

# Green Shade™ Keeps Buildings Cool

## What Is Our New Technology?

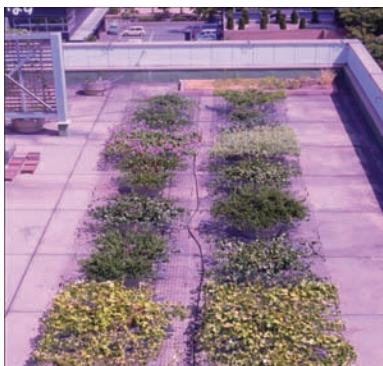
Green Shade™ is a simple, hassle-free solution for greening a flat roof. Unlike conventional green roof systems, Green Shade's™ installation is simple: Just lay them on the existing flat roof. No construction work is required.

Green Shade™ grows vine plants to a 78"x78" horizontal spread lifted in the air at 18" above the roof plane, creating a cool shaded air space on the roof. It consists of a light wire mesh space frame trellis and a 32"diameter round planter made of GRC (glass fiber reinforced cement.) The trellis is designed to protect plants from gusty winds and to bear up to an 8" snow load.

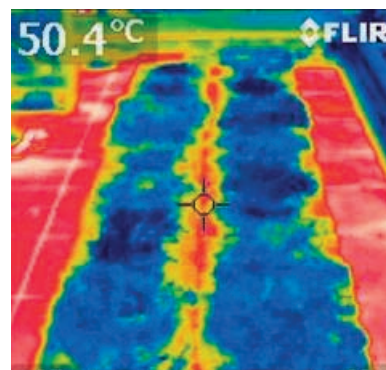
Green Shade™ features a low-maintenance rainwater irrigation system that requires no utility connections. The system provides water from the bottom of the soil. Inside the planter, a soil container is stacked over an 11-gallon rainwater tank. A pipe packed with calcined diatomaceous earth runs between them.

Rainwater will first permeate through the soil and drip from the container bottom holes, then will be stored in the tank. From the tank, the water will rise up in the pipe through capillary action in the diatomaceous earth granules. The granules purify the water before it reaches the soil.

## Thermal Effect of Rooftop Garden Trial



Rooftop of our company's R&D Center



Infrared thermographic view

(Picture taken 8/13/2008, 2pm, Sunny, High of 34.7°C)

## WHAT SETS US APART?

**Cuts Roof Heat Gain & Saves Energy:** During summer daytime, Green Shade™ lowers roof temperatures significantly as the thermograph image shows. In this instance, Green Shade™ lowered the roof surface temperature by 40° F. By blocking the heat contained in sunlight, Green Shade™ reduces the cooling energy spent in the building.

**Saves Water. Low Maintenance:** Once initially filled up, the water tank is designed to continuously provide irrigation water. In principle, it is a self-sustaining system. In many climate zones, only a monthly water level check and filling up the water tank a few times a year is necessary.

**Low Operation Cost:** Green Shade™ requires no utility connections. No utility costs involved except for water bills for a few fill-ups during a year cycle.

**Moveable & Easy Layout Change:** Each Green Shade™ unit is a freestanding planter independent from the building structure. Since there's no extensive mechanical fastening to the roof, Green Shade™ can be moved around to suit future needs; simply drain the tank, lift and move to a new location. Green Shade's™ maximum total weight including the plants and the full tank of water would add 8 psf in uniform live loads.

## WILL IT SELL?

Green Shade™ will appeal to facility managers & owners of all types of flat-roofed buildings. It offers a practical, simple solution for reducing roof heat gain without extensive construction work.

Installing Green Shade™ can enhance their building's energy efficiency. Currently Shikoku International is seeking distributors in all regions of the U.S. market.



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