

NEW SYSTEM OF TEMPERATURE DECREASE

One of the newest technology



Sawaya, Inc

NEW SYSTEM OF TEMPERATURE DECREASE

The ROOF UMBRELLA is...

The ROOF UMBRELLA, developed by Sawaya, Inc., Japan, is a heat shield sheet to be installed on metal folded-plate roofs. The sheet was developed using the latest heat shield technology. The best features of the ROOF UMBRELLA are that it can be installed in a short period at a low cost, and shade can be provided easily. Accordingly, since the solar impact on the roof's surface can be reduced and the indoor environment can be improved, this epoch-making product produces a significant energy-saving effect.

In order to maintain a robust weather resistance, a polyethylene sheet with a specially treated surface is used as the main component of the ROOF UMBRELLA. By installing the stretched sheet at approximately 15 cm above the surface of the roof, a vent layer and shade are created under the sheet. In addition, there are many holes in the sheet, which prevent heat retention and flapping of the sheet caused by the wind, constituting another important feature of the product.

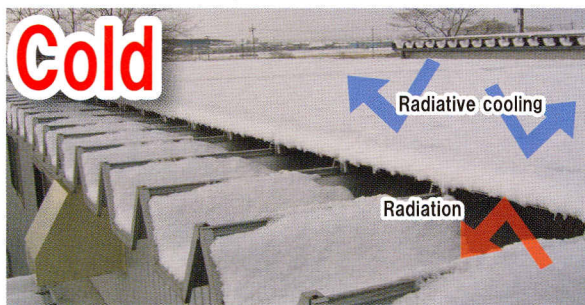
Prevention of temperature increases of the roof by the ROOF UMBRELLA will control the radiant heat inside the building, and alleviates indoor temperature increases. The consumption of electricity and gas used by air conditioners can be greatly reduced by the effect of the heat shield, which is one of the most significant effects of the ROOF UMBRELLA.



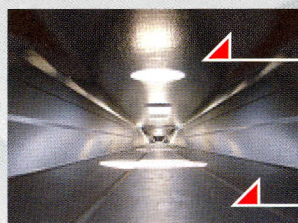
more effect
Reduce the sound of rain !!

Next, the reduction of noise from rainfall by the ROOF UMBRELLA is explained in the following. The ROOF UMBRELLA, which is installed so that the sheet covers the roof, occasionally functions as an umbrella for the building. Since the ROOF UMBRELLA prevents rainfall from directly falling on the roof, the noise from heavy rainfall hitting metal roofs will also be reduced. It is particularly effective against loud noise caused by squalls, a phenomenon peculiar to Southeast Asia.

Next, the differences in the durability of the heat shielding effectiveness between conventional products and the ROOF UMBRELLA is explained in the following. One of the most typical conventional heat shield products is heat shielding paint. With a high level of heat reflectivity, heat shielding paint demonstrates a heat shield effect; however, dirt and deterioration on the painted surface inevitably will degrade the heat shielding performance, making it difficult to maintain the effect over a prolonged period. On the other hand, the heat shielding by the ROOF UMBRELLA is based on the concept of shielding the solar energy, not reflection; therefore, the heat shielding performance can be maintained over a long period of time without deterioration, even though the surface of the sheet becomes dirty.

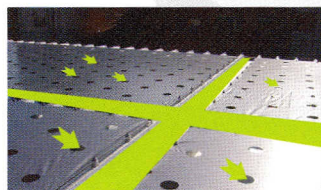


the atmosphere can be prevented at nighttime by the ROOF UMBRELLA acting as a shield, like a cloud (vapor) or dust; therefore, great effects can be expected in areas with extreme changes in daytime to nighttime temperatures, like deserts.

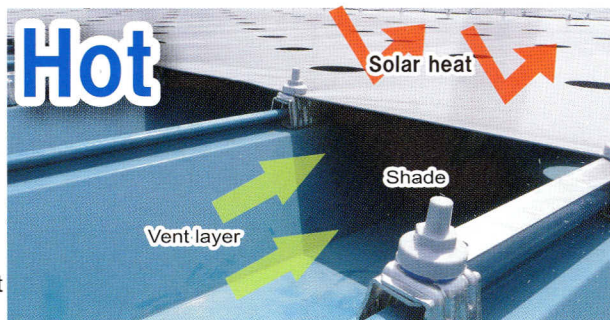
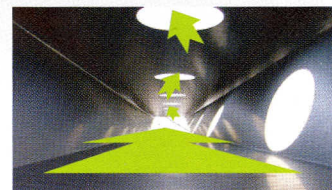


ROOF UMBRELLA

Metal folded-plate roofs.



Vent layer

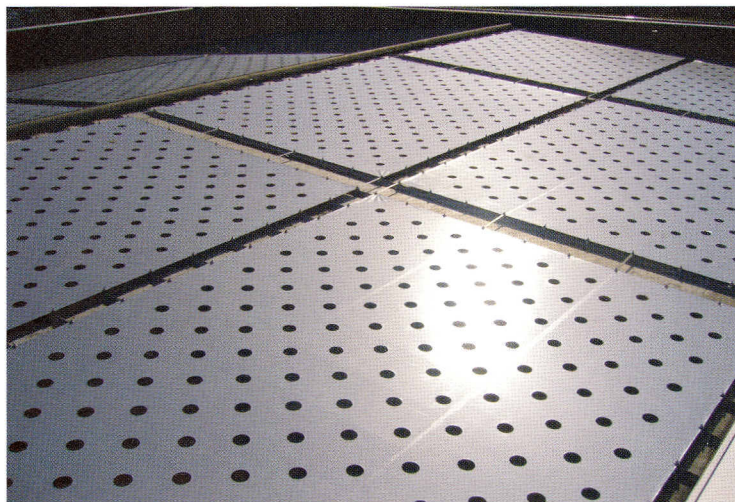


Next, the special effects unique to the ROOF UMBRELLA among heat shielding products, is explained in the following. The structure of the ROOF UMBRELLA, which covers the roof of a building with a sheet, prevents the radiative cooling from the surface of the roof, and demonstrates a heat insulating effect which prevents the indoor temperature from decreasing. Radiative cooling is a phenomenon which occurs from nighttime until early morning on clear and calm days with low humidity, and this phenomenon is prominent in valleys and basins surrounded by mountains or hills, continental inland areas, and particularly in deserts.

The solar energy can be shielded during the daytime, and radiation into the atmosphere can be prevented at nighttime by the ROOF UMBRELLA acting as a shield, like a cloud (vapor) or dust; therefore, great effects can be expected in areas with extreme changes in daytime to nighttime temperatures, like deserts.



Before installation

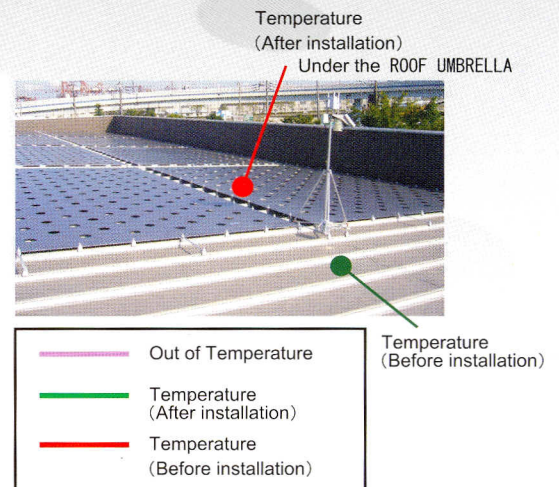
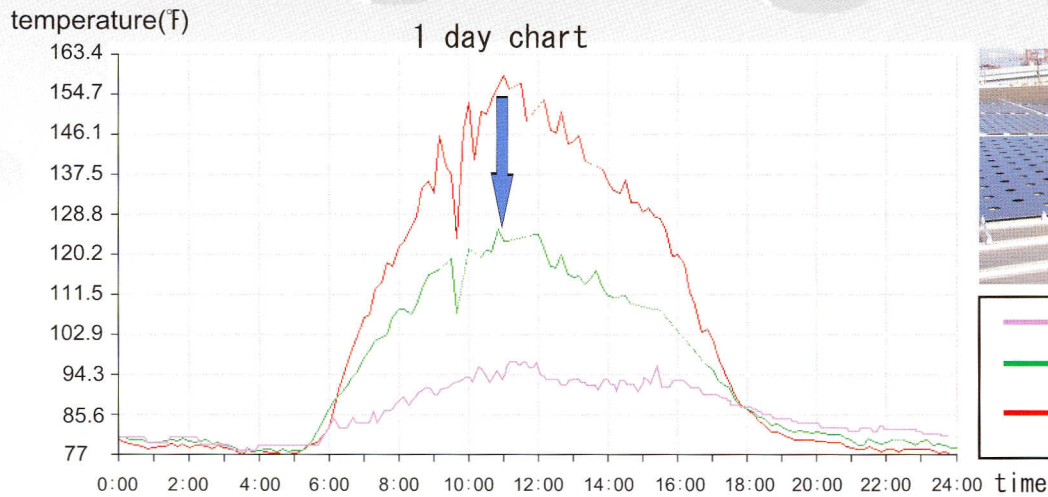


After installation

ROOF UMBRELLA

Global Warming Solution

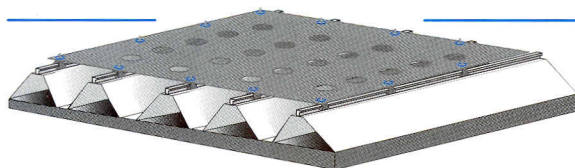
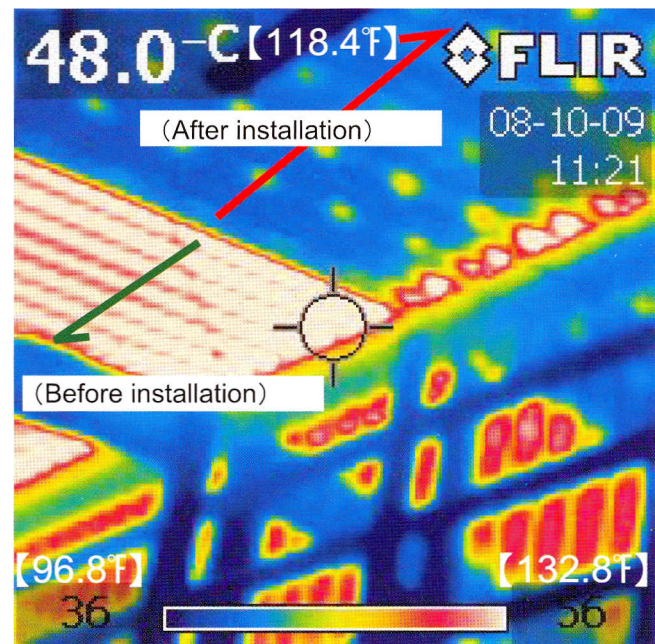
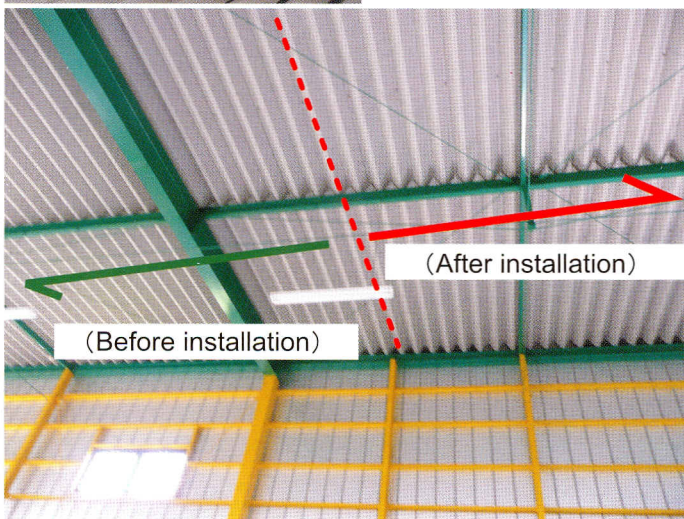
Measure temperature



After installation of the temperature change image



The maximum temperature is **68°F** lower



1. Shade or shadow of the roof sheets.
2. The effect of shadow, preventing the temperature rise of the roof.
3. Air layer prevents heat transfer between the roof sheet.

The main effect of the
ROOF UMBRELLA

Lower the temperature



Protection of a roof



Save energy



Reduction of carbon dioxide



Reduce the sound of rain

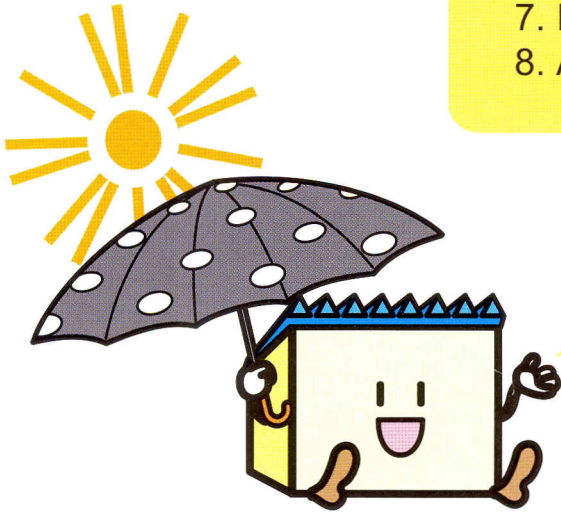


Effective thermal insulation
(Winter snow)



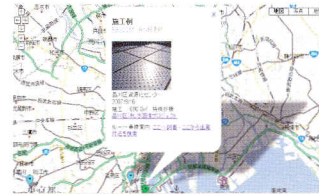
Mechanism of ROOF UMBRELLA

1. Low initial installation cost
2. Short installation period
3. Effective by 80% coverage of roof area
4. All recyclable materials after removal
5. Unchangeable effect by dirt
6. Soundproof effect for rain
7. Installation without damaging roof
8. Available for temporary rental housing by easy removal



Example installation

<http://www.308-al.co.jp/googlemap-hie.html>
(Japanese)



Sawaya, Inc

3-18-30 , ekinishihonmachi , Kanazawa , Ishikawa , 360-0018 , japan

TEL : +81-76-265-7532 FAX: +81-76-263-0655 E-mail : hie@308-al.co.jp

URL: <http://www.308-al.co.jp/coolroof1.html> [japanese only]