
Cool Surfaces to
REDUCE



IMPACTS



Creating Cool Green City



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INSULMIX - ROOF SCREED

Insulated Mortar Mix for reducing thermal transmittance
From Hot & Cold Source...

ROOF THERMAL INSULATION



Overview - Urbanization & the Concrete Jungles

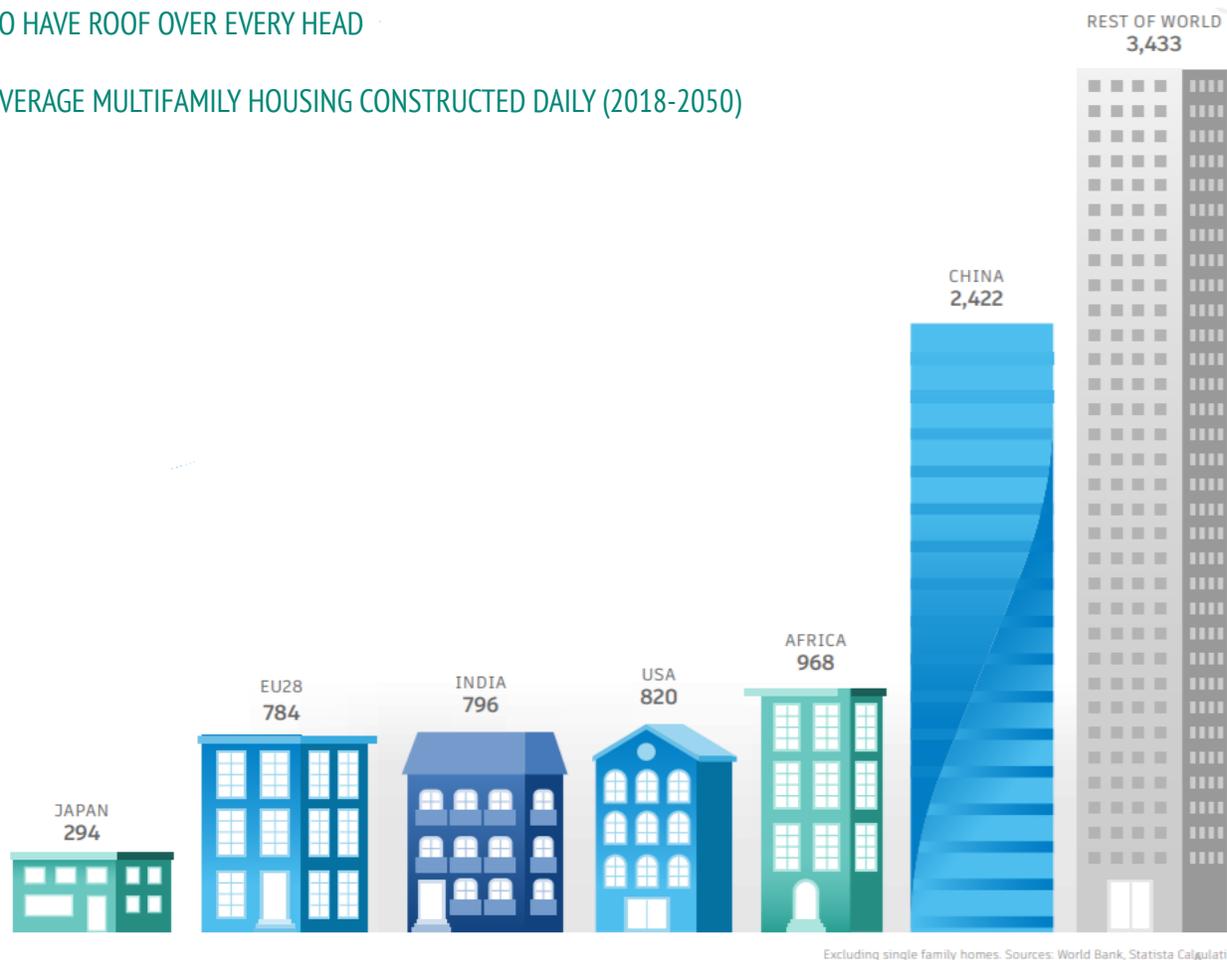
EVERY DAY, AT LEAST 200,000 PEOPLE PACK THEIR BAGS AND MOVE TO THE BIG CITY. BY 2050 ALMOST 70% OF THE WORLD'S POPULATION WILL LIVE IN CITIES—THAT'S ABOUT 7 BILLION PEOPLE.

The fact of urbanization leads to the requirement of rapid urban development. Rapid urban development impacts us on a local, regional, and global level. It impacts our schools, hospitals, energy systems, and employment opportunities. It means the need for more housing and improved public transit, roads and bridges. Thus the intense urbanization is contributing to the development of infrastructure and concrete jungles.

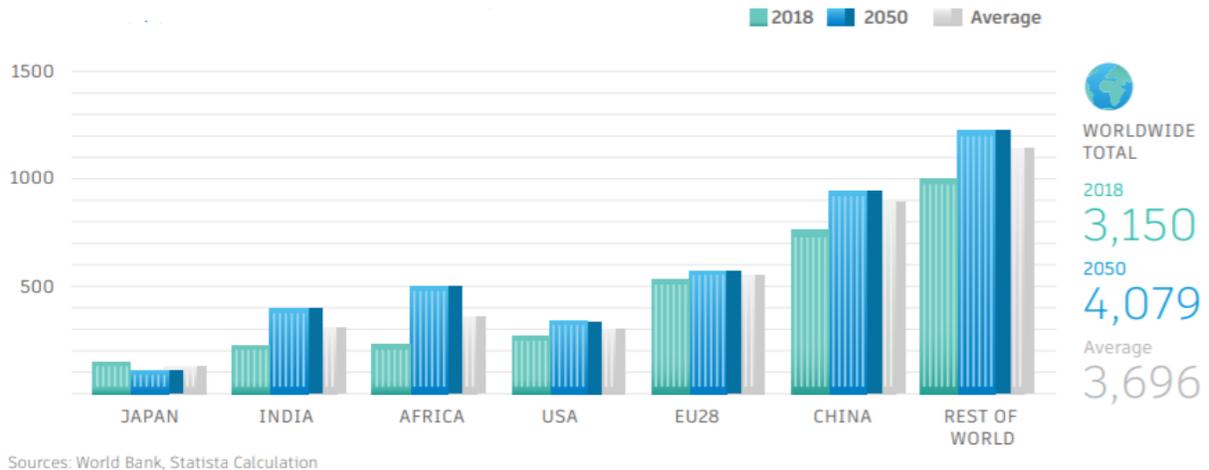
This presents both an opportunity and a challenge for architecture, engineering, and construction (AEC) professionals. They get to design, plan and build more, but they have to do it on a planet with already stressed resources.

TO HAVE ROOF OVER EVERY HEAD

AVERAGE MULTIFAMILY HOUSING CONSTRUCTED DAILY (2018-2050)



CONSTRUCTION OF NON-RESIDENTIAL BUILDINGS PER DAY

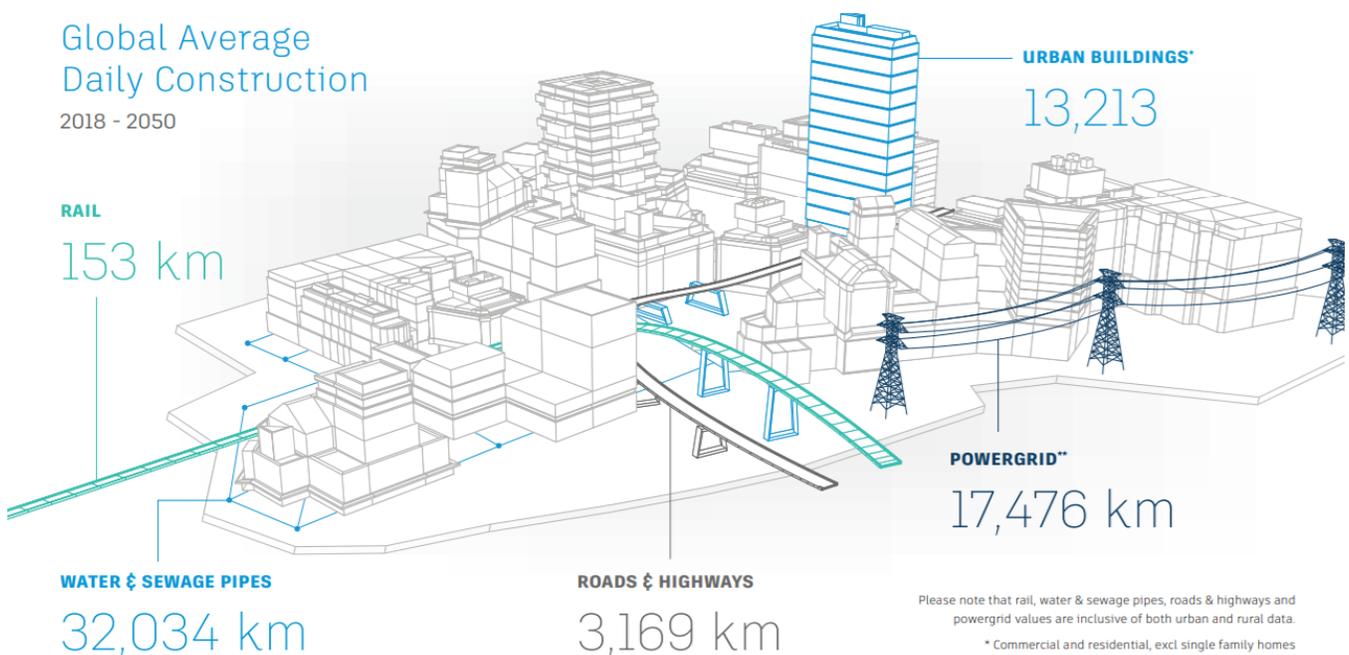


The irony is the concrete jungles are made with elevated surface temperatures up to 70°C high. The urban regions thus experience warmer air temperatures & which contributes to the increased UHI. The global temperatures thus are at a rise & IPCC- initiative of UNFCCC has warned countries for witnessing the deadly heat waves & many natural calamities with the raise in the planet temperatures by 0.5 degree also!

GLOBAL AVERAGE DAILY CONSTRUCTION 2018 - 2050

Global Average Daily Construction

2018 - 2050



Please note that rail, water & sewage pipes, roads & highways and powergrid values are inclusive of both urban and rural data.

* Commercial and residential, excl single family homes

** Including high voltage transmission lines and distribution lines

Source: Statista Calculation



Responsible Approach for Rapid Urban Development

Construction spending market in BRIC countries is expected to grow at a CAGR of close to 13% until 2020.

The AEC (Architecture Engineering & Construction) industry needs to fundamentally rethink how it designs, Constructs, and operates the built environment. A more responsible approach is required by the AEC community along with every individual. Adopting new technologies that improve efficiency and productivity is the way ahead to meet the industry races and suffice the pace & demand for new buildings and Infrastructure, considering our Planet, Climate change and depleting natural resources are today's pressing industry challenges.

AEC professionals must continue to rethink how they design and build— now, through 2050 and beyond. It will take a concerted effort that includes smart city planning, advanced technology and a commitment to do things sustainably to accommodate our growing, increasingly urban population while preserving precious resources.

Energy Efficient Buildings

For any construction building envelope plays an important role. Building envelopes are defined as a physical barrier between the conditioned space and unconditioned space and/or the outside of a building. The envelope, however, does more than separate spaces. It is a combination of materials serving several functions, including serving as a weather barrier, air barrier, sound barrier, and a natural light and wind barrier. It also improves thermal performance and can serve a structural function. Since a building envelope separates the unconditioned exterior environment from the conditioned interior space, it is one of the key factors that impact building energy consumption.

Energy-efficient building envelopes:

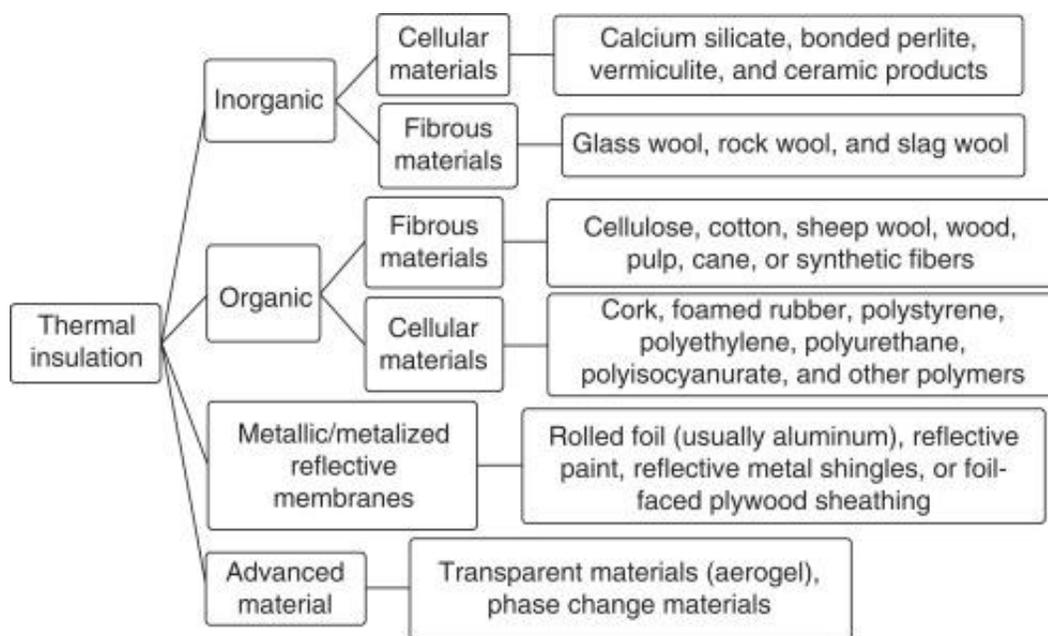
- Have high thermal resistant materials in the facade of the building,
- Use vapor barriers and are effective in vapor control,
- Have efficient window and door seals,
- Have effective airflow control to minimize infiltration of outdoor air.



Building envelope thermal insulation is a proven technology that contributes to energy efficient buildings. The primary contribution of building envelope thermal insulation is to provide thermal comfort to its occupants. This supports healthy living environments and better productivity at workplaces. Thermal insulation reduces unwanted heat loss or heat gain through a building envelope. This, in turn, reduces energy demand for cooling and heating of buildings, and thus is a mitigation measure to reduce GHG emissions.

Thermal insulation is a construction material with low thermal conductivity, often less than 0.1W/mK. These materials have no other purpose than to save energy and protect and provide comfort to occupants.

The building envelope includes the materials that comprise the foundation, wall assembly, roofing systems, fenestrations (glazing, doors, and any other penetrations). The connections and compatibility between these elements is critical to ensure that the building envelope functions as intended. Insulation typically can be categorized in four families according to their material types as shown below.



Green buildings incorporate many strategies to reduce energy use and environmental impacts and improve occupant health. Cool & Insulated Roofs are one of the most important green building strategies because of the immense positive benefits they provide. Cool & Insulated Roofs are essential to the construction and maintenance of energy efficient buildings, providing several tangible & intangible benefits to the building owner and occupants. Cooler & Insulated Roofs mean Longer Life of construction with crack prevention & contribution to indoor cooling.



Challenges - In Solar dominant countries (India)

For the design strategy for energy-efficient facades, the insulation material type and the assembly of the envelope is to be selected based on the climate type of the site location, type of construction and availability of the materials.

Climate specific design of the energy efficient envelope can be selected on the basis of these three climate types-

- Heating-dominated
- Cooling-dominated
- Mixed climates

Some facts -

- In Cooling dominant countries, like India the major heat gain is due to Solar exposure.
- The construction done in India is majorly of masonry / concrete - specially walls by cement plasters.

The first and major Design strategies required in such countries is to have solar insulation or High SRI paints. The use of high SRI paints will stop heating of walls and any structure and reduce the expansion & contraction coefficient of walls and reduce the rate of crack development.

Since the construction done in India is majorly of cement and concrete, the selection of material type for insulation plays an important role for the successful benefits of thermal insulation. Since in wall assembly, thermal insulation is the sandwich layer, selection of material type having compatibility with the base structures makes the complete assembly compatible and sustainable and workable.

Using material of the same cement or concrete family type will reduce the difference in heat expansion coefficient of the base substrate material, thermal insulation layer & the top most facade layer. This feature will reduce the structural movement and thus reduction in crack development. Using any other material like PU foams, Rock wools, XPS boards, thermocol etc are prone to crack development and debonding.

INSULMIX ROOF SCREED

Insulated Mortar Mix for Reducing Thermal Transmittance From Hot & Cold Source...

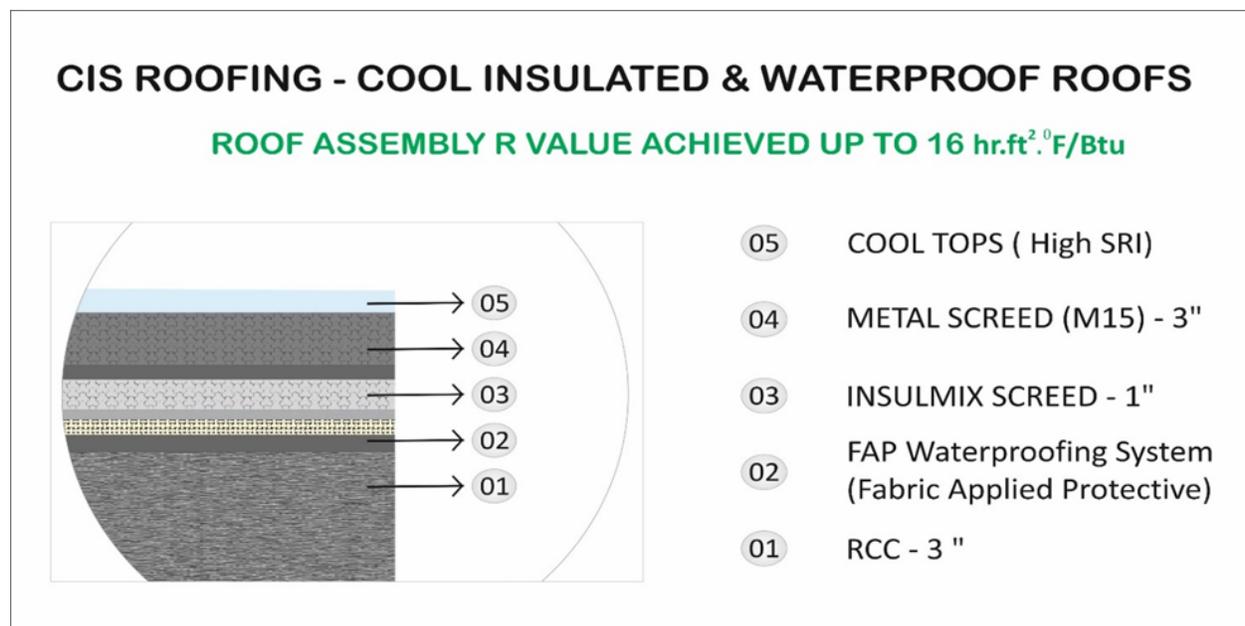
Insulmix Roof Screed is a light grey pre packed cement based powder mortar mix composed of special hydraulic binders with sealed expanded clay, expanded microspheres and minerals and special additive for thermal insulation for roof.



Roof Assembly

Maximum heat ingress in any structure is through the roofs. Roofs are exposed to the Sun for the majority of the time of the day. The heat generated makes the roofs heated up. To reduce the transmittance of the heat through conduction; apart from reducing the heat transmittance, it's important to reduce the cold transmittance from indoors or vice versa, thus thermal insulation of roofs makes the most important component of the energy efficient buildings. The roof assembly consists of a system of components that fulfill the requirement of slope, waterproofing, solar insulation, support, control, and finish function of the building envelope. While the precise placement and configuration of each component may vary between climates and individual buildings, the following components are typically found in the roof assembly (from top to bottom):

- High SRI COOL TOPS PRO
- IPS for smooth surface
- PCC for slope
- **INSULATED SCREED**
- FAP (Fabric Applied Protective Waterproofing System)
- RCC Mother slab



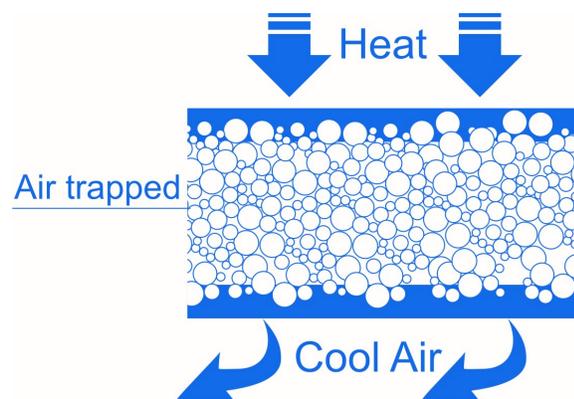
Unique Features:

- Insulmix is made of sealed expanded clay, expanded microspheres and minerals. When microspheres and clay are rapidly heated to high temperature, the water vaporizes instantaneously and the crushed expanded clay, expanded microspheres and minerals “pops” like popcorn, expanding till 20 – 40 times its original volume.
- By the use of these expanded clay & microspheres, the resultant cellular structure accounts for the lightweight and excellent thermal insulation properties.
- Due to the sealed nature of the cells, expanded clay, expanded microspheres and minerals and addition of silicone sealants the cement mortar block made has more strength and resists penetration of water to a greater extent than open celled aggregates of the same weight.
- After mixing Insul Mix, cement & sand mix as per specified ratio on site with water in a mixer, it becomes easily workable on floors.
- Compared to the other lightweight mortars, however Insulmix is more resistant to rain water and has higher strength.
- All the insulating material that is used are a mix of minerals & hard grit like structures with graded particle size forming a compact structure binding ; because of this after some time due to density difference , settling of material does not take place and air gap is not formed.

USP'S

Additional features of Insulated plaster

1. Thermal Transmittance Reduced
2. Thermal Insulation
3. Acoustical Insulation
4. Low Curing Time / Rapid Set
5. No Cracking



Benefits

- Insulmix provides better insulation with desired high resistivity & less conductivity.
- It has good compression strength.
- Due to the compact structure of expanded grits; settling of material does not take place and air gaps and cracks in IPS are not formed.
- Insulmix is having water repelling agents that help the mixture to have better water resistance.
- Insulated mortar being cement & masonry based prevents any crack formation after drying or with time.



Specifications

Physical Specifications

Sr.	Property	Result
1	Appearance -	Gray Powder mix with grits
2	Vapor Density	Heavier than air
3	Solubility in water	Insoluble in water makes a mortar with water
6	Application temperature range	+5 deg. C to +55 Deg. C
7	Pot life of a mix	Appx. 2 Hrs

Technical Specifications

Sr.	Property	Result
1	Density	1,5 ± 0,2 gr/cm ³
2	Water mixing ratio	20%
3	Flexion after 28 days	> 3 N/mm ²
6	Compression after 28 days	> 12 N/mm ²
7	Humidity 7 days (thickness 4 cm):	< 3%



Sustainable - Thermal Specification

Sr.	Property	Result
1	Thermal conductance	0.087 W/m.K
2	Thermal Resistance	0.287 m ² .K/W

Roof Assembly Thermal Properties

LAYER	K Value	Thickness (mm)	R Value
HIGH SRI Paint - R effective for (Cool Tops Pro) SRI Initial 109 aged 70			1.370 (R Effective)
Rse			0.05
IPS (Smooth plaster)	0.62	25	0.040
PCC - Cement Metal screed (To give slope)	0.80	75	0.093
Insulmix Roof Screed (1 inch thickness)	0.087	25	0.287
RCC Roof (M25)	1.36	127	0.009
Rsi			0.13
Total R Value (m ² .K/W)			1.167
U Value (W/m ² K)			0.856

Note: In the final calculation R Effective value for SRI paints is not considered.

Terminologies

- Insulation- Insulation reduces unwanted heat loss or gain and can decrease the energy demands of heating and cooling systems.
- R-Value- The R-value is a measure of thermal resistance used in the building and construction industry.



- K-Value- the K-Value, also known as thermal conductivity, is the property of a material's ability to conduct heat.

Applications

COMPLIES WITH SPECS OF GREEN BUILDINGS - IGBC, GREEN PRO, GRIHA, LEED ETC.

- New RCC Mother Slab
- Retrofitting of cemented roofs.
- Floors bedding before tile installation.

Insulmix Roof Screed Installation Procedure / CIS Roofing System

Material Mixing:

- Add Hi Seal slurry or Hi Ce pack in the 20 Lt water.
- Prepare Insulation Mortar Mix in a conventional bucket-types site mixer. Pour in the minimum amount of water (approx. 20 liters for each 50 kg bag of product) with the insulated material.
- For better water repellency, strength & crack prevention add admix Ce pack / Hi seal slurry to the water only before mixing with the insulmix plaster; in ratio of 750 ml for 50 Kg mortar mix .
- Mix for 15 minutes, then check that the contents are mixed thoroughly, removing unmixed powder from the sides of the mixer.
- Add more water if needed for workability.
- Mix for further 5-7 minutes, depending on the efficiency of the mixer.

Installation of Complete Roof Assembly - CIS Roofing

Substrate - RCC

Surface Preparation

All floor area including 300mm high on the side parapet wall shall be made free from all debris, algae, dust, and dirt and other loose material. All sharp protrusions shall be grinded and made level with the surface. Loosely bonded particles and weak substrate shall be removed completely.



Waterproofing detail

All waterproof membrane detailing shall be carried out strictly in accordance with professional working practices for the installation of sheet/liquid membrane and in accordance with Panache Greentech recommendations.

Pothole filling

- All potholes shall be filled as follows:-
- Mix the 3 parts of powder of Rapido-M to 1 part of clean water in a mixing vessel and mix thoroughly to obtain lump free and slump resistant mortar using a slow speed heavy duty drilling machine fixed with a mixing paddle. The mix will have a working time of 15 min.
- Apply the mortar using trowel to the all potholes ensuring that the mortar “wets” the surface by troweling in firmly, leaving the surface proud.
- After 15 minutes, finish off with a wet sponge or sponge float.

Construction Joints Treatment

- All construction joints shall be treated using epoxy modified mortar as follows:
- Cut open the construction joints by making a groove in the form of “V” shape at required size.
- Clean the groove and 75mm wide at both sides of the joint to make it free from all dirt, dust and other contaminants.
- Apply a coat of slurry made of cement & ECO CE BOND in and around the groove.
- Apply polymer modified mortar of CM 1:3 admix with Hi CE PACK at dosage of 1Ltr per bag of 50kg cement over the neat coat of ECO CE BOND coat.
- Finish the surface with a neat steel trowel flush with the surface.
- Allow the applied mortar to cure and dry completely.

Surface Consolidation

- Apply coating of Micro pore sealer Nano Prime on all corners and adjacent wall up to 300mm or up to skirting level and then shall be consolidated using polymer modified mortar as follows:
- Mix Hi seal slurry/ Eco Ce bond with water and cement (1 part of Hi Seal slurry/ Eco Ce Bond with 2 parts of water and 3 Part of cement) to a thick binder coat and spread the mix over the surface with a brush (thickness 2 mm).
- Over wet binder coat, consolidate the vertical wall surfaces using polymer modified mortar at 8-10 mm thick in CM 1:4 admixed with Hi CE PACK at a dosage of 1 Liter. Per bag of cement to achieve a uniform surface with a wooden float to work the mortar to achieve a good contact with the substrate.
- All corners shall be finished with half round or filet in shape.
- The applied plastered surface shall be allowed to cure and dry completely for 7 days.



Priming

All surfaces shall be primed using a slurry of cement with HI SEAL SLURRY/ Eco Ce Bond diluted with water in 2:1 ratio using good quality of roller. Coverage shall be at 6 sq. m per liter. Actual coverage depends on the substrate porosity.

Waterproofing Coating

- Install one layer of FASC, reinforced fabric membrane by uniformly laying over the podium slab including 300 mm high on the adjacent wall. FASCSEAL shall be applied from the lowest point to enable laps to shed water. All edge and end laps must be overlapped minimum of 60 mm and 100 mm respectively. Internal and external corners shall be reinforced with an extra layer of membrane at 300 mm wide. All end laps and exposed edges shall be sealed. Membrane shall be installed to all floor areas including 300mm high on the wall.
- All rolls of FASC are marked with a 60 mm line. There will be significant additional stresses at this corner and these must be accommodated.
- Install two coats of two component polymeric elastomeric product Water Guard Powder Mix & Water Guard Slurry with water in ratio of (2:1:1)

Protective layer

This waterproofing layer shall be protected by installing 10 - 12mm thick Protected plaster CM 1:4 mixed with Hi Ce Pack as dosage of 500ml per bag of 50kg. Cement.

INSULATION

- On this surface apply a coat of slurry made of cement & Eco Ce Bond (eco friendly green SBR for better bonding with previous layer of BBC and concrete)
- After drying of this layer install a 25 mm thick screed of insulating material "INSULMIX" (ready to apply mortar) to be mixed with water and admix HI CEPACK 1 lt per bag of 50 kg. Cement mortar.
- Let the surface dry for at least 3 days and cure by laying wet gunny bags and water spray immediately after finishing.

Finishing Layer

- On the dry insulated surface apply a coat of slurry made of cement & Eco Ce Bond (eco friendly green SBR for better bonding with previous layer of BBC and concrete)
- The top surface is then finished smooth with 20 mm thick cement sand mortar, 1:4, admixed with water proofing & strengthening admix Hi Ce pack.
- All liquid admixtures should be mixed with the mixing water. The surface when green / wet is marked with 300 mm false squares. Curing is to be done by ponding.



- (Note: Other options like BBC , Paver Blocks and others can also be replaced with Screed.!)

APPLICATION OF PREMIUM COOL ROOF TREATMENT

Please refer the Cool Tops Pro Document

NOTE: Curing is to be done by sprinkling water / laying a damp jute rug on the insulated plaster with a minimum quantity of water.

Picture Gallery - Installation Stages



After Drying of Insumix Screed layer

Complete Assembly of CIS Roofing



Stage 1: Mixing of Insulmix and sand on site



Stage 2: Mixing of chemical with Insulmix and sand



Stage 3: Screeding of insulated mortar mix





Stage 4: Insulmix Screed levelling

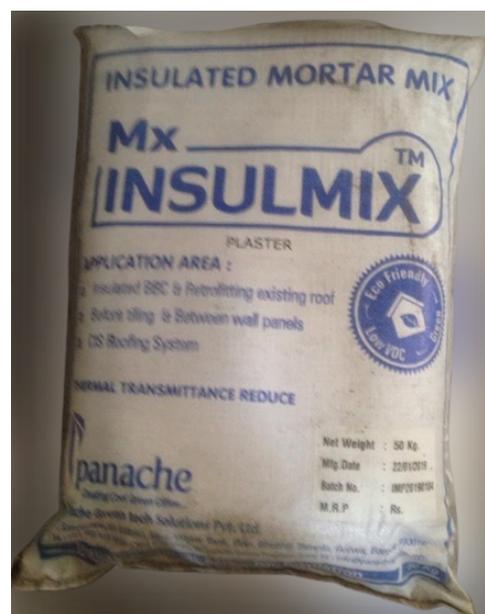
Stage 5: IPS formation with grooves



Stage 5: COOL TOPS INSTALLED AFTER INSULATION ON IPS

Product Packaging -

50 Kg bag of Insulmix Roof Screed



Benefits of CIS Assembly -

- Excellent long term stable insulating performance at R 2 per inch.
- Comes with a complete water proof system.
- Prolonged Insulation performance.
- Excellent Linear Heat coefficient in all layers.
- All components of the system are in synergy with each other; **No crack development** as No phase separation Membrane will adapt easily to irregularly shaped surfaces, and will stretch without breaking or cracking.
- The protective polymer film is highly resistant to acids, alkalis and other pollutants.
- Ideal for installation in restricted spaces.
- Provides best insulation.
- Slab is prevented from temperature variation.
- Low temperature below the roof
- Crack prevention – because not letting UV /IR Rays penetrate.
- Low AC running cost underneath
- **TIME TESTED** - ALREADY INSTALLED IN LEED RATED GREEN BUILDING!

Projects Completed:

- Signature Project of Hiranandani in Gift City, Gandhinagar Gujarat - project completed in 2016
- Kohinoor Kurla, Mumbai (*Platinum rated building*)- project completed in 2010.

Above projects are occupied and durable with no complaints received.



K Value Certification

		
No. : NU/IT/MECH/NAFETIC/2011_12/5883		
<p>National Laboratory for Testing and Development of Thermal Insulations <i>A Project under the National Facilities in Engineering and Technology with Industrial Collaboration (NAFETIC) Scheme of AICTE</i></p>		
<p>TEST CERTIFICATE</p>		
<i>Name of client/company</i>	:	M/s. Panache Greentech Solutions Pvt. Ltd. Aesthetic House, 541-Suramya Bunglow, B/h Bank of India, Subhanpura, Vadodara- 390 023 <i>Kind Attention: Ms Neetu Jain</i>
<i>Test type</i>	:	Determination of thermal conductivity of sample.
<i>Specimen details</i>	:	Material: Insul-Mix (insulated cement based mortar) Dimensions: 30.8 cm x 30.9 cm. Average sample thickness (as tested): 50.8 mm. Density (as tested) = 492.45 kg/m ³ .
<i>Test method</i>	:	Guarded Hot Plate Method as per ASTM C177
<i>Experimental Uncertainty</i>	:	Maximum ±4% for the observed thermal conductivity value.
<i>Test Result</i>	:	a) The thermal conductivity of the sample was observed to be 0.087 W/m.K at the mean specimen temperature of 35.1 °C.
 Investigators	 Professor & Head, Mechanical Engineering Deptt.	 Director Institute of Technology
Date: 28/1/2012		
<small>Institute of Technology, Nirma University</small>		



INSULMIX - WALL PLASTER

WALL THERMAL INSULATION



INSULMIX WALL PLASTER

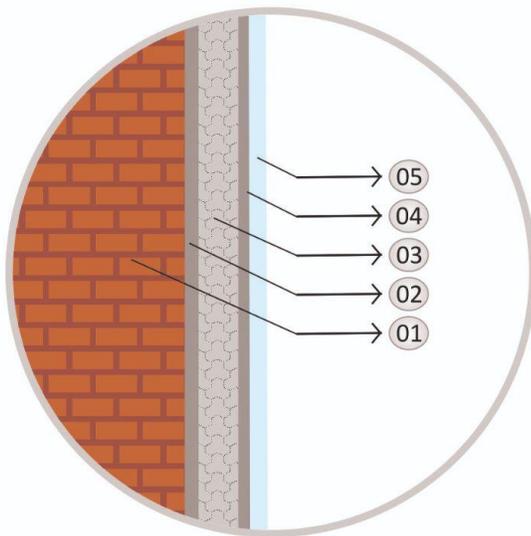
INSULATED CONCRETE MIX FOR REDUCING THERMAL TRANSMITTANCE FROM HOT & COLD SOURCE THROUGH WALLS

Insulmix Wall Plaster is a mix of inorganic & organic material of insulation families along with incorporation of advanced materials to enhance the efficiency of insulation & workability. Insulmix wall plaster is light grey pre packed cement based powder concrete mix composed of special hydraulic binders with sealed expanded clay with size range of 0 to 2 mm, expanded microspheres and minerals and special additive for thermal insulation for walls.

Unique Features:

- Insulmix Wall Plaster is made of sealed expanded clay, expanded microspheres and minerals. When microspheres and clay are rapidly heated to high temperature, the water vaporizes instantaneously and the crushed expanded clay, expanded microspheres and minerals “pops” like popcorn, expanding till 20 – 40 times its original volume.
- By the use of these expanded clay & microspheres, the resultant cellular structure accounts for the lightweight and excellent thermal insulation properties.
- Due to the sealed nature of the cells, expanded clay, expanded microspheres and minerals and addition of silicone sealants the cement concrete mix for Insulated wall plaster made has more strength and resists penetration of water to a greater extent than open celled aggregates of the same weight.
- After mixing Insulmix wall plaster concrete with water and strength/waterproofing enhancing components, as per specified ratio on site in a mixer, it becomes easily workable on walls with good adhesion & strength.
- Compared to the other light weight concrete, however, Insulmix Wall Plaster is more resistant to rain water and has higher strength.
- All the insulating material that is used are a mix of minerals & hard grit like structures with graded particle size forming a compact structure binding; because of this after some time due to density difference, settling of material does not take place and air gap is not formed.





INSULMIX WALL PLASTERTM

INSULATED MORTAR MIX FOR WALL PLASTER

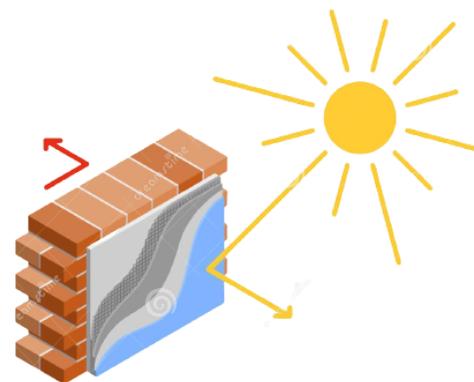
K VALUE FOR INSULMIX PLASTER 0.09 W/M.K

- 05 COOL WRAP - REFLECTIVE COOLING PAINT
- 04 NANO PRIME - PRIMER
- 03 INSULMIX WALL PLASTER
- 02 PRIMER FOR ADHESION PROMOTION
- 01 BRICK WALL

Wall Assembly

Walls compose the maximum exposed area, thus thermal insulation of walls makes the most important component of the energy efficient buildings. The wall assembly consists of a system of components that fulfill the support, control, and finish function of the building envelope. While the precise placement and configuration of each component may vary between climates and individual buildings, the following components are typically found in the wall assembly (from exterior to interior):

- High SRI Paints
- Exterior cladding
- Exterior sheathing membrane
- Exterior sheathing
- **INSULATION**
- Structural components
- Vapor barrier
- Interior sheathing



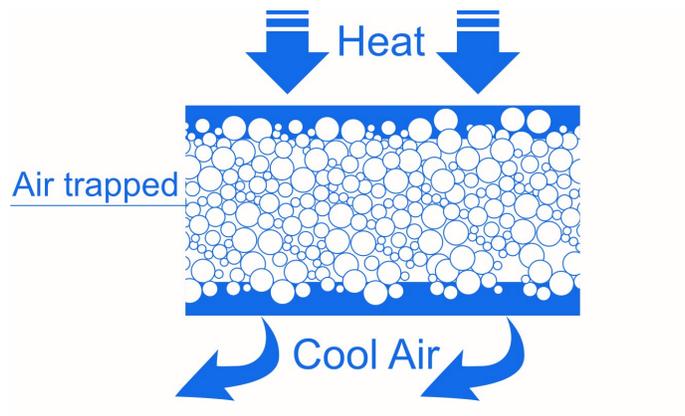
Benefits

- Thermal Transmittance Reduced.
- Insulmix Wall Plaster provides better insulation with desired high resistivity & less conductivity.
- It has good compression strength.



- Due to the compact structure of expanded grits; settling of material does not take place and air gaps and cracks on walls are not formed.
- Insulmix Wall Plaster is having water protecting agents that help the concrete to have better water resistance.
- Insulated concrete being cement & masonry based prevents any crack formation after drying or with time.

THERMAL TRANSMITTANCE REDUCED



Specifications

Physical Specifications

Sr.	Property	Result
1	Appearance -	Gray
2	Vapor Density	Heavier than air
3	Solubility in water	Insoluble in water makes a paste with water



6	Application temperature range	+5 deg. C to +55 Deg. C
7	Pot life of a mix	Appx. 2 Hrs

Technical Specifications

Sr.	Property	Result
1	Density	1,5 ± 0,2 gr/cm ³
2	Water mixing ratio	20%
3	Flexion after 28 days	> 3 N/mm ²
6	Compression after 28 days	> 12 N/mm ²
7	Humidity 7 days (thickness 4 cm):	< 3%

Sustainable - Thermal Specification

Sr.	Property	Result
1	Thermal conductance	0. 087 W/m.K
2	Thermal Resistance (for 18 mm thickness)	0.184 m2.K/W



Assembly Thermal Properties

LAYER	K Value	Thickness	R Value
HIGH SRI Paint			SR 0.80 (R Effective)
Rse			0.04
Insulmix Plaster (Exterior)	0.087	18	0.206
RCC Wall	1.58	125	0.791
Interior Plaster	0.719	16	0.022
Rsi			0.13
Total R Value (m2.K/W)			1.189
U Value (W/m ² K)			0.84 W/m ² K

Note:

1. In the final calculation R Effective value for SRI paints is not considered.
2. Certification under process. It would take approx. 7 weeks for the same.

Terminologies

- Insulation- Insulation reduces unwanted heat loss or gain and can decrease the energy demands of heating and cooling systems.
- R-Value- The R-value is a measure of thermal resistance used in the building and construction industry.
- K-Value- the K-Value, also known as thermal conductivity, is the property of a material's ability to conduct heat.
- Additional features of Insulated plaster
 1. Thermal Insulation
 2. Acoustical Insulation
 3. Low Curing Time / Rapid Set
 4. No Cracking



Applications

COMPLIES WITH SPECS OF GREEN BUILDINGS - IGBC, GREEN PRO, GRIHA, LEED ETC.

- Exterior Walls
- Interior Walls (Avoid walls where too much drilling is to be done)
- Insulated Floors

Floor bedding can be made by adding Insulmix Wall Plaster to the cement mortar mix before laying tiles/ china mosaic.

Insulmix Wall Plaster Installation Procedure

Material Mixing:

- Add Hi Seal slurry or Hi Ce pack in the 20 Lt water.
- Prepare Insulation Mortar Mix in a conventional bucket-types site mixer. Pour in the minimum amount of water (approx. 20 liters for each 50 kg bag of product) with the insulated material.
- For better water repellency, strength & crack prevention add admix Ce pack / Hi seal slurry to the water only before mixing with the insulmix plaster; in ratio of 1 litre for 50 Kg mortar mix if plaster has to be kept exposed (not to be painted) & 0.5 Lt for 50 Kg Mortar mix, if paints has to be applied on the wall.
- Mix for 15 minutes, then check that the contents are mixed thoroughly, removing unmixed powder from the sides of the mixer.
- Add more water if needed for workability.
- Mix for further 5-7 minutes, depending on the efficiency of the mixer.

Installation Instruction:

Surface Preparation

- Scrapping the existing loose paint and making the surface ready for plaster to bind.
- Remove any dust, fungus, Greece, oil, loose material and wash with water etc.
- Clean the Walls thoroughly with water and let the surface dry.

Plaster Installation



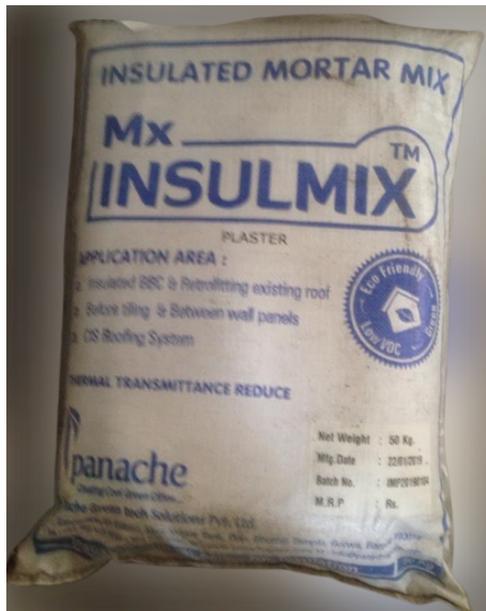
- For better adhesion of the plaster a Binding Primer layer of Hi Seal Surry can be applied on the bricks/ ACC or RCC walls.
- Take the Plaster mortar paste made of 50 Kg bag of insulated mortar made from Insulmix Wall Plaster with 20 litre of water with admix to the mortar.
- Apply the insulated mortar, as per required thickness like conventional plaster.
- Let the surface cure by sprinkling water .
- Exposed surfaces can be left rough or smooth as per the aesthetics required.
- Smooth finish can be attained as the top most layer by application of thin finishing plaster by Simple Cements sand smooth mortar.
- After drying of plaster, Full cure for 3 to 6 days with water sprinkling.
- After full cure, using a nano prime, 1 primer coat of Panache; 2 coats of High SRI Cooling Paint, Cool Wrap of Panache can be applied.

NOTE: Curing is to be done by sprinkling water / laying a damp jute rug on the insulated plaster with a minimum quantity of water.

Coverage - 40 sq. ft/ bag with thickness of 12 mm.

Product Packaging -

50 Kg bag of Insulmix Wall Plaster



Picture Gallery



- Better Insulation
- Better Resistivity
- Acoustical Benefits
- No Crack Development
- High Strength
- No Water Seepage
- Rapid Curing Time

Projects Completed:

1. Courtyard, Vadodara- completed in 2019 and many more retail projects completed.



Associations & Certifications



CRRC
Cool Roof Rating Council



GREEN PRO
Pdt Certification of IGBC Green Product



GRIHA
For SRI Value



CRDF
CEPT RESEARCH AND DEVELOPMENT FOUNDATION
CEPT UNIVERSITY



NTH
VOC/ Metal



NIRMA UN
For K value

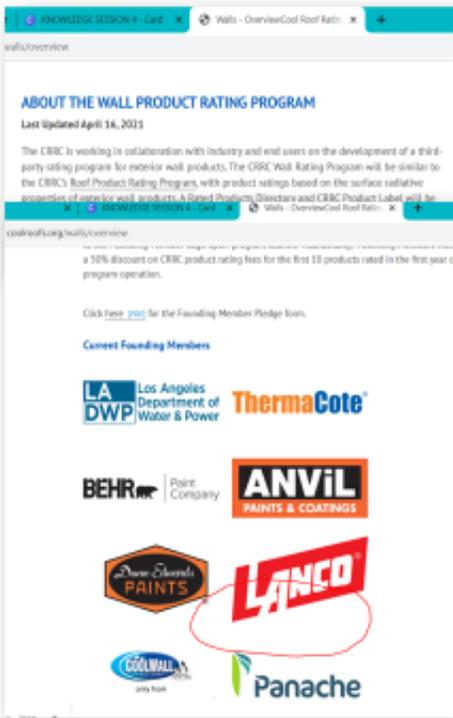
**Panache green tech solutions pvt ltd is the only Indian company as part of CRRC program.
Panache is a founding member of the CRRC Wall program.**

INTERNATIONAL INVOLVEMENTS



NEETU JAIN
CRRC EDUCATOR

PANACHE FOUNDING MEMBER – CRRC WALL RATING PROGRAM







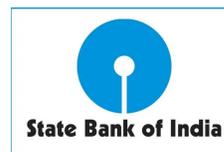
Our Clients



Aga Khan Agency for Habitat (AKAH)



Delivering Excellence Consistently



A PROUD FOUNDING MEMBER FOR CRRG WALL PROGRAM



SR NO	CLIENT	AREA COVERED	YEAR OF COMPLETION
1	WARRANGAL SMART CITY	ALL SCHOOLS	2020- 21
2	Aga Khan India Habitat Ltd	100000 Sq. ft.	2021
3	Econ Packaging	100000 Sq. ft.	2021
4	Vasudha Pharma	60000 Sq. ft.	2021
5	IGBC HQ , HYDERABAD	12000 Sq. ft.	2019
6	ASIAN PAINTS	40000 Sq. ft.	2019 – 2020
7	CEAT TYRES	10000 Sq. ft.	2019
8	METRO , HYDERABAD, DELHI	10000 Sq. ft.	2019 – 2020
9	SHIV NADAR UNIVERSITY, DELHI	4,84,200 Sq. ft.	2019
10	RR GLOBAL COPPER PVT LTD	9000 Sq. ft.	APRIL 2019
11	INNOVATIVE CUISINES	40000 Sq. ft.	2021
12	JACSON IN, HOTEL	7500 Sq. ft.	NOV 2019
13	ULTRATECH	15,000 Sq. ft.	ON GOING
14	DELHI RAILWAY	5,000 Sq. ft.	ON GOING
15	DESIGN CO, MURADABAD	50,000 Sq. ft.	DEC 2019
16	GE - ALSTOM	19,000 Sq. ft.	March 2016
17	ELMEX ELECTRICAL, POR.	12,000 Sq. ft.	March 2016
18	KANCHAN MILL	2,50,000 Sq. ft.	June 2016
19	RAJLAXMI	1,00,000 Sq. ft.	July 2016
20	HIRANANDANI, GIFT CITY (GIS ROOFING SYSTEM)	18,880 Sq. ft.	MAY 2017
21	GFL	15,000 Sq. ft.	JANE 2017
22	LIBERTY SHOES, DWINI AMITY UNIVERSITY	30,000 Sq. ft.	AUG 2017
23	BEARYS, SHIMOGA, MANAGALORE	1,50,000 Sq. ft.	OCT 2017
24	AMITY UNIVERSITY	67,000 Sq. ft.	FEB 2018
25	ADANI, MUMBAI	59,000 Sq. ft.	JUNE 2018
26	ILBS, (DMRC PROJECT)	30,000 Sq. ft.	OCT 2018
27	PVR, SHRI GANGANAGAR, RAIPUR	15,600 Sq. ft.	SEPT 2018
28	NAKODA TIRTH	1,00,000 Sq. ft.	APRIL 2017
29	SUNPHARMA	3000 Sq. ft.	JUNE 2017
30	ASTRAL PIPES	1,36,000 Sq. ft.	April 2014
31	COFFOR INDUSTRIES		MANY MORE



Panache Initiatives to Promote Sustainability

PANACHE CONTRIBUTIONS & ACHIEVEMENTS

- Participated in the COOL CITY Project with Telang. Govt.
- Participated in Research projects of the US, DOE.
- Awarded by Power of Idea Awards.
- Achieved CIA & IDAC Awards for innovative concepts and system design for Cool Tops.
- Participated in GSEP Conference, initiative of DOE, US.
- Gold Sponsors for IC2UHI in Dec 2019
- Gold Sponsors for First National Green Railway Conference 2019
- Gold Sponsors for IGL 2020
- Silver Sponsors for IGBC 2020
- Silver Sponsors for IGBC 2021

Some Initiatives to Promote Cool Roofs & Sustainability

- Cool Roof Installation for Warangal Smart City.
- Healthify Slums Project, Improving Living Conditions by Cool Tops & Adopting Green Norms.
- Go Green Conclave & Greentalks – Awareness for Green Norms and Sustainability.
- Energy Efficiency by Cool Roofs & Sustainability – Awareness Sessions with Different Segments and Stakeholders.
- Working for Microclimate Impact by Cool Roof Installations using Drones & Satellite Services.

JOIN PANACHE IN ITS JOURNEY TO PROMOTE SUSTAINABILITY

