

MAXIM TECHNOLOGIES, INC./TWIN CITY TESTING  
662 Cromwell Avenue  
St. Paul, Minnesota 55114

**SOUND TRANSMISSION CLASS OF A  
WALL CONSTRUCTION EMPLOYING A  
LOW-E INSULATION MATERIAL**

Prepared for:  
**ENVIRONMENTAL SAFE PRODUCTS, INC.**  
Attn: Mr. Dermot Ennis  
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Client Purchase Order Number: Contract

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The test results contained in this report pertain only to the samples submitted for testing and not necessarily to all similar products.

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**SOUND TRANSMISSION CLASS (STC) ASTM:E 90-90**

**INTRODUCTION:**

This report presents the results of a Sound Transmission Class (STC) test conducted on a wall construction employing a Low-E insulation material submitted by Environmental Safe Products, Inc.. This test was requested by Mr. Dermot Ennis of Environmental Safe Products, Inc. on December 13, 1995 with the testing conducted on December 29, 1995.

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**TEST RESULT SUMMARY:**

The STC of the specimen described below was 40. A tabular and graphical presentation of the data is presented under "TEST RESULTS".

**SPECIMEN IDENTIFICATION:**

Manufacturer :	Environmental Safe Products, Inc.
Model # :	Low-E Insulation
Wall Dimensions (W x H x D) :	9.00' x 7.96' x 7.75"
Total Weight :	446 lbs (6.20 psf)
Insulation Weight :	4.3 lbs (0.06 psf)
Specimen Description :	- 3-5/8" staggered metal stud (24" O.C.) wall on 6" metal plates - Low-E insulation over the metal studs-(2/sides) - 5/8" gypsum board covering the insulation - Seams finished in normal construction manner

**TEST EQUIPMENT:**

<u>Manufacturer</u>	<u>Model</u>	<u>Description</u>	<u>S/N</u>
Norwegian Electronics	NE830	Real Time Analyzer	11511
Brüel & Kjær	3923	Rotating Microphone Boom	815424
Brüel & Kjær	4132	Pressure Condenser Microphone	239016
Larson-Davis	2560	Pressure Condenser Microphone	1032

**TEST RESULTS:**

Freq. (Hz)	TL	CL	Def	Freq. (Hz)	TL	CL	Def
125	23	3	1	800	44	1	0
160	25	2	2	1000	44	1	0
200	30	2	0	1250	44	1	0
250	34	1	0	1600	45	1	0
315	39	1	0	2000	41	1	3
400	40	1	0	2500	36	0	8
500	44	1	0	3150	40	1	4
630	43	0	0	4000	42	1	2

TOTAL DEFICIENCIES: 20

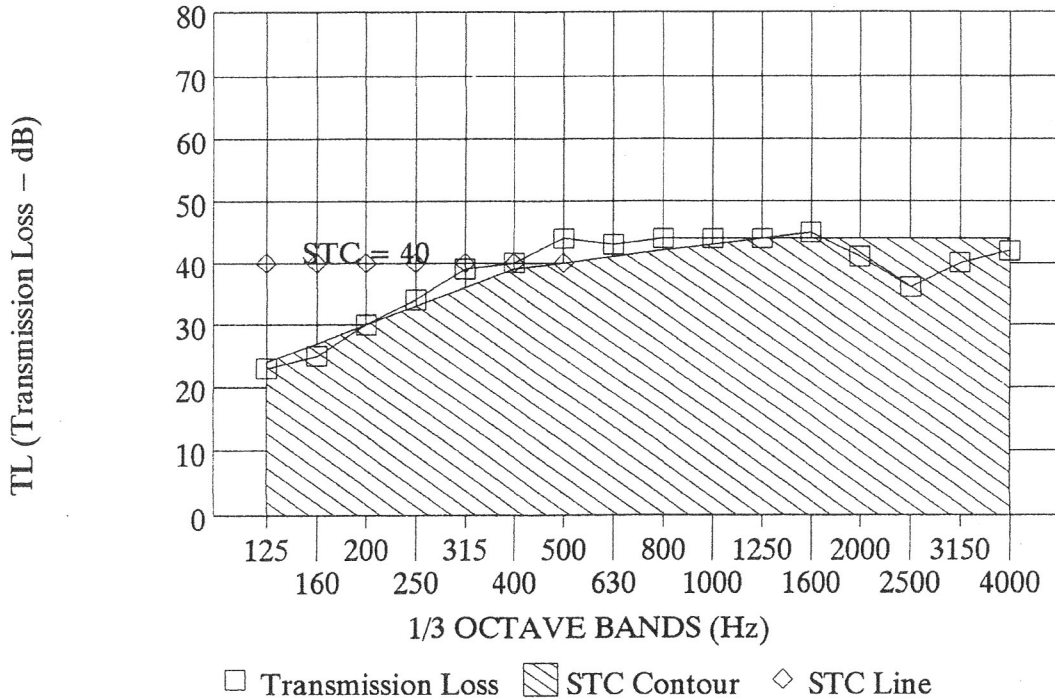
**STC: 40**

where:

TL = Transmission Loss (dB)  
 CL = 95% Confidence Limit (dB)  
 Def = Deficiencies (below STC contour)

**TEST RESULTS (continued):**

**SOUND TRANSMISSION CLASS (STC)  
 Wall with Low-E Material**



**TEST PROCEDURE:**

ASTM:E90(90) was followed in every respect. The STC value was obtained by applying the Transmission Loss (TL) values to the STC reference contour of ASTM: E413(87). The temperature and relative humidity of the termination room during the test was 71°F and 55%, respectively. All frequencies met the requirements for 95% confidence established by the standard.

**REMARKS:**

The STC value was limited by a resonance at frequency 2500 Hz which had the maximum deficiencies (8) allowed under ASTM:E413. This is an inherent characteristic of 5/8" gypsum board.

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