



## PRODUCT DESCRIPTION

Smooth is a liquid rich, free-flowing, seamless floor that offers a sleek, edgy, clean surface for high profile environments. Smooth incorporates rapidly renewable raw materials in the formulation.

## USES, APPLICATIONS

Smooth is specifically designed for public areas that will see heavy foot traffic. Smooth is ideal for applications such as: retail, hospitality, casinos, showrooms, lobbies, restaurants, night clubs, commercial and public spaces.

## SUBSTRATE

Smooth, with the appropriate primer, is suitable for application over concrete, wood or metal. Not recommended on asphalt, brick, quarry tile, mastic, or painted surfaces. These must first be removed by mechanical means to expose the substrate prior to priming and overlayment.

## THICKNESS OPTIONS

Smooth can be applied at a total thickness of either 1 mm or 2 mm.

### 2 mm

The 2 mm version offers a smooth, ergonomic surface that is more comfortable than a typical hard epoxy surface. This system delivers a very smooth finish. Due to the self leveling nature and smooth finish, the substrate must be extremely flat and level (Ff/Fl 50).

### 1 mm

The 1 mm option offers the same design options as the thicker version, but will follow the contours of the substrate. Use of a urethane topcoat is required for the 1 mm version to improve cleanability and increase performance. While lower in cost, the thinner system does not offer the same ergonomic and sound dampening properties as the 2 mm.

## COLOR

Smooth is available as a solid color, (Mono) or blend of two colors(Duo). Virtually any color or combination of colors is possible. For solid colors, refer to a standard palette such as Pantone®. For blends, please contact your local Stonhard Group representative for design assistance.

## PHYSICAL CHARACTERISTICS

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| Tensile Strength<br>(ASTM D-638)   | 800 psi   |
| Hardness<br>(ASTM D-2240, Shore A Durometer)   | 95-100<br>80-85 (High Gloss)  |
| Scratch Resistance<br>(F-1679/Soft Scrub)  | 17% reduction after 100 cycles<br>(High Gloss)  |
| Impact Resistance<br>(D-2794)  | 50 in-lb.<br>110 in-lb. (High Gloss)  |
| Indentation Resistance<br>(F-1914)   | 32% Indentation<br>0% Residual Indentation<br>28% Indentation<br>0% Residual Indentation (High Gloss) |
| Static Load Limit<br>(F-970)   | >250 psi  |
| VOC Content<br>(ASTM D-2369, Method E)   | Self Leveler 1 g/l<br>Undercoat 58 g/l (High Gloss)<br>Self Leveler 15 g/l (High Gloss)               |
| Noise Reduction (2 mm version only)<br>(ASTM E 492-09/E 989-06)<br>(ASTM E 90-09/E 413-10) | IIC 34dB - 35 dB<br>STC 49dB - 50dB   |
| Cure Rate  | 24 hours(@ 77°F/25°C)   |

Note: The above physical properties were measured in accordance with the referenced standards. Samples of the actual floor system, including binder and filler, were used as test specimens.

Note: Due to the smooth nature of this product, Smooth is only recommended in dry environments. If Smooth is to be used in wet environments, a texture should be added for additional slip resistance.

## PACKAGING

Smooth is packaged in units for easy handling. Each unit of Smooth consists of:

3.75 pails of LE Smooth Polyol

1.88 Cartons of LE Smooth Iso, each containing:

(2) 1 gallons cans of Isocyanate

## COVERAGE

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Mono (2mm) - Approximately 200 sqft/18.5 sq. m per unit at a nominal 2mm system thickness

Mono (1mm) - Approximately 600 sqft/55.5 sq. m per unit at a nominal 1mm system thickness

Duo (2mm) - Approximately 200 sqft/18.5 sq. m per unit at a nominal 2mm system thickness

Duo (1mm) - Approximately 470 sqft/43.7 sq. m per unit at a nominal 1mm system thickness

## SYSTEM OPTIONS

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### *Moisture Barrier*

To ensure long-term adhesion to concrete slabs in the absence of a proper vapor barrier, Stonhard offers systems to protect against moisture vapor transmission in the substrate.

### *Patching and Leveling Mortar*

Stonhard offers a full line of mortars to flatten and level your substrate. These mortars can be used to achieve the Ff/FI 50 requirement for the 2 mm version of Smooth. These mortars are also excellent for hiding imperfections in the substrate that might reflect or show through the 1 mm version of Smooth. For more information please contact your local Stonhard Group representative.

### *Crack Bridging Membrane*

Stonhard offers a crack mitigation system to fill existing cracks in substrates. This system isolates the area around the crack and helps to minimize the chance for propagation of the crack through the finished floor.

### *Flame Retardant*

An optional flame retardant additive is available for applications where Class 1 Fire Rating is required.

### *Cove Base*

To provide for an integral seal at the joint between the floor and the wall, Cove Bases may be specified. When choosing the color of the cove base, please follow the following guidelines:

**Smooth Mono** - The cove base can be made to match the color of the floor. However, due to the angle at which light reflects off of the cove, it is common for the cove base to appear slightly different than the floor. Use of a contrasting color that complements the floor can eliminate this situation.

**Smooth Duo** - Due to the variation in color inherent in the Smooth Duo system, it is impossible to match the cove color to that of the floor. Even when the color is close, it can look different due to the angle of light reflecting off of it as well as the natural variation in tone of the Smooth Duo itself. Therefore, it is highly recommended that cove color selected is a contrasting color that complements the floor.

**Note:** With sufficient movement of the substrate, even a floor treated with the crack bridging membrane may show cracks. It is important to make sure that your substrate is properly designed so as not to deflect under the loads in the area. It is also important to have proper design of the substrate including, but not limited to the correct number and placement of expansion joints throughout the area. The crack bridging membrane system does not replace the need for expansion and isolation joints in the substrate. These should always be honored with the appropriate joint detail.

## FINISH OPTIONS

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### *Gloss*

2mm Smooth can be installed without a urethane topcoat, resulting in a high gloss or mirror like finish. However, it does require an acrylic wax coating. This finish is ideal for low to moderate foot traffic. Due to its ultra smooth surface, this system must be cleaned regularly to maintain its luster and regular waxing/buffing with a high performance, high solids wax such as Betco Hard as Nails, is required as part of the regular maintenance routine. Waxing and buffing will help protect the mirror like finish and remove signs of wear.

### *Gloss Microtexture*

Stonseal SK6-GT incorporates a high performance, aliphatic polyurethane/polyurea topcoat along with a fine texture to offer improved slip resistance, wear resistance, and UV resistance. This option is easy to clean, does not require wax, and can be used with either thickness option

### *Satin*

Stonseal SK6-SF is a high performance, aliphatic polyurethane/polyurea topcoat combine with a durable polymer microsphere which downglosses the coating and provides a satin finish. The satin finish offers excellent wear resistance, UV resistance, is easy to clean, does not require waxing, and can be used with either thickness option.

### *Matte*

Stonseal CF7 is a two-component, high performance, water based, aliphatic polyurethane coating that combines excellent wear resistance, UV resistance, and cleanability with a clear, flat appearance. The matte finish does not require waxing, and can be used with either thickness option.

## SUBSTRATE PREPARATION

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Proper preparation is critical to ensure an adequate bond and system performance. The substrate must be dry and properly prepared using mechanical methods. Questions regarding the substrate preparation should be directed to your local Stonhard Group representative or the Technical Service Department.

Due to the self leveling nature of Smooth 2 mm option, it is important that the substrate meet an Ff/FI 50 standard for flatness and level. The rough translation of this requirement is less than 1/8 inch per foot pitch and less than 1/8 inch in 10 feet deviation from flat. This is otherwise known as a 'Super Flat' floor. For help determining if your substrate is suitable for the 2 mm option, please contact your local Stonhard Group Representative or the Technical Service Department.

The 1 mm option does not flow and level to the same degree as the 2 mm. Therefore, it does not require the same level of flatness. It will actually follow the contours of the substrate and mirror its profile. So, if the substrate is in good condition, the 1 mm system can be applied without the use of a patching/leveling material. However, if a smoother base is required, the floor can be flattened or levelled prior to the application of the Smooth 1 mm system.

Smooth (1 mm or 2 mm) requires that the substrate be free of pinholes. **Stondri MVT** is an excellent primer option for eliminating pinholes in your substrate. If the substrate is rough or very porous, pinholes may still be present after the primer has cured. In these cases, Stonset PM5 or Stonset QS5 can be used to fill the remaining pinholes.

## ENVIRONMENTAL CONTROLS

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Due to the decorative and free flowing nature of the Smooth system, it is critical that the immediate area be free of dust and debris as this will negatively affect the appearance of the finished floor. Special care must be taken to clean the area well and mask it off sufficiently to protect it from contamination resulting from other trades, leaks, wind, etc. No other trades may be present in the floor space during the installation and the area must remain free of traffic until the final layer is fully cured.

It is also very important that the space be conditioned to prevent issues resulting from high humidity and/or high or low temperatures. For best results, the Smooth should be installed once the building is buttoned up, HVAC is operational, and finished lighting has been installed.

Smooth should only be installed when the slab and air temperatures are both between 65 to 85° F/10 to 18°C and the relative humidity is below 80%.

You may experience installation difficulties when applying Smooth in high humidity conditions. Under these conditions, the working time of the material is greatly reduced as the excessive moisture present in the atmosphere accelerates the cure. To slow down the cure rate, limit the amount of moisture coming in contact with the material. It is common practice, once materials are mixed, to pour the entire bucket onto the floor. Though this is advantageous when working with epoxies, it can cause problems when working with these unique urethanes. Increase the open time by pouring only a portion of the material onto the floor, while leaving the rest in the bucket until it is ready to be applied. This limits the amount of material being exposed to the air at one time. The cure rate of these urethane materials is not accelerated when sitting in the bucket. NEVER mix multiple mixes at once; only mix one mix at a time! Low humidity will affect this product. When humidity is low it can take more than 4 hours to cure. The product may stay slightly soft for up to 12 hours. This will not affect the overall performance of the finished system. As the material cures the physical properties will develop their full potential.

## MAINTENANCE

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We recommend using automatic floor scrubbing machines for routine maintenance of our flooring systems; the Tennant T1 floor scrubber with a 1037197 soft bristle brush attachment for areas less than 5000 sq ft. For larger areas, we suggest the Tennant T3 Oscillating floor scrubber with a white 3M buffing pad.

### *Daily Care*

Use the appropriate machine based on square footage to clean the entire floor surface with Stonkleen SR9 at 8 oz dilution per gallon of water.

### *Dry Cleaning*

A Microfiber mop for periodic removal of dust is recommended.

### *Mid Day Clean Up*

General cleaning and clean up of spills can be accomplished using an absorbent cloth or mop. If required, Stonkleen DG2 can be used to remove dirt or deposits. For scuffs or tough stains, Stonkleen SR9 at 8 oz. dilution per gallon of water should be used and then rinsed with clean water. Be sure to dry the affected area with an absorbent cloth to prevent streaking.

### *Weekly Deep Cleaning*

Use the appropriate machine to clean the entire floor surface with Stonkleen SR9 at 16 oz dilution per gallon of water. For high traffic areas especially where heal, chair or caster scuff marks are concentrated, make a pass with the floor machine with vacuum

off, allowing SR9 to soften the scuffs. During second pass with the machine, engage the vacuum function and re-scrub. Finally, follow with a clean water rinse of the entire floor.

### *Scuff Mark Removal*

Apply SR9 to stubborn scuffs at 100% concentration, allow a dwell time of 30 seconds to 2 minutes. Either wipe clean with absorbent cloth, or rinse and extract using recommended floor machinery.

### *Waxing*

Waxing is required for long term maintenance of Liquid Elements flooring systems with a high gloss finish. It will help restore the initial appearance of the floor even under heavy traffic conditions. Site conditions, traffic patterns, and the type of system installed are all factors contributing to the length of time the floor will look new before subsequent waxing steps are required. This will vary from location to location.

1. Clean the floor well using the procedures outlined above.
2. Apply 1 coat of Betco™ Sure Cure or similar using a micro-fiber applicator and allow to dry for 30-60 minutes.
3. Apply 3 coats of Betco™ Hard as Nails Wax or similar using a micro fiber applicator.
  - a. Allow 1-2 hours of dry time between coats.
4. If the floor wax gets scuffed or down glosses, it can be buffed using a high speed electric buffer (1200-2000 rpm) and Light Grizzly Buffing Pad, along with Betco™ One Step at a 2 oz. per gallon of water dilution.
  - a. Using a spray bottle, spray a small amount of One Step solution in the path of the buffer to help condition the floor while buffing. This will lubricate the surface to help prevent burnishing and will fill minor scratches and wear.
5. Over time, continued buffing will wear down the wax layer and additional coats of wax can be applied.
6. Periodically the floor will need to be stripped back down to the original epoxy layer.
  - a. This should be done if the floor develops a haze that buffing and waxing cannot remove.
  - b. Frequency depends on specific site conditions, traffic, and aesthetic requirements.
  - c. Strip the existing layers of wax using Stonkleen AS9 or similar per the manufacturer's recommended procedures and red 3M stripping pad on a high speed electric floor buffer.
  - d. Once the floor has been stripped, rinse it well with clean water and allow to dry.
7. After the floor has been stripped of all wax and rinsed clean, apply 1 coat of Sure Cure and 3 coats of Hard as Nails wax as per the above procedures.
8. Between stripping, the floor can be top scrubbed to help maintain the desired appearance.
  - a. Use a solution of Stonkleen TD9 and a red 3M pad on a floor buffer to remove all ground in dirt.
  - b. Apply a coat of Hard as Nails wax if required.

## STORAGE CONDITIONS

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Store all components of Smooth between 65 to 85°F/18 to 30°C in a dry area. Avoid excessive heat and do not freeze. The shelf life is 1 year in the original, unopened container.

## RECOMMENDATIONS

- DO NOT attempt to install the material if the temperature of the Smooth components is above 85°F/30°C. Higher temperatures will cause the material to harden more quickly than desired. Conversely, if the temperature of the components is 65°F/18°C or lower, Smooth will be stiff and hard to apply. Do not use water or steam in the vicinity of the application. Moisture can seriously affect the working time and other properties.
- Application equipment must be cleaned immediately after use with scouring pads and warm, soapy water, or mineral spirits.
- Avoid contact with all liquid Parts A and B as they may cause skin and/or eye irritation.
- The use of safety glasses and impervious gloves is required during mixing and application.
- To prevent scratches, felt pads are recommended under chair and table legs.

## NOTES

- Detailed instructions on application and installation can be found in the Smooth Directions.
- Procedures for maintenance of the flooring system during operations are described in the Facility Maintenance and Cleaning Services Guide available at [www.stonkleen.com](http://www.stonkleen.com).
- Safety Data Sheets for Smooth are available on line at [www.liquidelements.com](http://www.liquidelements.com) under Tech Info or upon request.
- A staff of technical service engineers is available to assist with installation or to answer questions related to Liquid Elements' products.
- Requests for technical literature or service can be made through local sales representatives and offices, or corporate offices located worldwide.
- The appearance of all floor, wall and lining systems will change over time due to normal wear, abrasion, traffic and cleaning. Generally, high gloss coatings are subject to a reduction in gloss, while matte finish coatings can increase in gloss level under normal operating conditions.
- Surface texture of resinous flooring surfaces can change over time as a result of wear and surface contaminants. Surfaces should be cleaned regularly and deep cleaned periodically to ensure no contaminant buildup occurs. Surfaces should be periodically inspected to ensure they are performing as expected and may require traction-enhancing maintenance to ensure they continue to meet expectations for the particular area and conditions of use.



**Important:** Liquid Elements believes the information contained here to be true and accurate as of the date of publication. Liquid Elements makes no warranty, expressed or implied, based on this literature and assumes no responsibility for consequential or incidental damages in the use of the systems described, including any warranty of merchantability or fitness. Information contained here is for evaluation only. We further reserve the right to modify and change products or literature at any time and without prior notice.

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