Shikkui™
surface coatings

Daichi

Product Data Sheet

1. Manufacturer

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2. Product Description

Daichi is a diatomaceous earth plaster exceptionally advanced in humidity control and air purification for creating a highly health-conscious interior living environment. It is based on a proprietary formulation that utilizes a special high density and highly porous Wankkanai diatomaceous earth (that underwent further geological transformation compared to conventional diatomaceous earth) and additives that further boost its performance. Applied by trowel, it provides a relief grainy texture with **Daichi L** (50% large grain diatomaceous earth) or fine flat finish with **Daich S** (35%fine diatomaceous earth) or **Sanga**

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”), air cleaning, zero-VOC, and non-toxic
- Natural mineral material
- Interior application
- Trowel application
- Excellent workability
- Durable, water-resistant finish

4. Packaging and Coverage

Daichi L comes in a 6kg package that consists of: 4 kg base, 1 kg color pack, 1 kg binder.
Daichi S comes in a 5.5kg package that consists of : 3.5kg base, 1kg color pack, 1kg binder.

Package	Application Thickness	Coverage		Cure Time
		m2	ft2	
6kg (13.2lb)	1.5-2.0 mm	3.6	39	24 hours
5.5kg (12.1lb)	0.6-0.8 mm	7.5	80	24 hours

5. Suitable Substrates

See Application Scheme for detailed explanations.

6. Colors

If tinting beyond the existing color pack is required, please use manufacturer’s liquid colorants that are best compatible with the product and VOC free.

7. Mixing Instructions

Always wear a dusk mask or respirator when mixing Daichi. 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 2.4 L (81 fl oz) of water for 1 set 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 Daichi in the first thin scratch 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*] Since Daichi L has a grainy texture, if a flat finish is required, you may use a thin final coat layer of Daichi S or Sanga, also diatomite plasters in the same product line, which have much finer compositions. (This will not affect the air-cleaning and humidity-regulating performance of Daichi L as Daichi S or Sanga is also highly breathable and only contributes to Daichi’s performance if applied over it. Please Section 10 for test results.)

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) Daichi and Sanga are natural mineral plasters that allow the substrate to breathe. The recommended application areas: living and working spaces. Not suited for exterior applications or wet areas such as shower rooms. If used in bathroom or kitchen where frequent water splashes and staining are likely, an additional breathable transparent protection coating is highly recommended (ask manufacturer or distributor for details).

(c) Daichi was developed to have an easy and straight forward application. No base coat is required. Ensure that the substrate is very clean, dry stable and primed.

(d) When all its three components are mixed (base, color pack, binder), Daichi has to be applied within the next several hours. Stored mixed material will not be usable on the next day as it'll harden.

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

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

9. ASTM Test Data

The ASTM test was carried out by an accredited testing laboratory in the United States.

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.

10. Humidity Control Test Data

Humidity absorption performance was tested with Temperature Humidistat, 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 25°C and humidity of 50%.

2. Test cycle (I)

2.1 Humid environment: 24 hours at 25°C and humidity of 90%.

2.2 Dry environment: 24 hours at 25°C and humidity of 50%.

3. Test cycle (II)

3.1 Humid environment: 24 hours at 25°C and humidity of 90%.

3.2 Dry environment: 24 hours at 25°C and humidity of 50%.

Test results

#	Finish coat	Humidity absorption capacity, g/m^2
1	Daichi L (1.8 mm)	201
2	Daichi S (1.8 mm)	138
3	Sanga (1.8 mm)	106

12. Clean Up

Freshly mixed and still wet Daichi 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: 1 May *2019*