

PRODUCT DESCRIPTION

Stonclad UR is a four-component, trowel applied, polyurethane mortar system. Stonclad UR consists of a urethane-urea binder, pigments, and graded quartz aggregates. Stonclad UR can be applied at thickness ranging from 1/8 in./3 mm to 1/4 in./6 mm depending on application requirements. Stonclad UR cures to an extremely hard, high impact resistant mortar which exhibits excellent abrasion, wear, temperature and chemical resistance characteristics.

USES, APPLICATIONS

Stonclad UR is formulated specifically for the food and beverage industry, using a multi-functional urethane-urea resin. This system is specifically designed for surfacing and patching industrial floors exposed to conditions of impact and abrasion at temperatures up to 250°F/121°C. Stonclad UR provides excellent protection against attack from chemicals such as oxidizing agents, organic acids and solvents while maintaining outstanding resistance to thermal shock and thermal cycling.

SUBSTRATE

Stonclad UR is suitable for application over concrete. Contact Technical Service for recommendations on substrate other than concrete.

SYSTEM OPTIONS

Cove Base

To provide for an integral seal at the joint between the floor and the wall, cove bases in heights from 2 to 6 in./5 to 15 cm may be specified.

Waterproofing

Where the total system must be waterproofed, the use of Stonhard's Stonproof ME7 membrane system with texture #3 broadcast to refusal is required with strict adherence to application instructions.

Coatings

The system is designed as an uncoated mortar system. Contact Technical Service to discuss possible coating options.

PACKAGING

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

Mortar

- 2 cartons, each containing:
 - 6 foil bags of isocyanate (curing agent)
 - 6 poly bags of polyol (resin)

12 individual bags of Part C-1 (aggregate)

PHYSICAL CHARACTERISTICS

Compressive Strength	5,000 psi
(ASTM C-579)	after 7 days
Tensile Strength	1,000 psi
(ASTM C-307)	
Flexural Strength	2,000 psi
(ASTM C-580)	
Flexural Modulus of Elasticity	1.1 x 10 ⁶ psi
(ASTM C-580)	
Hardness	80 to 84
(ASTM D-2240, Shore D)	
Bond Strength	>400 psi
(ASTM D-7234)	(100% concrete failure)
Impact Resistance	>160 in./lbs.
(ASTM D-2794)	
Slip Resistance Index	unsealed 0.98 (dry)
(ASTM F-1679)	0.8 (wet)
	sealed 0.93 (dry)
	0.75 (wet)
Flammability	Class 1
(ASTM E-648)	
Thermal Coefficient of Linear Expansion	1.1 x 10 ⁻⁵ in./in.°C
(ASTM C-531)	
Water Absorption	< 1%
(ASTM C-413)	
Heat Resistance Limitation	200°F/93°C
	(continuous exposure)
	250°F/121°C
	(intermittent spills)
Cure Rate	8 hours for foot traffic
(@ 77°F/25°C)	24 hours for normal operations

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.

Pigment

- 1 carton containing:
 - 12 bags of Part C-2 pigment packs (powder)

COVERAGE

Each unit of Stonclad UR will cover approximately 200 sq. ft./18.58 sq. m at a nominal thickness of 1/4 in./6 mm.

STORAGE CONDITIONS

Store all components of Stonclad UR between 60 to 85°F/16 to 30°C in a dry area. Avoid excessive heat and do not freeze. The shelf life is one year in the original, unopened container.

SUBSTRATE PREPARATION

Proper preparation is critical to ensure an adequate bond. The substrate must be dry and free of all wax, grease, oils, fats, soil, loose or foreign materials and laitance. Laitance and unbonded cement particles must be removed by mechanical methods, i.e., abrasive blasting or scarifying. Other contaminants can be removed by scrubbing with a heavy-duty industrial detergent (Stonkleen DG9) and rinsing with clean water. The surface must show open pores throughout and have a sandpaper texture. When applying Stonclad UR over Stonset TG6, the Stonset TG6 must be ground to achieve a surface profile. This profile will offer more surface area at the grout/mortar interface creating a stronger bond. For recommendations or additional information regarding substrate preparation, contact Stonhard's Technical Service Department.

PRIMING

The use of Urethane Primer is necessary for all applications of Stonclad UR. The Urethane Primer must be tacky during the application of the Stonclad UR. If the primer becomes tack-free, the area must be reprimed prior to continuing the application.

MIXING

1. Empty the entire contents of polyol (liquid) into a 5 gallon mixing pail.
2. Place the mixing pail on a JB Power Blender and empty the entire contents of isocyanate (liquid) and Part C-2 (pigmented powder) into the mixing pail.
3. Activate the timer to start the 90 second blending cycle.
4. When the blender stops, reactivate the timer and immediately pour the entire contents of one bag of Part C-1 (aggregate) into the pail. Allow the contents to mix for the complete 90 second cycle.
5. When the blender stops, scrape the excess material from the mixing blade, remove the pail and deliver it to the floor area for application.

POT LIFE

After mixing, Stonclad UR has a working time of approximately 15 minutes at 70°F/21°C. The working time may vary depending upon ambient and surface conditions.

APPLYING

- Material must be used immediately after mixing.

- A Screed Applicator is used to distribute the mixed Stonclad UR onto the floor.
- Steel finishing trowels are used to compact and smooth the surface of the material to the required thickness. A power trowel can be used in large open areas to finish the Stonclad UR application.
- Detailed instructions on application and installation can be found in the Stonclad UR Directions.

RECOMMENDATIONS

- DO NOT attempt to install material if the temperature of Stonclad UR components is below 45°F/7°C. **The cure time and application properties of the material are severely affected by temperature.**
- DO NOT use water or steam in the vicinity of the application. **Moisture can seriously affect the working time and other properties.**
- The use of NIOSH/MSHA approved respirators and safety glasses are recommended.
- Avoid contact with all liquid isocyanate and polyol as they may cause skin and/or eye irritation. Applicators should cover hands with impervious gloves.

NOTES

- Procedures for cleaning and maintenance can be found in the Stonhard Floor Maintenance Guide.
- Specific information regarding chemical resistance is available in the Stonclad Chemical Resistance Guide.
- Material Safety Data Sheets for Stonclad UR are available upon request.
- A staff of technical service engineers is available to assist with installation, or to answer questions related to Stonhard flooring products.
- Requests for technical service or literature can be made through local sales representatives and offices, or corporate offices located worldwide.

IMPORTANT:

Stonhard believes the information contained here to be true and accurate as of the date of publication. Stonhard 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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