



sound absorption test.

Test Report

Report No. TC.21.12.005926

Date of Issue 01/05/2022

Applicant: Suzhou Acousound New Material Technology Inc.

Applicant address: No.10 Aimin Road, Xiangcheng District, Suzhou, Jiangsu Province, China

Description of the test subject:

| Sample | Description | Photo |
|--------|--|---|
| 001 | Sample Description: PET acoustic panel, 9mm, 1900grams/m ² Manufacturer: Suzhou Acousound New Material Technology Inc. Country of origin: China |  |

Receipt Date of Sample: 12/23/2021

Date of Testing: From 12/26/2021 to 12/28/2021

Sample submitted: The sample(s) was (were) submitted by applicant and identified.

Conclusion:

| Test Items | | | Result |
|------------|---|-----------------|----------------------|
| No. | Items | Standard | |
| 1 | Acoustics - Measurement of sound absorption in a reverberation room | EN ISO 354:2003 | See the test results |

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Test Results

1. EN ISO 354:2003 Acoustics - Measurement of sound absorption in a reverberation room

1.1 Sample Specification

| | |
|--------------------|----------------------|
| Specimen size | 3.66m*3.05m |
| Specimen thickness | 9.0mm |
| Specimen area | 11.163m ² |

1.2 Test Environment

| | |
|---|----------------------|
| Temperature (Before placing sample) | 15 \square |
| Relative humidity (Before placing sample) | 35% |
| Temperature (After placing sample) | 15 \square |
| Relative humidity (After placing sample) | 35% |
| Volume of reverberation room | 201.2m ³ |
| Total surface area of reverberation room | 211.2 m ² |

1.3 Test Equipment

Dodecahedral sound source EC-JB-009-2

Acoustic measurement system (94dB/114dB Primary precision calibrator) EC-JB-009-3

Acoustic measurement system (Sound level meter + Measuring microphone) EC-JB-009-1

1.4 Sample Installation

Place the test specimen on the ground of the reverberation room and sealed with sealant. The boundary is not included in the total area of the test specimen.

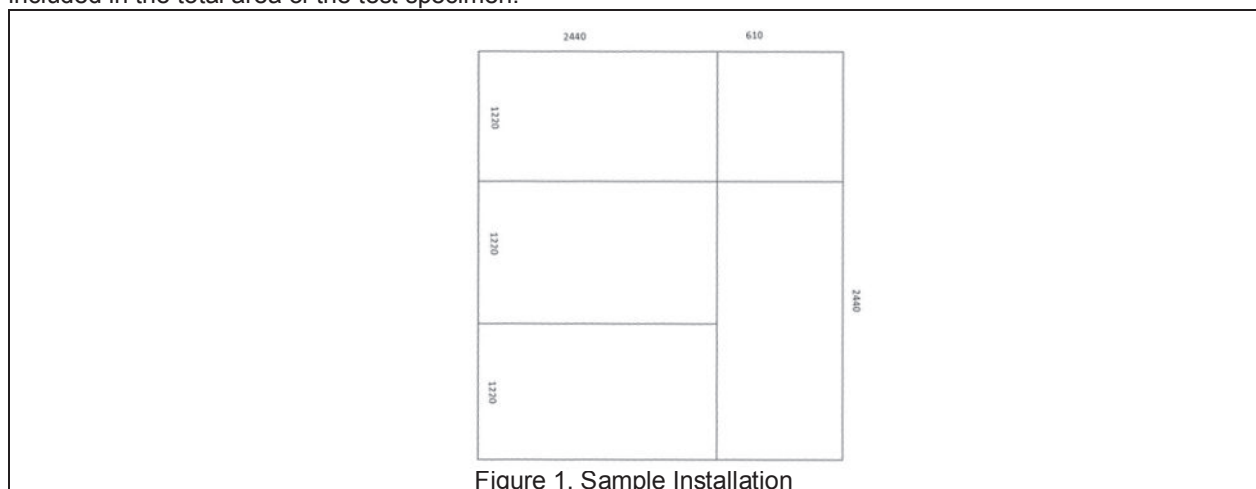


Figure 1. Sample Installation

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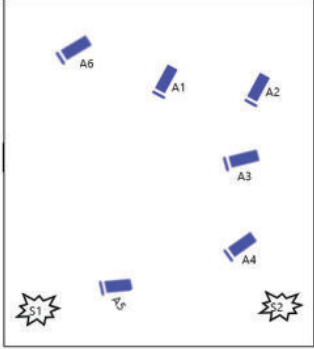
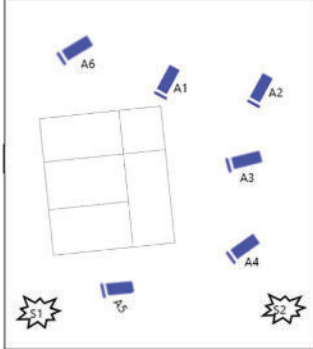

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1.5 Test situation

Microphones and Sources position:

As shown below, 6 microphones and 2 sound sources are arranged omnidirectionally in the reverberation room. The measurements shall be made with different microphone positions which are at least 1.5 apart, 2m from any sound source and 1m from any room surface and the test specimen. different sound source positions which are at least 3m apart shall be used.

| | |
|--|---|
|  <p>Sound source location</p> <p>Microphone measuring point</p> <p>Irregular arrangement</p> <p>A: Measuring point</p> |  <p>Sound source location</p> <p>Microphone measuring point</p> <p>Irregular arrangement</p> <p>A: Measuring point</p> |
| Empty reverberation room | Reverberation room containing a test specimen |
|  <p>during the test</p> | |

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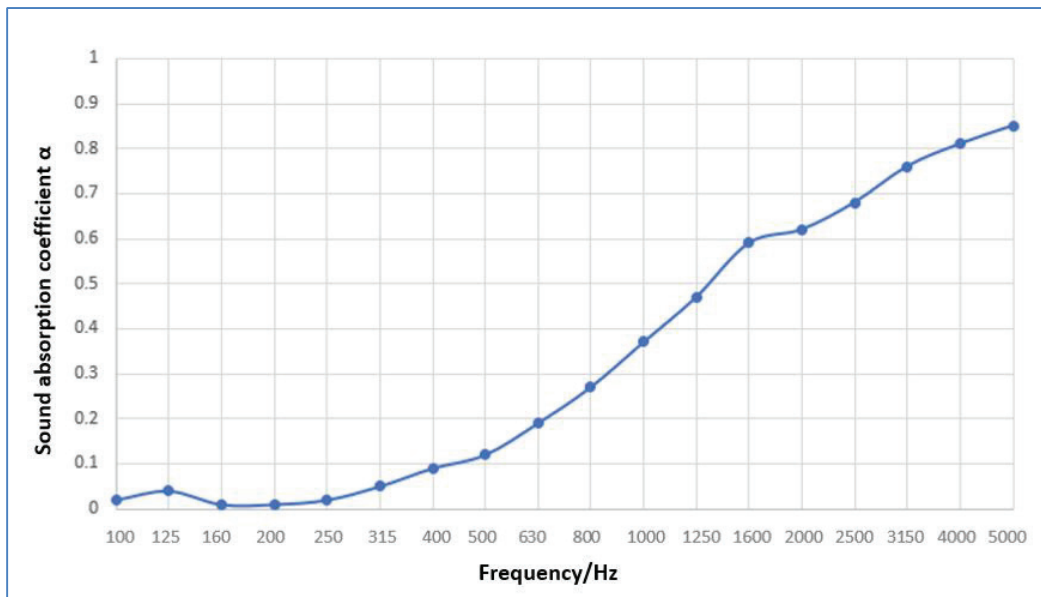
1.6 Test Results

| Frequency/Hz | AT/Sound absorption | α /Sound absorption coefficient |
|--------------|---------------------|--|
| 100 | 0.26 | 0.02 |
| 125 | 0.48 | 0.04 |
| 160 | 0.08 | 0.01 |
| 200 | 0.11 | 0.01 |
| 250 | 0.2 | 0.02 |
| 315 | 0.61 | 0.05 |
| 400 | 1.02 | 0.09 |
| 500 | 1.4 | 0.12 |
| 630 | 2.2 | 0.19 |
| 800 | 3.1 | 0.27 |
| 1000 | 4.27 | 0.37 |
| 1250 | 5.43 | 0.47 |
| 1600 | 6.8 | 0.59 |
| 2000 | 7.1 | 0.62 |
| 2500 | 7.81 | 0.68 |
| 3150 | 8.77 | 0.76 |
| 4000 | 9.37 | 0.81 |
| 5000 | 9.81 | 0.85 |

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1.7 Noise reduction coefficient

NRC is the noise reduction coefficient, which is the arithmetic average of the sound absorption coefficients for frequency bands (250Hz, 500Hz, 1000Hz and 2000Hz), with 0.05 as the minimum multiple;

Conclusion: The noise reduction coefficient of the tested sample **NRC=0.30**