

Thin Layer Rooftop Green System ECO GREEN MAT SYSTEM

Energy Saving Effect Report

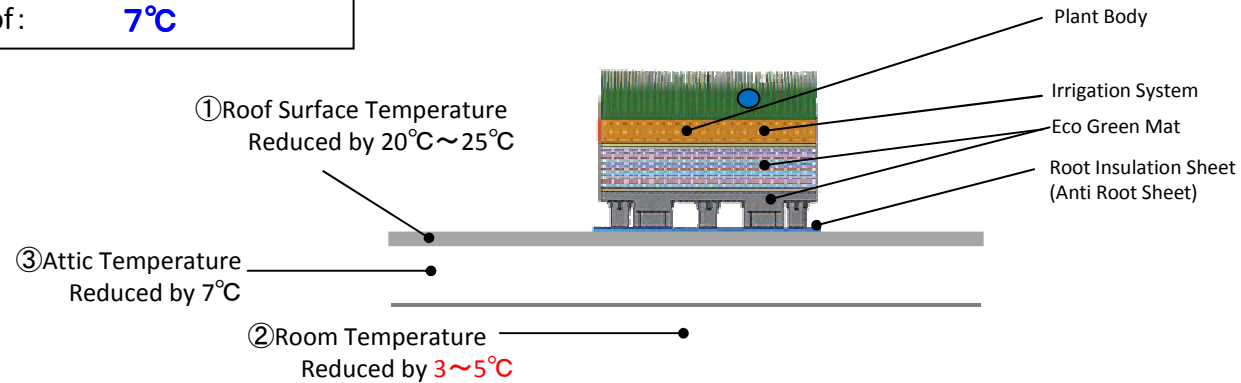
Rooftop Green System: Cost Efficiency and Benefits to the Environment

Environmental	Cost · Values	User Benefits
<p>① Air Purification Absorbs, purifies and immobilizes air contaminants such as Nox, Sox, etc.</p> <p>② Global Warming Prevention Absorbs, purifies and immobilizes greenhouse gases such as CO₂, CH₄, etc.</p> <p>③ Urban Weather Relief</p> <ul style="list-style-type: none"> · Plant evapotranspiration · Plant shading effect <p>④ Rainwater Use, Urban Flood Prevention</p> <ul style="list-style-type: none"> · Rainwater burst delay and relief · Rainwater and waste water recycle <p>⑤ Nature Revival, Ecosystem Preservation</p> <ul style="list-style-type: none"> · Better urban eco-friendliness · Biotope network <p>⑥ Scenery Improvement</p> <ul style="list-style-type: none"> · Designing urban scenery · Better urban amenity 	<p>① Energy Saving</p> <ul style="list-style-type: none"> · Summer indoor temperature rise relief · Winter heat-retention <p>② Building Protection</p> <ul style="list-style-type: none"> · Anti-erosion against acid rain, UV rays, etc · Reduced effect of temperature change on structures <p>③ Advertisement, Guest Attraction</p> <ul style="list-style-type: none"> · Building landscaping · Guest attraction facilities: rooftop garden etc <p>④ Making Use of Unused Areas</p> <ul style="list-style-type: none"> · Staff public health facilities · Open to the community 	<p>① Environmental Improvements</p> <ul style="list-style-type: none"> · Less reflection · Noise and wind prevention · Shading effect <p>② Better Privacy Line of sight blockage</p> <p>③ Mental Benefits</p> <ul style="list-style-type: none"> · Relaxation, richness of four seasons · Eye fatigue reduction <p>④ For the Elderly and Sick</p> <ul style="list-style-type: none"> · Horticultural therapy <p>⑤ For Children</p> <ul style="list-style-type: none"> · Aesthetic sensibility cultivation <p>⑥ Community Enrichment Engaging people in managing and growing nature</p>

The Benefits of Applying the Eco Green Mat Rooftop Green System Regarding Power Supply & Demand

1. Rooftop Green Installation Temperature Reduction (e.g.) *1

- | | |
|-------------------------|-----------|
| ① Rooftop Surface: | 20°C~25°C |
| ② Room Below The Roof: | 3°C~5°C |
| ③ Attic Below the Roof: | 7°C |



2. Electricity Charge Reduction (e.g.) *2

•Set Air Conditioner 1°C Higher → Save energy by 10% (ECCJ, The Energy Conservation Center Japan)

Electricity Charge Reduction

Room size **100m²** → Save about **JPY 500** /day = about **JPY15,000**/month

Temperature Reduction	Daily Heat Energy Insulation Volume	Electricity Charge	Room Size	Daily Electricity Charge Reduction *Running the air conditioner all day
3°C	0.6kWh/m ²	JPY5.0/m ²	100m ²	JPY500

*1. Test results are for your reference. We performed the tests in Tokyo in August, 2012. Results change depending on the season, structure and location of the building etc.

*2. The figures are for your reference, quoted from the example of Tokyo in April, 2011 made by ECCJ, the Energy Conservation Center Japan. Results change, depending on the environment and location.

Benefits of Rooftop Green by ECO GREEN MAT: GREEN HOUSE GAS REDUCTION

1. Absorb Green House Gas (CO2) *3

About 3°C reduced by Eco Green Mat Rooftop Green System

→ **CO2 Reduction: 21.6kg/day, 7.884Kg/year**

Temperature Reduction	Daily Heat Energy Insulation Volume	X Emission Factor	Room Size	Daily CO2 Reduction Volume *Running the air conditioner all day
3°C	0. 6kWh/㎡	0. 216kg/㎡	100㎡	JPY500

【Formula】 CO2 Emission Volume Kg (power equivalent) = Active Mass Wh X Emission Factor [0.36kg CO2/kWh]



※Ref. Annual CO2 Emission Volume Transition

From the downloadable charts of the JCCA, Japan Center for Climate Change Actions, web site.

*3. The CO2 reduction volume data is for your reference, tested in our company. Results change, depending on the environment and location.

Summary: Benefits of ECO GREEN MAT Rooftop Greening

Through Rooftop Greening by ECO GREEN MAT, you can expect the following:

- 1) **Reduce Expenses: Save air conditioning charges of the building**
- 2) **Longer Building Life: Anti heat and UV rays ability protect the building and its water proof layer from deterioration**
- 3) **To reduce temperature rise** from radiant heat caused by increasing buildings and waste heat from local life and urban activities.
- 4) **To contribute to society** through reducing greenhouse gases (CO2).