



Sound Absorption Test

Test Date: 05/16/2025

Report Issued: 08/11/2025

For: Turf
41 Prairie Pkwy
Gilberts, IL 60136

Specimen Designation: TURF - Pantheon Ceiling Scape - Profile A Open

The test method conforms explicitly to the requirements of ASTM C423-23 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method and ASTM E795-23 - Standard Practices for Mounting Test Specimens During Sound Absorption Tests except as noted in the Comment section. The Armstrong Acoustics Laboratory is accredited by NVLAP of the Department of Commerce as having the competence to perform this test in accordance with the prescribed test method. Descriptions of the facility and measuring technique are available separately.

Material Description: 9 mm polyester (PET) felt. All tiles were profile type "A" and Open (OP).

Edge Detail: Square edge with Friction Fit Connection

Nominal Unit Size: 24 by 24 by 3.65 in.

Physical Unit Size: 606 by 605 by 120.7 mm (23.875 by 23.813 by 4.750 in.). Measured thickness includes the material on both sides of the friction fit connection.

Unit Weight per Area: 3.25 kg/m² (0.67 lb/ft²)

Specimen Installation: The specimen was mounted using the E-400 mounting technique according to ASTM E795. The material was mounted so that the friction fit connection was 400 mm off the test surface and spaced as if installed on 15/16" flat tee grid. The material exposed above the frame was not covered. See photos below.

Specimen Size: 5.95 m² (64.00 ft²) consisting of sixteen full units measuring 2.44 by 2.44 m (96.00 by 96.00 in.).

Conditioning: The test was performed in a test room at 20.8°C (69.4°F), 57.2% RH and 993 hPa. The conditions during the bare room test were 20.4°C (68.7°F), 58.6% RH and 994 hPa. The sample was conditioned at least 16 hours at 21 ± 3°C (70 ± 5°F) and 50 ± 5% RH.

Significance: The coefficients measured by this test method should be used with caution because not only are the areas encountered in practical usage usually larger than the test specimen, but also the sound field is rarely diffuse. Both of these factors will influence the absorption in practical usage. Regardless of the differences and the necessity for judgment, the coefficients measured by this test method have been used successfully by architects and consultants in the acoustical design of architectural spaces.

Traceability: These test results are traceable to NIST.

Comments: None



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Reverberation Room

Size: 8.18 by 6.22 by 5.23 m (26.83 by 20.40 by 17.17 ft) with 4.04 by 0.70 by 1.11 m (13.25 by 2.31 by 3.65 ft) box for collapsed test frame.

Volume: 262.9 m³ (9286 ft³).

Surface Area: 252.4 m² (2717 ft²).

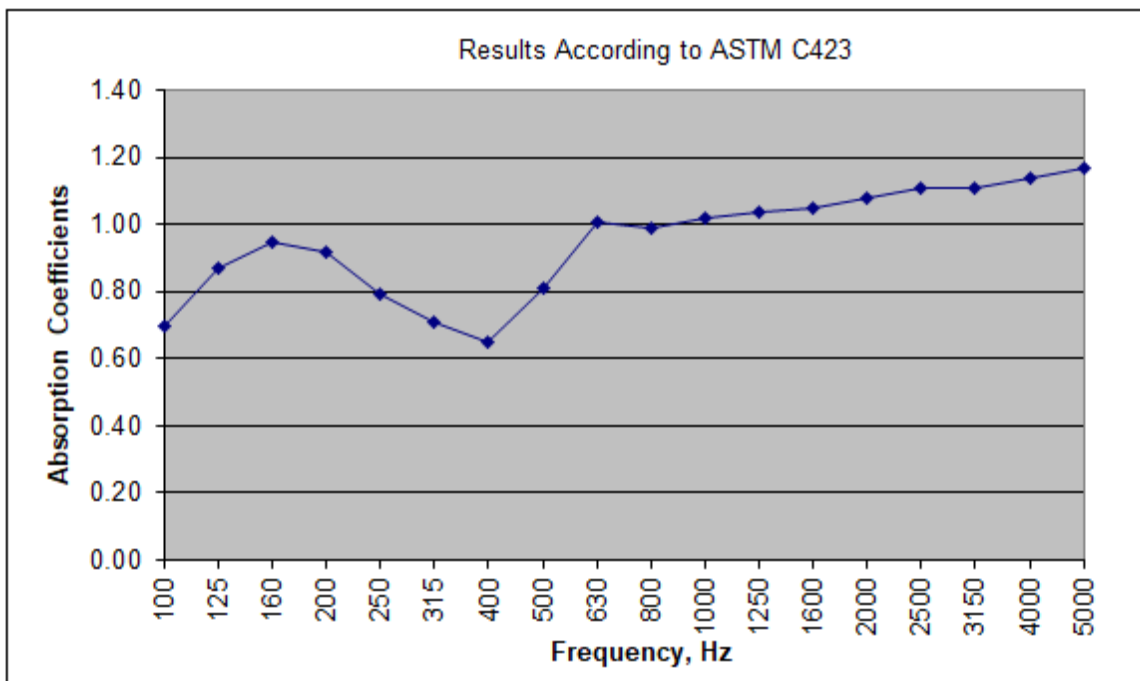
Diffuser Configuration: One rotating diffuser system which consists of a conical section extending from the floor to ceiling and 3 flat diffusers mounted about the axis of the cone. The area of the diffuser is 42.9 m² (462 ft²).

Microphone Positions: 6

Noise Source: Two speaker cabinets in opposite upper trihedral corners broadcasting broadband pink noise (50 - 10,000 Hz).

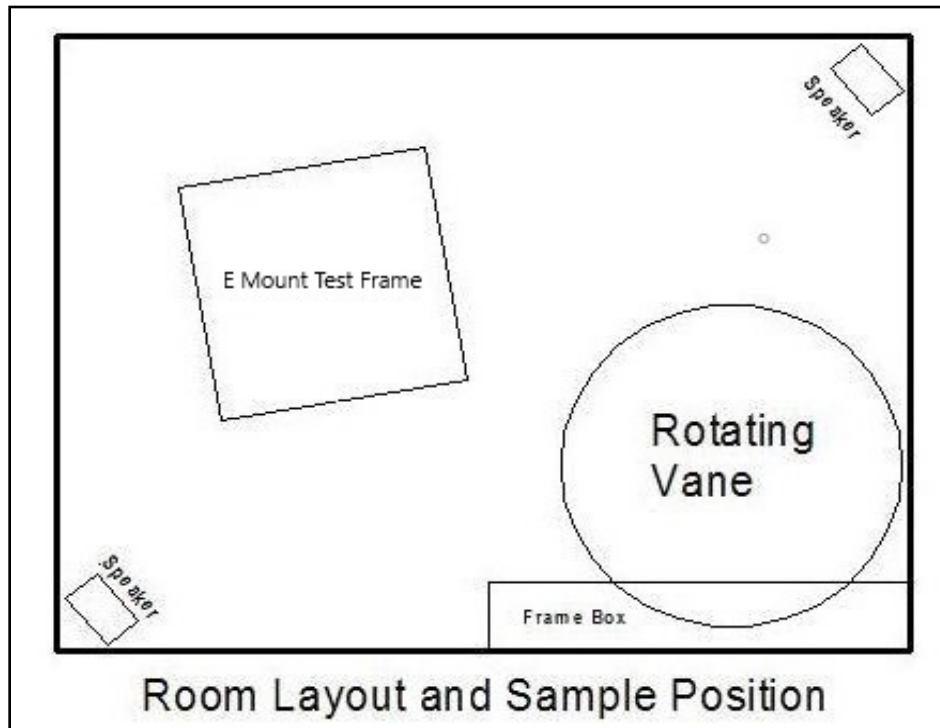


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Results According to ASTM C423

| Frequency Hz | Absorption Coefficient | Absorption Coefficient For E-400 Frame | |
|-----------------|---------------------------|---|---------------|
| | | Reproducibility | Repeatability |
| 100 | 0.70 | 0.49 | 0.23 |
| 125 | 0.87 | 0.33 | 0.16 |
| 160 | 0.95 | 0.27 | 0.11 |
| 200 | 0.92 | 0.14 | 0.08 |
| 250 | 0.79 | 0.17 | 0.07 |
| 315 | 0.71 | 0.12 | 0.07 |
| 400 | 0.65 | 0.08 | 0.05 |
| 500 | 0.81 | 0.09 | 0.06 |
| 630 | 1.01 | 0.08 | 0.06 |
| 800 | 0.99 | 0.09 | 0.04 |
| 1000 | 1.02 | 0.09 | 0.03 |
| 1250 | 1.04 | 0.11 | 0.05 |
| 1600 | 1.05 | 0.13 | 0.04 |
| 2000 | 1.08 | 0.11 | 0.05 |
| 2500 | 1.11 | 0.09 | 0.04 |
| 3150 | 1.11 | 0.10 | 0.04 |
| 4000 | 1.14 | 0.10 | 0.07 |
| 5000 | 1.17 | 0.13 | 0.09 |

SAA 0.93

NRC 0.95

The reproducibility and repeatability are from the Precision and Bias section of ASTM C423. The Sound Absorption Average (SAA) is the average of coefficients between 200 and 2500 Hz, expressed to the nearest integral multiple of 0.01. The noise reduction coefficient (NRC) is the average of coefficients at 250, 500, 1000, and 2000 Hz expressed to the nearest integral multiple of 0.05.

Approved by:

Zachary A. Bock

Facility Manager