



# Envirotech Systems Pvt.Ltd.

An ISO 9001 : 2008 Certified Organisation

*"Our goal is to be your most trusted and reliable source for end-to-end industrial noise analysis and abatement."*



with over 8000 acoustical projects in Oil & Gas, Manufacturing & Processing Highway Authority ( NHA ) , Power Generation, Cement & Steel Plants, Automobile Sector Construction and in many more , ESPL continues to grow in domestic & overseas market places.

• [WWW.ACOUSTICALWORLD.COM](http://WWW.ACOUSTICALWORLD.COM)

## ACOUSTIC ENCLOSURES



We offer a standard range of Acoustic Enclosures for DG Sets, Turbines, Air compressor, Forging, CNC & other noise generating machines. Each enclosure is designed and manufactured to suit the individual requirements of the machine being enclosed in. It can have a simple panel design or be a heavy integrated housing. Additional features include lifting beams, lighting, fire and gas detection & protection systems.

We also offer the drop over design which has the advantage of low installation time, quick access to the noise generating machines for major maintenance, Acoustic Enclosures are dismantlable type we can dismantle easily and re-erect at alternative site.

All our enclosures are designed to allow the maximum aspiration and cooling airflow required to make sure machine does not overheat. Weather louvers, acoustic louvers, splitter and Baffles are provided to suppress the noise where required.

Acoustic enclosures will be as varied as the customer's requirements. The enclosure outer walls generally consist of 1.6-2 mm thickness of CRCA steel sheeting outside, and inner surface is GI perforated sheet filled with tissue paper laminated rock wool pads.



Performance: AS per CPCB /ISO 14001 Norms- 75 dB(A) noise reduction at 1 meter Distance or 25 dB(A) insertion loss.

ENVIROTECH SYSTEMS PVT. LTD.

## **ACOUSTIC ENCLOSURES FOR GAS TURBINE**

Engineered to Perfection – field tested under all types of conditions and Noise Standards. Clean – built-in silenced ductwork eliminates noise, dust and dirt. Optional cam-lift style door provides superior dust and noise seal. Doubles your space – with enclosure load bearing ceiling design you get the added benefit of storage space on the ceiling. Pre-engineered for live loads the ceiling can be walked on and inventory can be kept close at hand. Two story enclosures are also available. Rugged, heavy gauge steel walls are many times stronger than traditional in-plant offices and are easily able to resist abuse from errant tools, forklifts, steel-toed shoes, etc.



## **ACOUSTIC ENCLOSURES FOR SHOT BLASTING MACHINES**

The Acoustic Enclosure is truly modular. The several basic elements of the system – standard panels, window panels, and door panels - are removable and we can relocate on other location.

The wall construction of 100mm (4") thick sound rated panels and accessories allows a degree of construction freedom not possible with conventional acoustic panel systems. With acoustic Modular Panels, the plant engineer, safety director, OEM manufacturer, architect or maintenance supervisor can obtain the exact sound controlling structure necessary for each specific situation



## **ACOUSTIC ENCLOSURES FOR BLOWER HOUSE**

Envirotech Blower Enclosures are available in galvanized or painted steel or aluminum construction. They are built for strength, easy access, and weather resistance.

Since mass and rigidity are required for sound attenuation, each UBP custom enclosure employs 14 gauge steel or 0.125 inch aluminum with formed shape construction. The interior is lined with 2 inch sound absorbing media which is heat and oil resistant and dual bonded to the exterior



**ENVIROTECH SYSTEMS PVT. LTD.**

## NOISE BARRIER



- Guaranteed, proven, sound reduction
- Sound absorptive surfaces minimize reflected noise
- Rugged, abuse-resistant, long-lasting steel construction
- Weather resistant and almost maintenance-free
- Wide choice of finishes to blend with individual landscapes

Suitable for an extensive range of applications including:

- Screening Mechanical Plant
- Roads and Railways
- Aircraft Pens and Airport Boundaries
- Such as Generators, Compressors and Chillers



**A COMPLETE RANGE OF CERTIFIED, HIGH PERFORMANCE NOISE BARRIERS TO SOLVE  
A WIDE VARIETY OF ENVIRONMENTAL NOISE POLLUTION ISSUES.**

**ENVIROTECH SYSTEMS PVT. LTD.**

## POLYCARBONATE NOISE BARRIER



The construction consisted of MS/Galvanized steel beam as horizontal and vertical posts specially designed aluminum pressure pad with rubber gas kit use to grip polycarbonate sheet tightly.

The standard Polycarbonate Noise Barriers designed to achieve 22 STC to 36 STC rating and the same has been confirmed during laboratory test.

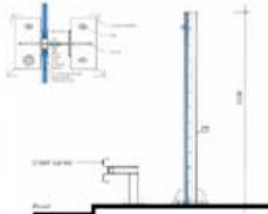
We offer a full design, delivery and installation service, which can also include all necessary structural steelwork. Barriers can be erected by our own, trained personnel. Alternatively, they can be installed by others (contractors, end users etc), preferably under the supervision of an ESPL engineer.

All polycarbonate sheets are UV coated and having warranty up to 10 years

### Technical specification:

#### Transparent Element

- » Bayer Makrolon® UV 2099 sheets are made from 15 mm thick clear-transparent
- » Polycarbonate sheets with UV protection on both sides.
- » Good weathering resistance, ideal for outdoor application
- » Light transmission is 79% as per DIN5036,
- » Fire rating – class B2 as per DIN 4102 & Class 1Y as per BS 476 part 7
- » 15 MM thick polycarbonate sheet having metallic frame at all four sides with gasket
- » Noise reduction as per DIN EN ISO 717-1 – 36 dB



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## METALLIC NOISE BARRIER



Metallic noise barriers which comprise the great majority of noise barriers are generally located at the edge of the road to reflect traffic noise. Some noise is transmitted through the barrier, but is generally low in relation to the noise level on the other side of the barrier. The height of these barriers is usually greater than other types. Often, traffic noise levels increase for vehicle occupants.

### Applications:

1. Highways, Flyovers & Railway track.
2. To cover Industrial premises.
3. Construction sites
- 4 Stadium & Clubs.
5. Residential premises.

### Technical Specification:

#### Metallic Part

Laboratory measurement of airborne sound as per IS-9901(Part III) – 1981, DIN 52210 part IV – 1984, ISO : 140 ( Part III) – 1995.

Sound proofing - class – A4.

Sound deadening - class – B2 .

Type of wall - Double skin insulated wall.

Outside sheet – Plain Aluminum alloy sheet, 1.2 mm thick.

Inside sheet -(Traffic / source side) Skin – 1.2 mm thick Aluminum alloy perforated sheet with 42% open area with 5 mm hole.

Weight - Approx 12.5 kg /Sq.m .

Acoustic material – Polyester fiber, in two layers of 50 mm thick density 60 kg/m<sup>3</sup> .

Middle sheet - Plain Aluminum alloy sheet, 1.2 mm thick.

Panel joint - Each panel having tong & groove to joint perfectly with each other .

Gasket - The panel and structure having gaskets at the joint to block noise leakage.

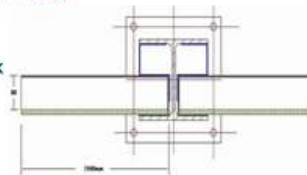
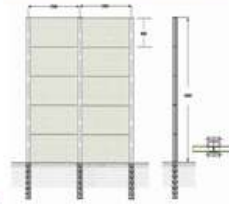
Vertical post / Structure - The structure is of 'H' profile in which acoustic panel slides longitudinally .

Top cover: - all acoustic panel covered at top with top cover made of Aluminum alloy riveted to panel.

Powder Coating: - all metallic surface / parts are powder coated, the minimum thickness is 60 Mu.

**THE STC RATING IS 36.**

### BARRIER WITH TRANSPARENT ELEMENT



ENVIROTECH SYSTEMS PVT. LTD.

# QUALITY TEST REPORT

POLYCARBONATE SHEET TEST REPORT

**राष्ट्रीय शैक्षणिक प्रयोगशाला**  
**NATIONAL PHYSICAL LABORATORY**  
 Division of Acoustics and Vibration Research  
 Dr. K. S. Krishnan Marg, New Delhi - 110 012, INDIA  
 Phone: 91-11-49588441, 4958 8442, 4958 8447  
 Fax: 91-11-49588448  
 E-mail: npl@nplindia.org  
 Website: www.nplindia.org

**TEST REPORT ON**  
**SOUND TRANSMISSION LOSS**

Date: 26.10.2018 Test Report No: 2018/10/26/STL/001 Page: 1 No. of Pages: 2

1. Tested for: M/S Envirotech Systems Pvt. Ltd.  
 B-1A/15, 17<sup>th</sup> Floor, Commercial Complex, Sector-70  
 Noida - 201 307,  
 Customer's Reference: ENPL/NPL/001, dated 22.10.2018

2. Description and Identification of Item: **1/4" non-Black Polycarbonate Sheet**

3. Environmental Conditions: Room Temperature: 30 ± 1.0 °C  
 Relative Humidity: 42 ± 1.0 %

4. Standard Used and Associated Uncertainty: Working Standard: Microphone, ± 0.2 dB

5. Traceability of Standards Used: The standards used for testing are traceable to National Standards.

6. Principal Methodology of Test & Test Procedure No.: IS: 9961 (Part 02) : 1983, IS: 9961 (Part 01) : 1984, IS: 1481 (Part 02) : 1995, IS: 1481 (Part 01) : 1995, "Measurement of Sound Insulation in Building and of Building Elements", Part 02 Laboratory Measurements of Airborne Sound Insulation of Building Elements, ISPL/07/Doc.3/17 + 13

7. Results: As requested by the party the acoustical material was tested for its airborne sound insulation by using two semi-circular chambers under existing environmental conditions. The sample was fixed in the chamber opening between the two chambers. The volume of the source room was 207 m<sup>3</sup> and that of the receiver room was 271 m<sup>3</sup>. Adequate diffusion existed in both the chambers.

Tested by: [Signature] Checked by: [Signature] Issued by: [Signature]

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 E-mail: npl@nplindia.org  
 Website: www.nplindia.org

**TEST REPORT ON**  
**SOUND TRANSMISSION LOSS**

Date: 26.10.2018 Test Report No: 2018/10/26/STL/001 Page: 2 No. of Pages: 2

Using filtered noise in standard 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 absorption in the receiver room. The results are given below:

| One-third Octave Band Centre Frequency (Hz) | Airborne Sound Insulation Index (dB) |
|---|--------------------------------------|
| 100   | 61                                   |
| 125   | 60                                   |
| 160   | 60                                   |
| 200   | 60                                   |
| 250   | 61                                   |
| 315   | 61                                   |
| 400   | 61                                   |
| 500   | 61                                   |
| 630   | 61                                   |
| 800   | 61                                   |
| 1000  | 61                                   |
| 1250  | 61                                   |
| 1600  | 61                                   |
| 2000  | 61                                   |
| 2500  | 61                                   |
| 3150  | 61                                   |
| 4000  | 61                                   |

Using the standard reference curve the sound transmission index, STC, was found to be 25. The evaluated uncertainty in measurement is ± 0.4 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: 25-10-2018

9. Remarks: - Nil

Tested by: [Signature] Checked by: [Signature] Issued by: [Signature]

PERFORATED METALLIC SHEET TEST REPORT

**राष्ट्रीय शैक्षणिक प्रयोगशाला**  
**NATIONAL PHYSICAL LABORATORY**  
 Division of Acoustics and Vibration Research  
 Dr. K. S. Krishnan Marg, New Delhi - 110 012, INDIA  
 Phone: 91-11-49588441, 4958 8442, 4958 8447  
 Fax: 91-11-49588448  
 E-mail: npl@nplindia.org  
 Website: www.nplindia.org

**TEST REPORT ON**  
**SOUND TRANSMISSION LOSS**

Date: 24.11.2018 Test Report No: 2018/11/24/STL/001 Page: 1 No. of Pages: 2

1. Tested for: M/S Envirotech Systems Pvt. Ltd.  
 B-1A/15, 17<sup>th</sup> Floor, Commercial Complex, Sector-70, Noida-201 307,  
 Customer's Reference: ENPL/NPL/001, dated 18.11.2018.

2. Description and Identification of Item: **1/4" non-Black perforated metallic sheet of 10 kg/m<sup>2</sup> surface density on front side and plain sheet on the back with air cavity filled with 200 kg/m<sup>3</sup> density Envirotech sound damping material.**

3. Environmental Conditions: Room Temperature: 30 ± 1.0 °C  
 Relative Humidity: 34.6 ± 1.0 %

4. Standard Used and Associated Uncertainty: Working Standard: Microphone, ± 0.2 dB

5. Traceability of Standards Used: The standards used for testing are traceable to National Standards.

6. Principal Methodology of Test & Test Procedure No.: IS: 9961 (Part 02) : 1983, IS: 9961 (Part 01) : 1984, IS: 1481 (Part 02) : 1995, IS: 1481 (Part 01) : 1995, "Measurement of Sound Insulation in Building and of Building Elements", Part 02 Laboratory Measurements of Airborne Sound Insulation of Building Elements, ISPL/07/Doc.3/17 + 13

7. Results: As requested by the party the acoustical material was tested for its airborne sound insulation by using two semi-circular chambers under existing environmental conditions. The sample was fixed in the chamber opening between the two chambers. The volume of the source room was 217 m<sup>3</sup> and that of the receiver room was 271 m<sup>3</sup>. Adequate diffusion existed in both the chambers.

Tested by: [Signature] Checked by: [Signature] Issued by: [Signature]

**राष्ट्रीय शैक्षणिक प्रयोगशाला**  
**NATIONAL PHYSICAL LABORATORY**  
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 Website: www.nplindia.org

**TEST REPORT ON**  
**SOUND TRANSMISSION LOSS**

Date: 24.11.2018 Test Report No: 2018/11/24/STL/001 Page: 2 No. of Pages: 2

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 absorption in the receiver room. The results are given below:

| One-third Octave Band Centre Frequency (Hz) | Airborne Sound Insulation Index (dB) |
|---|--------------------------------------|
| 100   | 12                                   |
| 125   | 13                                   |
| 160   | 13                                   |
| 200   | 13                                   |
| 250   | 13                                   |
| 315   | 13                                   |
| 400   | 13                                   |
| 500   | 13                                   |
| 630   | 13                                   |
| 800   | 13                                   |
| 1000  | 13                                   |
| 1250  | 13                                   |
| 1600  | 13                                   |
| 2000  | 13                                   |
| 2500  | 13                                   |
| 3150  | 13                                   |
| 4000  | 13                                   |

Using the standard reference curve the sound transmission index, STC, was found to be 24. The evaluated uncertainty in measurement is ± 0.4 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: 23-11-2018

9. Remarks: - Nil

Tested by: [Signature] Checked by: [Signature] Issued by: [Signature]

ENVIROTECH SYSTEMS PVT. LTD.

## ACOUSTIC LOUVERS



ESPL' Acoustic Louver has a sound baffle designed to allow airflow through ventilation openings while reducing the radiation of noise. Typical applications for our acoustic louvers used in conjunction with machine sound enclosures, sound barrier walls and sound control rooms to allow silenced airflow. They use acoustic grade glass fiber as the principle sound-absorbing mechanism.

They are aerodynamically shaped to minimize pressure drop. Lips are designed in to the splitters to protect against weather elements. A machine sound enclosure such as compressor, genset, backup generator and well pump are all candidates for silenced ventilation using ESPL Acoustic Louver.

Our acoustic screens and enclosures solve a wide range of environmental noise pollution problems emanating from mechanical plant and systems including:

- » Chillers
- » Compressors
- » Generators
- » Motors
- » Pumps
- » Roof top plant rooms



We offer the acoustic Louvers with following features:

- » Flat blades
- » For building intake/exhaust openings
- » For mechanical services plant
- » As free-standing barriers, screens and enclosures
- » Wide choice of finishes/colours

### Energy Saving

- » Aerodynamic design
- » Low Pressure-drop characteristics

According to this result acoustics louver and splitter can reduce noise from 88 dB (A) to 55 dB (A).

## SOUND MEASURING DATA

**Table 1 : Sound measuring results before treatment**

| Location       | Frequency (Hz.) |       |       |      |      |      |      |      | dBA  | REMARK  |
|----------------|-----------------|-------|-------|------|------|------|------|------|------|---------|
|                | 63              | 125   | 250   | 500  | 1000 | 2000 | 4000 | 8000 |      |         |
| File :0001.S3B | 108.8           | 105.7 | 100.9 | 93.1 | 86.1 | 79.4 | 75.6 | 67.3 | 96   | MACHINE |
| File :0002.S3B | 110             | 108.1 | 104.3 | 97.8 | 89.5 | 83.4 | 79.5 | 72.2 | 99.6 | MACHINE |
| File :0003.S3B | 69.3            | 70.3  | 80.2  | 76.7 | 78.6 | 77.9 | 75.4 | 73.1 | 84.1 | PUMP    |
| File :0004.S3B | 71.3            | 69.7  | 81.3  | 77.7 | 78.2 | 78.8 | 75.6 | 73.3 | 59.8 | PUMP    |

**Table 2: Sound measuring results after treatment**

| LOCATION       | FREQUENCY( HZ.) |      |      |      |      |       |      |      | dBA  | REMARK        |
|----------------|-----------------|------|------|------|------|-------|------|------|------|---------------|
|                | 63              | 125  | 250  | 500  | 1000 | 2000  | 4000 | 8000 |      |               |
| File :0001.S3B | 71.5            | 64.8 | 63.3 | 58.1 | 57.9 | 55.5  | 52.1 | 46.8 | 63   | UPPER MACHINE |
| File :0002.S3B | 72.7            | 67   | 64.2 | 59.2 | 59.3 | 56.9  | 53.9 | 48.4 | 64.4 | UPPER MACHINE |
| File :0003.S3B | 68.5            | 61.6 | 59   | 56.6 | 56.8 | 54.3  | 53.3 | 49.9 | 61.9 | UPPER MACHINE |
| File :0004.S3B | 68              | 65.1 | 61.5 | 56.4 | 55   | 50.4  | 47   | 42.1 | 60   | UNDER MACHINE |
| File :0005.S3B | 68.9            | 69.4 | 63   | 59.3 | 57.7 | 52.9  | 49   | 44   | 62.6 | UNDER MACHINE |
| File :0006.S3B | 63.7            | 64.1 | 59.9 | 55.9 | 55.5 | 50.01 | 47.6 | 43.7 | 59.8 | UNDER MACHINE |

According to this result acoustics louver and splitter can reduce noise from 88 dB (A) to 55 dB (A).

# ACOUSTIC CURTAINS



We design the Acoustic Curtains to provide a degree of sound absorption within the space in which they are used. Noise levels can be typically reduced by as much as 20 dB-A with a properly designed curtain enclosure. Often used in performing arts spaces they not only provide a variable acoustic environment for different applications but control excessive reverberation in halls with very reflective surfaces.

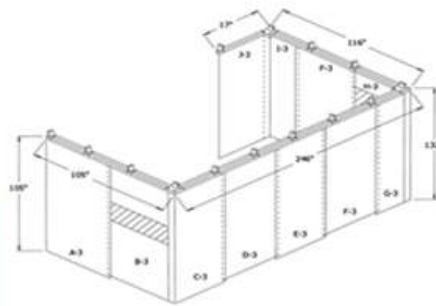
Acoustic Curtains offer maximum sound control and noise reduction using a combination of sound absorption and noise barrier material. Clients refer to our product as sound curtains, sound blanket or hanging quilt blanket.



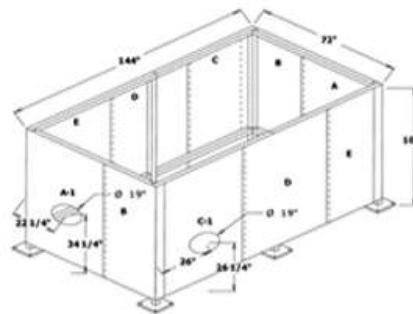
Our sound curtains are modular noise control curtains that are effective, rugged, and industrial grade in construction. The acoustic blankets have been used in many industrial, commercial and OEM noise control applications. The system can accommodate ventilation and access while maintaining high noise control.

All material is chemically treated to create a DFR (Durably Flame Retardant) fabric that will withstand a number of dry cleanings. This meets the requirements of BS5867: Part 2: B which is the British Standard for flame retardant fabrics used for the manufacture of curtains. Permanent fire inherent fabric also available.

The degree of sound absorption depends on the weight of the fabric used, the depth between the curtain and the wall and the degree of pleating.



Sound Curtain System - hanging from track



Sound Curtain - using floor mounted column

ENVIROTECH SYSTEMS PVT. LTD.

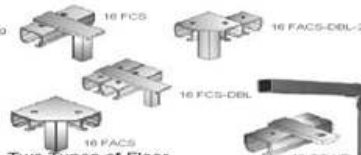
# ARRANGEMENT & TEST REPORT

## Sound Curtains

### Hanging Options

#### Floor Mounted Systems

- Designed to create a free-standing Acoustical Curtain Enclosure



#### Two Types of Floor Bases

- 12" square, 1/4" thick steel plate
- 8" square, 3/16" thick steel plate

Floor columns 1 1/4" square, 12 gauge steel tube

#### Floor Mount Track Connectors

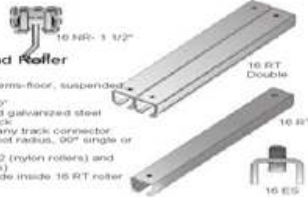
- 12 gauge, zinc plated
- Corner, middle, curved connectors
- Single track or double track systems

Easy to assemble, enlarge, disassemble and relocate.

CAD drawings provided with all enclosures

#### Roller Track and Roller Hooks

- For all types of systems-floor, suspended ceiling, wall mounted or "4-D"
- 16 gauge hot dipped galvanized steel
- Single or double track
- Track slides inside any track connector
- Curved track: two-foot radius, 90° single or double
- Accepts 16 RH-1 1/2 (nylon rollers) and 10 RH-1 (steel rollers)
- Two-wheel rollers ride inside 16 RT roller track
- 10 ES and stops



#### Heavy Duty Systems

- For large or tall Acoustical Curtain Enclosures
- Diastar spines between columns
- 2 1/2" square steel tube, 3/16" thick
- Curable Painted finish
- Floor base, column and cross-beam connector angle
- All welded construction
- Curtain panels can be bolted to cross beams or suspended from 16 RT track

| TEST REPORT ON  |                                    |
|---|------------------------------------|
| Client: <b>ENVIROTECH SYSTEMS PVT. LTD.</b>   | Page: 2 of 2                       |
| Date: 12/07/2016  | Test Location: <b>INDIA</b>        |
| Using Standard noise or equivalent system level for air-borne sound insulation data was evaluated by measuring the average sound pressure levels presented in the source room and the receiver room and by measuring the equivalent absorption in the receiver room. The results are given below. |                                    |
| Standard Source Band (Curve Frequency) dB   | Average Sound Insulation Levels dB |
| 125   | 15.5                               |
| 160   | 15.5                               |
| 200   | 15.5                               |
| 250   | 15.5                               |
| 315   | 15.5                               |
| 400   | 15.5                               |
| 500   | 15.5                               |
| 630   | 15.5                               |
| 800   | 15.5                               |
| 1000  | 15.5                               |
| 1250  | 15.5                               |
| 1600  | 15.5                               |
| 2000  | 15.5                               |
| 2500  | 15.5                               |
| 3150  | 15.5                               |
| 4000  | 15.5                               |
| 5000  | 15.5                               |
| 6300  | 15.5                               |
| 8000  | 15.5                               |
| 10000   | 15.5                               |
| Using the standard reference curve the sound transmission class, STC, was found to be 16.   |                                    |
| The indicated uncertainty in measurement is $\pm 2$ dB which is an average factor of 2 which corresponds to a coverage probability of approximately 95% for a normal distribution.  |                                    |
| Date of Testing: 12/07/2016   | Remarks: Nil                       |
| Tested by: <i>[Signature]</i>   | Checked by: <i>[Signature]</i>     |
| (Dr. Venkatesh)   | (Dr. Mahesh Singh)                 |

| TEST REPORT ON  |                                    |
|---|------------------------------------|
| Client: <b>ENVIROTECH SYSTEMS PVT. LTD.</b>   | Page: 2 of 2                       |
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| 400   | 15.5                               |
| 500   | 15.5                               |
| 630   | 15.5                               |
| 800   | 15.5                               |
| 1000  | 15.5                               |
| 1250  | 15.5                               |
| 1600  | 15.5                               |
| 2000  | 15.5                               |
| 2500  | 15.5                               |
| 3150  | 15.5                               |
| 4000  | 15.5                               |
| 5000  | 15.5                               |
| 6300  | 15.5                               |
| 8000  | 15.5                               |
| 10000   | 15.5                               |
| Using the standard reference curve the sound transmission class, STC, was found to be 16.   |                                    |
| The indicated uncertainty in measurement is $\pm 2$ dB which is an average factor of 2 which corresponds to a coverage probability of approximately 95% for a normal distribution.  |                                    |
| Date of Testing: 12/07/2016   | Remarks: Nil                       |
| Tested by: <i>[Signature]</i>   | Checked by: <i>[Signature]</i>     |
| (Dr. Venkatesh)   | (Dr. Mahesh Singh)                 |

USING THE STANDARD REFERENCE CURVE THE SOUND TRANSMISSION CLASS, STC, WAS FOUND TO BE 16.

ENVIROTECH SYSTEMS PVT. LTD.

# ANECHOIC CHAMBER

An anechoic chamber (an-echoic or non-echoing) is a room designed to stop reflections of sound waves. They are also insulated from exterior sources of noise. The combination of both aspects means they simulate a quiet open-space of infinite dimension, which is useful when exterior influences would otherwise give false results



## SEMI ANECHOIC CHAMBER



A room which creates free field conditions but above a reflective plane. Above a certain frequency all sound waves that hit the walls or ceiling of the chamber will be absorbed.

This type of chamber is normally used in vehicle testing with a rolling road so that the vehicle may be driven.



The semi-anechoic chamber then forms a controlled environment with the surrounding acoustic conditions behaving as a sterile version of the real world. In this way accurate measurements of the sound inside and outside the vehicle can be made under operating conditions.



## MINI ANECHOIC CHAMBER



By aligning automatic measuring system, you can save a time margin on measuring. You can measure as much as you like by using the mini anechoic chamber at your location. That gives you a time margin in measuring to clear standards and save a developing cost after all. This mini anechoic chamber provides you a lot of values as much as a low cost, a short-termed construction, no more large space required and a convenience in measurements as just you are.

ENVIROTECH SYSTEMS PVT. LTD.

## NOISE TEST BOOTH

These are widely used in automotive sector, air-conditioner manufacturing units, Refrigeration units, fan, motor & compressors manufacturing units, speaker and sound purity testing etc. to find out actual noise of test piece & also to find out defects in products by using noise analysis method.

We offer on line & off line noise testing booth to test each & every piece of product. These booths are designed with perfection, accuracy & new technology. The primary function of this booth is to control the ambient noise and increase the accuracy of intensity measurement by reducing sound reflections.

### WITH HINGE TYPE WINDOW

Hinge type window provided with pneumatic cylinders for material exit & entry, both window are controlled with lever, Performance – 35 dB (A) at an Ambient of 85 dB(A)



### WITH BELT CONVEYOR

Provided Belt conveyor for test piece entry & exit, at both side of Noise Test booth, Conveyor having sensors to stop & start, we can check 2200 pieces per day, Performance- 40 dB(A) at 75 dB (A) ambient



### WITH ATOMETIC WINDOW

The Controller Card is so designed, such that in the event of testing the windows shall remain closed and would open automatically during the non testing period. The operator shall be linked with your testing machine, Performance – 40 dB at 75-80 dB Ambient



**PERFORMANCE: BOOTH IS DESIGN TO ACHIEVE THE NOISE REDUCTION UP TO 35 TO 55 DB(A)**

ENVIROTECH SYSTEMS PVT. LTD.

# ACOUSTIC PANELS

Standard ESPL acoustic panels are fabricated with outer skins of 18 gauge galvanized steel and inner skins of 22 gauge perforated galvanized steel. Acoustic panels are stiffened with 18 gauge steel channels. Sound absorption is provided by 2.5 to 6 pcf fiberglass or mineral wool depending on the application. Standard panels are nominally 65 mm thick, but optional 2" and 6" panels are available to meet special requirements.



## QUALITY TEST REPORT

| <br><b>एनपीएल प्रयोगशाला</b><br><b>NATIONAL PHYSICAL LABORATORY</b><br><small>अनुसंधान, प्रशिक्षण, मानक</small><br>Dr. K. S. Krishnan Marg, New Delhi - 110 028, INDIA<br>Phone: 91-11-26362447, 2636 2448, 2636 2447<br>Fax: 91-11-26362448<br>E-mail: <a href="mailto:enr@nplindia.org">enr@nplindia.org</a><br>Website: <a href="http://www.nplindia.org">www.nplindia.org</a>   |   | TEST REPORT ON          |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
|---|---|-------------------------|--------------------------------------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|--|--|
|   |   | SOUND TRANSMISSION LOSS |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| Date  | Test Report No.   | Page                    | No. of Pages                         |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 24-11-2019  | 00110042.0174.9-000   | 1                       | 2                                    |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 1. Tested for   | 18 Gauge Galvanized Steel Per 1.48<br>18 Gauge 22 Gauge Perforated Galvanized Steel Per 2.00 201 207<br>Customer's Reference: ESPL/ESL/2019/20001/18-11-2019  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 2. Description and Identification of Item   | 65 mm thick panel consisting of 18 gauge thick galvanized steel sheet of <math>10 \text{ kg/m}^2</math> surface density on either side and air cavity filled with 2.00 kg/m <sup>3&lt;/sup&gt; density Earthrock sound absorbing material.</sup>  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 3. Environmental Conditions   | Room Temperature: 20.0 ± 1.0 °C<br>Relative Humidity: 50.0 ± 1.0 %  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 4. Standard Used and Associated Uncertainty   | Working Standard Microphone: 2.0.2.08   |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 5. Traceability of Measurand Used   | The standards used for testing are traceable to National Standards.   |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 6. Principle Methodology of Test & Test Procedure No.   | IS: 10961 (Part 02) - 1991, ISX 10236 Part 11 - 1994, ISX 1482 Part 102 - 1991<br>* Measurement of Sound Absorption in Building and of Building Elements - Part 02: Laboratory Measurements of Airborne Sound Insulation of Building Elements<br>ISPL/01/Doc. 3/139-12  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 7. Results  | As requested by the party the acoustical material was tested for its airborne sound insulation by using two reverberation chambers under ambient conditions. The weight was fixed in the resonance spacing between the two chambers. The volume of the source room was 277 m <sup>3</sup> and that of the receiver room was 271 m <sup>3</sup> . Adequate diffusion existed in both the chambers. |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| Tested by:  | Checked by:   | Issued by:              |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| <br><b>एनपीएल प्रयोगशाला</b><br><b>NATIONAL PHYSICAL LABORATORY</b><br><small>अनुसंधान, प्रशिक्षण, मानक</small><br>Dr. K. S. Krishnan Marg, New Delhi - 110 028, INDIA<br>Phone: 91-11-26362447, 2636 2448, 2636 2447<br>Fax: 91-11-26362448<br>E-mail: <a href="mailto:enr@nplindia.org">enr@nplindia.org</a><br>Website: <a href="http://www.nplindia.org">www.nplindia.org</a>   |   | TEST REPORT ON          |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
|   |   | SOUND TRANSMISSION LOSS |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| Date  | Test Report No.   | Page                    | No. of Pages                         |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 24-11-2019  | 00110042.0174.9-000   | 2                       | 2                                    |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| Using diffuse source in the fixed source test the air-borne sound insulation index was obtained by measuring the average sound pressure levels generated in the source room and the receiver room and by measuring the airborne absorption in the receiver room. The results are given below:   |   |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| <table border="1"> <thead> <tr> <th>Reverberation Time (s)</th> <th>Airborne Sound Absorption Index (dB)</th> </tr> </thead> <tbody> <tr><td>100</td><td>21.0</td></tr> <tr><td>110</td><td>21.0</td></tr> <tr><td>120</td><td>21.0</td></tr> <tr><td>130</td><td>21.0</td></tr> <tr><td>140</td><td>21.0</td></tr> <tr><td>150</td><td>21.0</td></tr> <tr><td>160</td><td>21.0</td></tr> <tr><td>170</td><td>21.0</td></tr> <tr><td>180</td><td>21.0</td></tr> <tr><td>190</td><td>21.0</td></tr> <tr><td>200</td><td>21.0</td></tr> <tr><td>210</td><td>21.0</td></tr> <tr><td>220</td><td>21.0</td></tr> <tr><td>230</td><td>21.0</td></tr> <tr><td>240</td><td>21.0</td></tr> <tr><td>250</td><td>21.0</td></tr> <tr><td>260</td><td>21.0</td></tr> <tr><td>270</td><td>21.0</td></tr> <tr><td>280</td><td>21.0</td></tr> <tr><td>290</td><td>21.0</td></tr> <tr><td>300</td><td>21.0</td></tr> </tbody> </table> |   | Reverberation Time (s)  | Airborne Sound Absorption Index (dB) | 100 | 21.0 | 110 | 21.0 | 120 | 21.0 | 130 | 21.0 | 140 | 21.0 | 150 | 21.0 | 160 | 21.0 | 170 | 21.0 | 180 | 21.0 | 190 | 21.0 | 200 | 21.0 | 210 | 21.0 | 220 | 21.0 | 230 | 21.0 | 240 | 21.0 | 250 | 21.0 | 260 | 21.0 | 270 | 21.0 | 280 | 21.0 | 290 | 21.0 | 300 | 21.0 |  |  |
| Reverberation Time (s)  | Airborne Sound Absorption Index (dB)  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 100   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 110   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 120   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 130   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 140   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 150   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 160   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 170   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 180   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 190   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 200   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 210   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 220   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 230   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 240   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 250   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 260   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 270   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 280   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 290   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 300   | 21.0  |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| Using the standard reduction curve the sound transmission class, STC, was found to be 50. The predicted uncertainty in assessment 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.   |   |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 4. Date of Testing: 22-11-2019  |   |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| 5. Remarks: Nil   |   |                         |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |
| Tested by:  | Checked by:   | Issued by:              |                                      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |  |  |

ENVIROTECH SYSTEMS PVT. LTD.

# ACOUSTIC DOORS



ESPL is the leading manufacturer of Acoustic Doors offer three standard ranges: Sliding Acoustic Doors Acoustic Steel Doors , Acoustic Wooden Doors & Acoustic fire Doors. All acoustic doors are Available from stock, Can be customized to suit requirements. Acoustic Doors can contain noise or exclude noise

## SLIDING ACOUSTIC DOOR

Sliding Acoustic Doors allow access in buildings where space is at a premium or access is challenging, without compromise to acoustic performance.

We designs Acoustic Sliding Doors that offer our customers a total solution for their application needs. Our designs offer combinations of features to suit the application including:

- » Sound reduction up to Rw56dB
- » Fire rating; and insulation and span from small hatch-type
- » Personnel access up to very large doors in excess of 15m wide
- » Specialist door drives
- » Control and seal systems



## ACOUSTIC STEEL DOOR

The blast rated steel door is based on our versatile G20 model. The door set is calculated to withstand pressures of 47 kN/M<sup>2</sup>.

The blast resistance of your door will vary depending upon configuration. Other variants are available with higher ratings

### Properties

- » STC 31 to STC 44 across the audible frequency.
- » Doors are supplied complete with their own mounting frames.
- » Single Leaf, hinged Double Leaf, hinged Sliding Link, Glazed Louver, Curved Hatches Acoustic.
- » Elect from standard or custom sizes as large as 10' x10'



ENVIROTECH SYSTEMS PVT. LTD.

# ACOUSTIC FOAMS

In large interior spaces, such as gyms, cafeterias, function halls, airport terminals, and even churches, noise from conversations, speakers, music, and applause, has a two-fold problem. First, there is the accumulation of the noise itself: we want to hear the person who is speaking to us, but we don't want to hear the chaotic buzz of every other conversation. The second factor in evaluating the total noise in an interior space is reverberation. All of the sounds created in an interior space, reverberate off of the walls and other non-absorbent surfaces. The overall buildup of conversation, music, activities, and reverberation can cause decibels to soar to very loud, even painful, ranges.

To treat your walls and hard surfaces, you need to add Acoustic Foams to three non-parallel surfaces. For example, this can be achieved by resurfacing the ceiling and two walls. This would trap the noise as it ricochets from surface to surface and back to your occupants

## ACOUSTIC WEDGE FOAMS

Three goals were established for the Cutting WEDGE: performance, appearance, and fire rating. The Cutting Wedge pattern was carefully designed to maximize the acoustical properties of a superior grade Ester foam material. The pattern is cut by a computer controlled dustless saw to maintain perfect tolerance.

The finished products has been tested for performance and flame spread. This ensures that Cutting Wedge has the best performance response, fire rating, and finish of any acoustic foam you can buy



## ACOUSTIC PYRAMID FOAMS

As with 4" Acoustic Wedges, 4" Acoustic Pyramids are recommended for larger spaces, rooms with pronounced low frequency problems or where sonic accuracy is mandatory and stronger acoustic absorption is required.

Having 4 sides exposed on each pyramid also yields more sound wave diffusion, which is desirable in some spaces. Thus, 4" Acoustic Pyramids will yield less overall dryness than 4" Acoustic Wedges.



ENVIROTECH SYSTEMS PVT. LTD.

## PROPERTIES

- Product: P.U. Foam
- Foam Type: 32 FR
- Colour: Grey

ARAI

No.NVH/2582/2005-06/196-III

Date 28-10-2005

TABLE I: Values of RISAC for PU Foam Grey at 1/3rd Octave Frequencies

| Central Frequency (Hz) | RISAC For PU Foam |
|------------------------|-------------------|
| 125                    | 0.08              |
| 160                    | 0.08              |
| 200                    | 0.11              |
| 250                    | 0.14              |
| 315                    | 0.13              |
| 400                    | 0.34              |
| 500                    | 0.41              |
| 630                    | 0.50              |
| 800                    | 0.65              |
| 1000                   | 0.76              |
| 1250                   | 0.76              |
| 1600                   | 0.74              |
| 2000                   | 0.76              |
| 2500                   | 0.77              |
| 3150                   | 0.81              |
| 4000                   | 0.78              |
| 5000                   | 0.74              |
| 6300                   | 0.70              |
| 8000                   | 0.72              |
| NRC                    | 0.52              |

ENVIROTECH SYSTEMS PVT. LTD.

## OUR CLIENTELE

M/s General Motors  
M/s Maruti Suzuki India Ltd.  
M/s Honda Siel Power Products Ltd.  
M/s Honda Siel Cars India Ltd.  
M/s Maruti Suzuki India Ltd  
M/s ABB Limited  
M/s Alstom Projects Pvt. Ltd.  
M/s LG Electronics India Ltd.  
M/s Hindustan Unilever Limited  
M/s Bharat Rasayan Limited  
M/s Aksh Optic Fiber Limited  
M/s Dharmpal Premchand Ltd.  
M/s Indian Metals & Ferro Alloys Ltd.  
M/s Atlas Steel Tubes Ltd.  
M/s Pepsi Co. India Holdings Ltd.  
M/s Havell's India Ltd.  
M/s Panacea Biotec Ltd.  
M/s Motherson Sumi Systems Ltd  
M/s Faze 3 Ltd.  
M/s Gurunanak Auto Enterprises Ltd.  
M/s Supper Cassettes Industries Ltd.  
M/s Amtek Auto Ltd.  
M/s J P Associates Ltd.  
M/s Osram Ltd , Seamens Group  
M/s Sterlite Industries(I) Ltd  
M/s Supreme Industries Limited  
M/s Fiamm Minda Automotive Ltd  
M/s Larsen & Turbo Limited  
M/s Shree Cement Limited  
M/s P.R. Packaging Limited  
M/s Deepak Fertilizer & chemicals ltd  
M/s Nippon Ltd  
M/s Jagat Agro Ltd.  
M/s Paradise Plastics Entp. Ltd.  
M/s Parabolic Drugs Limited  
M/s Asian Paints Ltd.

M/s Lupin Limited  
M/s GRAZIANO Trasmissioni India Ltd.  
M/s Asia Motor Works Ltd  
M/s Denso India Ltd.  
M/s Subros Auto Air-conditioning Ltd.  
M/s United Telecoms Ltd  
M/s Bharti Infratel Ltd ( Airtel)  
M/s Essar Oil Limited  
M/s Emirates Petroleum Products Company  
M/s Indian Steel Corporation Ltd.,  
M/s Varroc Engineering Pvt.Ltd.  
M/s Hilti India Pvt. Ltd.  
M/s SRF Limited Unit II  
M/s Alkop Menon Ltd  
M/s Bosch Limited  
M/s Sovereign Tech Engg. Services Pvt. Ltd.,  
M/s Hindustan Petroleum Corporation Ltd.  
M/s Rockman Industries Ltd.  
M/s Bosch Limited,  
M/s Crompton Greaves Limited  
M/s DELPHI-TVS Diesel Systems Limited.  
M/s Sai Surface Coating Technologies  
M/s Indian Herbs Research & Supply Co. Ltd.  
M/s Mando India Steering Systems Pvt. Ltd  
M/s Vestas Technology R&D Chennai Pvt. Ltd.  
M/s GAIL India Ltd.  
M/s Suzuki Power Train India Ltd.  
M/s Jamna Auto India Ltd.  
M/s ACC Cement Ltd.  
M/s Eveready Ltd.  
M/s OIL India Limited  
M/s Colgate – Palmolive limited  
M/s Hindustan Aeronautics Limited  
M/s VINAI ENGINEERING INDUSTRY CO. LTD  
M/s Tractors And Farm Equipments Ltd ( TAFE)

**ENVIROTECH SYSTEMS PVT. LTD.**

## CONTACT US

**SANJEEV SARASWAT**

(B.E. Civil)  
Acoustician

**Envirotech Systems Pvt. Ltd.**

B-1A / 19, 1st Floor, Commercial Complex, Sector - 51  
Noida, Uttar Pradesh - 201 307, India

Email: [info@esplonline.com](mailto:info@esplonline.com), [sanjeev@esplonline.com](mailto:sanjeev@esplonline.com)

Telephone: + (91)-(120)-4337633 / 4224644 / 2482503

Mobile: +(91)-9810319823 / 9811011131

Fax : +(91)-(120)-4337439