



ACOUSTIC



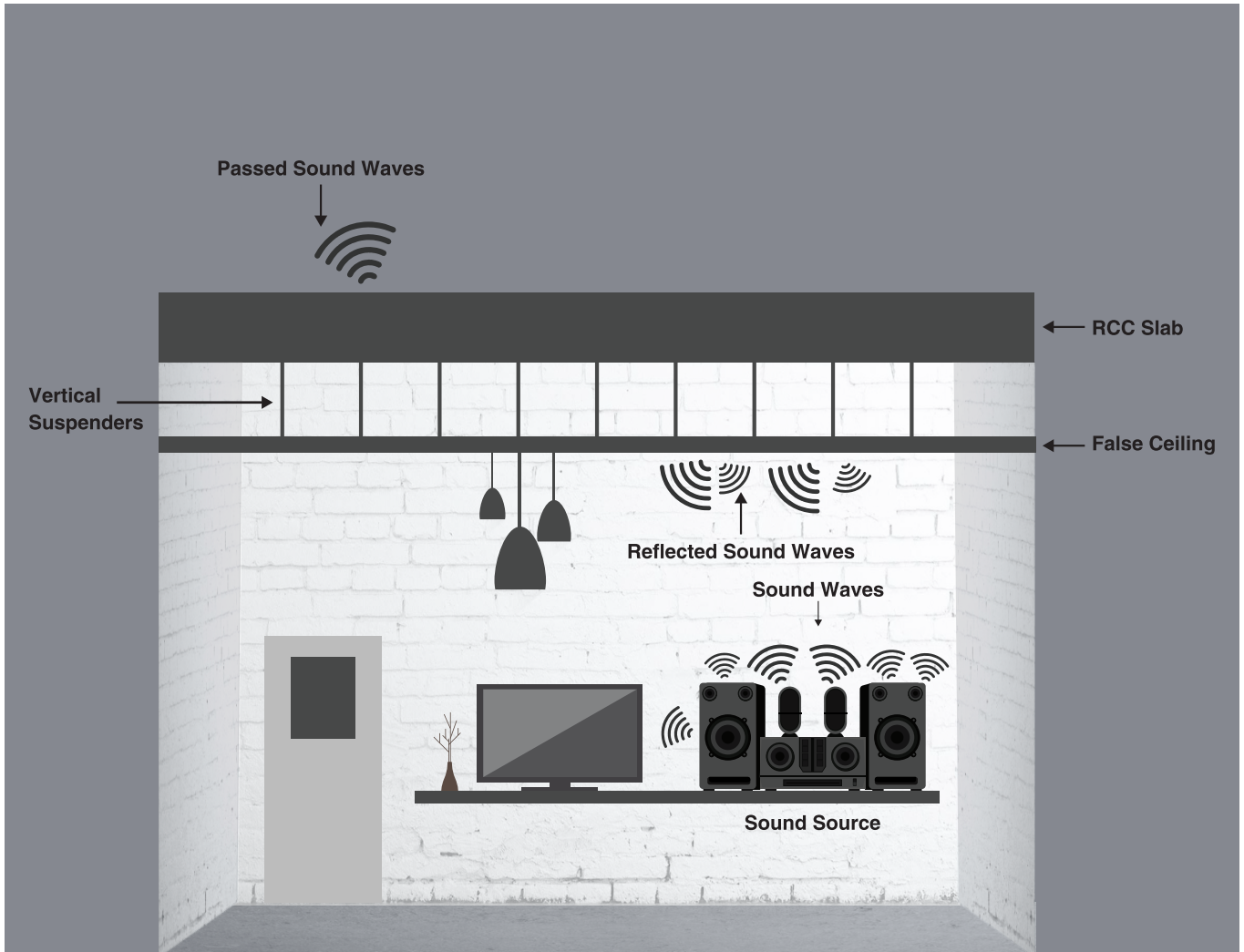
**WHERE THE  
OUTSIDE  
WORLD IS  
QUIET**

**IN**CEILING SYSTEMS®

FALSE CEILING INSULATION

## FALSE CEILING CAN HAVE ACOUSTIC PURPOSE

False ceilings can also be created for acoustic purposes along with the usual aesthetic effect. These are basically ceilings with perforation in them or with hollow spaces to let the sound travel. They can also be created to just dampen the sound from the floor above. This is a limited solution, which is incomplete without acoustic insulation pads.



## FALSE CEILING IS A PARTIAL SOLUTION

The reason being, when the sound waves from the room hits the false ceiling, they will just rebound through the perforation and create more disturbance. These sound waves also clash with the metallic grid and fixing system for the false ceiling, creating different ranges of reverberation, which results into echo. In case the ceiling is created to dampen the sound from the floor above, the hollow space in the ceiling will just amplify the sound. Also, the sound waves will also react negatively to the false ceiling material creating more acoustic discomfort. Additionally, the air from the AC will escape through the perforation, resulting into higher energy bills.

- **False Ceiling can help absorb sound**
- **But it is not a complete acoustic solution**
- **So echo or reverberation issues may remain**

### INCEILING CAN RESOLVE ACOUSTIC ISSUES

Acoustic false ceiling system is used where sound absorption is necessary to reduce the echo and reverberation in the space. It also helps in dampening the sound transmission from the floor above to some extent. If a space requires acoustic comfort from below or a particular sound quality, acoustic false ceilings are very beneficial. On the other hand, sound is often transmitted from the floor to the space below and that disturbs the occupants there. Insulation materials can prevent that as well.

### Open Cell Materials Absorb Sound Better

Acoustic insulation material should be open cell. They are porous so they absorb the sound better than the closed cell materials. The perforated gypsum or metal board can be used as a base material for insulation to provide space for the movement of sound waves. The material processes heat and absorbs the noise by allowing sound movement. The airborne sound energy is converted to heat during the process of sound absorption which produces the desired noise reduction levels which creates comfort in the other room.

### NRC And Absorption Coefficient

The acoustic performance of false ceiling system is best evaluated by two parameters:

#### 1) Noise Reduction Coefficient (NRC)      2) Absorption Coefficient

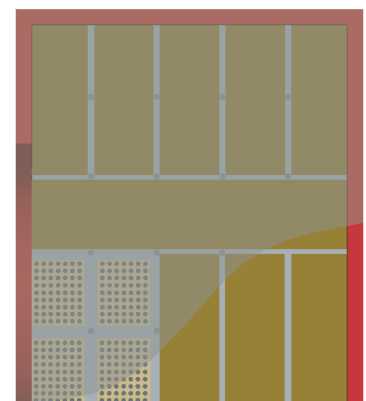
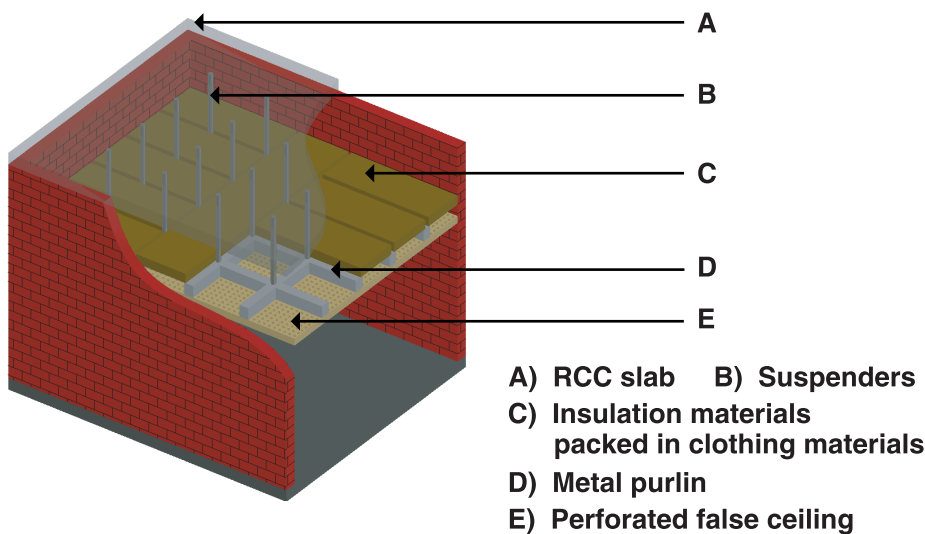
NRC refers to how much sound an insulation material can absorb, thereby reducing the noise within a room. Absorption Coefficient refers to the proportion of sound absorbed versus reflected by the surface. The higher the rating the better the noise reduction.

### Aesthetic Value is a Bonus

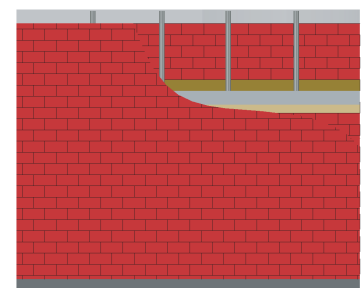
Acoustic false ceiling insulation not only helps with sound absorption but also improves the aesthetics of the room and provides comfort. Not to mention, it provides the space to hide the electrical wires, air-conditioning ducts, light fixtures, etc. Suggested thickness here is 25 mm to 50 mm.

### Ideal For

Home Theatres, Media Rooms, or any room where noise is an issue

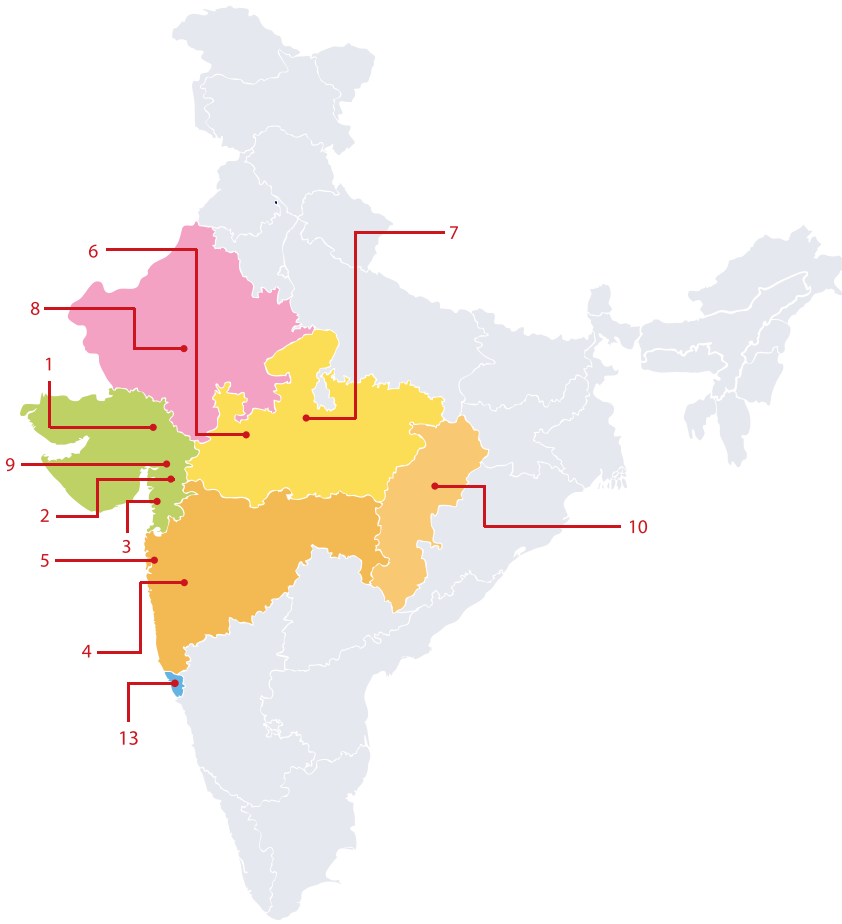


Top view



Side view

- InCeiling Systems is a complete acoustic solution
- Made of open cell materials that absorb sound better
- It also adds to the aesthetic value of the ambience



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