

**PROJECT NUMBER:** 3018 98-75790.4

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**DATE:** Oct. 22, 1998

## **SOUND ABSORPTION TEST - ASTM C423-90a**

### **INTRODUCTION:**

This report presents the results of Sound Absorption tests conducted on four Sailcloth Baffles manufactured and submitted by All Noise Control. This test was requested by All Noise Control on October 7, 1998 and was conducted on October 20, 1998.

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### **SUMMARY OF RESULTS:**

The average Sound Absorption of the material described below was **9.00 Sabins/Baffle**. (See individual frequency values below under TEST RESULTS).

### **SPECIMEN IDENTIFICATION:**

The 2' x 4' x 1-1/2" thick baffles were described as being Sailcloth Baffles that consisted of a 1.6 PCF core with two standard grommets on one long side for suspension purposes. Each Sailcloth Baffle weighed 2.0 pounds.

The four baffles were tested at a spacing of 24" off center in a two-row array approximately 66" off the floor of the reverberation chamber.

### **TEST METHOD:**

ASTM: C423-90a, "Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method" was followed in every respect.

Absorption coefficients are the fraction of diffuse incident sound absorbed by the specimen and is expressed in sabins per square foot. Baffle absorption is expressed as Sabins of Absorption per individual baffle.

The temperature and relative humidity of the chamber during the tests was 75°F and 55 %, respectively.

**TEST EQUIPMENT:**

Manufacturer	Model	Serial #	Description
Norwegian Electronics	NE830	11511	Real Time Spectrum Analyzer
Briel & Kjr	3923	815424	Rotating Microphone Boom
Larson-Davis	2560	1032	Pressure Condenser Microphone

**TEST RESULTS:**

**"Sailcloth Baffles"**

**Average Sabins / Baffle (250-2000 Hz) = 9.00**

Freq. = Octave band center frequency

Abs. Coefficient = Sound absorption coefficient (extended plane applications)

Uncertainty = % uncertainty of the absorption coefficient for 95 % confidence

Sabins / Baffle	Uncertainty
1.37	3.7
4.86	2.1
9.21	1.3
13.55	0.9
8.39	0.5
4.70	0.5

**Freq. (Hz)**