



Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

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

PROJECT NUMBER: 18 0-0730.16

PAGE: 2 of 3

DATE: September 26, 2000

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.

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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
 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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