

EK Ecoline Cool Roof



EK Ecoline Green Roofs

The Chemistry of EK Ecoline Industrial Roofing Systems

Products Advantages

Fire Retardant



Commonly used material to put out fire, the natural properties of our products does not support fire combustion, stops surface spread of fire and reducing the intensity of flame. It self-extinguish when the fire source is put out..

- ☼ Clutters of mechanical systems can be easily hidden inside the space in between the external & internal covering
- ☼ Provide energy efficiency by acting as an double layer insulation with double to effectiveness in providing insulation for the factory. Eliminating the cost of additional heating and/or cooling of plant.
- ☼ Provide superior sound-proofing properties for the industries by doubling the naturally noise dampening material
- ☼ Prevents dust build-up on the steel structures in between, minimizing factory structure cleaning cycle by a great scale increasing production & operation performance.
- ☼ Prevents corrosive fertilizers from sitting on the structure in between the covering. Hence, minimising the corrosion rate, maximising structure protection. At a cost effective way.
- ☼ Prevents direct contact of moisture & chemical from the steel structure within and prevent the cost

Moisture Resistant



Chemically stable molecules of EK Ecoline Industrial Roofing System. Reaction of Chemical due to moisture is virtually impossible and provides strong resistant from fungus & bacteria growth. Specifically known as - Anti-Microbial

Why Reflective Surfaces Matters ?

Reflective surface are a form of geoengineering. It reduces the amount of heat transmitted into the building. Resulting in the decrease or eliminate the need for cooling systems, which in turn provides saving electrical and maintenance cost.

EK Ecoline Industrial Roofing & Accessories Systems consists of reflective surfaces which delivers high solar reflectance and high thermal emittance. The lighter the colour, the better the heat reflectance and thermal emittance. Therefore, the most recommended colour of our product is Light Grey. Light Grey colour provides a clean, maintenance free & energy efficient when installed.

The Chemistry

When designing an energy efficient industrial grade roofing systems, we are committed to pay serious attention to every aspect details. Taking into consideration of 3 main benefits to be delivered simultaneously as follows :

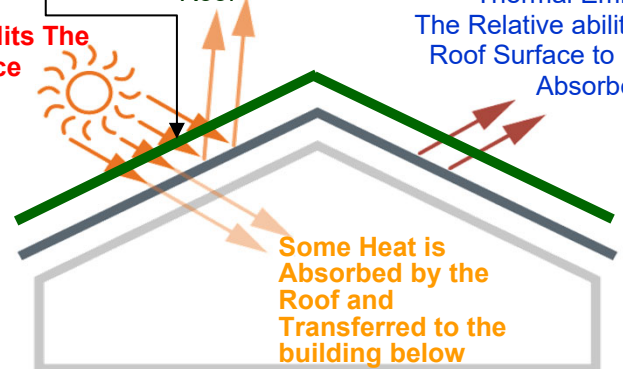
- ☼ High Solar Reflectance - Ability to reflect the visible, infrared and ultraviolet wavelengths from the sun. Value of 0 indicates the surface absorbs all solar radiation and a value of 1 represent total reflectivity.
- ☼ High Thermal Emissivity - Ability to radiate absorbed and/or non-reflected solar heat energy. value of 0 indicates the surface absorbs all solar radiation and a value of 1 represent total reflectivity.
- ☼ High Insulate Properties - Ability to reduce heat transfer between objects in range of radiative influence.

EK Ecoline Industrial Roofing Sheets

The Sun's Radiation Hits The Roof Surface

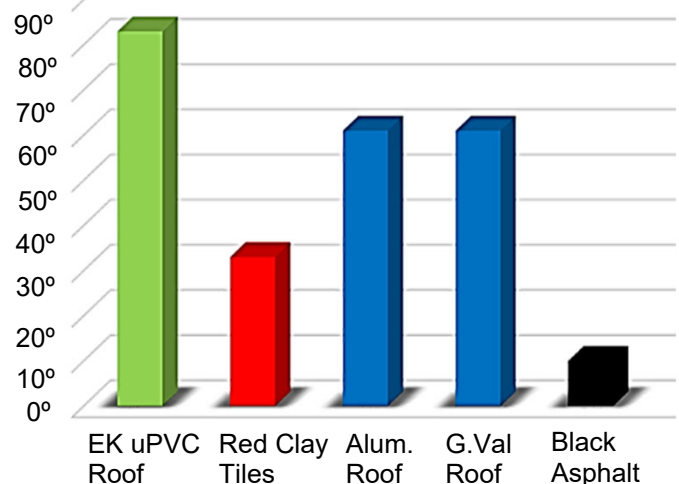
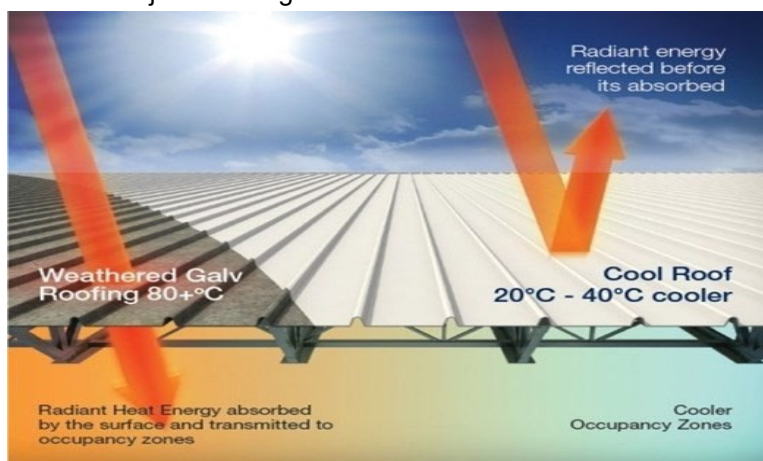
Solar Reflectance : The Fraction of Solar Energy that is Reflected by the Roof

Thermal Emittance : The Relative ability of the Roof Surface to Radiate Absorbed Heat



Indicative Values for Common Roofing Material Chart

Roofing Materials	Solar Reflectance Index	Thermal Emittance Index
EK Ecoline Roof	0.83	0.92
Red Clay Tiles	0.33	0.90
Aluminium Roof	0.61	0.25
Galvanized Roof	0.61	0.04
Red Concrete Tile	0.18	0.91
White Concrete Tile	0.73	0.90
White Asphalt Roof	0.21	0.91
Black Asphalt Roof	0.10	0.90



Single Material Equals Single Installation

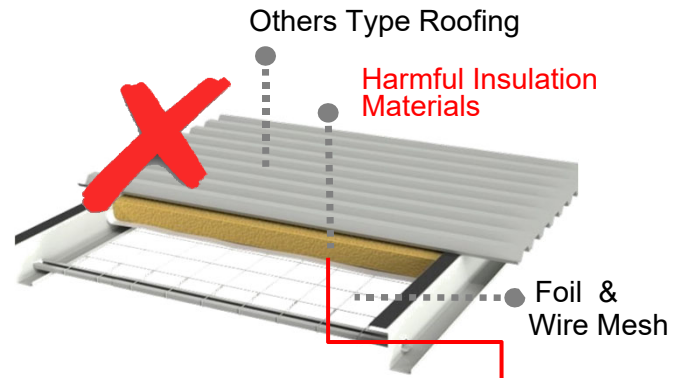
EK Ecoline Industrial Roofing & Accessories Systems achieve some of the highest solar heat reflectance & emittance measurements. Solar heat reflectance of up to 83% and emit a minimum 70% of solar radiation of the building, eliminating the usage of Fibreglass Insulation, Rockwool Insulation, Aluminium Foils, & Chicken wire.

Thus, eliminating the unnecessary cost of insulation material which will eventually eliminate cost of labour of installation for the insulation.

Elimination of Harmful Insulation Materials

When working with insulation materials, the small fibres may be swallowed or inhaled. The micro particles may remain in your lungs for long periods of time. Eventually leading to health problems like cancer. Since fiberglass first entered the market in the 1930s, it is the most widely used insulating material in the world. Which is why there are concerns that it may cause cancer and needs to be taken seriously. Many people know the pain that often comes from working with fiberglass.

Because it is made up of very tiny sharp particles, fiberglass often give you a very painful rash if it comes into contact with your skin. This can be very dangerous if it touches your face or eyes. Fiberglass is also known to cause problems with breathing while it is being handled, thus necessitating the use of masks, gloves, and protective eye wear. This material also has a tendency to settle and sink down into the wall over time, reducing the amount of protection that it provides.



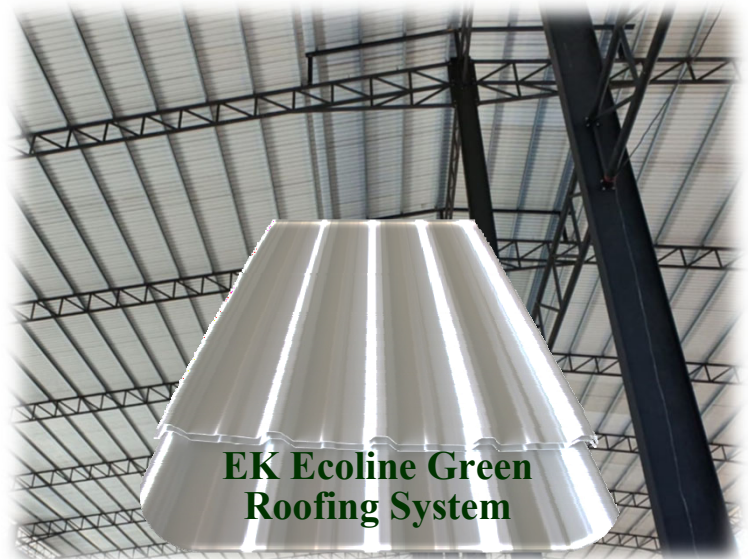
Toxic and Dangerous

Most insulation is generally toxic and dangerous, especially when you're exposed to it for a long time. Fortunately, insulation is installed in ways that minimize exposure to these risks. However, improper insulation can cause irritation, pain, or severe long-term effects



Toxic and Dangerous

**Eco-Friendly Roofing Materials from
EK Ecoline Roofing System.
Bring Unexpected Benefits for your Needs**



**EK Ecoline Green
Roofing System**

Products Advantages

Protection & Easy of Access

Clutter of ducts, wiring, network cables, plumbing and other mechanical systems can be easily hidden & protected inside the gap in between, sandwiching the mechanical systems inside and yet remaining accessible for repairs whenever required.



Environmentally Friendly

Our products can be easily recycle, reused and remanufactured into other uPVC products without complication. Thus, marking the start of reducing carbon footprint for the environment starts here



Superior Sound Proofing

Naturally found the physical properties of our products, Soundwaves are absorbed which results in low noise transmission and low noise reflectance by the acoustic properties. This helps to provide a quite & gentle environment for operation, minimizing distraction from the outside.

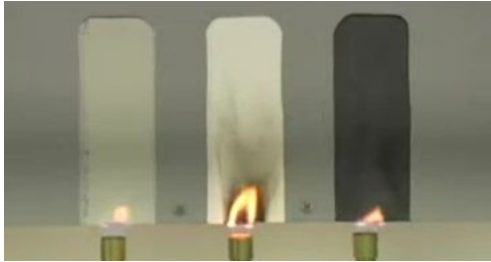


Energy Efficient

Acting as an element of insulation which helps to reducing the cost of electrical bill for unnecessary cooling & heating of plant. The high solar heat reflective index of our products helps greatly in optimizing the temperature within and provides a good insulation, energy efficiently.

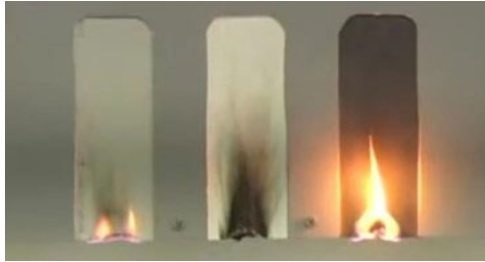


The Flammability Test (Further Details Refer SIRIM Tested Report - BS 8414 Part 1 : 2020)



TPO uPVC EPDM

Start of Burning



TPO uPVC EPDM

After 30 Seconds



TPO uPVC EPDM

After 60 Seconds

No Roof Are Created Equal

With the rise of competition in the market that is beyond our control, we are committed to provide the market with the highest quality product. Product of the same material consists of different quality & characteristic. The base material used for making of the product may be the same, but the performance of the end product will never be the same.

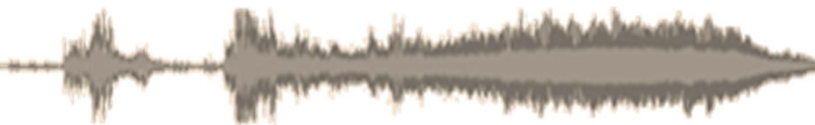
The Noise Test Evaluation

(Further Details Refer SIRIM Tested Report - ISO 1014 - 2 : 2010)

Part 2 : Measurement of Airbone Sound Insulation



Object (A) uPVC



Object (B) Metal

Experiment was conducted during the same weather conditions and similar noise collection Picture shows end results of the test & is considered part evaluation of experiment devices.

Experiment end results

Subject (A) : Resulted in 50% less noise

Subject (B) : Produces twice as much noise

(This tested according our in-house R & D Div)

The Physical Comparison



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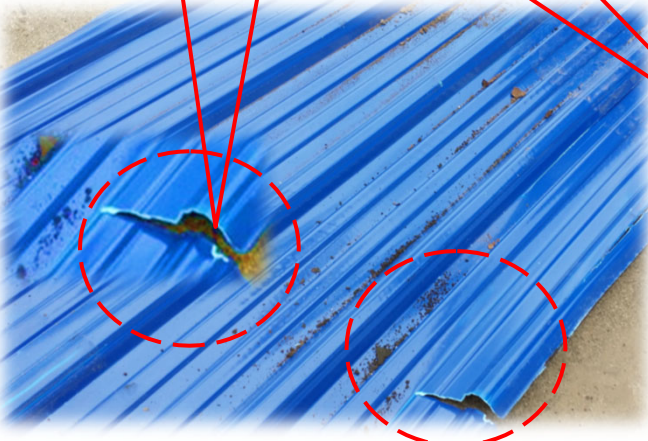
Our strength is our science.

The latest technology and strict control of our manufacturing processes, ensure

EXCELLENCE

Heavy Damaged
(Cracking) Due to
Impact

Others Multi
Layer Industrial
Roofing Sheet



EK Ecoline uPVC
(SL) Roofing
Sheet

