



NVLAP LAB CODE 100228-0



ARMSTRONG
ACOUSTICS
LABORATORY

Testing performed at:
Armstrong World Industries
2500 Columbia Avenue
Lancaster, PA 17603
717 396-2089

Test Number A-158285-0228

Page 1 of 6

Sound Absorption Test

Test Date: 01/12/2023

Report Issued: 01/25/2023

For: Turf
41 Prairie Pkwy
Gilberts, IL 60136

Specimen Designation: TURF™ - 2" W REED Wall Panel

The test method conforms explicitly to the requirements of ASTM C423-22 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method and ASTM E795-05 - 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 - 04 Light Grey

Nominal Unit Size: 24 by 96 by 2 in.

Physical Unit Size: 610 by 2438 by 50.8 mm (24.000 by 96.000 by 2.000 in.). with ten (10) flutes per panel

Unit Weight per Area: 6.10 kg/m² (1.25 lb/ft²)

Specimen Size: 5.95 m² (64.00 ft²) consisting of four full units arranged in a 2.44 by 2.44 m (96.00 by 96.00 in.) contiguous array.

Conditioning: The test was performed in a test room at 21.0°C (69.8°F), 57.6% RH and 1005 hPa. The conditions during the bare room test were 20.9°C (69.6°F), 58.5% RH and 1005 hPa. The sample was conditioned at least 16 hours at 21 ± 3°C (70 ± 5°F) and 50 ± 5% RH.

Specimen Installation: The specimen was mounted using the A mounting technique according to ASTM E795. The edges of the specimen were sealed to the surface with duct tape.

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



The results reported above apply to the specific samples tested.

No responsibility is assumed for performance of any other specimen.

This report may not be reproduced except in full, without the written approval of the laboratory.

ACCREDITED BY THE DEPARTMENT OF COMMERCE, NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ACOUSTICS. THE LABORATORY'S ACCREDITATION OR ANY OF ITS TEST REPORTS IN NO WAY CONSTITUTES OR IMPLIES PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST OR ANY AGENCY OF THE US GOVERNMENT



Testing performed at:
Armstrong World Industries
2500 Columbia Avenue
Lancaster, PA 17603
717 396-2089

ARMSTRONG
ACOUSTICS
LABORATORY

Test Number A-158285-0228

Page 2 of 6

Sound Absorption Test

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).



The results reported above apply to the specific samples tested.

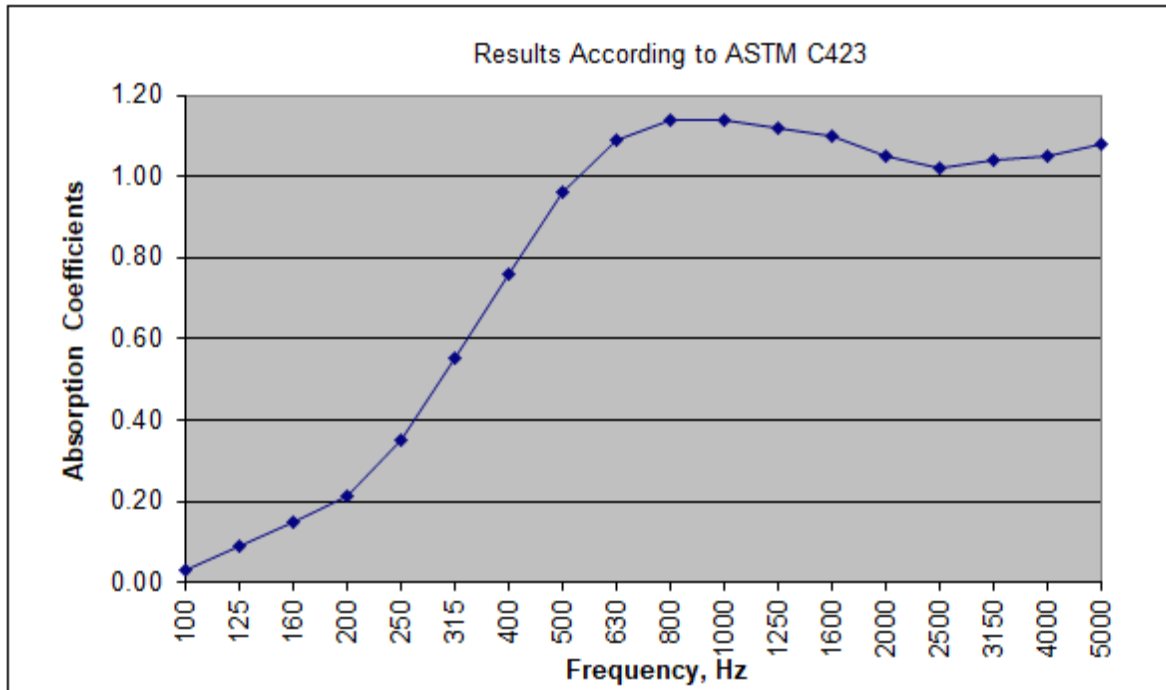
No responsibility is assumed for performance of any other specimen.

This report may not be reproduced except in full, without the written approval of the laboratory.

ACCREDITED BY THE DEPARTMENT OF COMMERCE, NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ACOUSTICS. THE LABORATORY'S ACCREDITATION OR ANY OF ITS TEST REPORTS IN NO WAY CONSTITUTES OR IMPLIES PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST OR ANY AGENCY OF THE US GOVERNMENT

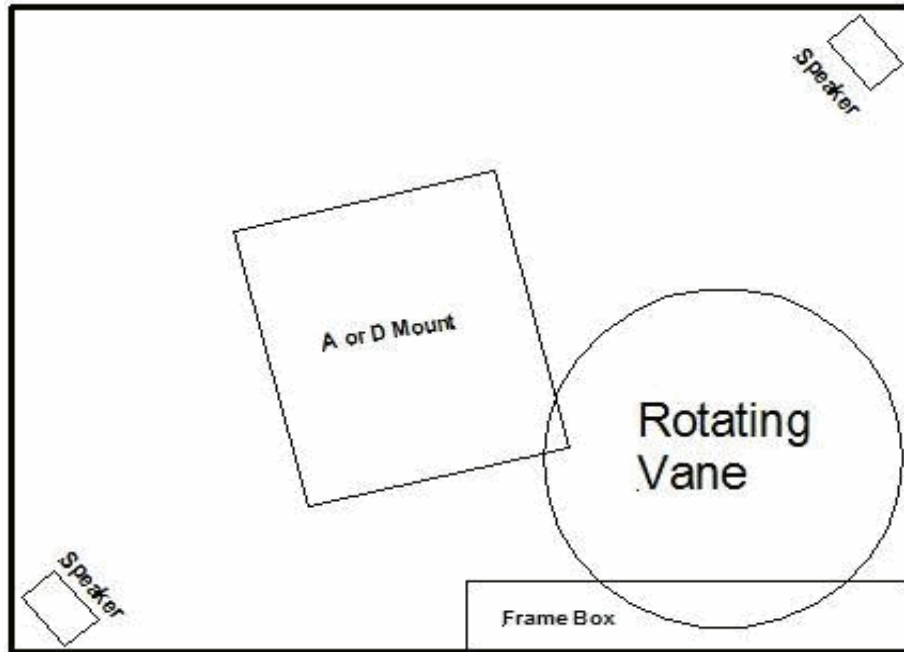


Sound Absorption Test





Sound Absorption Test



Room Layout and Sample Position



NVLAP LAB CODE 100228-0



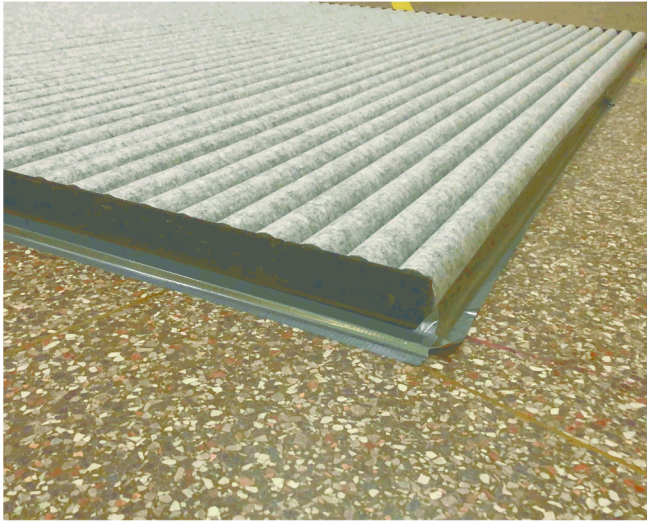
ARMSTRONG
ACOUSTICS
LABORATORY

Testing performed at:
Armstrong World Industries
2500 Columbia Avenue
Lancaster, PA 17603
717 396-2089

Test Number A-158285-0228

Page 5 of 6

Sound Absorption Test



The results reported above apply to the specific samples tested.

No responsibility is assumed for performance of any other specimen.

This report may not be reproduced except in full, without the written approval of the laboratory.

ACCREDITED BY THE DEPARTMENT OF COMMERCE, NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ACOUSTICS. THE LABORATORY'S ACCREDITATION OR ANY OF ITS TEST REPORTS IN NO WAY CONSTITUTES OR IMPLIES PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST OR ANY AGENCY OF THE US GOVERNMENT



NVLAP LAB CODE 100228-0



ARMSTRONG
ACOUSTICS
LABORATORY

Testing performed at:
Armstrong World Industries
2500 Columbia Avenue
Lancaster, PA 17603
717 396-2089

Test Number A-158285-0228

Page 6 of 6

Sound Absorption Test

Results According to ASTM C423

Frequency Hz	Absorption Coefficient	Absorption Coefficient For E-400 Frame	
		Reproducibility	Repeatability
100	0.03	0.49	0.23
125	0.09	0.33	0.16
160	0.15	0.27	0.11
200	0.21	0.14	0.08
250	0.35	0.17	0.07
315	0.55	0.12	0.07
400	0.76	0.08	0.05
500	0.96	0.09	0.06
630	1.09	0.08	0.06
800	1.14	0.09	0.04
1000	1.14	0.09	0.03
1250	1.12	0.11	0.05
1600	1.10	0.13	0.04
2000	1.05	0.11	0.05
2500	1.02	0.09	0.04
3150	1.04	0.10	0.04
4000	1.05	0.10	0.07
5000	1.08	0.13	0.09

SSA 0.87

NRC 0.90

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:

-----not signed-----

Zachary A. Bock

Facility Manager



The results reported above apply to the specific samples tested.

No responsibility is assumed for performance of any other specimen.

This report may not be reproduced except in full, without the written approval of the laboratory.

ACCREDITED BY THE DEPARTMENT OF COMMERCE, NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ACOUSTICS. THE LABORATORY'S ACCREDITATION OR ANY OF ITS TEST REPORTS IN NO WAY CONSTITUTES OR IMPLIES PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST OR ANY AGENCY OF THE US GOVERNMENT