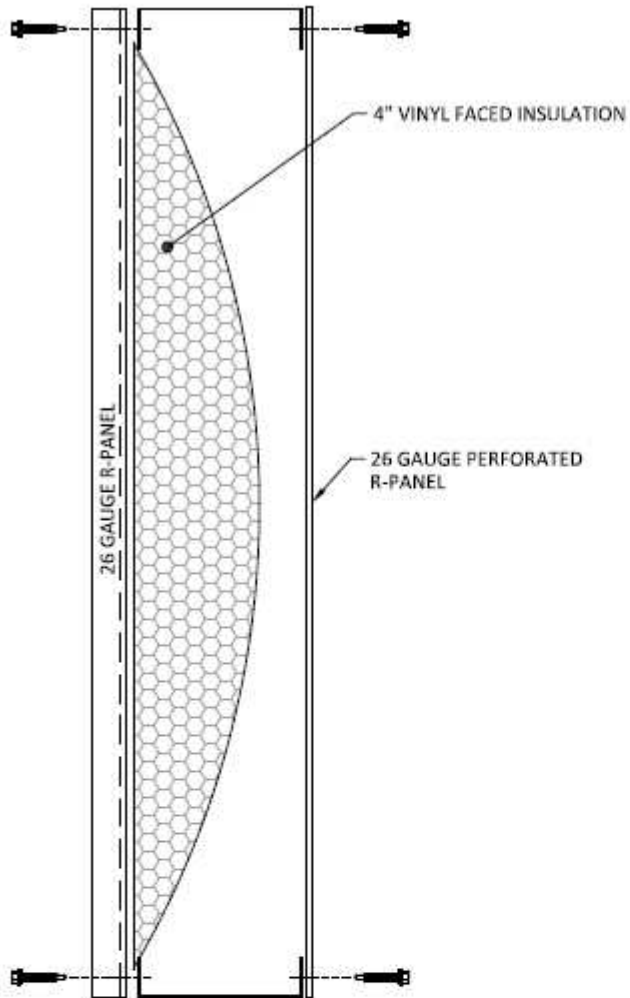
The purpose of the Outdoor-Indoor Transmission (OITC) is to provide a single number rating that can be used for comparing building façade designs, including walls, doors, windows and combinations thereof. This rating is designed to correlate with subjective impressions of the ability of building elements to reduce the overall loudness of ground and air transportation noise. It is intended to be used as a rank ordering device.

DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of an AT-04 Acoustical Building Panel. The sample measured 45 inches wide by 96 inches high. The sample was installed in the wall between the two reverberation rooms with the perforated steel panel facing the source room.

The client supplied drawing is attached on the following page.

DRAWING OF TEST SAMPLE



SH20130329-AT-04 ACOUSTICAL PANEL
SCALE: NTS

ACOUSTICAL PANEL CONSTRUCTION		
LAYER	DESCRIPTION	THICKNESS
1	26 GAUGE R-PANEL	.0179"
2	VINYL FACED INSULATION	4"
3	26 GAUGE PERFORATED R-PANEL	.0179"

RESULTS OF TEST

1/3 Octave
Band
Center
Frequency
Hz

Sound Transmission Loss in dB

Test Number 1 – AT-04 Acoustical Building Panel

80	9
100	8
125	11
160	11
200	15
250	18
315	20
400	23
500	26
630	28
800	31
1000	35
1250	38
1600	38
2000	39
2500	40
3150	43
4000	43
5000	45
STC	29
OITC	19

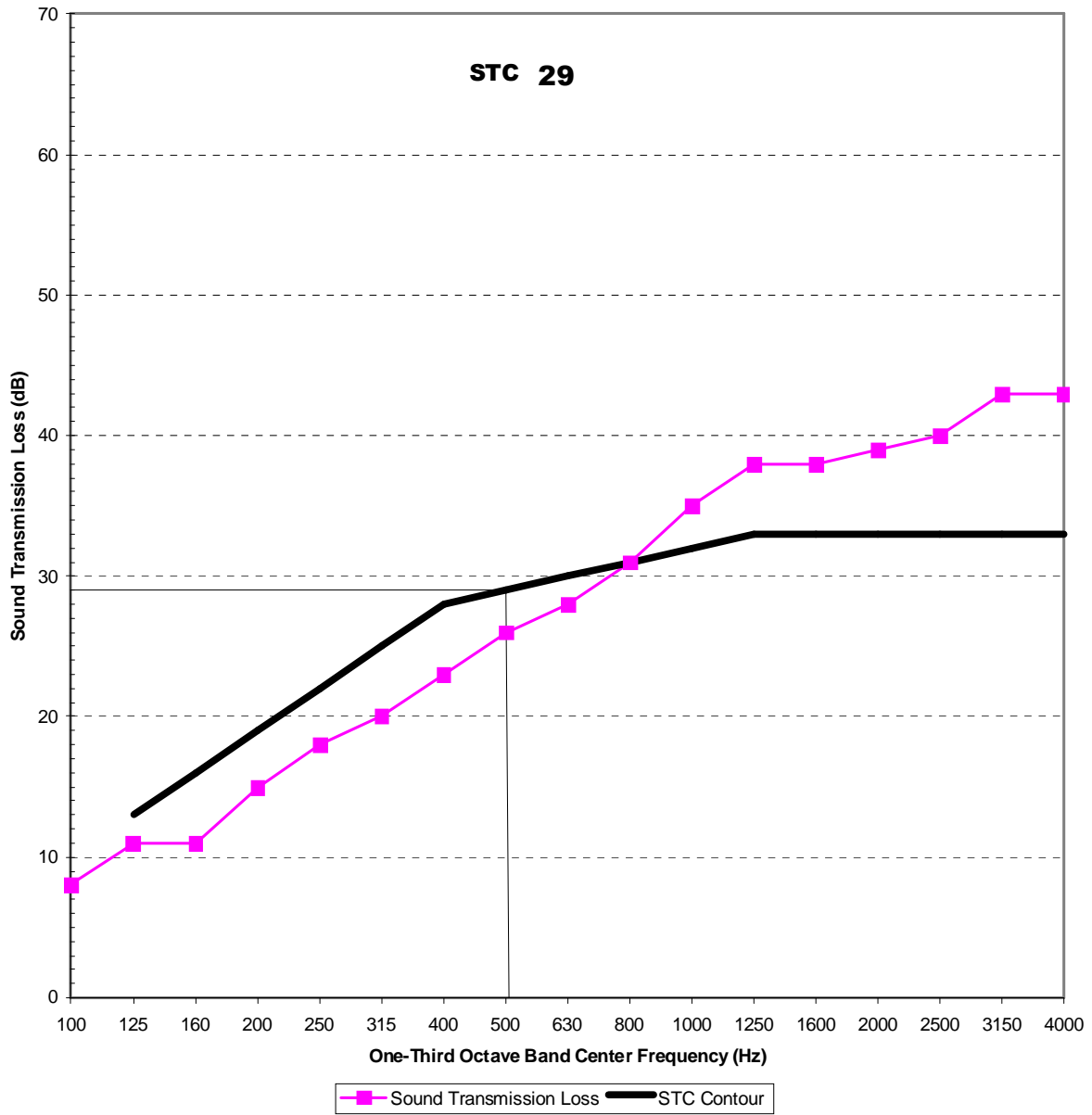
PRECISION

For any pair of rooms and microphone system, the 95% confidence interval ΔTL , 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

TEST NUMBER 1

Sound Transmission Loss



STEELCON, LLC

REMARKS

1. Ambient Temperature: 69°F
2. Relative Humidity: 26%

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: March 22, 2013

Report Approved by:



Brian Cyr
Engineer
Acoustical Testing

Report Reviewed By:



James R. Kline
Engineer/Quality Supervisor
Acoustical Testing

Attachments: None



FOR THE SCOPE OF
ACCREDITATION UNDER NVLAP
LAB CODE 100402-0.

REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 101114117

Date: March 25, 2013

REPORT NO. 101114117CRT-001f

SOUND TRANSMISSION LOSS TEST AND CLASSIFICATION OF AT-04 NO PERF ACOUSTICAL BUILDING PANEL

RENDERED TO

STEELCON LLC
47287 STATE ROUTE 558
NEW WATERFORD, OH 44445

INTRODUCTION

This report gives the results of a Sound Transmission Loss test and the determination of the Sound Transmission Class on an AT-04 Acoustical Building Panel. The sample was selected and supplied by the client and received at the laboratories on March 22, 2013 and appeared to be in new, unused condition.

AUTHORIZATION

Signed Intertek Quotation No. 500434808.

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" and in accordance with ASTM Standard E1332-2010a entitled, "Standard Classification for Determination of Outdoor-Indoor Transmission Class".

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.

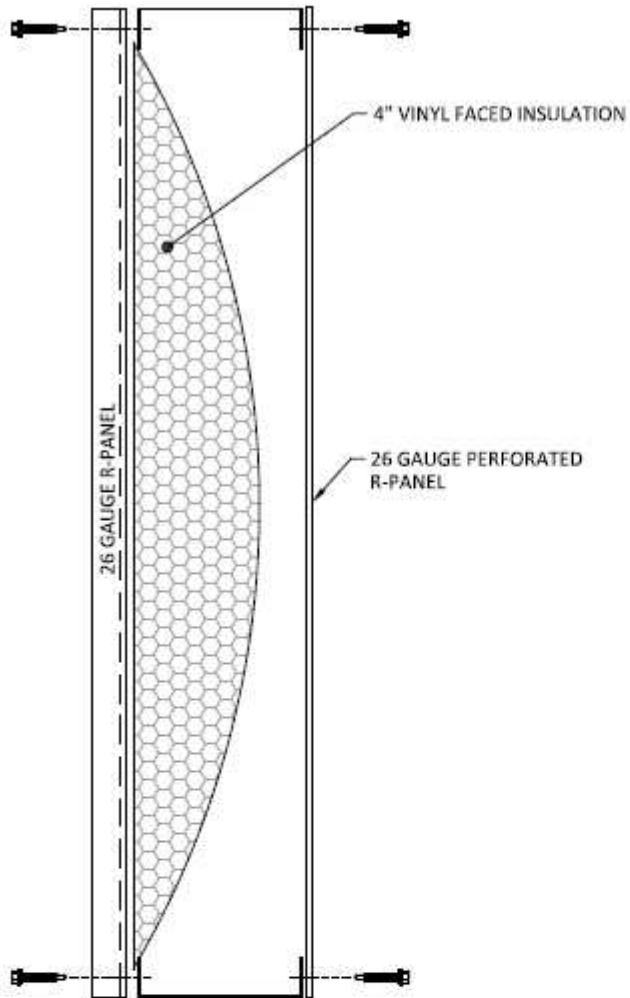
The purpose of the Outdoor-Indoor Transmission (OITC) is to provide a single number rating that can be used for comparing building façade designs, including walls, doors, windows and combinations thereof. This rating is designed to correlate with subjective impressions of the ability of building elements to reduce the overall loudness of ground and air transportation noise. It is intended to be used as a rank ordering device.

DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of an AT-04 Acoustical Building Panel. The sample measured 45 inches wide by 96 inches high. The sample was installed in the wall between the two reverberation rooms with the exposed insulation side facing the source room.

The client supplied drawing is attached on the following page.

DRAWING OF TEST SAMPLE



SH20130329-AT-04 ACOUSTICAL PANEL
SCALE: NTS

ACOUSTICAL PANEL CONSTRUCTION		
LAYER	DESCRIPTION	THICKNESS
1	26 GAUGE R-PANEL	.0179"
2	VINYL FACED INSULATION	4"
3	26 GAUGE PERFORATED R-PANEL	.0179"

Panel Tested without perforated R-Panel.

RESULTS OF TEST

1/3 Octave
Band
Center
Frequency
Hz

Sound Transmission Loss in dB

Test Number 1 – AT-04 No Perf Acoustical Building Panel

80	10
100	8
125	11
160	11
200	15
250	18
315	20
400	23
500	26
630	28
800	30
1000	35
1250	38
1600	39
2000	39
2500	40
3150	43
4000	43
5000	45
STC	29
OITC	19

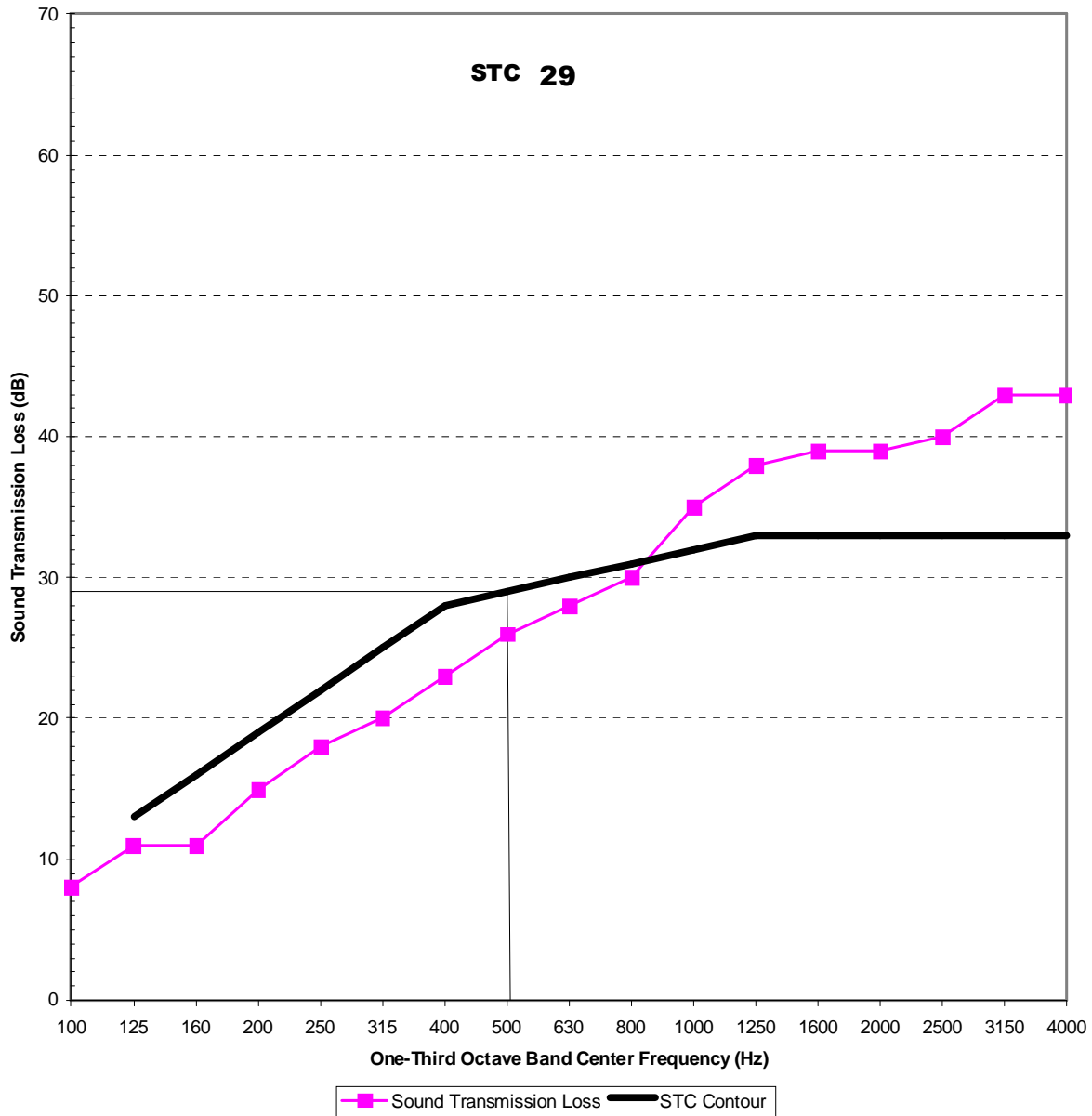
PRECISION

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

TEST NUMBER 1

Sound Transmission Loss



STEELCON, LLC

REMARKS

1. Ambient Temperature: 69°F
2. Relative Humidity: 26%

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: March 22, 2013

Report Approved by:



Brian Cyr
Engineer
Acoustical Testing

Report Reviewed By:



James R. Kline
Engineer/Quality Supervisor
Acoustical Testing

Attachments: None