



Shikkui™
surface coatings

by  **Tagawa Sangyo**
sustainable surfaces



www.shikkui.com

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About Us

Tagawa Sangyo Co., Ltd. is Japan's leading manufacturer and developer of sustainable surface finishes. Founded in 1924, our company specializes in lime-based products, and has earned a national and international recognition as the prime innovator in this field.

Mission Statement

We commit ourselves to continuous development of our lime-based technologies, and to creating a healthy environment with natural and beautiful products that last.

Our Philosophy

"Shikkui" is the core word that stands for our beliefs. Shikkui - traditional Japanese lime plaster made of natural and high quality components, and has been used in Japan for over one thousand years. We revived and improved the traditional technologies giving them a new life and innovative applications. Shikkui is more than a brand name. It is our firm belief in a sustainable future, where beautiful and high quality products come directly from nature and later return to it without harming the environment.

Corporate Profile

Company name:	Tagawa Sangyo Co., Ltd.
Address:	Yugeta 1924, Tagawa City, Fukuoka Pref., 826-0041 Japan
President:	Nobuyoshi Yukihiro
Established:	1924
Area of Business:	Natural limestone-based building materials and interior design products
Latest Awards:	2008: Remarkable Achievement in Recycling Award, Ministry of Environment 2007: Monodzukuri - Japan Prime Minister's Grand Award 2004: Good Design Special Award - Ecology Design Award 2003: Fukuoka Industrial Award - Excellence in Environmental Consciousness
Certifications:	Cradle to Cradle [Silver] (Shikkui, Limix, Ecopo, Lumie CUBE) Eco Mark (Limix)



Since
1924



SHIKKUI SURFACE COATINGS is a natural lime plaster system engineered by **Tagawa Sangyo** for walls and ceilings that achieve a stunning range of traditional and modern finishes, including a full range of Stucco Veneziano and Marmorino, various trowel-applied Japanese textures, as well as sprayable finishes.

Shikkui coatings are zero-VOC, non-toxic, and made with up to 50% reprocessed eggshells - a rapidly-renewable, pre-consumer source of high-grade calcium carbonate. The coatings are highly porous and naturally antiseptic, so indoor air quality is actively improved for healthier spaces.

All Shikkui products by Tagawa Sangyo are manufactured in Japan under strict requirements to product quality and human health. The manufacturer stands behind its quality claims with an unprecedented 10 year limited warranty.



Shikkui on exterior and interior walls of Osaka castle, Japan

Creative Applications

The versatile Shikkui product lines are ranging from high-end decorative finishes to cost-saving solutions both for public sector and commercial projects.

A special large-grained diatomite, as an additional natural additive, boosts the humidity-control properties of Shikkui, thus actively contributing to ultimate indoor comfort that reduces the workload on a building's HVAC system.

Whether it's a luxurious stone finish for residential or hospitality projects, low-maintenance exteriors of commercial buildings, new construction or renovation project, smooth or textured surfaces - the innovative and flexible Shikkui system has been engineered to deliver any desired results without compromising on quality or sustainability.



Highly polished Shikkui Noro

Overview of Shikkui features

- **All-natural lime plasters** based on slaked lime of high calcium purity, pure white marble, natural plant fiber, seaweed extracts;
- **Durable and crack-resistant surfaces designed to last;**
- **Versatile applications by trowel, spatula, roller or sprayer;**
- **Exterior surfaces** with advanced anti-weathering and anti-efflorescence protection;
- **Humidity-regulating and antimicrobial properties;**
- **Odour free, zero-VOC and non-toxic;**
- **Truly time tested - used for over a thousand years;**
- **Environmental and performance claims backed up** by third-party tests and the prestigious Cradle to Cradle certification.



To explore how Shikkui finishes can contribute to your project, please see our product lines:

- **Shikkui Sora** - modern versatile and creative textures (page 12)
- **Shikkui Izumi** - fine Stucco Veneziano surfaces (page 13)
- **Shikkui Shirokabe** - traditional Japanese finishes (page 14)

The core components of Shikkui and their origin:

Slaked Lime

Shikkui's slaked lime is made from Kansui marble - the purest white marble found on Kyushu island (very close proximity to Tagawa Sangyo) in Japan. The whole slaked lime production is done by Tagawa Sangyo itself.

Slaked lime acts as a natural binder in Shikkui lime plasters and provides high alkali properties to the material (12 pH), which naturally kills bacteria and viruses. As time passes, it absorbs carbon dioxide (CO₂) from the air, gradually hardening and turning back into calcium carbonate - the process called "carbonation".

Marble Powder

Calcium carbonate in Shikkui plasters is the pure white Kansui marble crushed into powder. Some additional textures of Shikkui are also done using Kansui marble in various granulate forms. The Kansui marble powder/granules contribute to the Shikkui's hardness and help balance its composition.

Soybean Oil

Natural Japanese soybean oil is included in some Shikkui finishes and can be optionally used in others. It improves workability, and naturally boosts water-repellent properties of Shikkui plasters, which is important for exterior applications and other high humid environments.

Diatomaceous Earth

The large-grained Diatomaceous Earth is a unique type of this mineral found only in Japan, and is highly porous/absorbent, which makes it a very effective regulator of indoor humidity. It has a large capacity to absorb extensive humidity from the air, and to release it if the air is dry. Also absorbs and traps VOC gasses and odour. Much highly porous and effective compared to the normal powder-type (small-grained Diatomaceous Earth). Patented Tagawa Sangyo's finishes containing this type of Diatomaceous Earth are actively used and promoted by PanaHome - the housing division of Panasonic.



Seaweed

The extracts of seaweed originating from area of Hokkaido - the northern island in Japan - actively contributes to the remarkably smooth workability and elasticity of Shikkui plasters.

Plant / Mineral Fibers

Shikkui plasters contain one of these types of fiber to strengthen and balance the material:

- Jute fiber - a reprocessed / "upcycled" fiber made from jute packages originating in Bangladesh. The recycling / upcycling and reprocessing of jute is done in Japan, which is then used for various purposes, including Shikkui plasters.
- Pulp fiber - a typical paper pulp fiber used in paper industry.
- Mineral fiber - a fiber commonly used in textile / clothing industry.

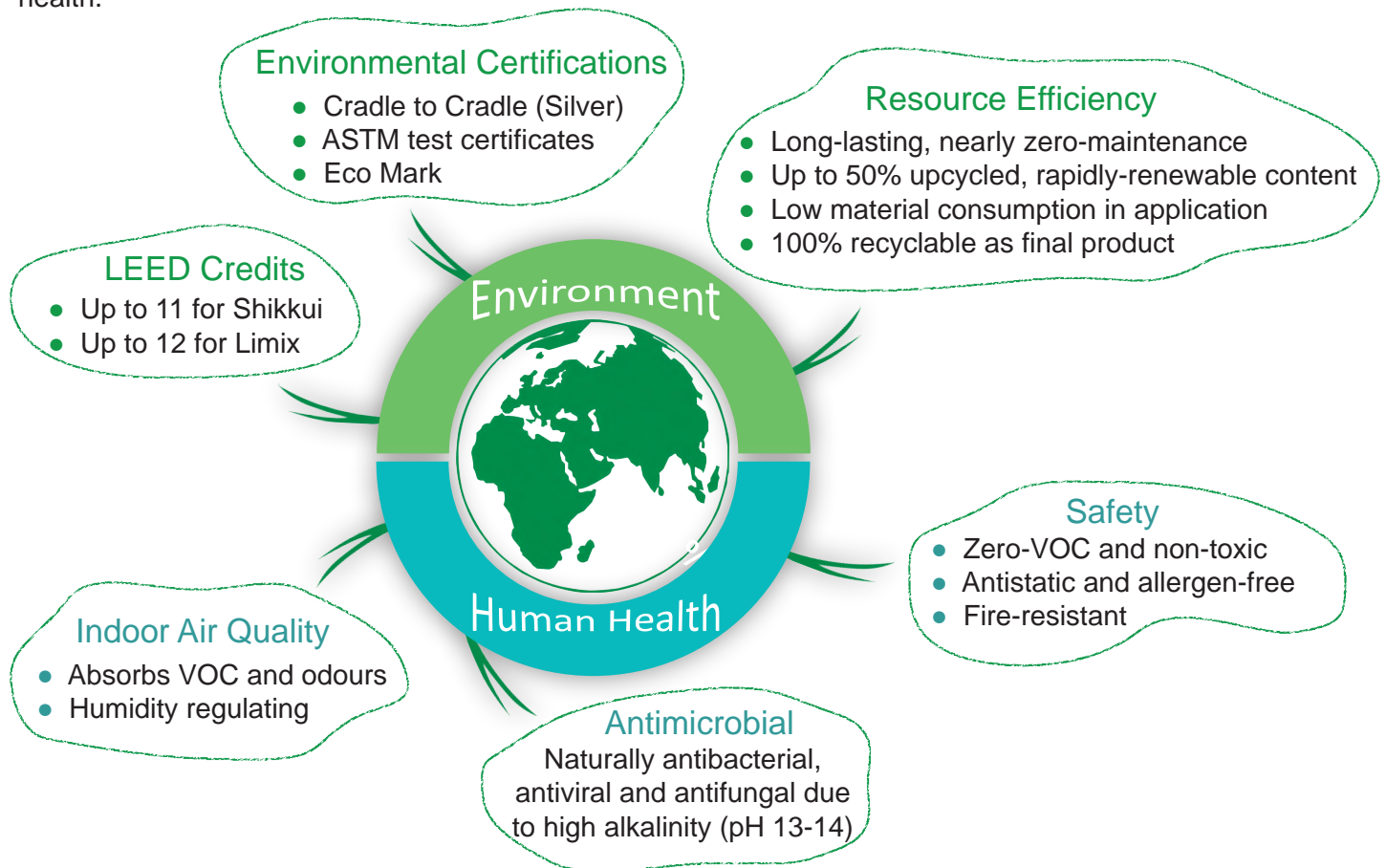
Eggshells

Shikkui finishes may contain up to 50% in weight of eggshell aggregate - reprocessed eggshells turned into fine aggregate. The eggshells come from a Japanese mayonnaise manufacturer.

Eggshell aggregates in Shikkui plaster are a perfect example of "rapidly-renewable materials", as well as another example of upcycling - a new, high quality product created from waste. The chicken eggshell is 95-97% calcium carbonate crystals, which are stabilized by a protein matrix, what puts it very close to marble.

Tagawa Sangyo's philosophy and manufacturing principles are directed toward genuinely **Sustainable and Regenerative Design**.

Our core values: **(a)** new products should be manufactured with a minimum consumption of our planet's limited resources, **(b)** intensive use of rapidly-renewable and upcycled materials, **(c)** manufacturing high quality building materials that last, **(d)** designing natural products that can be easily recycled and re-used, **(e)** minimizing product's carbon footprint, **(f)** products that do not harm while promoting human health.



Resource Efficiency

Resource consumption and utilization define our relationship with our environment.



Shikkui coatings and Limix tiles consist of up to 50% eggshells, an **UPCYCLED** and rapidly-renewable content. The principle of **UPCYCLING** is defined by Cradle to Cradle concept, and implies **converting waste materials or useless products into new materials or products of better quality or a higher environmental value**. On the contrary, **RECYCLING** actually means **DOWNCYCLING**, i.e. material quality is reduced each time it is recycled. The use of this rich source of CaCO₃ is an ideal example of preserving limited natural resources while maintaining high product quality. An additional 3-4% of Shikkui coatings are seaweed extracts and plant fiber - also rapidly-renewable content.



All materials is 100% recyclable and can be re-used at the end of their life-cycle. Two most common applications of recycled Shikkui coatings and Limix: as fertilizer (calcium is essential for plant's cell manufacture and growth) and soil enhancer for improving land stability. Due to our products being natural, this poses no environmental threat.



Energy required to manufacture Limix is 89% lower than energy to produce typical baked ceramic tiles. The same figure applies to carbon dioxide emissions. We carefully manage both energy consumption and products' carbon footprint.



Shikkui finishes allow a thin two-coat application, while not compromising surface durability or strength. This reduces both material consumption and application costs.



Our surface coatings are designed to last, and become harder as time passes, continuously absorbing CO₂. A thousand-year history of using Shikkui in Japan and independent testing performed according to international ASTM standards support this claim. Shikkui finishes exhibit hardness of 61-85 according to Shore D scale (ASTM D2240), in addition, their elasticity provides excellent crack resistance. Tests performed on Limix indicate that it is as strong as marble. Long-lasting products are another example of how to benefit environment by reducing the need to renovate.

Environmental Certifications



All our surface coatings are Cradle to Cradle certified at Silver level. This certification done by McDonough Braungart Design Chemistry credibly measures achievement in environmental design and demonstrates manufacturer's commitment to preserving a healthy ecosystem.



Limix tiles have been granted Eco Mark - a prestigious environmental certification in Japan.

LEED Credits



Both Shikkui Surface Coatings and Limix tiles can contribute toward 11 and 12 LEED credits correspondingly in the following categories: MR-1 (Building Reuse), MR-2 (Construction Waste Management), MR-4 (Recycled Content), MR-6 (Rapidly Renewable Materials), IEQ 4 (Low-Emitting Materials) and ID-1 (Innovation in Design). Please refer to our LEED statement for details.

Safety

Human safety is foremost when choosing interior building materials. Specifying wall and floor coatings that are non-toxic and don't emit VOC gasses - while being durable and fire-resistant - an important step towards safe buildings.



McDonough Braungart Design Chemistry analyzed all our surface coatings for toxic content and confirmed that they are non-toxic, granting our products the Cradle to Cradle (Silver) certification.



Limestone-based products always exhibit excellent fire-resistance. ASTM E84 granted Class A for Shikkui finishes. Upper temperature limit for Limix is over 600 °C.



Our manufacturing practices and technologies are focused on natural materials, and avoid any harmful chemicals. ASTM D3960 for Shikkui finishes proves the product to be zero-VOC. The hardness of Limix tiles is achieved through extreme compression in vacuum using proprietary technology, without any chemical binders or thermal processes.

Antimicrobial

The material's high alkalinity - up to pH 12 - allows it to naturally kill bacteria, viruses, mold and fungi.



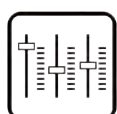
Limix tiles have been tested by Japan Food Research Laboratories for antibacterial performance. The sample surfaces were exposed at 35 C for 24 hours to such bacteria as Escherichia Coli and Staphylococcus Aureus. None of the bacteria survived.



Shikkui finishes have been tested by independent U.S. laboratories for fungal and mold resistance (ASTM D3273+D3274). For 28 days Shikkui surfaces were continuously exposed to fungus (Aspergillus niger, Aureobasidium pullulans and Penicillium) and periodically checked for fungal growth. The whole test period the surfaces indicated a zero fungal growth (ASTM Rating 10).

Indoor Air Quality

All surface coatings actively contribute to healthier spaces by purifying indoor air from dangerous substances.



Both Shikkui finishes and Limix tiles regulate humidity of the indoor air, thus, providing a comfortable living environment. This is possible due to the highly porous components: limestone, eggshells and a special large-grained diatomite. Contact us for detailed test results.



Absorption and capture of VOC particles and odours is an additional feature of the porous materials, as they absorb and release indoor air.



Limestone-based surfaces are naturally antistatic and prevents dust accumulation. As a result, all surfaces are allergen-free, which serves well for health-care facilities and hospitality sector.

Cradle to Cradle® (C2C) certification

All Shikkui finishes are certified with Cradle to Cradle (Silver) for a higher standard in healthy and environmentally-friendly design. Certification permits to tangibly and credibly demonstrate the manufacturer's efforts to design eco-effective products. Cradle to Cradle Certification is a multi-attribute Ecolabel that assesses products for their ingredients' human and environmental health characteristics, their recyclability or compostability, and their manufacturing characteristics.



Certification Criteria

A certified product meets requirements in five categories:



- Using only environmentally safe and healthy material components
- Design for product reutilization: repeated recycling or safe decomposing into the environment

- The use of renewable energy and energy efficiency
- Efficient use of water in production
- Following principles of corporate social responsibility

C2C Design

Cradle to Cradle design offers a framework in which the effective, regenerative cycles of nature provide models for wholly positive human designs. Within this framework we can create economies that purify air, land, and water, that rely on current solar income and generate no toxic waste, that use safe, healthful materials that replenish the earth or can be perpetually recycled, and that yield benefits that enhance all life.

Shikkui Finishes

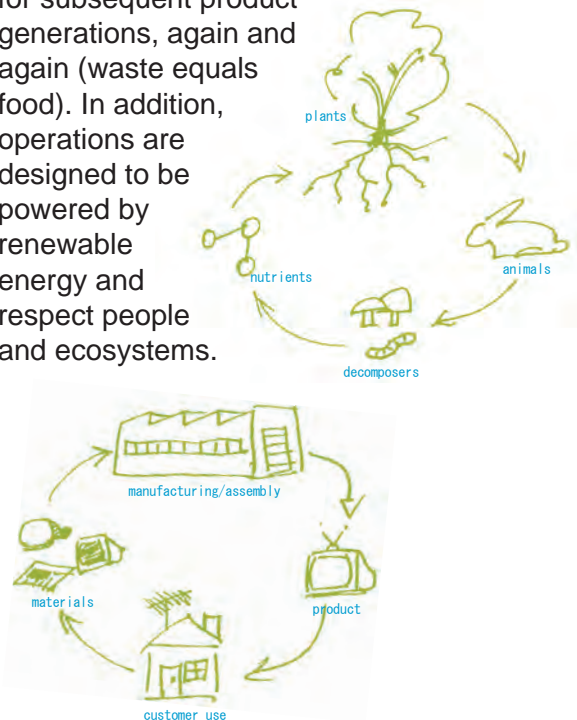
Shikkui lime plasters are manufactured in Japan with Cradle to Cradle principles in mind, and adopt sustainability as a core value:

- made of safe, natural and high quality components
- may contain up to 50% rapidly-renewable and "upcycled" content
- fully recyclable and biodegradable
- durable and long-lasting
- highly humidity-regulating, which helps purify indoor air and create a healthy and comfortable environment
- naturally anti-bacterial and anti-fungal

Cradle to Cradle Principles



The Cradle to Cradle paradigm, articulated in the book "Cradle to Cradle: Remaking the Way We Make Things", supplements the traditional sustainability objective of reducing the negative impacts of commerce (eco-efficiency), with new protocols to maximize positive environmental, social and economic impacts (eco-effectiveness). This model calls for products to be developed for closed-loop systems in which every ingredient is safe and beneficial - either to biodegrade naturally and restore the soil, or be fully recycled into high-quality materials for subsequent product generations, again and again (waste equals food). In addition, operations are designed to be powered by renewable energy and respect people and ecosystems.



Cradle to Cradle® is a registered trademark of McDonough Braungart Design Chemistry (MBDC), LLC.

MBDC was founded in 1995 by architect/designer William McDonough and chemist Dr. Michael Braungart to help clients integrate the Cradle to Cradle framework into their products, operations and organizations to eliminate the concept of waste through innovative design. For more information visit www.C2Ccertified.com or www.mbdc.com



Shikkui Surface Coatings have been tested in accordance with the international ASTM standards by accredited independent testing laboratories in the United States. The following third party test data is an additional credible proof of the performance and health-related properties of Shikkui finishes.

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.

This standard is used to measure and describe the response of materials, products or assemblies to heat and flame under controlled conditions. The test method is the technical equivalent of NFPA No. 255 and UL No. 723.

Test results

Flame spread index: **0**
 Smoke development index: **0**
 Classification: **Class A**

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

VOC Content (ASTM D3960)

The VOC of the material was determined in accordance with procedures outlined in EPA Method 24, “Determination of Volatile Matter, Water Content, Density, Volume Solids and Weight Solids of Surface Coatings”. The VOC was calculated using the equations referenced in **ASTM D 3960**, “**Determination of Volatile Organic Compound (VOC) Content of Paints and Related Coatings**”.

Test results

Grams / Liter: **0.7**
 Pounds / Gallon: **0.0**

The result implies a Zero-VOC material.

Mold / Fungal Resistance (ASTM D3273 / ASTM 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”**
- **ASTM D3274 “Evaluating Degree of Surface Disfigurement of Paint Films by Microbial (Fungal or Algal) Growth or Soil and Dirt Accumulation”**

The fungus resistance ratings range from 10 for no fungal growth to 0 for complete coverage of the surface area by fungi.

Test results

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).

Shore Durometer Hardness (ASTM D2240)

The hardness was determined in accordance with the procedures outlined in **ASTM D2240 “Rubber Property – Durometer Hardness”**.

Test results (depending on particular plaster)

Shore A Durometer: 95-99
 Shore D Durometer: 61-85

Examples of Shore D Durometer hardness:

- bowling ball: 62
- paperaking rolls: 72
- bone: 87

Shikkui Surface Coatings are versatile natural lime plasters covering a wide range of applications and surface effects. This section of the brochure provides you with an overview of the major application principles, and also gives an overview of products within the Shikkui plaster system. For more details on application of individual products, please refer to technical data sheets.

The plasters are recommended for professional installation. At least a basic training is highly recommended for experienced plaster applicators to ensure good basic understanding of the material and proper installation with desired esthetics. Some materials are suited for DIY applications, though some very basic plastering skills are imperative.

Suitable Substrates

Shikkui finishes can be installed on nearly any substrate, provided that it is properly cleaned and stable. Please see page 9 for examples of application on most common substrates.

General Application Guidelines

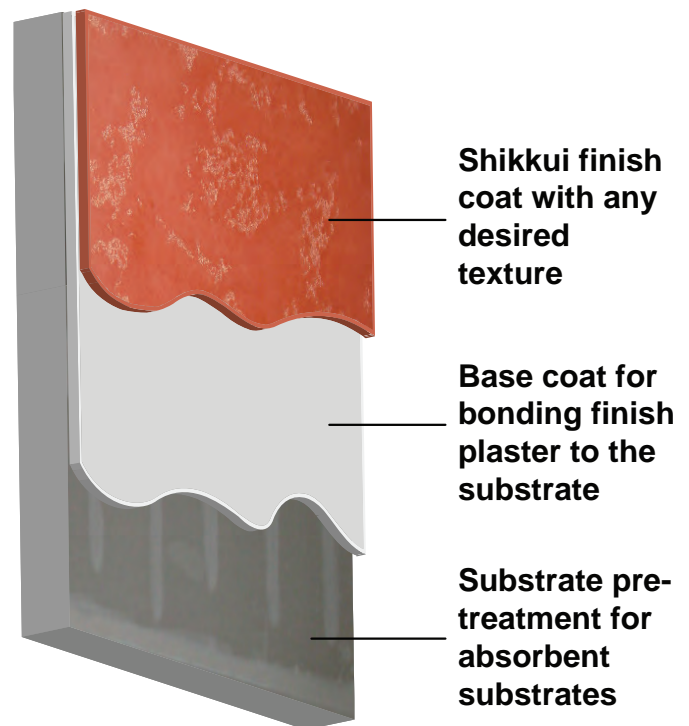
A clean and dry substrate is sealed to avoid issues concerned with fast water absorption by the wall surface. In case of uneven substrate, cement mortar is recommended to level out the surface. A fine skim coat is then applied to ensure a strong bond to the finish coat. It is followed by a finish coat. A water-repellent top coat is recommended for exteriors and wet location to protect finish surface from repeated contact with water and ensure a long-lasting anti-efflorescence protection for finish colors. Please see pages 9 and 10 for more details on each substrate and finish.

Suitable Tools

Shikkui finishes can be applied by a stainless steel trowel, roller, airless sprayer Graco (medium to large-sized models, tip size: 535), hopper-gun sprayer, spatula and additional tools for surface effects. For particular application techniques for each finish please refer to Data Sheets or ask us for clarification and tips.

Optimized Application System

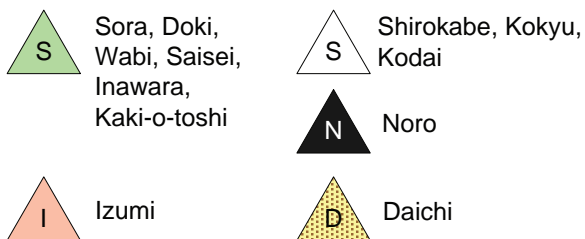
We developed and optimized our plaster system in the way to ensure only high-quality natural and safe materials, advanced workability, simplified application steps, no maintenance for years and a stunning range of design-oriented textures and surface effects. The Shikkui system, thus, allows major costs savings related to labor and maintenance, while providing a wide choice of materials to work with. As an example, highly-polished surfaces can be achieved in 1-2 coats in short time without sanding. Our proprietary pigmentation system allows to achieve finish colors with 20-40% in weight of color pigments with easy-to-mix properties. Texture and color customizations are also available upon request.



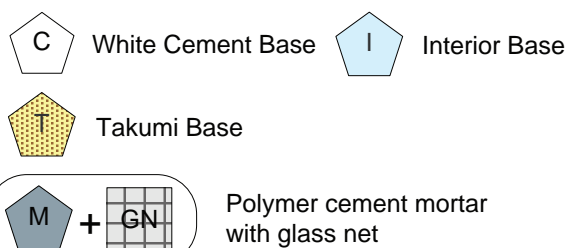
General Application Scheme

	Substrate	Surface preparation	Base coat	Finish coat
Exterior	Wooden surface	Waterproofing/felt paper layer + metal lathe coated with polymer cement mortar mixed with powdered Styrofoam ¹	C	(S + Oil) → T
	Masonry	S → M	C	S → T
	ICF panels	S → (M + GN)	C	I → (T + W)
Interior	Drywall ²	S	I or T	S
	Plywood / OSB	S	I ³ or I ³ → T	S
	Concrete / mortar	S or S → M ⁴	C or I or T	D or N
	ICF panels	S → (M + GN)	C or I or T	I → W
	High humidity locations ⁵	S or S → M ⁴	C	The same as for Exterior + Oil ⁶

Finish coats



Base / skim coats



NOTES

- ¹ Thickness depends on national/local regulations concerning fire protection
- ² Perform standard joint treatment. Double layer of drywall is recommended.
- ³ Mix with Shikkui Sealer and apply at approximately 1 mm surface thickness
- ⁴ Use to flatten out uneven substrate surface, in order to achieve flat / smooth finish.
- ⁵ Such as bathrooms
- ⁶ Shikkui Oil can be added into some finish coats for additional water-repellent protection

Additives and coatings



Detailed reference to Application Scheme

Finish coats



Sora – universal fine lime plasters. Applied with spraying machines, roller or trowel. Advanced workability, various texture effects, optional aggregates. Ideal for large-scale commercial and residential projects.

Doki – lime plaster containing light-weighted sand, cement and aggregates. Natural relief surfaces.

Wabi – lime plaster with marble sand for creating relief textures.

Saisei – lime plaster containing 50% reprocessed eggshells – recycled and rapidly-renewable source of calcium carbonate.

Inawara – lime plaster featuring rice straw textures.

Kaki-o-toshi – lime plaster finish with large-grained sand or marble.



Shirokabe – traditional Japanese Shikkui lime plaster. Rich in plant fiber, highly durable and allows to easily reach highly polished surface. For smooth exterior and interior surfaces.

Kokyu – modern version of traditional Japanese Shikkui lime plasters, containing pulp fiber. Advanced workability, best suited for interior applications with white or mild-toned polished surfaces.

Kodai – most durable Shikkui plaster for exterior projects with long plant fiber, soybean oil.



Noro – finish coat rich in color (40% in weight of color pigment). Matte texture.



Daichi – highly humidity-regulating mineral plaster with large-grained Diatomaceous Earth with relief surface. The only non-lime plaster finish. Does not need base coat; applied directly onto sealed substrate.



Izumi – finest mineral Venetian plaster. Applied by trowel, spatula or spraying machine.

Base / skim coats



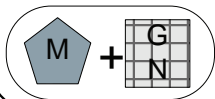
White Cement Base (WCB) – fine sprayable base/skim coat with pure white cement and marble powder. Forms a strong bond for finish coat on masonry, concrete and ICF panels. Both for interiors and exteriors.



Interior Base – fine sprayable base/fine coat with fine gypsum and marble powder. Forms a strong bond for finish on gypsum-based drywall and plywood. Only interior application.



Takumi Base – base coat rich with high-grade Diatomaceous Earth that provides high humidity-control performance under any Shikkui finish for interiors.



Polymer Cement Mortar (M) covering **Glass Net** for reinforcing ICF panels or other non-solid and possibly unstable surface, as well as for reducing structural movements. Any locally available polymer cement mortar and glass net can be used.

Additives and coatings



Shikkui Sealer – acrylic polymer used for surface preparation. Its main function is to control water absorption. 0 VOC.



Shikkui Oil – natural soybean oil as waterproofing additive. Added into finish coats to protect them in high-humidity environments.



Topcoat SA – silicone-modified acrylic coating with advanced anti-weathering properties. Applied on top of finish coats of exterior walls to protect them from direct water / rain exposure, as well as from efflorescence.



Wax – polished waxes for high-gloss and water-repellence for Stucco Veneziano textures of Izumi. Tintable. Available in zero-VOC and low-VOC versions, depending on desired surface effect.

The fine composition of the **Shikkui Sora** finish and its base coats allows for incorporating additional aggregates and achieving various surface effects. Choose from standard flat or relief textures, or create your own from your inspiration.

The sprayable application of Sora using airless sprayers (such as Graco sprayers) helps achieve valuable labour and time savings, and is ideal for medium- and large-scale commercial projects.

A variation of Sora with large-grained diatomite "Takumi" is recognized in Japan as the ultimate solution for healthy indoor environment in terms of humidity control and VOC/odour absorption.



Flat roller-applied texture, Fukuoka, Japan

Feature overview

- Highly customizable natural lime plaster;
- Smooth, polished or various relief textures;
- Applied by trowel, airless sprayer, hopper spray gun, or roller;
- Up to 50% recycled rapidly-renewable content (for highly eco-friendly demanding projects);
- Highly humidity-regulating option.



Doki texture with seashells



Smooth wall texture, Bank Pictet & Cie, Singapore

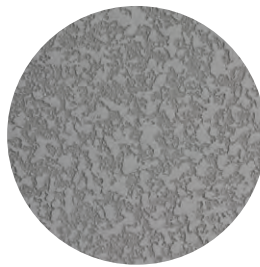


Machine application using Graco airless sprayer

Pigmentation system

Allows for up to 20% in weight of color pigments. Alkali- and UV-resistant pigments in easy-to-mix powder form.

Texture examples



Knockdown



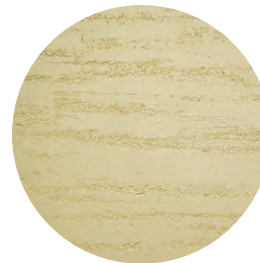
Doki



Wabi



Smooth



Travertine



Roller-applied



Kaki-o-toshi



Inawara



Takumi

Shikkui Izumi achieves the finest decorative finishes of Stucco Veneziano, Marmorino and stone effects with the highest quality natural components, above all – slaked lime.

Unlike synthetic Venetian plasters, Izumi hardens as time passes – its slaked lime reabsorbs carbon dioxide from the air, returning the plaster to a stone state, strong and radiant with the depth of color and translucence of the natural stone. The same hardening mechanism is present in all other Shikkui lime plasters.

Our proprietary coating protects the surface and integrity of its colors against efflorescence and extreme weathering, thus also allowing for exterior applications.



Deep black Marmorino, Bank Pictet & Cie, Singapore

Feature overview

- Finest Stucco Veneziano and Marmorino surfaces;
- Natural lime plaster based on top quality natural components;
- Aesthetically superior to synthetic Venetian plasters;
- Applied by spatula or Venetian plaster trowel;
- Can be spray-applied using an airless sprayer;
- Marmorino containing pure white Japanese marble;
- Optional gold, silver and bronze effects.



High gloss ceiling in a private residence, New York

Pigmentation system

Alkali- and UV-resistant pigments in easy-to-mix paste form.

Texture examples



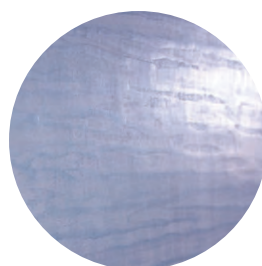
Marmorino with concrete effect



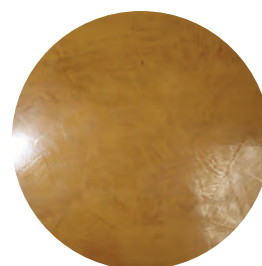
Marmorino



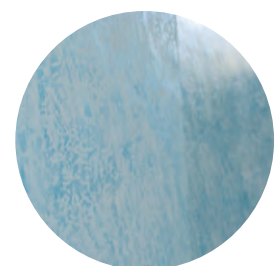
Venetian



Relief lines



Venetian



Marmorino, partially waxed

These all-natural finishes reflect the Japanese lime plaster traditions in construction, and achieve flat matte or polished light-reflecting surfaces that last. Compared to modern Shikkui finishes, **Shirokabe** plasters contain longer and larger amount of plant fiber, and soybean oil as a traditional waterproof additive.

Shirokabe finishes have been trusted for renovation and restoration projects by a number of Japanese national treasures, such as Osaka castle, Kumamoto castle, Kokura castle, royal residence of the Emperor of Japan, various other historical and cultural sites (interiors and exteriors). This product line is used both for renovation projects and new constructions, where a hand application by a plaster artisan is specified.



Seamless smooth walls and ceiling

Feature overview

- 100% natural lime plasters rich in plant fiber;
- Smooth, matte and polished textures;
- Traditional Japanese surfaces;
- Ideal for restoration and renovation projects;
- Trowel application.



Hand application of Shikkui onto ceiling



Polished Shikkui walls in a railway station



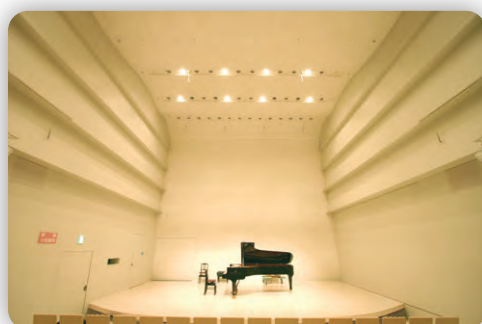
Doors with polished black Shikkui Noro



Seamless exterior walls of a private residence



Exterior Shikkui walls of Zuiryu Temple, designated national treasure in Japan



4 dimensions of Shikkui in a concert hall: Shikkui plaster on walls and ceiling, Limix tiles (made of Shikkui) on the floor

Pigmentation system

Allows for up to 40% in weight of color pigments. Alkali- and UV-resistant pigments in easy-to-mix powder form.



Private residence with 4 dimensions of Shikkui: Shikkui plaster on walls and ceiling, Shikkui Limix tiles on the floor



3D design of polished black & white Noro



Highly humidity-regulating and VOC-absorbing Takumi with diatomite actively cleanses indoor air

Manufacturer:



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