



Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

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We Identify and **S.T.O.P.** Your Noise Problems

STORK

Twin City Testing Corporation

PROJECT NUMBER: 18 0-0730.16

PAGE: 1 of 3

DATE: September 26, 2000

STOCK / TWIN CITY TESTING CORPORATION
662 Cromwell Avenue
St. Paul, Minnesota 55114

SOUND ABSORPTION TESTING CONDUCTED
ON 1" PEPP WALL PANEL WITH
TUFTANE FILM ADHERED TO SURFACE

Prepared for:
ACOUSTICAL SURFACES, INC

Attn: Mr. Steve Anderson
123 Columbia Court North, Suite 201
Chaska, MN 55318

Client Purchase Order Number 00012348

Test Conducted By:

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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.

An Affirmative Action



Equal Opportunity Employer





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SOUND ABSORPTION - ASTM C423-99a

INTRODUCTION:

This report presents the results of Sound Absorption testing conducted on a 1" thick PEPP wall panel with Tuftane film submitted by Acoustical Surfaces. This work was requested by Mr. Mike Nixon on September 6, 2000 with the testing conducted on September 13, 2000.

This report must not be reproduced except in its entirety with the approval of Stork / Twin City Testing Corporation. The data in this report relates only to the item tested.

Stork / Twin City Testing Corporation has been accredited by the U.S. Department of Commerce and the National Institute of Standards and Technology (NIST, formerly NBS) under their National Voluntary Laboratory Accreditation Program (NVLAP) for conducting this test procedure. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

TEST RESULTS SUMMARY:

The Noise Reduction Coefficient (NRC) value of the tested specimen was **0.50** with film side pointed down (away from sound). A detailed data sheet is provided below under "TEST RESULTS".

TEST PROCEDURE:

ASTM: C423-99a, "Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method" was followed in every respect. Eight- 2' x 4' panels were joined together to make one extended plane surface of 64 square feet which was then placed on the floor of the reverberation chamber with the film side down. Further mounting and configuration details are provided under "TEST RESULTS" below.

Absorption coefficients are the fraction of diffuse incident sound absorbed by the specimen and are expressed in sabins per square foot. The NRC is the average of the absorption coefficients for 250, 500, 1000, and 2000 Hertz and is reported to the nearest integral of 0.05.

TEST EQUIPMENT:

| <u>Manufacturer</u> | <u>Model</u> | <u>Serial #</u> | <u>Description</u> |
|-----------------------|--------------|-----------------|-------------------------------|
| Norwegian Electronics | NE830 | 11511 | Real Time Spectrum Analyzer |
| Brüel & Kjær | 3923 | 815424 | Rotating Microphone Boom |
| Larson-Davis | 2560 | 1032 | Pressure Condenser Microphone |
| Compaq Computer | V20 CIO | A942CZGZE580 | Custom Designed Software |

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TEST RESULTS:

Manufacturer : Acoustical Surfaces, Inc
 Type : Panels – 1" layer PEPP with Tuftane film facing down.
 Dimensions (W x H x D) : 2.0' x 4.0' x 1" each
 Weight : 16 lbs. (0.25 psf)
 Surface Area : 8.0 ft²
 Total Surface Area : 64.0 ft² – consisting of 8 panels
 Mounting Type : Type A – flat on the floor of the reverberation chamber

Test No. 18 0-0730.16

| Frequency Hz | Absorption Coefficients | Absorption (Sabins) |
|-----------------|----------------------------|------------------------|
| 100 | 0.08 | 5.00 |
| 125 | 0.06 | 4.06 |
| 160 | 0.07 | 4.51 |
| 200 | 0.08 | 5.37 |
| 250 | 0.12 | 7.39 |
| 315 | 0.24 | 15.06 |
| 400 | 0.48 | 30.78 |
| 500 | 0.59 | 37.79 |
| 630 | 0.62 | 39.45 |
| 800 | 0.70 | 44.69 |
| 1000 | 0.76 | 48.75 |
| 1250 | 0.71 | 45.63 |
| 1600 | 0.59 | 37.89 |
| 2000 | 0.54 | 34.45 |
| 2500 | 0.56 | 35.63 |
| 3150 | 0.60 | 38.65 |
| 4000 | 0.61 | 39.34 |
| 5000 | 0.39 | 25.18 |

Noise Reduction Coefficient (NRC) = 0.50

The NRC frequencies are at 250, 500, 1000, and 2000 Hz

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