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**Noise control,  
engineered with  
precision.**

Where innovation meets  
application in noise control.

**NOISE BARRIER**



Noise is characterised by irregular vibrations that are considered unpleasant and cause disturbance. To reduce noise levels that disrupt daily life, Utkarsh India has engineered Noise Barriers, leveraging modern technology to deliver world-class solutions.

There are two types of noise barriers that help lower decibel levels— Reflective Barriers, made from transparent or translucent polycarbonate sheets and Absorptive Barriers, constructed with rockwool or glasswool sandwiched between metal sheets. The application areas and costs may vary depending on the material type and specific project requirements.



## Types of Noise Barriers

### Reflective Noise Barrier

#### Types

1. Solid Polycarbonate sheet
2. Multiwall Polycarbonate sheet



#### Features

- Thickness varies from **8 mm - 20 mm**
- Sound transmission class (STC) – **18dB - 26 dB**
- Airborne Sound Insulation (DLR) – **18 dB - 30 dB**

#### Cost

- Depends majorly on the polycarbonate/acrylic sheet
- Hollow sheets (MW sheet) are on the lowest side
- Solid sheet's rate increases with its thickness

### Absorptive Noise Barrier

#### Types

1. Mono-absorbent
2. Bi-absorbent



#### Features

- Thickness varies from **100 mm - 150 mm**
- Sound transmission class (STC) – **20dB - 45 dB**
- Airborne Sound Insulation (DLR) – **18 dB - 45 dB**

#### Cost

- Here the quality & dimension of the rockwool plays an important role, along with the structural design of the barrier



**It's time to cancel the noise and ensure peace of mind, powered by precision and innovation**



Main Purposes of Transparent Noise Barriers

- Create noise barriers between high traffic and populated areas
- Maintain visibility and landscape sequence
- Provide lightweight and efficient solution for bridges, in comparison with complete concrete designs
- Provide lightweight extensions for concrete walls

Advantages of Transparent Noise Barrier

- Low weight: Less than half the weight of glass with similar thickness
- High transparency: Matching that of the clearest glass
- Durability: High resistance to impact and vandalism (PALSUN)
- Weather ability: Excellent resistance to UV radiation and extreme outdoor conditions
- Flexibility that allows curving, bending and shaping without any special treatment
- Compliance with international standards
- Fire resistance
- Acoustic comfort
- Sustainable materials



Major factors should be considered while designing noise barriers

Sound barrier location

Noise calculations

Material

Structural stability

Design and shape of barrier

Aesthetic values

Wind speed calculations

Specifications (Absorptive Noise Barrier)

Charecteristic	Specification
Panel sizes	3960 x 500 mm, 2960 x 500 mm, 2460 x 500 mm, 1960 x 500 mm
Panel thickness	80 mm   100 mm   120 mm
Wind load	Designed as per is 875 part-iii, 1987
Sound proofing	Class A4
Sound deadening	Class B2
Type of wall	Double skin insulated wall
Facing sheet	Plain metal sheet/GI sheet/aluminium, 0.5 to 1.2 mm thick
Backside sheet	Perforated sheet/GI sheet/aluminium with 22-46 % open area
Infill/core	Rockwool confirming to IS-8183 & BS 476 of varies density and Thickness. Rockwool covered with fiber tissue paper fire- resistive.
Cover	Water-repellent tissue paper for infill material lamination, 50-micron thickness
Sound damping	High density mass loaded vinyl barrier of 2 mm thickness
Joint	Each panel having a tongue & groove to join perfectly witheach other
Gasket	The panel and structure having neoprene rubber gaskets at the Joint to block noise leakage
Vertical post	The structure is of 'H' profile in which acoustic structure panel slides Longitudinally
Finish	All metallic surface/parts are galvanised/ powder coated/painted in desire shade



## Typical Sound Level Calculations

It is important to keep in mind that you should really be concerned with the noise level at the ear, instead of the noise that is actually produce by the equipment.

Sound or noise example	Sound level	Comment
Human ear	0 dB	This is a matter of definition
Rustle of leaf	20 dB	
Whisper	30 dB	
Normal conversation	60 dB	
Inside passenger car at 60 MPH	65-75 dB	Smaller cars are usually noisier
Ringing telephone	80 dB	Measured close to the phone
Hair dryer	85-90 dB	Measured close to the dryer
Lawn mower	85-90 dB	Measured at the ear
Maximum exposure, 8 hours	90 dB	Osha regulation
Chain saw	90-100 dB	Measured at ear, sound level varies by model
Tractor/Bulldozer	95-105 dB	Inside cab may be less noisy (Sound level varies by model)
Rock drill	110-115 dB	
Circular saw, table saw	110 dB	
Threshold of pain	120 dB	A matter of definition
Pneumatic chipper	120 dB	
Fire engine siren	120 dB	
ET engine at takeoff	140 dB	
12-gauge shotgun	165 dB	Impact sound uses a different risk criteria
Rocket launch	180 dB	
Loudest possible sound	195 dB	

