

## STONSHIELD® UTS

### 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 coloured quarts aggregates.

### USES

Stonshield UTS is a high impact resistant mortar which exhibits excellent abrasion, thermal shock cycling and chemical resistant characteristics making it ideal for the food and beverage industry, kitchens as well as any other applications requiring these properties. Stonshield UTS is a nominal 5mm 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 coloured quartz broadcast aggregate.

#### **Stonseal 787 or Stonkote CE4-969**

A two-component clear sealer. The Stonkote CE4-969 is UV-stable.

### 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 15cm are available – refer to Stonshield CR 980 Coving Resin.

### PACKAGING AND COVERAGE

**Primer:** No primer required

**Mortar:** 12lt Kit Stonclad UT 950 Parts A, B, C & C2 White Pigment Pack, approximately 2.4m<sup>2</sup>/12lt kit

**Broadcast Texture:** 25kg Stonshield 981C coloured quartz aggregate, approximately 2 to 3kg/m<sup>2</sup>

**Sealer – Interior:** 5lt Kit Stonseal 787 Part A + B, approximately 3 to 4m<sup>2</sup>/lt/coat

**Sealer – Exterior:** 5lt Kit Stonkote CE4-969 Part A + B, approximately 3 to 4m<sup>2</sup>/lt/coat

### REFERENCE SAMPLE

A trial reference sample should be installed by the applicator prior to start of contract to ensure correct coverage and workmanship.

### STORAGE CONDITIONS

Store all components of Stonshield UTS between 16 to 32°C in a dry area. Avoid excessive heat and do not freeze.

### SHELF LIFE

The shelf life is one year for the base and activator and 6 months for Part C-1, in their original, unopened containers.

### COLOUR

Stonshield UTS is available in 2 solid colours and 12 tweed patterns as standard colours. Refer to the Stonshield colour chart. Custom colours are available upon request.

### TYPICAL PROPERTIES AT 25°C

<b>Compressive Strength (ASTM C-579)</b>	53.2 MPa after 7 days
<b>Tensile Strength (ASTM C-307)</b>	6.9 MPa
<b>Flexural Strength (ASTM C-580)</b>	16.6 MPa
<b>Flexural Modulus of Elasticity (ASTM C-580)</b>	1.69 x 10 <sup>4</sup> MPa
<b>Hardness (ASTM D-2240, Shore D)</b>	80 to 84
<b>Impact Resistance (ASTM D-2794)</b>	18 Joules
<b>Abrasion Resistance (ASTM D-4060, CS-17)</b>	0.10 gm max weight loss
<b>Flammability (ASTM E-648)</b>	Class I
<b>Thermal Coefficient of Linear Expansion (ASTM C-531)</b>	1.1 x 10 <sup>-5</sup> mm/mm/°C
<b>VOC Content (ASTM D-2369)</b>	Stonclad UT Mortar: 7g/l Stonseal CE4: 34g/l
<b>Cure Rate at 25°C</b>	4 Hours for foot traffic 24 Hours for normal operation

**NOTE:** The above physical properties were measure 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, values obtained on the field applied materials may vary.

## PLACEMENT GUIDELINES

### SCOPE OF WORK (BOQ):

Prepare surfaces and apply Stonshield UTS as a 5mm high impact, thermal shock and chemical resistant self-priming polyurethane urea mortar and seal with Stonseal 787 for interior and Stonkote CE4-969 for exterior.

### SUBSTRATE PREPARATION:

Remove all oils, grease and other contaminants by scrubbing with Carboclean 252 and rinsing with clean running potable water, to obtain a water break-free surface. Allow to dry. Abrade the surface by vacu-blasting, or scarifying to remove the laitance open all voids and expose the aggregate to a depth of 1-2mm. The roughened surface should be a dust free sound concrete surface with a portion of the main aggregate in the concrete exposed. A minimum tensile strength of 2 MPa and moisture content of less than 5 % is required. Refer to Product Data Sheet for additional surface preparation requirements.

### MIXING:

1. Set up the mixing station to deliver material every 3 minutes to the application area. A well displayed clock or timer is necessary to ensure consistent mixing and supply. Remove all lids from resin components and open pigment packs and aggregate bags to ensure continuous supply to the Applicators. Two 25 litre mixing drums and a spiral impeller fitted to a high torque 550 rpm mixer should be used.
2. Empty entire contents of Stonclad UT 950 Part B into the 25 litre mixing pail. Start mixing at slow speed, adding Stonclad UT 950 Part A (liquid) and Stonclad UT 950 Part C-2 (white pigment powder) and mix for 60 seconds.
3. Then pour the entire contents of one bag of Stonclad UT 950 Part C1 Aggregate into the pail and mix for a further 90 seconds.
4. Scrape excess material from the mixing blade and deliver the pail to the floor application area.
5. Immediately start mixing another kit in the 2<sup>nd</sup> mixing pail, so that a fresh batch of Stonclad UT can be transferred to the application area every 3 to 4 minutes.

### APPLICATION PROCEDURE FOR STONSHIELD UTS POLYUREA SCREED – 5mm:

- Apply the material with a 15mm notched hand-held trowel, ensuring a theoretical coverage of 3m<sup>2</sup> per 12 litre kit at 4mm wet film thickness.
- Within 5 minutes of spreading the material, applicators with spike shoes are to spike the spread Stonclad UT with a spike roller for a maximum of 5 minutes at first with increased pressure, attempting to feel the rough texture of the concrete below, steadily decreasing the pressure. By lightly spiking with the roller, float the pigmented resin to the surface to give a uniform level gloss appearance. New batches of material should always be incorporated within 3 to 4 minutes into the wet edge of the previously trowelled screed to ensure no “cold joint” lines appear.
- Using the Stonshield 981C Aggregate for fine texture or Stonshield 966C Aggregate for medium texture, broadcast the aggregate into the wet mortar by means of an electric spray caster to allow the broadcast aggregate to fall from height, onto the uniform wet level resin surface. Blind the surface of the Stonshield UTS screed with the selected aggregate (± 2kg per m<sup>2</sup>) evenly to rejection, ensuring no wet area remains on the surface. Allow to cure for a minimum of 8 hours at 25°C.
- Sweep and vacuum all excess aggregate from the surface, de-nib the sharp edges of the aggregate using the edge of a steel finishing trowel, to reduce the profile. Vacuum to remove all traces of de-nibbed aggregate.

### SEALING:

Mix Stonkote CE4-969 for exterior or Stonseal 787 for interior, thoroughly for 4 minutes using an impeller fitted to a variable speed drill. Transfer mixed material into a paint tray and, using a medium nap roller, dip and roll the sealer. DO NOT USE A SQUEEGEE – this will place too much material onto the floor and decrease the desired texture. The roller should be saturated with sealer at all times. This will smooth and level the sealer to achieve a uniform texture and appearance.

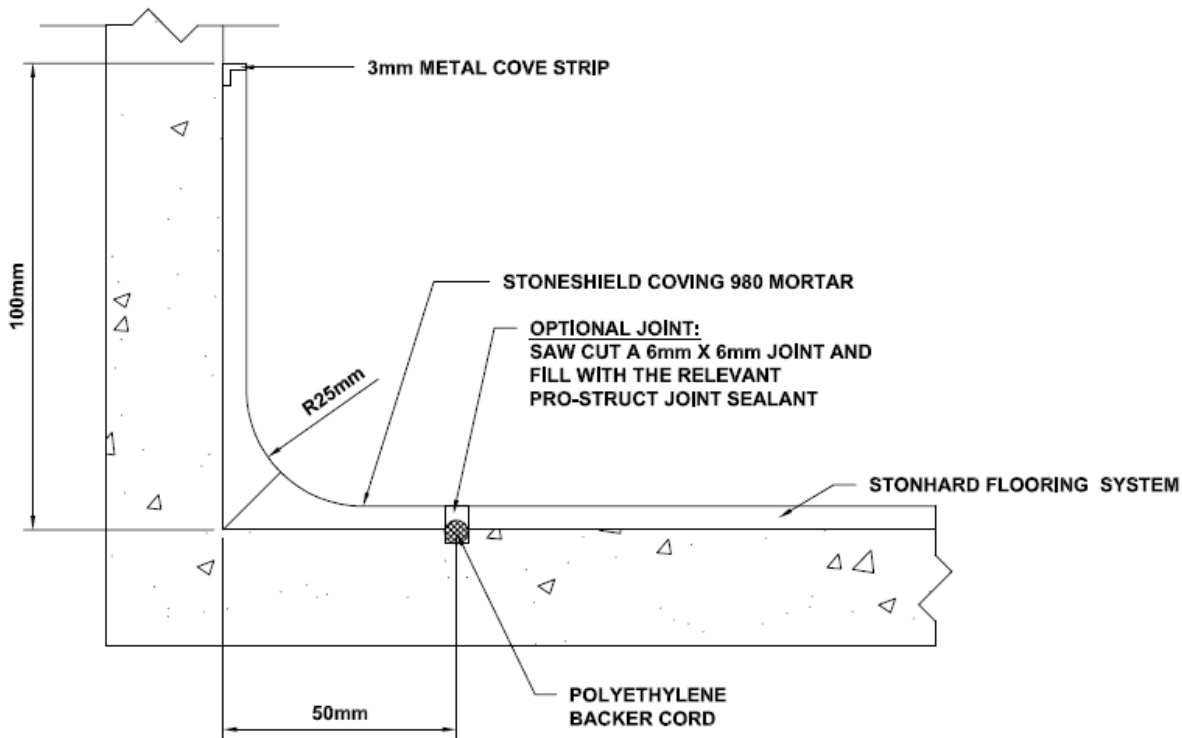
### CURING:

At normal temperature conditions the coating system can be exposed to light traffic after 24 hours. Excessive traffic, aqueous cleaning and exposure to aggressive chemicals should only take place after four to five days when full cure has been achieved.

### APPLICATION PROCEDURE FOR STONSHIELD COVERED SKIRTING:

- Epoxy mortar covered skirtings shall be installed prior to the installation of the flooring system.
- Install the metal cove strip to the wall to the desired height using correct adhesive, taking care to mask above the cove strip for neatness.
- Prime the prepared plastered / concrete surfaces with Stonshield 980 Resin A & B at a theoretical coverage of 20 linear metres x 150mm wide per 1 litre kit.
- Mix the 2.5 litre kits of Base and Activator of Stonshield 980 Resin for 2 minutes using a mechanical mixer. Add 5 litre measured bucket (8kg) of Stonshield 981C Aggregate and mix for a further 2 minutes. The yield of this kit is 6 litres. Using a steel trowel, apply the mixed mortar to the wet primed concrete and plastered surfaces to a theoretical spread rate of 10 linear metres for a 50mm x 100mm x 25mm radius.
- Form the cove to the desired radius using a suitable coving trowel, allow to cure for 4 to 8 hours at 25°C.
- Abrade the vertical surface of the cove to remove surface imperfections.
- Overcoat the coving using Stonseal 787 or specified sealer.

## STONSHIELD COVING:



## RECOMMENDATIONS

- DO NOT attempt to install material if temperature of Stonshield UTS components and substrate are not within 16-30°C. The cure time and application properties of the material are severely affected.
- Protect areas from dust and isolate access. Contamination between layers will affect the final performance.
- The use of NIOSH/MSHA approved respirator and safety glasses are recommended.
- Avoid contact with all liquid Parts A and B as they may cause skin and/or eye irritation. Applicators should cover hands with impervious gloves.

## NOTES

- Further detailed instructions on application and installation can be found in the Stonshield UTS Directions.
- Procedures for maintenance of the flooring system during operations are described in "Stonclad Cleaning Procedures".
- Specific information regarding chemical resistance is available in "Stonshield UTS Chemical Resistance Guide".
- Material Safety Data Sheets on Stonshield UTS are available on request.
- A staff of technical service engineers is available to assist in installation or to answer questions related to our flooring products specifically or flooring problems in general.
- Staining may occur depending on length of exposure time, chemical concentration and temperature.