

April 21, 2011

Sumitomo Forestry Co., Ltd.

Sumitomo Forestry Landscaping Co., Ltd.

**Sumitomo Forestry Landscaping Commercializes Folded Plate Roof Greening System
Announcing the Launch of *Koke Kanmuri*
Resilient against Sunlight and Dryness, Mitigates the Heat Island Effect
and Reduces Energy Consumption**

Sumitomo Forestry Landscaping Co., Ltd. (President: Yasuyuki Yamamoto; Head Office: Nakano-ku, Tokyo), a wholly-owned subsidiary of Sumitomo Forestry Co., Ltd. (President and Representative Director: Akira Ichikawa; Head Office: Chiyoda-ku, Tokyo) which provides comprehensive greening services, announces the launch of the *Koke Kanmuri* greening system that utilizes *Racomitrium* moss to green the roofs of folded plate roofed buildings.

Since *Racomitrium* moss is resilient against sunlight and dryness it does not wilt easily. Moreover, the use of non-woven cloth as a planting base eliminates the use of nursery soil, that can be blown away by strong winds. Having cleared the fire safety standards established by the Japanese Building Standards Act, this is a safe, reliable and highly functional roof greening system that has high wind resistance properties and complies with Japan's Factory Location Act that requires factories to create "green spaces" on their premises. Furthermore, it saves energy due to its ability to block solar heat, contributing to the realization of an environmentally friendly low-carbon society. Sales of the product are projected at 2,500 m² in the first year, with this to be gradually expanded.

■ **Key Features**

- (1) Energy saving: CO₂ reduction of some 16.8 t and utility bill reduction of some 630,000 yen per 120 days of air conditioner use¹
- (2) Heat island effect mitigation: Transpiration by *Racomitrium* moss helps dissipate heat and mitigate the heat island effect
- (3) Fire resistance: Clears "Testing of the fire-leaping properties of roofing materials" under Article 63 of the Building Standards Act
- (4) Low maintenance: *Racomitrium* moss is resilient against long-periods without precipitation and thus does not require a sprinkler system
- (5) Adopts non-woven cloth: Employs non-woven cloth as a planting base, thus eliminating the use of nursery soil that can be blown away by strong winds
- (6) Light/highly efficient for construction: With a panel thickness of approximately 18 mm, the total weight of the system is a maximum of 20 kg/m² when damp
- (7) Green space certifiable: May be eligible for grants depending on the municipal authority and complies with Japan's Factory Location Act (except in certain regions)

1. Calculation conditions – greening surface (1,000 m²), hours of sunshine during air conditioner use period (600 hours), air conditioner efficiency rate (0.84), CO₂ conversion factor of processed natural gas (2.28 kg·CO₂/N m²)

■ Product Outline

Product name: *Koke Kanmuri*

Launch date: May 1, 2011

Price: from 28,350 yen per 1.0 m² (incl. consumption tax)

Launch area: Nationwide excluding areas prone to snow cover or Okinawa Prefecture (in case of standard specifications)²

Moss panel measurements: Moss sheet (W×L×H) = 300 mm × 600 mm × 17 mm

Tray portion (W×L×H) = 302 mm × 600 mm × 10.5mm

2. Construction possible based on structural strength calculations in cases where roofs are higher than 15 m or in areas prone to snow cover

■ Growing *Koke Kanmuri*

The panel surface of *Koke Kanmuri* is covered with a protective layer. After installation has been completed, *Racomitrium* moss grows with rain water and sunlight alone, begins budding after three months, markedly turns a fresh green after five months, and grows to become like a single moss-green carpet after a year has passed. Although *Racomitrium* moss turns brown due to continued periods without precipitation, this does not affect growth.



Upon delivery

After 6 months

After 1 year

After 2 years

After 5 years

■ *Racomitrium* moss

A member of the Grimmiaceae family that is particularly resilient against sunlight and dryness, *Racomitrium* moss grows on dry rocks in alpine areas with good exposure to the sun. It is capable of adapting its physiological functions to the environment of its location, and does not require soil.

Distributed throughout the world, in Japan the moss is found from lowland to alpine areas.



When moist



When dry due to lack of precipitation

Corporate Profile of Sumitomo Forestry Landscaping Co., Ltd.

1. Established: April 1, 1977
2. President: Yasuyuki Yamamoto
3. Capital: 200 million yen (wholly-owned by Sumitomo Forestry Co., Ltd.)
4. Annual revenue: 21 billion yen (for year ended March 2010)
5. Head Office: 1-38-1 Chuo, Nakano-ku, Tokyo
6. Number of employees: 417 (as at March 2010)
7. Business activities: Housing exteriors and garden landscaping construction for private homes, urban greening, etc.