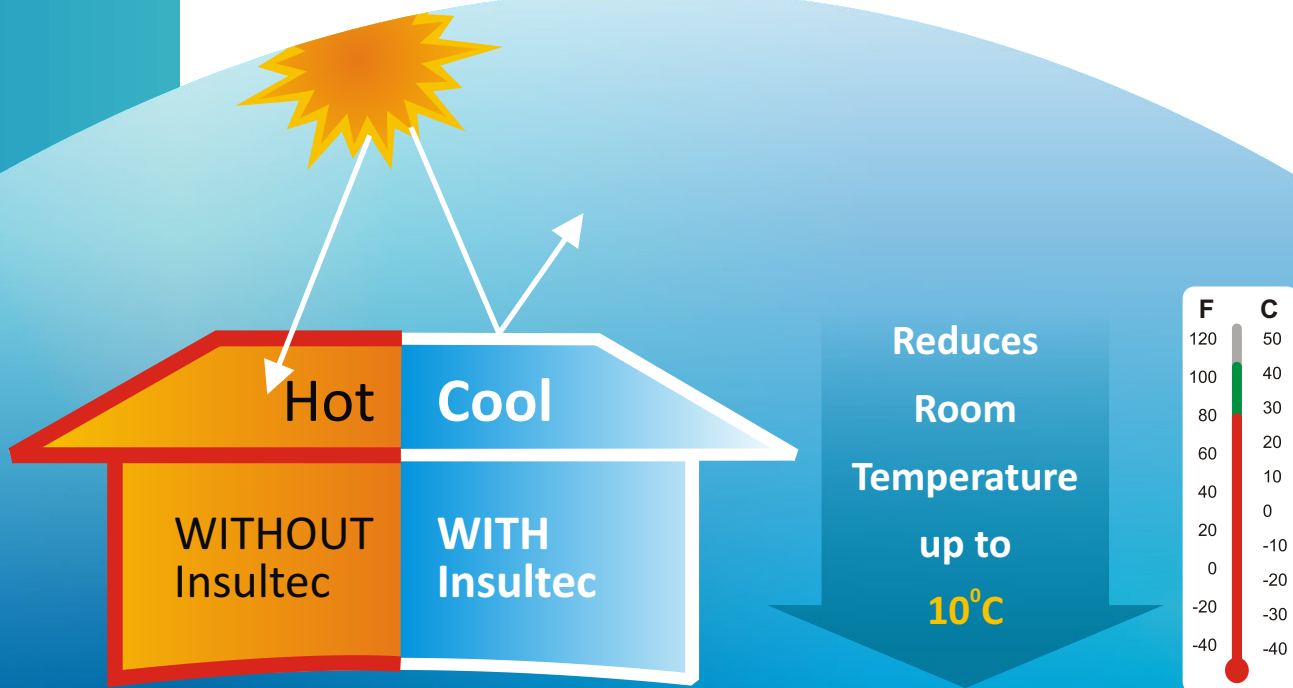


WeatherTuff[®]

Building Surface Solutions

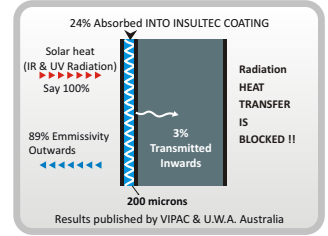
InsulTec



Solar Heat Re-radiating Membrane & Coating

INTRODUCTION

InsulTec is an innovation of 45 years of research by an Australian paint Technologist. It is a solar heat re-radiating membranous paint. When applied to the exteriors surfaces, its a remarkable selective white membrane paint that stops the solar heat transfer and keeps the interiors cool. InsulTec when applied to the external sun exposed surface of a building it re-radiates 95% of the solar Infra Red Rays & 85% Ultra violet Rays back in to the atmosphere. The formulation of InsulTec is unique. InsulTec is a water based co-polymer compound containing inert pigment & special fillers. It is a one component system with excellent adhesion, micro porous, impervious to salt spray & air born pollution, mold & fungus resistant.



The Way it works

TEST REPORTS

InsulTec has been acclaimed by world authority on heat transfer (H.J. Goldsmid, Emeritus Professor of Experimental Physics). "If the roof of a building is coated with InsulTec, then the interior of that building will be 10°C or more cooler than that of a similar building with plain galvanized roof during the warmest part of the day." Test result showed a building with InsulTec protected roof is 15°C cooler than a building without InsulTec.

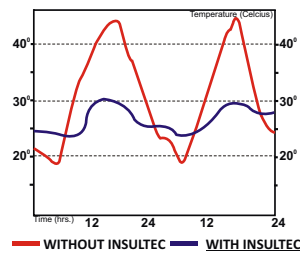
VIPAC ENGINEERS & SCIENTISTS LID.

Australia measured SOLAR HEAT GAIN OF INSULTEC with different samples at standered conditions of Australia as follows.

Result of Vipac Australia

Result prove, InsulTec coating have the best solar insulation properties. In terms of solar heat gain, InsulTec coated sample is 38% better than the offwhite sample & 47% better than the Galvanized steel sample. The maximum surface temperature of the InsulTec sample is only 2.2°C higher than the ambient temperature & Heritage red sample is 17.9°C higher than ambient temperature.

Performance Graph Indicating a Comparison Of The Temperature Variations.



Results of Vipac Australia

Sample	Solar absorption %	Max. Surface Temp. °C	Solar Gain w/m ²	Solar Gain Factor (SHGF)
Heritage	80.2	49.9	152	0.19
Mist Green	54.2	44.2	108	0.14
Galv. Steel	29.3	38.0	61.6	0.08
Off White	24.7	36.8	52.4	0.07
INSULTEC	15.1	34.2	32.7	0.04

Result Of I.I.T. Mumbai

Test No.1 Emissivity & Absorptivity At 29.5 °C

Sample	Emissivity	Absorptivity
INSULTEC Painted G.I. Sheet		
1	0.24	0.89
2	0.24	0.90
3	0.24	0.88
4	0.24	0.89
Unpainted G.I. Sheet	0.74	0.11

Insultec coated surface has shown very low absorption of heat and after same time its emission is also very high, hence it is selective white in nature.

INDIAN INSTITUTE OF TECHNOLOGY Mumbai India,

Characterize surface coated with InsulTec by testing emissivity, Absorptivity, infrared spectral reflectivity between 2.5 um to about 25 um & measurement of temperatures attained by the surface (painted & unpainted) when exposed to sun.

Result Of I.I.T. Mumbai

It is seen that the average emissivity of InsulTec painted G.I. Sheet is 0.89 which is much higher than unpainted G.I. Sheet 0.11.

The absorpvtivity of painted surface is 0.24. So ratio of **Emissivity(0.89) to absorpvtivity(0.24) is 3.7** while the same ratio for unpainted sheet is $(0.11/.74) = 0.15$ Clearly **InsulTec is SELECTIVE in nature.**

The temperature of painted surface is significantly lower than of unpainted surface. Clearly, heat gain would be much less in InsulTec coated surface.

It can be concluded that the InsulTec can provide a significant benefit in reducing heat gain & would find application for cooling purposes.

SOLAR AGNI INTERNATIONAL Community & Energy system Pondicherry has certified that InsulTec as it a **SELECTIVE WHITE** with double action of solar heat reflector & high quality emitter. Ratio of emissivity to absorpvtivity is 4.6. This will reduce ceiling temperature remarkably for all kinds of sun exposed surfaces. It will cut down solar part of sensible heat gain by almost 70% as compared to non coated surfaces.

Result Of I.I.T. Mumbai

Test No.2 Heat Gain

Time in hrs.	Solar Radiation on Horizontal Surface (w./m ²)	Ambient Temperature (°C)	Temperature Attained		Difference (°C)
			Painted (°C)	Unpainted (°C)	
10.00	571	30.5	32.8	54.4	21.6
15.00	684	32.5	33.8	57.5	23.7
18.00	400	29.5	31.3	49.3	18

INSULTEC ALSO PROTECTS BUILDING IN ALL WEATHER CONDITION

TAYWOOD ENGINEERING LIMITED, Australlia has certified that InsulTec coating on cementitious surface reduces water absorption by 88%, reduces chloride ion penetration by 90%. This coating alsohas excellent resistance to chloride ion diffusion & carbon dioxide diffusion.

CREDENTIALS

Research, Designs & Standards Organization (R.D.S.O.) Lucknow of Govt. of India, have carried out trias of InsulTec coating on railway location box (Axel Counter). It has been found that InsulTec reduces inside temperature of location boxes drastically. Electronic equipments failure rates reduced remarkably. R.D.S.O. has recommended to use InsulTec for painting location boxes. It is effective in reducing the inside temperature.



Rail Coach Factory (R.C.F.) Kapurthala & Integral Coach Factory (I.C.F.) Chennai has taken trial on the roof of A.C & Non A.C. Passenger coaches. It is found that in A.C. coach, INSULTEC coating saved 32% energy consumption as compared to other A.C. coaches in same atmospheric condition.

The Application Method:

For Asbestos, R.C.C & Cemented Surfaces:

1. Surface Preparation:

InsulTec consist of strong water based resins. So clean surface with water. Make surface dust & grease free; remove all previous coating, which may have loose bond with the surface.

2. PRIMER COAT:

If surface is permeable or porous apply one coat of diluted Insultec with 1:1 proportion of water or Seloxy Primer as an undercoat. In case of a surface with prominent surface cracks, fill up these surface cracks with Diamond Shield or any good quality crack filler before applying Insultec.

3. FIRST & SECOND COAT:

InsulTec can be applied by brush, roller or spray. Apply two coats of InsulTec after diluting it with 10% water. Keep an interval of 3-4 hrs between each coat.

4. For highly dusty area apply Glaze Coat for reduced dust collection and ease of cleaning.

For Galvanize Sheet/Metal Surfaces:

Clean the surface and make it dust, grease & oil free and then apply a coat of good quality Zinc Phosphate Primer to avoid corrosion of the metal sheet that may damage InsulTec membrane.

1. FIRST & SECOND COAT:

On primed metal surface apply two coats of InsulTec by diluting it with 10% water. Keep at least 3-4 hrs interval between two coats.

2. GLAZE COAT:

If necessary, apply GLAZE COAT on top of InsulTec coating to increase the gloss & finish of surface on metal roofing.

3. It can be applied as a final finish coat on InsulTec, to reduce cleaning the surface.



In South Africa, InsulTec coating has shown 10°C difference in temperature on petrol wagons. It reduced the evaporation losses.

InsulTec on petroleum tanks in China has proven very effective.



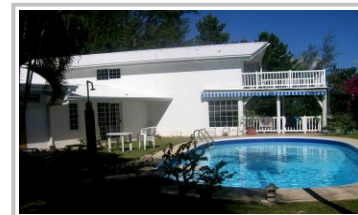
More than 30 bridges in Dubai are protected by InsulTec

InsulTec coating reduces inside temperature up to 15°C metal roof storage house



Application on Cement Roof and Wall

Satellite Dishes Stopped Wrapping after application of InsulTec.



InsulTec Keeps You Cool

InsulTec On BRISBANE Planetarium





Insultec is available in four different sizes. 1kg., 5kgs., 18kgs. & 50kgs.

Advantages of InsulTec:

- ✓ Unsurpassed solar heat insulation
- ✓ Saves energy, Reduces cost of Air Conditioning
- ✓ Waterproofing
- ✓ Provides longer life to structural surfaces, highly cost effective
- ✓ Decreases structural movement
- ✓ Zero running costs
- ✓ Suitable for roofs & walls
- ✓ Better work place efficiency
- ✓ Environment friendly
- ✓ Most effective in INDIAN & tropical climatic conditions
- ✓ Cost recovery by energy savings in less than 18 months
- ✓ InsulTec can be tinted with light pastel shades, however we recommend it to be used as it is.
- ✓ Proven in India from more than 10 years

The Applications:

- ✓ Galvanized sheets, Asbestos sheets or any metal Surfaces
- ✓ Petrol and Oil Storage Tanks
- ✓ Water Storage Tanks & Warehouses
- ✓ Industrial Sheds
- ✓ Aircraft Hangers
- ✓ Bridge and Highway Projects
- ✓ Residential and Commercial Complexes
- ✓ Shopping Malls & Multiplexes
- ✓ Satellite Dishes
- ✓ Containers & Portable Cabins
- ✓ RCC Slabs (Mosaic Tiles, China Mosaic & IPS)
- ✓ Waterproofing

Weather Tuff
Building Surface Solutions

202, Sarthak Complex-II, Nr. Swastik Cross Road, Navrangpura, Ahmedabad-380009. (Gujarat) INDIA.

Ph: 91-79-2656 2100 Telefax : 91-79-2656 4777

info@weathertuff.com

www.weathertuff.com