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

### **INTRODUCTION:**

This report presents the results of a Noise Reduction Coefficient (NRC) test conducted on a 2" Wall Panel submitted on October 7, 1998 and was conducted on October 13, 1998.

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### **SUMMARY OF RESULTS:**

The NRC of the panel described below is **1.15**. (See individual frequency values below under TEST RESULTS).

### **SPECIMEN IDENTIFICATION:**

|                              |   |
|------------------------------|---|
| Manufacturer :               | Rendered by Manufacturer for Technature Inc.                                    |
| Type :                       | 2" Wall Panel   |
| Nom Dimensions (W x H x D) : | 4' x 8' x 2"  |
| Weight :                     | 35.0 lbs. each specimen (1.09 PSF)  |
| Surface Area :               | 32 ft <sup>2</sup> each specimen.   |
| Total Surface Area Tested :  | 64 ft <sup>2</sup> consisting of 2 specimens.                                   |
| Mounting Type :              | On floor with 1/4" air space beneath. Edges taped.                              |
| Specimen Description :       | Acoustical Wall Panel, 2" thick 6.0 PCF, Fiberglass Core, 100% Polyester Facing |

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**TEST METHOD:**

ASTM C 423-90a, "Sound Absorption and Sound Absorption Coefficients by th Reverberation Room Method" was followed in every respect.

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.

The temperature and relative humidity of the chamber during the tests were 72°F and 58%, respectively.

**TEST EQUIPMENT:**

| <b><u>Manufacturer</u></b> | <b><u>Model</u></b> | <b><u>Serial #</u></b> | <b><u>Description</u></b>     |
|----------------------------|---------------------|------------------------|-------------------------------|
| Norwegian Electronics      | NE830               | 11511                  | Real Time Spectrum Analyzer   |
| Brüel & Kjær               | 3923                | 815424                 | Rotating Microphone Boom      |
| Larson-Davis               | 2560                | 1032                   | Pressure Condenser Microphone |

**2" Wall Panel**

| <b>Frequency<br/>Hz</b> | <b>Abs.<br/>Coefficients</b> | <b>Uncertainty<br/>%</b> |
|-------------------------|------------------------------|--------------------------|
| <b>125</b>              | 0.22                         | 5.7                      |
| <b>250</b>              | 0.81                         | 2.9                      |
| <b>500</b>              | 1.24                         | 1.8                      |
| <b>1000</b>             | 1.30                         | 1.3                      |
| <b>2000</b>             | 1.21                         | 0.8                      |
| <b>4000</b>             | 1.16                         | 0.8                      |

**Noise Reduction Coefficient (NRC) = 1.15**

Freq. = Octave band center frequency.

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

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