



राष्ट्रीय भौतिक प्रयोगशाला

(वैज्ञानिक एवं औद्योगिक अनुसंधान परिषद्)

NATIONAL PHYSICAL LABORATORY (Council of Scientific and Industrial Research)

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TEST REPORT ON

SOUND TRANSMISSION LOSS

Date	Test Report No.	Page	No. of Pages
02-09-2011	11080668/D5.07a/T-031	1	2

1. Tested for : M/s Envirotech Systems Pvt. Ltd.
B-1A/19, 1st Floor, Commercial Complex
Sector-51, Noida - 201 307.
Customer's Reference : Letter No. ESPL/11023
dated 24.08.2011.
2. Description and Identification of items : **100 mm thick Metallic Acoustic Panel of MS Sheet laminated on either side and cavity filled with Envirotech Acoustic Material (Sample size 93 cm x 63 cm)**
3. Environmental Conditions : Room Temperature : 26.0 °C
Relative Humidity : 72.0 %
4. Standard Used and Associated Uncertainty : Working Standard Microphone;
± 0.5 dB
5. Traceability of Standards Used : The standards used for testing are traceable to National Standards
6. Principle/ Methodology of test & Test Procedure No. : **IS : 9901 (Part III) -1981, DIN 52210 Part IV- 1984, ISO : 140 (Part III) - 1995,**
" Measurement of Sound Insulation in Building and of Building Elements "
Part III : Laboratory Measurements of Airborne Sound Insulation of Building Elements
Sub-Div.#5.07/A/Doc.3/TP# 15

7. Results :

As requested by the party the acoustical material was tested for its airborne sound insulation by using two reverberation chambers under existing environmental conditions. The sample was fixed in the common opening between the two chambers. The volume of the source room was 257 m³ and that of the receiver room was 271 m³. Adequate diffusion existed in both the chambers.

Tested by:

Naveen Garg

(Mr. Naveen Garg)

Checked by:

Dr. Mahavir Singh

(Dr. Mahavir Singh)

Scientist-in-charge:

Mr. Omkar Sharma

(Mr. Omkar Sharma)

Issued by:

G.P. Dixit

Director's
Nominee

New Delhi



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Using filtered noise in one-third octave band the air-borne sound insulation index was evaluated by measuring the average sound pressure levels generated in the source room and the receiver room and by measuring the equivalent absorption in the receiver room. The results are given below :

One-third Octave Band Centre Frequency Hz	Airborne Sound Insulation Index dB
100	23
125	20
160	29
200	29
250	33
315	36
400	41
500	43
630	46
800	48
1000	50
1250	51
1600	50
2000	48
2500	49
3150	51
4000	53

Using the standard reference curve the **sound transmission class, STC**, was found to be **44**. The evaluated uncertainty in measurement is ± 1.0 dB which is at a coverage factor $k=2$ which corresponds to a coverage probability of approximately **95%** for a normal distribution.

8. Date of Testing : 29-08-2011
9. Remarks : Nil

Tested by: *Naveen Garg*
(Mr. Naveen Garg)

Checked by: *[Signature]*
(Dr. Mahavir Singh)

Scientist-in-charge: *[Signature]*
(Mr. Omkar Sharma)

Issued by: *[Signature]*
(G. P. Dixit)

