



# Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

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



662 CROMWELL AVENUE  
ST. PAUL, MN 55114  
PHONE: 651/645-3601

PROJECT: DW Pattern 3" Foam Baffles

TO: Rendered by Manufacturer and Released to:  
Architectural Surfaces, Inc./Acoustical Surfaces Inc.

DATE: January 4, 1991  
PROJECT NO: 4143 91-0177 C

PROJECT: DW Pattern 3" Foam Baffles

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## SOUND ABSORPTION TEST

### **GENERAL:**

This report presents the results of a Sound Absorption Test conducted on acoustical foam baffles.

Twin City Testing Corporation has accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST, formally NBS) under their National Voluntary Laboratory Accreditation Program (NVLAP) for conducting this test procedure.

### **TEST RESULTS SUMMARY:**

The average Sabins per baffle for the six octave band frequencies was 12.2 (see individual frequency values below under TEST RESULTS).

### **SPECIMEN IDENTIFICATION:**

Manufacturer: Rendered by Manufacturer and Released to Architectural Surfaces, Inc./Acoustical Surfaces Inc.

Type: DW Pattern 3" Polyurethane Foam Baffles

Size: Sample: 3" x 72" x 96", Specimen - 3" x 24" x 48"

Weight: 38.40 lbs. 0.80 psf

### **TEST PROCEDURE:**

The test was conducted in accordance with ASTM: C423(84a) "Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method." the sample was placed near, but not at the center of a 5300 cubic foot reverberation chamber. The three 24" x 48" baffles were suspended away from and not parallel to any wall with a space of 2 feet between baffles (mounting type "H"). Reverberation times of the empty chamber are compared to the reverberation times of the chamber with the specimen inside, to obtain absorption coefficients at the six octave band test frequencies.



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### TEST PROCEDURE CONT'D

The sound absorption coefficient for each frequency was calculated by the following equation.

$$a = [(A2-A1)/S]$$

Where

A= Absorption coefficient of test specimen, Sabins/ft<sup>2</sup>

A1=Absorption of empty room, Sabins

A2=Absorption of room with specimen, Sabins

S= Surface area, ft<sup>2</sup>

### TEST EQUIPMENT:

Manufacturer	Model	Description	S/N
Norwegian Electronics	NE830	Real Time Spectrum Analyzer	11511
Bruel & Kjaer	3923	Rotating Microphone Boom	263439
Larson - Davis	2560	Pressure Condenser Microphone	1032

### TEST RESULTS:

FREQ Hz	COEFFICIENT SABINS/FT <sup>2</sup>	C.L.	FREQ Hz	COEFFICIENT SABINS/FT <sup>2</sup>	C.L.
125	0.32	0.06	1000	1.33	0.02
250	0.93	0.03	2000	1.29	0.01
500	1.43	0.03	4000	1.21	0.01

Noise Reduction Coefficient (NRC) = 1.25

FREQ = Frequency - Octave Band (Hz)  
 COEFFICIENT = Sound Absorption Coefficient, Sabins / ft<sup>2</sup>  
 C.L. = Uncertainty, Sabins / ft<sup>2</sup> (95% Confidence Limit)

TWIN CITY TESTING CORPORATION

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