

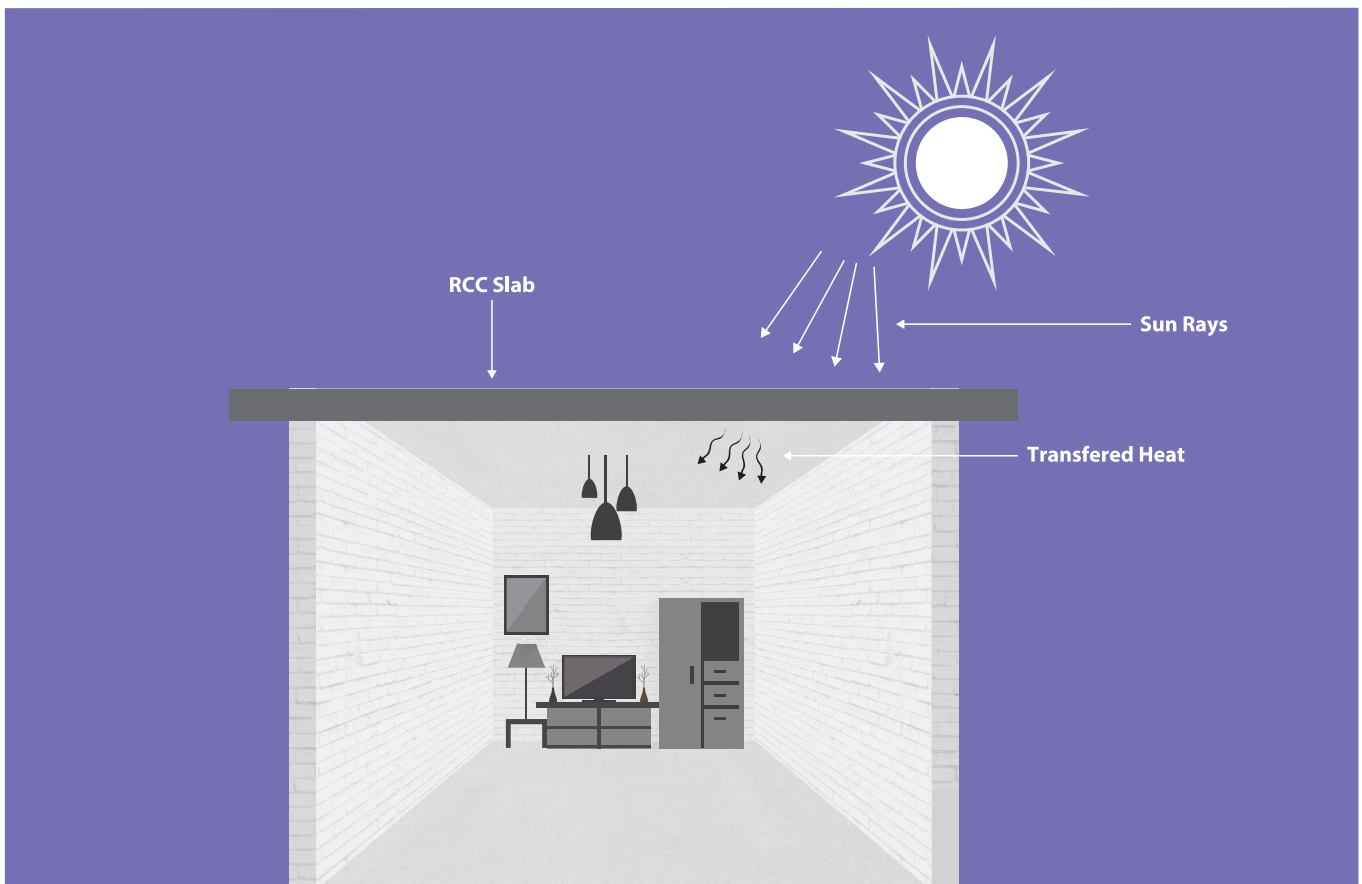
WHERE HEAT_{is} FORBIDDEN

INDECK SYSTEMS[®]

RCC DECK INSULATION

RCC ROOFS HAVE HIGH THERMAL CONDUCTIVITY

Typically, a significant amount of heat passes inside the building through the roof. Generally roofs are made of RCC and the amount of heat that passes through it depends on material composition and its density. The thermal conductivity of RCC is approximately 1.58 W/mK at a density of 2258 kg/m^3 . This makes it a good conductor of heat. It can retain the atmospheric heat and release the same into the buildings.



HEAT TRANSFER THROUGH CONVECTION & CONDUCTION

When the atmospheric temperature is high, air which is in contact with the RCC roof heats the outer surface of the roof through radiation and convection. This heat is transferred through conduction from higher temperature side of the roof to the lower temperature side.

HIGHER THERMAL DISCOMFORT

The thermal comfort for the building occupants is disrupted by this volatility in temperature. If the temperature within the building keeps fluctuating, using an AC becomes necessary to maintain the temperature. Due to this, there is a spike in the energy bills of the building.

- **Greater heat transfer**
- **Makes cooling appliances necessary**
- **Increase discomfort for occupants**
- **Higher energy bills**

INDECK INCREASES THERMAL RESISTANCE

The amount of heat transfer via conduction through the roof can be reduced by using insulation material with higher thermal resistance. This will reduce heat conduction to or from the building. The insulation material and size can vary according to the requirement of R-value. Insulation material can be used with protective layer which can avoid condensation or moisture absorption.

Over Deck & Under Deck

Over Deck and Under Deck applications are two options for this. With Over Deck, insulation material is laid over the RCC slab, usually the terrace. This is covered with a layer of geo textile for protecting the material. This application can have a layer of PCC, paver blocks, tiles or even china mosaic as final finish. Under Deck insulation is applied below the RCC slab. It is applied with the help of mechanical supports and later secured with GI wire. False ceiling can be added underneath it to add the aesthetics of the space.

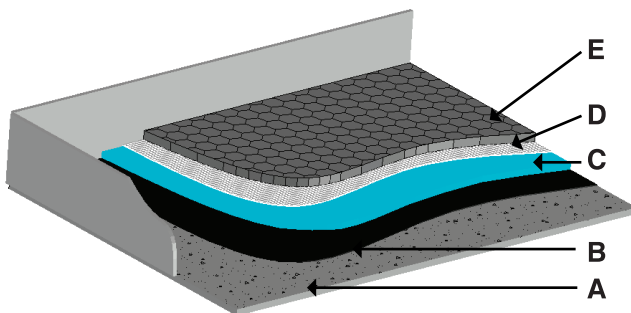
Dimensions

The suggested thickness for Over Deck insulation varies from 50 mm to 100 mm and for Under Deck insulation it can vary from 25 mm to 75 mm. The material selection depends upon the application one wants to go ahead with.

Ideal For

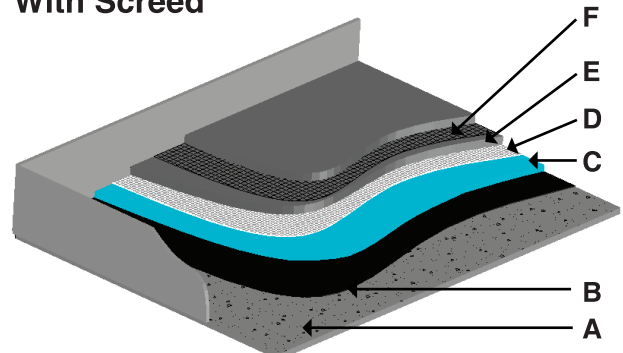
Private Residences, Hospitals, Industries, Offices, etc.

With Paver Block

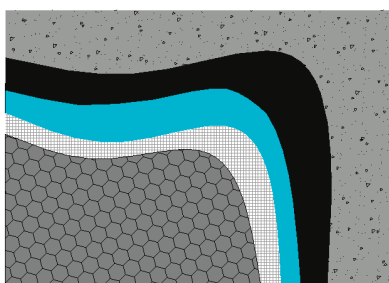


- | | |
|------------------------|-------------------|
| A) RCC Slab | B) Water proofing |
| C) Insulation material | D) Geotextile |
| E) Paver block | |

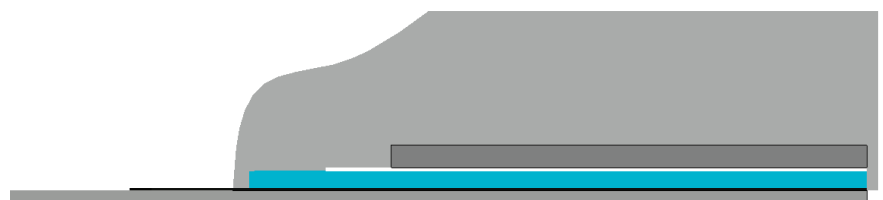
With Screed



- | | |
|------------------------|-------------------|
| A) RCC Slab | B) Water proofing |
| C) Insulation material | D) Screed |
| E) Chicken wire mesh | F) Screed |



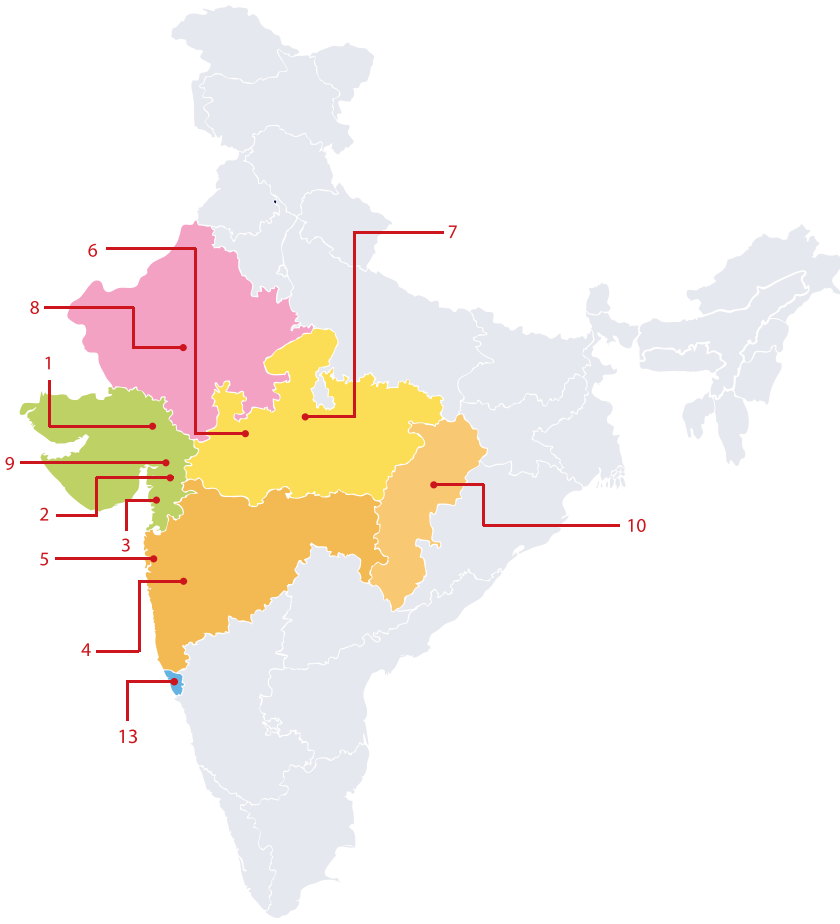
Top view



Side view

- InDeck insulation reduces heat transfer
- It reduces the AC load

- This helps reduce the energy bills



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