First in the world to offer a specification resistant to freezing damage and snow pack!

Using high quality acrylic coating technology as a countermeasure against freezing damage in cold areas

Thin, lightweight, flat decorative tiles tend to be susceptible to the load from snow pack due to the structure. They were not designed to be used in cold areas because under such circumstances, roof tiles tend to warp and the coating film surface deteriorates (cracks, fissures and color loss) due to changes in temperature.
Bambino Tegola uses high quality acrylic coating technology for use in cold and freezing areas. Bambino Tegola guarantees its products in cold areas with snow pack less than 2 meters.

**"Good news for cold areas with snow pack less than 2 meters!
We are glad to announce the launch of our new 10-year product warranty in April 2016."**

Snow pack countermeasures

Complete support for snow pack less than 2 meters Solid strength verified with load testing

Bambino Tegola's flat decorative tiles offer incomparable strength and durability. No abnormalities were found on the surface or the exterior while under a load of up to 10,000 N/ ㎡ (maximum snow pack of 2m) in the vertical load test."

10,000N/m²
(Maximum snow pack of 2 m)

"Vertical load test: Set up a 25 cm × 90 cm board and applied a load"

Freezing damage countermeasure

Our high quality acrylic coating features strong durability against changes in temperature

Flat decorative tiles generally require re-coating approximately every 5 years. However, Bambino Tegola offers a maintenance-free guarantee for 10 years. We use a 2-layer high quality acrylic coating technology, applying approximately 5 microns of pressure, to eliminate problems with paint peeling and color loss due to extreme cold and temperature changes, in areas where snow pack or freezing damage tends to occur.

■ Test results ■

Test items	Test cycles	Evaluation results
Freeze-thaw durability (ASTM-B method)	500 cycles	No abnormalities
	1,000 cycles	No abnormalities

■ Physical properties test ■

Test items	Test method	Evaluation method
Freeze-thaw durability (ASTM-B method)	The test is carried out based on item 3.3 in JISA1435. The test piece is submerged in fresh water that was between 5 and 35° C for approximately 24 hours and then the test piece is set inside the chamber of the freezing and thawing test system. It is frozen for approximately 2 hours in -20° C±2° C air and then it is thawed for approximately 1 hour in 20±2° C water. The freezing and thawing operations are performed for the specified number of cycles, where 1 cycle lasts approximately 3 hours. The test piece is visually monitored checking for changes in the surface and peeling/separation between the coating layers.	Make sure there are no abnormalities on exterior (peeling, cracking)

Physical properties test results from partnering coating manufacturers.
""No abnormalities"" were found after the freezing evaluation test was performed on the coating film.

Color variation with a rich variety of options available to match the specified building

There are 7 types of color variation available. With acrylic silicone coating, the product is guaranteed for a 15 year period with minimal color fading due to UV light.

*Please note that the specifications for the products described may be changed without prior notice for improvement purposes. *There are disclaimers for each guarantee. Please contact us for further details.

Yamatoslate Co., Ltd. Roof Tiling Division / Sales Promotion Division

4611-6 Shimo-ota, Inashiki-shi, Ibaraki-ken, 300-1424
Phone: +81-297 (86) 6246 Fax: +81-297 (86) 6245 E-mail: s.toyota@yamatoslate.co.jp

http://www.yamatoslate.co.jp/

1703C5 (E) -1

High performance | Aesthetic beauty | Strong resistance against natural elements

World's first 10 year warranty against freezing damage

Bambino Tegola offers these 3 features to "Change roofs in Japan"

Bambino Tegola

5 reasons why Bambino Tegola can be called the "Next generation of standard roof tiles"

1 High quality but inexpensive
Low costs

2 Offers ultra-lightweight technology
Earthquake-resistant

3 Against rain, wind, sunlight, fire and freezing
Guarantees peace of mind

4 Looks beautiful and comfortable to live under
Comfortable and good environment

5 Consolidates installation hassles and time
Easy installation

Yamatoslate Co., Ltd.

High performance provided by nanoscale technology

Ultra-lightweight technology
High strength
Durability
Weather resistance
Comfortability
Good environment
Cost performance

Look at the figures for cutting edge technology

High Quality & Inexpensive

Easy installation

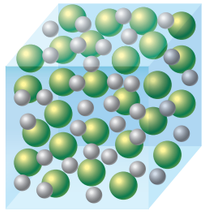
× 4.5 tiles / m²
*Our flat decorative tiles: 6.0 tiles / m²

High strength through densification

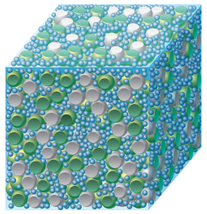
Manufacturer's warranty

1/20,000 & 15 year period

Guarantees peace of mind



Conventional technology Flat decorative tiles



Conventional technology Bambino Tegola

The material undergoes densification (nanoscale technology) with a pore size of 1/20,000 mm, increasing the tile strength and durability.
Our 15 year manufacturer's warranty offers the customer peace of mind.

*Confirmed durability for 20 to 30 year period using internal test data.

We achieved a roof load of 200 N/m² (20 kg/m²). Our tiles are significantly more lightweight than general ceramic flat tiles, thereby reducing dramatically the load on the building. This is extremely useful in designing an earthquake-resistant house. The roof materials also contain zero asbestos to ensure a good, healthy environment.

Earthquake-resistant
Good environment

200N/m² & 0

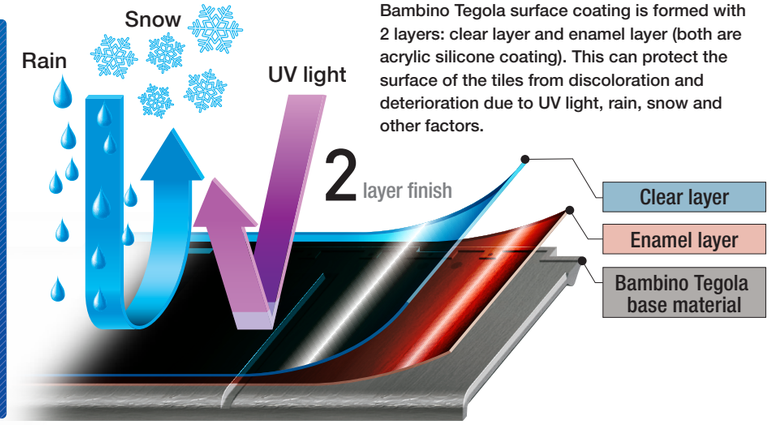
Asbestos

Types	Load per 1 m²
Bambino Tegola	20kg/ ㎡
Flat decorative tiles	18 ～ 24kg/ ㎡
Flat cement tiles	45kg/ ㎡
Ceramic flat tiles	67.5kg/ ㎡

*Load comparison table for Bambino Tegola roofing and our conventional roofing

Lightweight design helps earthquake resistance

Acrylic silicone coating



Bambino Tegola surface coating is formed with 2 layers: clear layer and enamel layer (both are acrylic silicone coating). This can protect the surface of the tiles from discoloration and deterioration due to UV light, rain, snow and other factors.

Offers both a sense of sturdiness and comfort

Average thickness **6mm** → Apparent thickness **25mm**

Comfortability

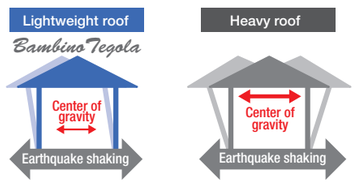
The tile thickness is only 6 mm, but our unique thin-plate 3D molding technology gives it an apparent thickness of 25 mm.
There is a gap of air provided between the tile and the roof bed, and the air circulating under the roof counteracts the deterioration of the roof bed. The direct sunlight from the summer can be alleviated and the warm air can be kept inside the room during the winter, helping maintain a comfortable environment throughout the year.

+1 [Plus one] Extraordinarily tough against natural disasters

Strong resistance against earthquakes.

Earthquake-resistant structure with low center of gravity

Providing an ultra-lightweight design using nanoscale technology helps reduce the load of the building itself, lowering its center of gravity. This mechanism minimizes the shaking of the building during an earthquake and helps mitigate the earthquake damage such as collapses and fissures.



Strong resistance against fires.

Approved as incombustible roofing material

The roof is made from incombustible material approved by the MLIT minister to help counteract a fire in the event of one.
Bambino Tegola uses an incombustible cement-based material (incombustible NM-2747). It also can be used for homes which require a fireproof structure or semi-fireproof structure.

Beauty of Bambino Tegola when seen in new construction and remodeling examples

A lot of good feedback nation-wide

New construction examples

Raise the quality of the building regardless of the roof configuration or style


Hitachinaka, Ibaraki


Ashikaga, Tochigi


Sendai, Miyagi


Karuizawa, Nagano


Tachikawa, Tokyo


Fukuoka, Fukuoka

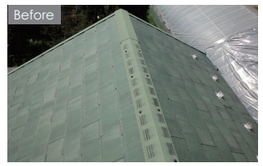

Akune, Kagoshima

Remodeling examples

Before and after images make you do a double-take with its luxury style finish

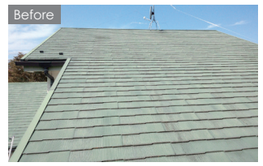
After more than 15 years, uneven coloring from discoloration and cracks start to stand out on the tile surface.

The Limited Shade was chosen to give a drastic image change for the roof.



Flat decorative tiles after close to 20 years. Roof seems to have a patchy pattern because of some faded tiles.

Renewed with Bambino Tegola. Roof now has a sturdy look.



Flat decorative tiles after 20 years curve up and ripple because the tiles are thin.

The Limited Shade was selected to provide a calming luxury style finish and brighten up its appearance. New skylights were also installed.