



1. Manufacturer

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2. Product Description

Shikkui Takumi is a natural lime plaster with advanced humidity control and air purifying functionality for creating a highly health-conscious interior environment. Employing the health-beneficial Shikkui plaster features, it also contains a special large-grain, high density and high porosity Wakkanai diatomaceous earth (that underwent further geological transformation compared to conventional diatomaceous earth). It serves as Takumi finish or as Takumi Base with other with other fine Shikkui finishes over it.

3. Features

- Highly humidity-regulating (actively helps reduce humidity by absorbing access moisture in the air and releasing it back when the humidity is low), which helps prevent mold and mildew.
- Odour eliminating (beyond “odour free”), zero-VOC, and non-toxic
- Naturally antibacterial (excellent combination with humidity control as they both fight mold/mildew), antiviral, and antifungal
- Antistatic and hypoallergenic
- Natural mineral material
- Interior application
- Trowel application
- Excellent workability
- Cradle to Cradle certified (Silver)

4. Packaging and Coverage

Shikkui Takumi L is packed in 20+10kg sacks with 33% Wakkanai diatomaceous earth grain.
Shikkui Takumi M is packed in 20+3kg sacks with 13% Wakkani diatomaceous earth powder.
Shikkui Takumi S is packed in 20+2kg sacks with 9% super-white fresh water diatomaceous earth powder.

Package	Application Thickness	Coverage		Min Cure Time
		m2	ft2	
30kg (66lb)	1.6-1.8mm	20	215	24 hours
23kg (50.6lb)	0.6-0.8mm	32	340	24 hours
22kg (48.4lb)	0.5-0.7mm	36	385	24 hours

6. Colors

For tinting, please use manufacturer’s liquid colorants that are best compatible with the product, UV resistant, alkali-resistance and VOC free.

7. Mixing Instructions

Always wear a dusk mask or respirator when mixing Shikkui. Please refer to SDS for details.

Mixing water instructions

- Mix the material, colorant and 90% of the below recommended amount of water at once.
- Add the remaining 10% of water to reach a softer consistency suitable for application.
- As the highly porous moisture absorbing diatomite will be gradually absorbing some of this water if the premixed material is not applied immediately, a small amount of additional water may be needed to maintain an easy application consistency.

Recommended water amount

Initially 14.5 L (3.8 gal) of water for 30 kg of plaster. Optionally add more water prior to actual application for the better application consistency.

8. Application Instructions

See Application Scheme for details on application steps.

General Guidelines:

- Ensure that the target substrate is clean, dry and stable. If necessary, perform a standard patching and joint treatment.
- Prime the substrate with Shikkui Primer to ensure proper water absorption control. Let it dry well.
- Apply Interior Base in a thin skim coat, working the material in all directions to achieve a strong bond. Let it dry for 5-15 min. Optionally apply another coat to level out the surface further. For the best flat and consistent Shikkui Takumi finish effect, the base coat’s surface should be consistently flat. Let it dry well. This may take at least a few hours depending upon site temperature and humidity.
- Apply Takumi finish in the first thin skim coat, working the material in all directions to create the bond with the surface. Let it dry for 10-20 min until it visually loses moisture and is firm to touch. Apply the second coat to create the target thickness, also first working the material in all directions to spread the material evenly and prepare the final texture. Let it dry for another 5-15 min, then repeat the final touch (or do the final touch without waiting, depending on the final desired texture). Final touch should be done by troweling only in one direction. Drying time: approx. 24 hours.
- [Optional] Apply another Shikkui finish coat (Sora or Izumi) over dried Takumi if you wish to create textures and surfaces other than what is achievable with Takumi and to utilize the design

features of Sora or Izumi finishes. (This will not affect the air-cleaning and humidity-regulating performance of Takumi as other Shikkui finishes are breathable and only contribute to Takumi's performance if applied over it. Please Section 10 for test results.)

- [Optional] If you wish to protect the surface of Takumi or Sora / Izumi against water and staining, please use only topcoats/sealers supplied or approved by Tagawa Sangyo to ensure product compatibility and not to compromise the performance of Takumi.

Notes:

(a) The actual application depends on application method, optional aggregates and a desired surface texture/effect. The site temperature and humidity may influence the drying time. Please consult with the manufacturer or distributors about application for your particular project.

(b) Shikkui is a natural material and if left in its natural state, will allow the substrate to breathe. If protection against high humidity is required, it can be mixed with 100% natural soybean oil and/or sprayed with a silicon-based agent after completely dry. See Application Scheme for details.

(c) Most Shikkui plasters are relatively easy to apply, allow fast application, thin application layers and low material consumption. However, the specific techniques and timing are critical, therefore for applicators we highly recommend to attend at least one Shikkui workshop.

(d) Use adequate tools to ensure high performance and workability.

(e) Apply the materials at the temperature range 45 - 95F (5 - 35°C).

9. ASTM Test Data

All ASTM tests were carried out by accredited testing laboratories in the United States.

9.1 Fire Resistance (ASTM E84)

The test was conducted in accordance with the International fire response standard ASTM E84, "Surface Burning Characteristics of Building Materials", also referred to as Steiner Tunnel Test.

Flame spread index	0
Smoke development index	0
Classification by ASTM E84	Class A

Class A corresponds to **Type I** in other codes.

9.2 VOC Content (ASTM D3960)

The test was carried out in accordance with ASTM D3960, "Determination of Volatile Organic Compound (VOC) Content of Paints and Related Coatings".

VOC	
Grams/Liter	Pounds/Gallon
0.7	0.0

The result implies a **Zero-VOC material**.

9.3 Mold/Fungal Resistance (ASTM D3273/D3274)

Testing conducted in accordance with procedures outlined in ASTM D3273 "Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber" and ASTM D3274 "Evaluating Degree of Surface Disfigurement of Paint Films by Microbial (Fungal or Algal) Growth or Soil and Dirt Accumulation".

The coated test panels did not exhibit any fungal growth on the face or back of the test panels after 28-days of exposure (**ASTM Rating 10**).

10. Humidity Control Test Data

Humidity absorption performance was tested with Temperature Humidstat, which can control temperature within 10°C - 50°C range and humidity within 15% - 95%.

Test procedures

1. The test started by letting the plaster surface dry for 48 hours at 23±2°C and humidity of 45±5%.
2. Test cycle (I)
 - 2.1 Humid environment: 24 hours at 23±2°C and humidity of 90±5%.
 - 2.2 Dry environment: 24 hours at 23±2°C and humidity of 45±5%.
3. Test cycle (II)
 - 3.1 Humid environment: 24 hours at 23±2°C and humidity of 90±5%.
 - 3.2 Dry environment: 24 hours at 23±2°C and humidity of 45±5%.

Test results

#	Base coat	Finish coat	Humidity absorption capacity, g/m ²
1	Interior Base (0.5mm)	Shikkui Sora (0.4mm)	7
2	Interior Base (0.5mm)	Shikkui Takumi L (1.8mm)	114
3	Interior Base (0.5mm)	Shikkui Takumi M (1.8mm)	47
4	Interior Base (0.5mm)	Shikkui Takumi S (1.8mm)	24

11. Certifications



Shikkui Takumi is certified with **Cradle to Cradle** at Silver level by McDonough Braungart Design Chemistry (MBDC).
More details on:
<http://www.mbdc.com>

12. Clean Up

Freshly mixed and still wet Shikkui Takumi cleans up easily with water. If the material is left for a long time (days), it can only be removed by mechanical abrasion or scraping.

13. Maintenance

The product would require no additional maintenance if installed following proper and accepted procedures.

14. Limited Warranty

Manufacturer expressly warrants that all its products shall be of Manufacturer's standard quality and for a period of (2) two years from the date of the purchase, products will be reasonably free of defects in materials and workmanship according to the technical specifications of this building material as described in the technical data sheets. Manufacturer warrants its products to be fit for the ordinary purpose for which they are intended, provided that the products prior to the installation were stored and handled in the manner recommended by manufacturer in the original package.

Manufacturer makes no other warranties, express or implied: there are no implied warranties including warranty of merchantability or fitness for a particular purpose.

Due to the variety of uses and applications of manufacturer's products, manufacturer does not make any warranties that can be attributed to external aspects related to improper application and craftsmanship, structural movements and cracking, stability of the substrate, problems caused by water penetrating underneath base coat (either due to structural issues or installation), structural cracking, acts of God and other external factors.

14. Storage

Powder: at least 2-3 years if stored under dry and cool conditions (5 – 25°C) in the original package.

Last modified: 25 April 2019