

PRODUCT DESCRIPTION

Stonshield UTS is a self-priming, textured, four-component, polyurethane mortar and broadcast system consisting of a urethane-urea binder, pigments, powders and quartz aggregates. Stonshield UT is a nominal 6 mm system that cures to an extremely hard, high impact-resistant surface which is decorative and exhibits excellent abrasion, wear, temperature and chemical resistance.

It is comprised of:

Stonclad UT mortar

A four-component multi-functional urethane-urea slurry.

Stonshield Aggregate

Brightly colored, quartz broadcast aggregate

Stonseal CA7

A two-component, UV resistant, aliphatic polyaspartic urethane sealer

SYSTEM OPTIONS

Cove Base

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

Waterproofing

When the total system must be waterproof, the use of Stonhard's Stonproof ME7 membrane system with Texture #3 broadcast to refusal is required with a strict adherence to application instructions.

Crack Treatment

When crack treatment is needed due to crack in the substrate the use of Stonhard's Stonproof CT5 or RH7 with Texture #3 broadcast to refusal is required with a strict adherence to application instructions.

PACKAGING

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

Mortar

2 cartons, each containing:

4 foil bags of Isocyanate

4 poly bags of Polyol

8 individual bags of aggregate

Pigment

0.67 cartons containing:

12 bags of pigment

Broadcast

10 individual bags of Stonshield broadcast aggregate

Stonseal CA7

2 cartons, each containing:

2 foil bags of Isocyanate

(2) c.a. 4 liter can of Amine

COVERAGE

Each unit of Stonshield UTS will cover approximately 18.6 m² of surface at a nominal 6 mm thickness.

STORAGE CONDITIONS

Store all components of Stonshield UTS between 16 to 30°C in a dry area. Avoid excessive heat and do not freeze. The shelf life is 2 years for the isocyanate and polyol and 6 months for Part C-1 in the original, unopened container.

PHYSICAL CHARACTERISTICS

Compressive Strength (ASTM C-579)	50 N/mm ² after 7 days
Tensile Strength (ASTM C-307)	7 N/mm ²
Flexural Strength (ASTM C-580)	17 N/mm ²
Flexural Modules of Elasticity (ASTM C-580)	1.8 x 10 ⁴ N/mm ²
Hardness (ASTM D-2240, Shore D)	80 to 84
Impact Resistance (ASTM D-2794)	>18 Nm
Abrasion Resistance (ASTM D-4060, CS17)	0.10 gm max. weight loss.
Thermal Coefficient of Linear Expansion (ASTM C-531)	2.3 x 10 ⁻⁵ mm/m°C
VOC content (ASTM D-2369)	UT mortar – 7 g/l Stonseal CA7 – 100g/l
Cure Rate (at 25°C)	4 hours for foot traffic 24 hours for normal operations
Flammability (ASTM E-648)	Class I

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. All sample preparation and testing is conducted in a laboratory environment, values obtained on field applied materials may vary and certain test methods can only be conducted on lab made test coupons.

COLOR

Stonshield UTS is available in 2 solid colors and 12 tweed patterns as standard colors. Refer to the Stonshield color sheet. Custom colors are available upon request.

USGBC LEED RATING

Stonshield UTS meets the requirements of LEED;

- MR Credit 1 – Building Reuse
- MR Credit 2 – Construction Waste Management
- MR Credit 6 – Rapidly Renewable Materials
- IEQ Credit 4 – Low Emitting Materials
- VOC content of the total system <100 g/l

SUBSTRATE

Stonshield UTS is suitable for application over concrete and Stonset TG6 grout. Consult Stonhard's Technical Service Department for application over other substrates.

SUBSTRATE PREPARATION

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

PRIMING

No priming is necessary over concrete or Stonset TG6

POT LIFE

After mixing, Stonclad UT Mortar and Stonseal CA7 have a working time of approximately 20 minutes at 21°C. The working time will vary depending upon temperature and humidity.

APPLYING

- DO NOT attempt to install the material if the temperature of Stonshield UTS components is not within 16 to 30°C. The cure time and application properties of the material are severely affected.
- Stonclad UT Mortar base material is mixed just prior to use in accordance with prescribed directions. Material must be used immediately after mixing.
- A Screed Applicator is used to distribute the mixed Stonclad UT Mortar onto the floor.
- Notched finishing trowels and spiked rollers are used to smooth the surface of the material to the required thickness.
- Stonshield aggregate is broadcast into the wet mortar.
- Excess aggregate is removed and a second broadcast is applied into wet sealer.
- Allow to cure 3 to 4 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 Stonseal CA7 under high humidity conditions. The working time of the Stonseal CA7 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 when working with epoxy and urethane. Though this is advantageous when working with epoxies and urethanes, it is detrimental when working with these polyaspartic 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.

NOTES

- Procedures for maintenance of the flooring system during operations are described in the Stonkleen Floor Cleaning Procedures Brochure.
- Specific information regarding chemical resistance is available in the Stonshield Chemical Resistance Guide. If a coating is utilized to seal the Stonshield UTS surface, please ensure that you consult the Product Data sheet for the coating for details regarding chemical resistance of the coating utilized.
- Safety Data Sheets for Stonshield UTS are available online at www.stonhard-europe.com under Products or upon request.
- A NIOSH approved air purifying respirator (APR) equipped with organic vapor/acid gas cartridges is required during application of the Stonseal CA7.
- A staff of technical service engineers is available to assist with installation or to answer questions related to Stonhard products.
- Requests for literature 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.

CE MARKING

The harmonized European Standard EN 13813 „Screed material and floor screeds- Screed materials - Properties and requirements“ specifies the requirements for screed materials for use in floor construction internally. Resinous flooring systems as well as resinous screeds fall under this specification they have to be CE-labeled as per Annex ZA., Table ZA.1.5 and 3.3 and fulfill the requirements of the given mandate of the Construction Products Regulation no. 305/2011.


	
StonCor Europe Rue du Travail 9 1400 Nivelles, Belgium	
13 DOP-2013.05-004	
EN 13813 SR-AR1.0-B2.0-IR18 Synthetic resin flooring system for use internally in buildings (system as per Product Data Sheet)	
Reaction to fire:	B _{fl} -S ¹
Release of corrosive substances:	SR
Wear resistance:	AR1.0
Adhesion strength by pull-off:	> B2.0
Impact resistance:	IR18
Chemical resistance:	CRG ¹
¹ CRG: see Stonhard Chemical Resistance Guide	

CE MARKING

The harmonized European Standard EN 1504-2 „Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – Part 2 : Surface protection systems for concrete“ gives specifications for products and systems based on methods “hydrophobic impregnation”, “impregnation” and “coating” for the various principles presented under EN 1504-9.

Products which fall under this specification have to be CE-labelled as per Annex ZA. 1, Tables ZA1a to ZA 1g according to the scope and relevant clauses there indicated, and fulfill the requirements of the given mandate of the Construction Products Regulation nr. 305/2011.

For flooring systems not dedicated to protect or reinstate the integrity of a concrete structure, EN 13813 applies. Products acc. EN 1504-2 used as flooring systems with mechanical loads also must fulfill EN 13813. Here below indicated are the performance classes achieve according to the standard. For the specific performance results of the product to the particular tests, please see the actual values above in the PDS.

	
StonCor Europe Rue du Travail 9 1400 Nivelles, Belgium	
13 DOP-2013.05-004	
EN 1504-2 Surface protection product Physical Resistance/Surface Improvement Coating	
Reaction to fire	B _{fl} -S ¹
Capillary absorption and permeability to water:	W ₂₄ <0.1 kg/m ² x h ^{0.5}
Impact resistance:	Class II
Adhesion by pull off strength:	>2.0 N/mm ²
Abrasion resistance:	> 3000 mg*
* Tested in combination with one coat of protective coating	

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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