

**SUB: Introduction of INSULLITE cool roof and less conductive tiles for Solar Passive and Energy Efficient infrastructures and buildings.**

Dear Sir/Madam,

We would like to introduce ourselves as the manufacturers of innovative high SRI Roof Tiles having Solar Reflective Index as high as 93, which are used on top roofs and decks of buildings for thermally cool roof solution in India. In the light of increasing global warming hazard on our planet, Ashapura tiles and minerals has brought to you this innovative solution in the form of SRI (Solar Reflective Index) Cool Roof Thermal Insulated Tiles, **GREEN BUILDING SOLUTION.**

We have named these tiles “Insullite” and as the name sounds, these tiles are base on two layered insulation design. The upper layer have shiny White colour having highly efficient substances which reflects the sun rays and heat up to 94% . The lower surface of the tiles also has special thermal insulation granules so the tiles not only reflect the sunlight but also prevent the heat from passing through the surface.

As we know that the SRI (Solar Reflective Index) of these tiles is 92%. The secondary Surface of these Tiles are made up of Natural Minerals that are Exfoliated over 1000 degree centigrade temperature. This Structure Results in making a large number of small sized air pockets in the lower surface of Tiles. This innovation of ours ensures that even if some of the heat penetrates the upper surface, it gets trapped into the lower surface before reaching the actual surface of Rooftop.

These Tiles will effectively reduce the temperature inside the buildings by 15% to 18% in summer (subject to air conductivity) and it will keep the buildings in warmer condition having insulating properties in winters.

The water resistant quality of the upper surface of the tile will effectively eliminate the possible of seepage in the rainy season.





Therefore, introducing Insullite roof insulation Tiles, designed specially to keep your home cool and pleasant made with unique characteristics Materials, it has the power to lower surface temperature by up to 20 degree centigrade, which not only keeps the heat out of your homes, but also brings down the use of Air Conditioners and electricity consumption, hence making our material, a unique offer which have return of investment too.

All the above quality makes the “Insullite” very suitable for **Green Buildings** as approved by **IGBC-CII Authorities**.

We would request you to please consider our product for your current and upcoming projects and give us a chance to prove our innovation and get the benefits of return of your investments in infrastructure by creating solar passive, cool roofs.

Thanking You

You're sincerely

For Ashapura Tiles and Minerals,

Himmat Singh

Authorised Signatory

**Enclosures:-**

1. Brief Write – up with technical details.
2. Insullite Performance In Comparison With International Standards on Cool Roofs.
3. Our approach to cool roof solution high SRI Thermal Solution Tiles.
4. Test Certificates for SRI, Reflectance and Emittance.
5. Benefit Analysis
6. Test Certificate by **CBRI – CSRI Roorkee**.



## Insullite Tiles

In context of the renovation or construction of the buildings, we would like to recommend the use of our innovative and new Heat Resistant Tiles for the roof of your buildings in order to make the buildings more energy efficient.

By installing INSULLITE Insulation Tiles on top of the existing roof, the sun's radiation can no longer reach the underlying roof and thus prevents it from warming up. The inside temperature will be reduced, which provides a more pleasant and comfortable work environment.

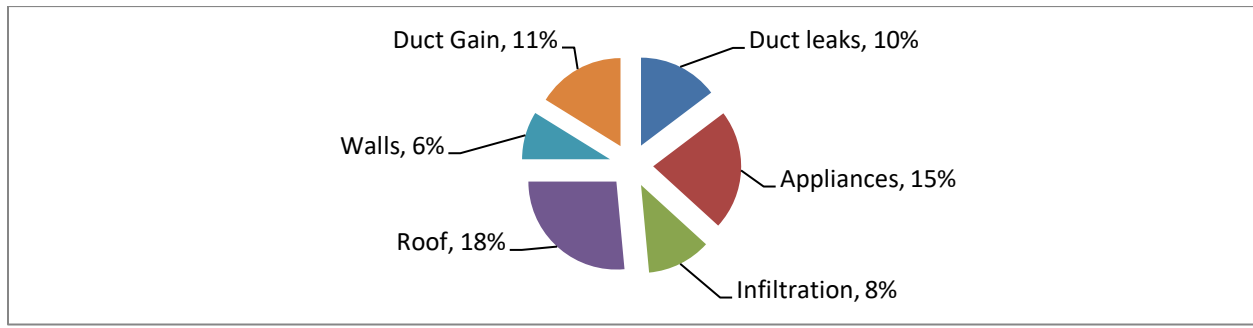
Sun rays increases the temperature heat radiation through the roof and increases the temperature on a flat surface very high. The heat penetrates via the top layer to the inside, resulting in temperature rise in underlying building and/or temperature level increasing to extremes.

### Insulation Tiles Specification

Type	2 Layer white color with thermal insulates Granules.	
Appearance	White	
Material Used	(Non Degradable) U.V Resistive	
Weight	1.8kg, (2.59 Kg/Sq ft)(27.870 Kg/Mtr <sup>2</sup> )	
Tile Thickness	(2 Layers) 20mm.	
Tile Size	2.48 x 2.48 x 20mm.	
Modulus of Rupture (Wet)	4 N/mm <sup>2</sup>	
Average Water Absorption	4.5	
Solar Reflectance Index (SRI)	93	
Reflectance	0.79	
Emittance	0.93	
IS Standard	As per IS 1237 – 1980	
Method of Fixing	Just Like Any Other Tiles.	
Polishing	Not Required	
Grinding	Not Required	
Thermal Conductivity At Mean Temp.	(K cal/hr m <sup>2</sup> °C)	(W/mK)
40°C	0.120	0.14

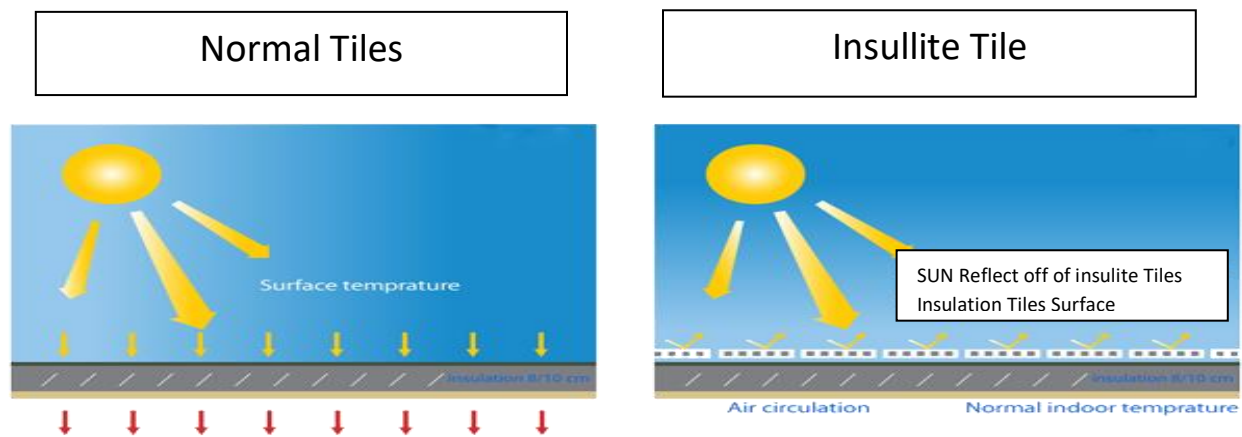
## Cool Roof Solution

### Factors affecting the cooling load:



From the above pie-chart we can see that the heat ingress from the roof is one of the factors that increase the temperature inside the building and thereby increasing the energy load of air-conditioning equipment.

Simulation test and studies have shown potential reduction to building heat loads from higher exterior surface solar reflectance.



## Thermal Insulation

- High Thermal Insulation Properties.
- Casted insullite at site by masons.
- Light weight. Less load on Masonry/ slab.
- Fire resistant of very high values.
- Fungus, Rot, Insect proof & nontoxic.
- Does not compress/shrink on normal heat loads.
- Does not deteriorate or disintegrates due to heat & moisture.
- Being inorganic natural mineral long life.
- Good sound absorption.
- Ecologically/Environment friendly Green Building Solution.

## Ashapura Tiles And Minerals

Head Office: 420/15, 1<sup>st</sup> Floor,  
50 Feet Road, BSK 1<sup>st</sup> Stage  
Bangalore – 560050

Zonal Office :133/10, Opp. Design Ecole College  
Civil Lines, Ajmer – 305001 Rajasthan, INDIA  
Mail US On: [ashapuratiles@gmail.com](mailto:ashapuratiles@gmail.com)  
Website: [www.ashapuratiles.in](http://www.ashapuratiles.in)



## TO GET BEST RESULTS

1. Remove the lamination after completing all the work.
2. Prepare base masonry giving proper slope.
3. Fix tiles using quality tile adhesive with notched Travel
4. Use tile spacer of 3 mm.
5. After 2 days of tile fixing fill the gap between tiles by white grout and clean out spread grout by damp cloth simultaneously.
6. Don't spread cement on tiled floor.
7. **POLLISHING GRINDING** of tiles is (Not-Required) **STRICTLY PROHIBITED.**

