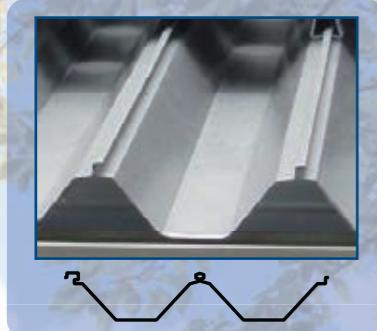


## Easy Installation

Roof Umbrella can be installed on boltless metal roof systems with special metal grips.



## Installation & Service

- Roof Umbrella Sheets
- Metal Grips
- 3 years warranty (conditions may apply)
- Annual inspection during warranty period.

## About Roof Umbrella Sheets

### ► Accelerated aging test

Roof Umbrella sheet has been tested for 11,000 hours in accordance with JIS A1415 (adopted from ISO 4892) and proved its durability and long life time under severe weather condition such as sunlight and rain.



### ► Wind resistance test

Evaluated strength of Roof Umbrella sheet against wind. The sheet without round hole could resist wind speed of up to 40 m/s (144 km/h).



### ► Fire exposure test

Roof Umbrella sheets has been tested and qualified with method adopted from ISO 12468.  
(Test method for external fire exposure to roofs)



Memo

## COOLER ROOF AND ENERGY SAVING



# ROOF UMBRELLA

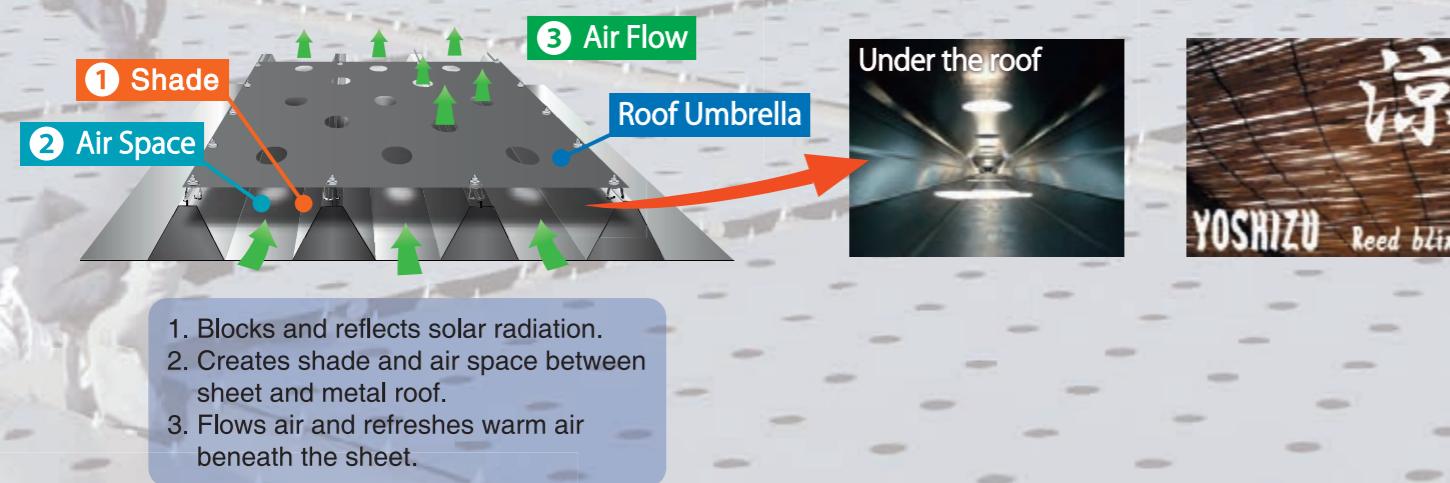
A Green Building Solution



## Mechanism of ROOF UMBRELLA

An innovative and unique insulation solution for metal roof inspired by Japanese traditional reed blinds "YOSHIZU".

Generally, insulation products are reactive. Sunlight hits the roof, then heat resistant coating reflects solar radiation or reduces the penetration of heat into the building by using polyurethane or glass fiber beneath the metal roof.



## Merits of ROOF UMBRELLA

Metal roofs are commonly used by factories and warehouses. Due to high thermal conductivity of thin metal sheet, we often face issue such as continuous operation of air-condition to cool down the atmosphere, noise caused by strong rain or conflict of thermal expansion and contraction.

Roof Umbrella an eco-friendly solution to improve such issues.

**\$0** No running cost.  
Not require surface cleaning (dust and dirt) regularly

**Calendar** Short period for installation and less depending on the weather

**2015 2016 2017 2018 2019** Perform effectively regardless of the elapsed year

**Water Drop** Durable and light material  
Tough weather resistant sheet

**Globe** Improve efficiency of air condition and save energy

**Recycle** Removable and recyclable material after use

## Reduce rain noise

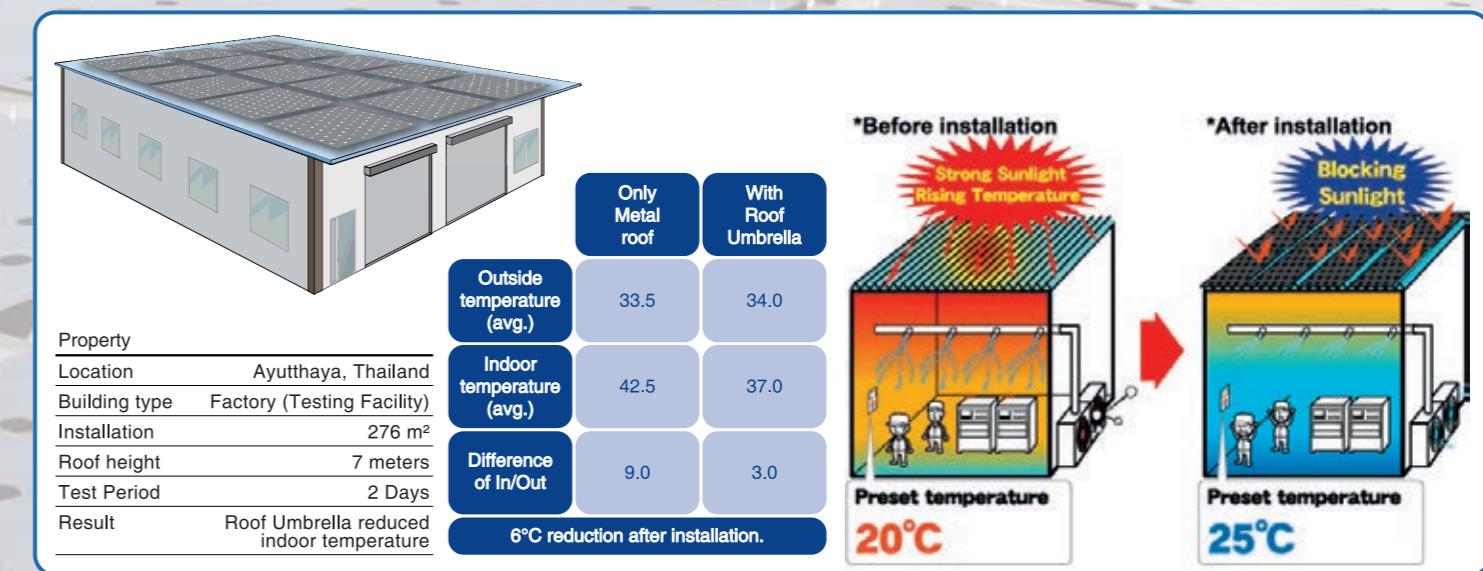
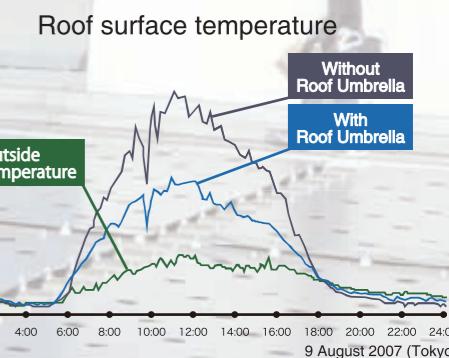
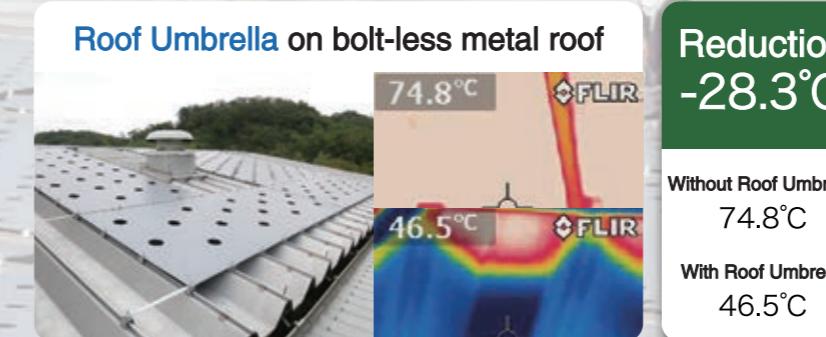
**Rain** -7~9dB  
**Hailstone** -15~16dB

Rain in tropical climate is very strong and makes loud noise when it hits the metal roof. Roof Umbrella protects the roof from heavy rain and reduces the noise problem.



## Reduce heat stress

Metal roof is heated to over 70°C by the sunlight during hot summer. Roof Umbrella performs huge temperature reduction on roof surface compare to non-treated roof.



## Energy saving

Saving energy through the year and reduce electricity cost. After installing Roof Umbrella, one of facility succeeded to reduce electricity consumption for air-condition by 24.2%\* and overall electricity bill by 16.2%\* (\*monthly average)



**Property**  
Location Ishikawa Japan  
Roof Space 843.2 m<sup>2</sup>  
Sheet Coverage 76%

**Result** Electricity (air-condition) cost reduction after installation (on the previous year)

**Demand Charge** -JPY 380,000 + **Energy Charge** -JPY 180,000 = **Total** -JPY 560,000/year  
Investment return 3.5 yrs

**CO<sub>2</sub> Reduction** 10.8t

\* Data based on this particular case.