ACOUSTIC

INNER® ENGINEERING

DESIGN • COMFORT • INSULATION

ACOUSTIC COMFORT REDEFINED

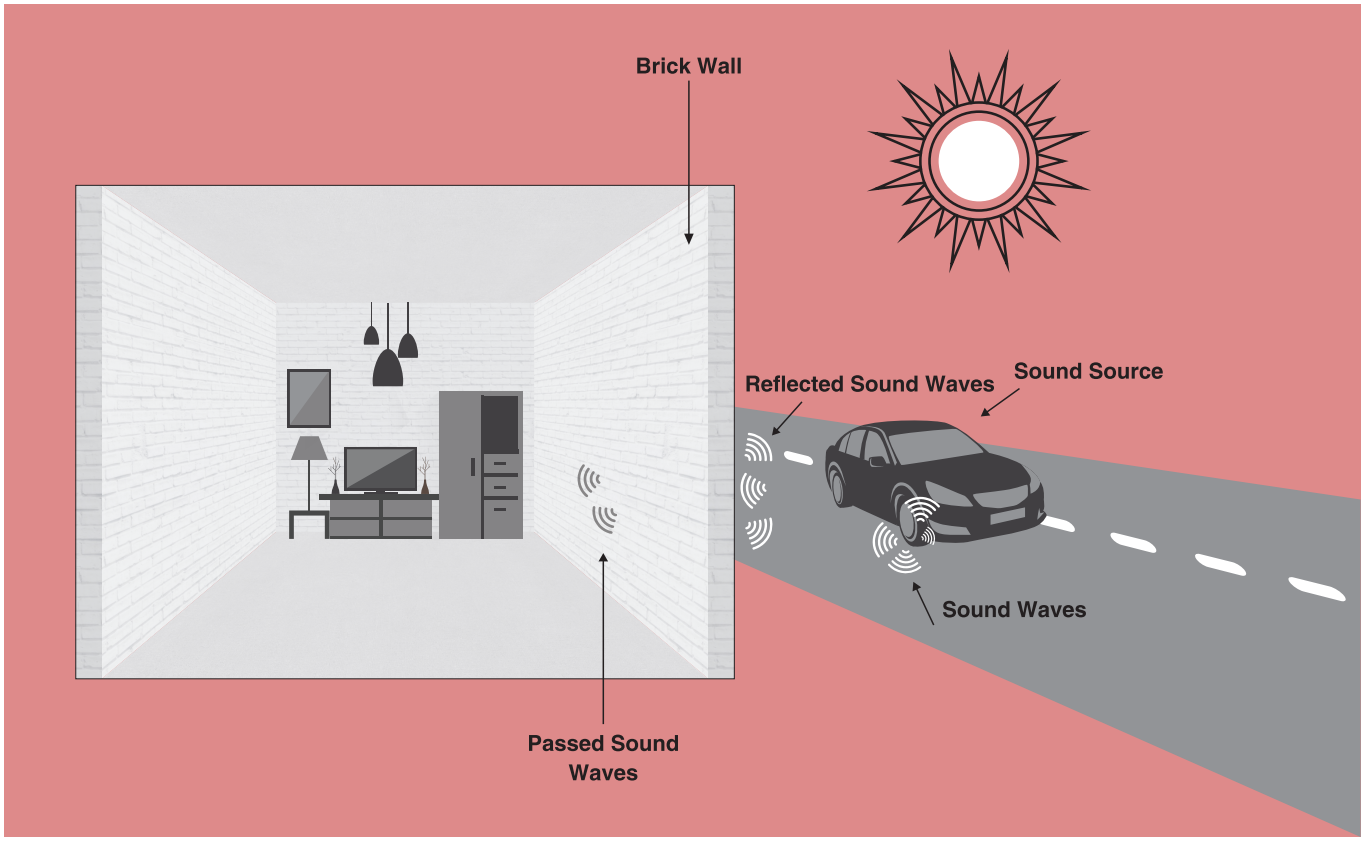
INBRICK SYSTEMS®

INSIDE WALL INSULATION

DESIGN
COMFORT
INSULATION

BRICKS & RCC REFLECT SOUND

Building walls are generally made of brick or RCC. When sound waves hit any surface that is as closed cell and solid as brick or RCC, a major part of the sound is reflected, while some waves are absorbed and some pass through. This usually depends on the frequency of the sound. In case of conference rooms, home theatres, commercial showrooms, etc., the frequency varies. The sound which is reflected back from the surface causes reverberation and echo. Solid surfaces like RCC and brick are good reflectors of sound.



NRC IS THE KEY

Noise Reduction Coefficient (NRC) and Absorption Coefficient value of materials define the amount of sound absorbed and the proportion of sound absorbed by the surface versus that which is reflected back. NRC value is the average NRC of the material at four different frequencies (250, 500, 1000 & 2000 Hz). Material with open cell structure absorbs more sound while those with closed cell structure reflect more.

ECHO & REVERBERATION

For the above mentioned applications, the frequency cannot be varied. There may be different ranges at different times. Echo and reverberation are the result of repetition of the sound due to reflection. For reverberation, time difference between the original and reflected sound should be less than 1/10th of a second. For echo, this difference is more than 1/10th of a second. When reflected sound is not absorbed for long time, it clashes with the original and leads to acoustic discomfort, or reduced clarity of sound emanating from the sound systems.

- **Bricks and RCC are good reflectors of sound**
- **It is important to classify whether the material absorbs or reflects sound**
- **NRC and Absorption Coefficient are important parameters to ascertain that**

INBRICK SYSTEMS®

INSIDE WALL INSULA

INBRICK HELPS STOP ECHO, REVERBERATION & TRANSFER

To stop reverberation and echo, sound absorbing material is required on the interior of walls. This m aterial helps absorb a major part of the sound while the remaining is reflected or transferred. Sometimes clients want that sound should not transfer outside the room. Hence material selection should comply with the user requirement .

Material Selection is Key

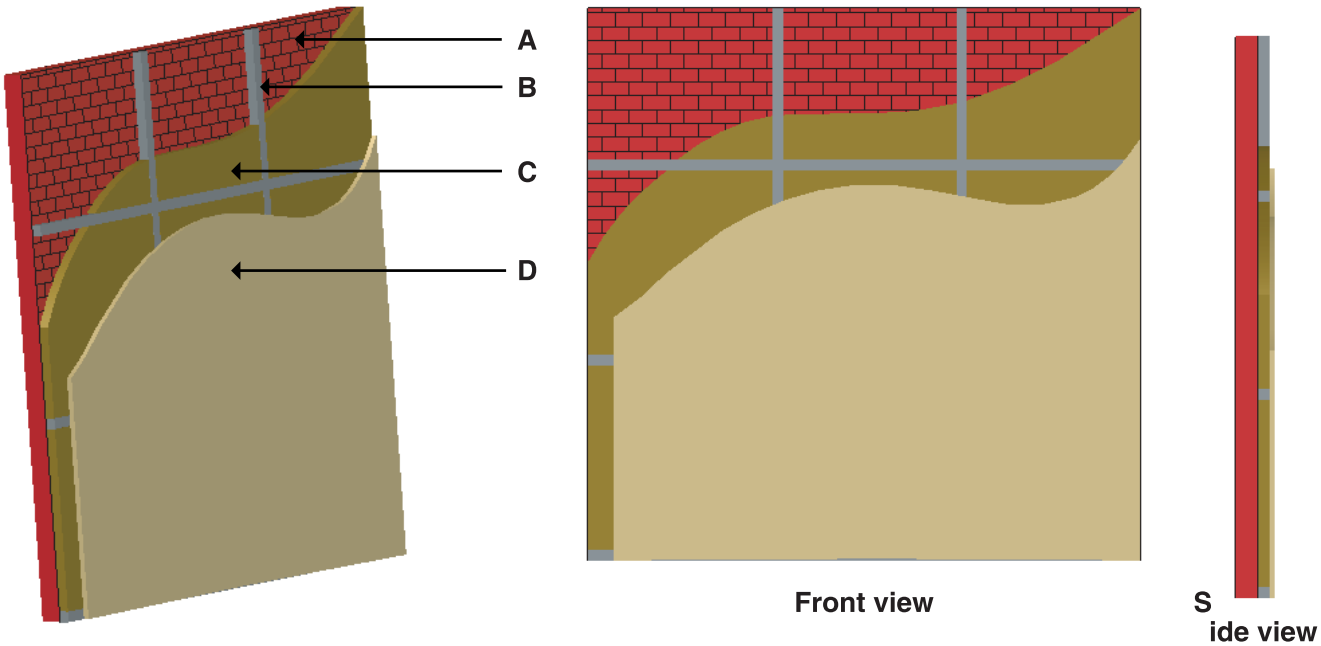
The material used for finishing surfaces must have high aesthetic value, especially for confere nce rooms, showrooms, home theatres, etc., as these spaces are widely used by people from all walks of life. T he finishing materials not only add aesthetic value but also acoustic insulation as they are sound absorbing boards that come in various colours and can be designed as per the customer requirement.

Multiple Materials May Be Required

Effective design of this system may require various materials in different combinations. The system can be designed for various purposes: be it a simple acoustic comfort and good sound quality or for preventing sound tra nsfer outside the room. For the latter, an acoustic isolation layer can be used along with acoustically absorbing material. Th e suggested thickness can vary from 25 mm to 60 mm depending upon the results wished for.

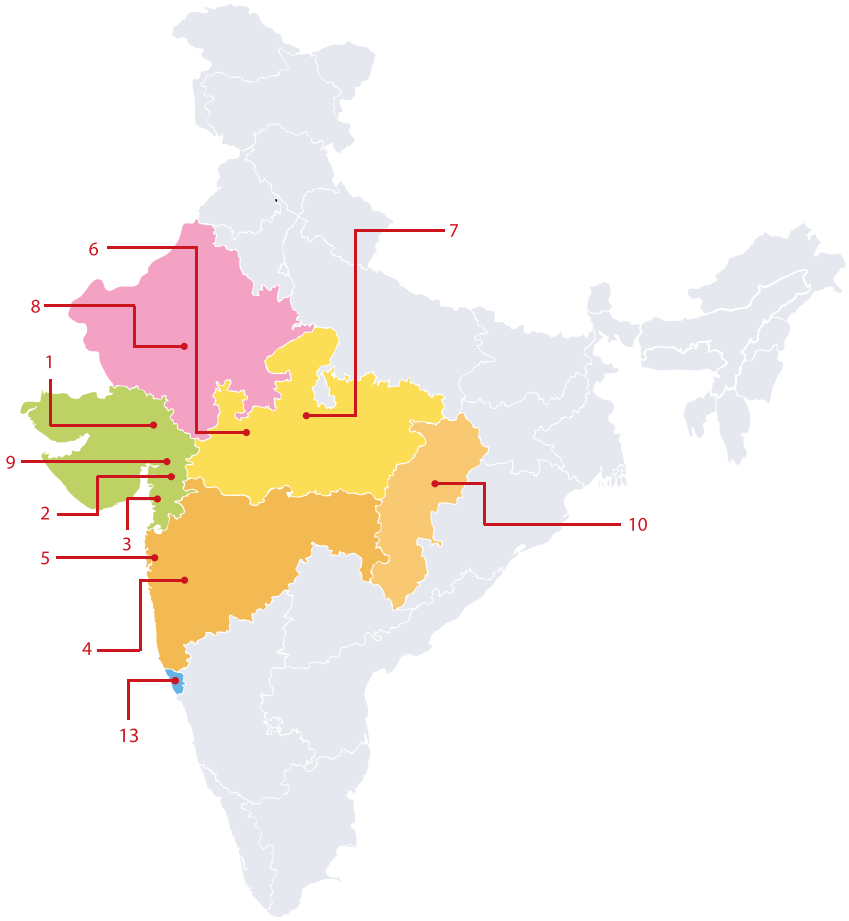
Ideal For

Home Theatres, Libraries, Banquets, Convention Halls, Commercial Theatres, Auditoriums, Conference Rooms, etc.



A) Brick wall
B) Wooden / Aluminium grid
C) Insulation material
D) Ply / Gypsum board

- **InBrick systems can help prevent echo, reverberation and transfer**
- **Selecting the right material is the key to success, including the finishing m aterial**



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