

PRODUCT DESCRIPTION

Stonshield UTS is a self-priming, textured, four-component, polyurethane mortar system consisting of a urethane-urea binder, pigments, powders and quartz aggregates. The system also includes a high performance, chemically resistant polyaspartic urethane sealer. Stonshield UTS is a nominal 1/4 in./6 mm system that cures to an extremely hard, high impact resistant mortar which exhibits excellent abrasion, wear, temperature and chemical resistance.

USES, APPLICATIONS

Stonshield UTS is formulated specifically for the food and beverage industry using a revolutionary multi-functional urethane-urea resin. Stonshield UTS provides excellent protection against attack from chemicals such as strong oxidizing agents and organic acids while maintaining outstanding resistance to thermal shock and thermal cycling.

Note: Stonshield UTS is not recommended for exterior applications. Significant yellowing and colour change will occur due to UV exposure. Contact Stonhard Technical Service for product recommendations for exterior applications.

SUBSTRATE

Stonshield UTS is suitable for application over concrete and Stonset TG6 grout. Consult Stonhard's Technical Service Department for application over other substrates. Not recommended on asphalt, mastic or painted surfaces. These must first be removed by mechanical means to expose the substrate prior to overlayment.

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 are available.

PACKAGING

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

Mortar

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

8 individual bags of Part C-1 (aggregate)

Pigment

- 1.3 cartons, each containing:
 - 6 bags of Part C-2 pigment packs (powder)

PHYSICAL CHARACTERISTICS

Compressive Strength	7,700 psi
(ASTM C-579)	after 7 days
Tensile Strength	1,000 psi
(ASTM C-307)	
Flexural Strength	2,400 psi
(ASTM C-580)	
Flexural Modulus of Elasticity	2.6×10^5 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)	
Abrasion Resistance	0.05 gm max. weight loss
(ASTM D-4060, CS-17)	
Slip Resistance Index	>1.0
(ASTM F-1679)	
Thermal Coefficient of Linear Expansion	1.1×10^{-5} in./in. $^{\circ}$ C
(ASTM C-531)	
Water Absorption	0.056%
(ASTM C-413)	
Heat Resistance Limitation	200 $^{\circ}$ F/93 $^{\circ}$ C
	(continuous exposure)
	250 $^{\circ}$ F/121 $^{\circ}$ C
	(intermittent spills)
Cure Rate	6 hours for foot traffic
(at 77 $^{\circ}$ F/25 $^{\circ}$ 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.

Broadcast

6 individual bags of Stonshield broadcast aggregate

Stonshield UTS Sealer

- 1 carton containing:
 - 2 foil bags of isocyanate (curing agent)
 - (2) 1 gallon cans of polyol (resin)

COVERAGE

Each unit of Stonshield UTS 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 Stonshield UTS 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 for the isocyanate and polyol and 6 months for Part C-I in their original, unopened containers.

COLOUR

Stonshield UTS is available in 3 solid colours and 12 tweed patterns as standard colours. Refer to the Stonshield Colour Sheet. Custom colours are available upon request.

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 may 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. For recommendations or additional information regarding substrate preparation, contact Stonhard's Technical Service Department.

PRIMING

No priming is necessary over concrete or Stonset TG6.

POT LIFE

After mixing, Stonclad UT Mortar and Stonshield UTS Sealer have a working time of approximately 20 minutes at 70°F/21°C. The working time will vary depending upon temperature and humidity.

APPLYING

1. Stonclad UT Mortar base material is mixed just prior to use in accordance with prescribed directions. Material must be used immediately after mixing.
2. A Screed Applicator is used to distribute the mixed Stonclad UT Mortar onto the floor.
3. Notched finishing trowels and spiked rollers are used to smooth the surface of the material to the required thickness.
4. Stonshield aggregate is broadcast into the wet mortar using a Stonhard Spraycaster to ensure even distribution of the aggregate.
5. Allow to cure 6 to 8 hours and apply sealer coat.

Note: Detailed instructions on application and installation can be found in Stonhard's Stonshield UTS Directions.

HIGH HUMIDITY APPLICATIONS

It is common to have installation difficulties when applying UTS

Sealer under high humidity conditions. The working time of the UTS Sealer is inversely related to the relative humidity level. 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 is potentially detrimental 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 moisture in the air at one time. The cure rate of these urethane materials is not accelerated when sitting in the bucket, unlike epoxy materials. Also, NEVER mix multiple mixes at once; only mix one mix at a time!

Low humidity will affect this product in the opposite way. When the humidity is low it is not unusual for the undercoat to take more than 4 hours to cure. It may even 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 to their full potential.

RECOMMENDATIONS

- DO NOT attempt to install the material if the temperature of Stonshield UTS components is not within 60 to 85°F/16 to 30°C. **The cure time and application properties of the material are severely affected.**
- The use of safety glasses and impervious gloves is required during application.
- Avoid contact with all liquids as they may cause skin and/or eye irritation. Applicators should cover hands with impervious rubber gloves.

NOTES

- Procedures for cleaning of the flooring system during operations can be found in the Stonhard Floor Maintenance Guide.
- Specific information regarding chemical resistance is available in the Stonshield Chemical Resistance Guide.
- Material Safety Data Sheets for Stonshield UTS are available on line at www.stonhard.com under Tech Info or upon request.
- A staff of technical service engineers is available to assist with installation or to answer questions related Stonhard 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.

6/08
Rev. 05/09

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