SOUND ABSORPTION TEST REPORT

ISO 354:2003

For

NBR Rubber Acoustic Foam

Brand Name: NBR

Report No.: ENC171219GZ50E2

Date of Issue: Dec. 21, 2017

Prepared By

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GENERAL INFORMATION:

Product Description:	NBR Rubber Acoustic Foam
Model:	15 mm thickness
Model Difference:	N/A
Brand Name:	NBR
Applicant:	
Manufacturer:	
Report No.:	ENC171219GZ50E2
Test Methods:	ISO 354:2003 Acoustics - Measurement of sound absorption in a reverberation room
Test Results:	See next sheet
Sample Receiving Date:	Dec. 19, 2017
Test Performing Date:	Dec. 19, 2017– Dec. 21, 2017

Summary of test results

Sound absorption coefficient								
Octave centre frequency f / Hz	125	250	500	1000	2000	4000	α_w	NRC
NBR Rubber Acoustic Foam	0.22	0.61	0.84	0.89	0.81	0.81	0.70	0.70

Checked By Yemig

Yemig Dec. 21, 2017

Authorized By Rav Zhou

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Annex1: Test results

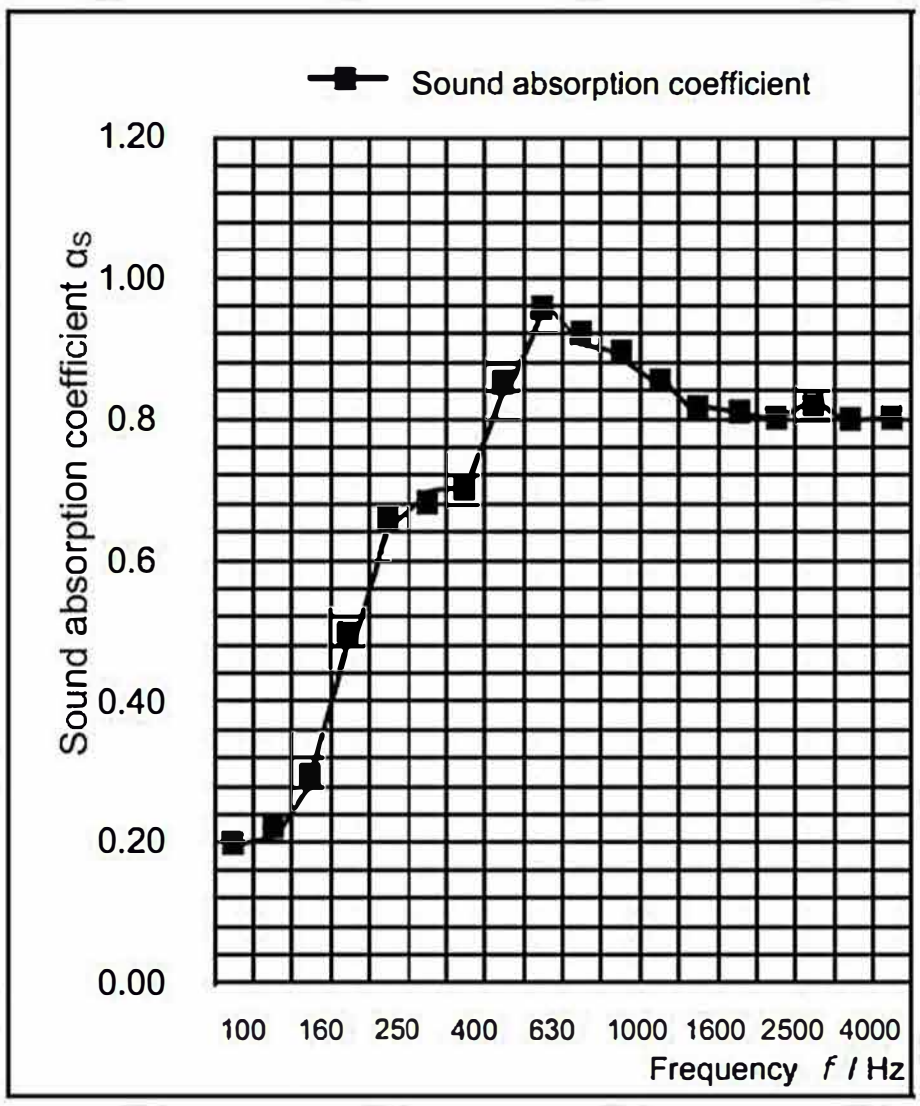
Specimen: NBR Rubber Acoustic Foam

Laboratory: East Notice Certification Service Co., Ltd.

Specimen:	Acoustic NBR Rubber Foam	Test room volume:	155 m^3
Temperature of test room:	20 ℃	Area of room boundaries:	179 m^2
Relative humidity:	52 %	Test date:	2017-12-20
Atmospheric pressure:	101 KPa	Test file identification:	ENC171219GZ50E2-1

Third octave band results:

Frequency [Hz]	α_S 1/3 octave	α_p oktave
100	0.20	0.22
125	0.21	
160	0.25	
200	0.50	0.61
250	0.65	
315	0.68	
400	0.70	0.83
500	0.85	
630	0.95	
800	0.92	0.90
1000	0.91	
1250	0.85	
1600	0.82	0.81
2000	0.81	
2500	0.80	
3150	0.82	0.81
4000	0.80	
5000	0.80	



α_S Sound absorption coefficient according to ISO 354

Weighted sound absorption coefficient α_w = 0.70

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Annex 2: Mounting of specimen

NBR Rubber Acoustic Foam was mounted on the floor of the reverberation room in conformance with ISO 354:2003 Annex B.

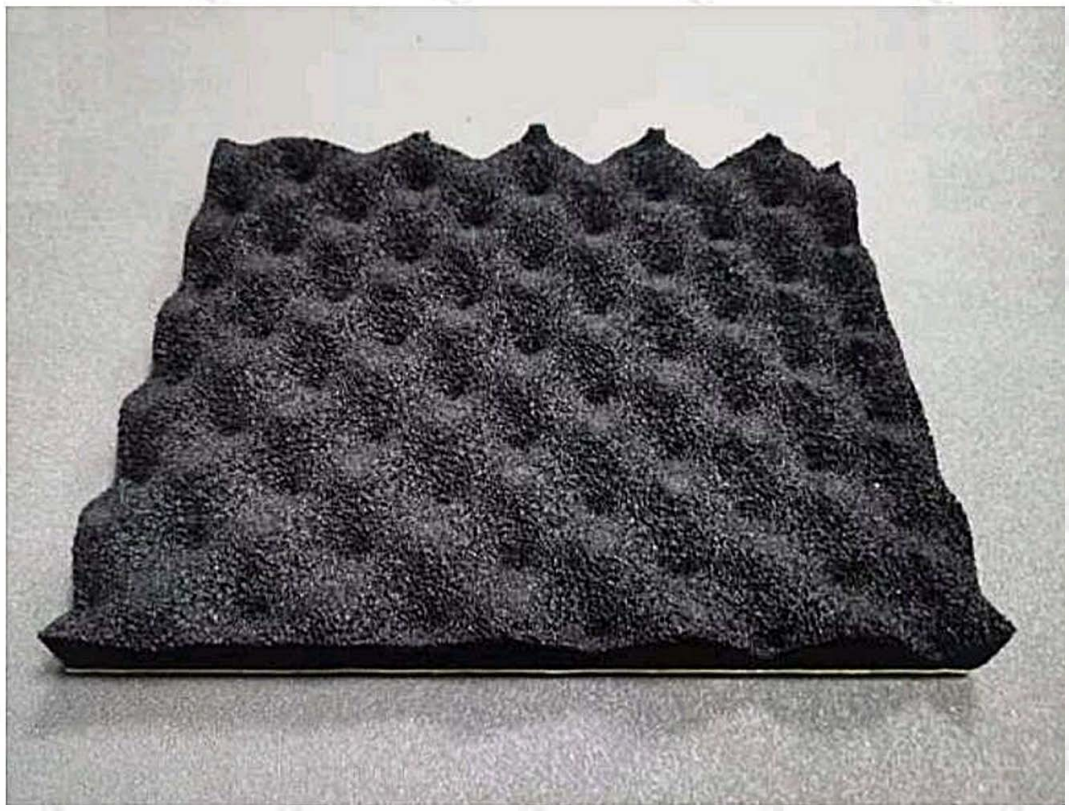

Photo of NBR Rubber Acoustic Foam

Annex 3: Measurement arrangements

1. Acoustical measurements

The test signal was produced to the test room using three fixed omnidirectional loudspeakers (6 x Seas B&K2260D). The test signal (pink noise) was produced by a real time analyzer (Bruel & Kjaer 2133) and amplified with terminal amplifier (B&K2716). The sound pressure level in the reverberation room was measured with a condencer microphone on a tripod (B&K 5821 equipped with a pre-amplifier B&K4296).

The reverberation time at third-octave bands was measured with the real time analyzer (B&K4189) using 20 dB decay range. All frequency bands were measured using 2 sources simultaneously and 4 microphone locations. In every location an ensemble average of 10 decays was measured. The total number of reverberation time measurements was 8.

The acoustical measurement equipment fullfilled the following IEC standards and grades of accuracy:

IEC 651	Sound level meters	type 1
IEC 804	Integrating sound level meters	type 1
IEC 1260	Octave-band and fractional-octave-band filters	class 1
IEC 942	Sound level calibrators	class 1

2. Other measurements

The temperature and the relative humidity of the measurement rooms were measured with a psykrometer (Casella London 7165). The ambient atmospheric pressure was measured with a barometer (B&K MD0001). The specimen was weighed with a 150 kg precision weighing machine (PM 150). The dimensions of the specimen were measured with a roll meter (K-Prof).

3. The test room

The reverberation room was equipped with six fixed diffuser panels. The positions were selected randomly in respect with altitude, angle and position. The amount of diffusers and their arrangement fulfills the requirements of Annex A in ISO 354. The reverberation time of the reverberation room fulfills the requirements of ISO 354 for 155 m^3 test room.

4. References to the ISO standards

Test: ISO 354:2003 (E) Acoustics - Measurement of sound absorption in a reverberation room, International Organization for Standardization, 2006, Genève, Switzerland.

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