

### PRODUCT DESCRIPTION

Stonchem 655 is a highly cross-linked novolac epoxy lining system applied at a nominal thickness of 1mm. The resin, engineering fabric, mineral composite topcoat sequencing provides a light-duty chemical barrier for occasional foot traffic which is resistant to small static cracks and moderate thermal shock. The Stonchem 655 system has excellent resistance to concentrated sulphuric acid, chlorinated solvents and caustics.

### USES

- Secondary containment areas / tank farms
- Concrete sumps, vaults and trenches
- Pump pads and pedestals
- Storage tanks
- Neutralization pits
- Process floors

### PRODUCT ADVANTAGES

- Excellent chemical resistance to concentrated sulphuric acid, chlorinated solvents and caustics
- Engineering fabric aids in crack resistance
- Mineral composite topcoat for increased impermeability
- Factory proportioned units for easy application

### CHEMICAL RESISTANCE

Stonchem 655 is formulated to resist a variety of chemical solutions. (Refer to the Stonchem 600 Series Chemical Resistance Guide for lists of reagent concentration and temperature recommendations for each product).

### PRECAUTION

Stonchem 600 series systems cannot withstand the exothermic reaction of water, dew or rain falling on pooled concentrated acids. The temperatures of the acid can reach 160°C and if maintained, will destroy the lining. Pump and pipe maintenance, the use of drip trays, slopes to sumps, roof protection and good housekeeping practice is critical in avoiding the explosive properties encountered when water is added to acids.

NOTE: Staining may occur depending on length of exposure time, chemical concentration and temperature.

### PACKAGING AND COVERAGE

**Primer:** Stonprime 786 OPR  
5lt Kit; Part A& B – Approximately 14m<sup>2</sup>/5 litre

**Saturant:** Stonchem 600S  
5lt Kit; Part A & B – Approximately 4,0m<sup>2</sup>/5 litre

**Engineering Fabric:** 1 Roll 50kg CSM 450 – Approximately 111m<sup>2</sup>

**Topcoat:** Stonchem 600T  
8lt Kit; Part A& B – Approximately 25m<sup>2</sup>/8 litre

**NOTE: Coverage rates shown are theoretical. Actual coverage rates may vary. Make necessary allowances for the condition of the surface to be coated, working conditions, waste, spillage, experience level and skill of the installers, etc.**

### 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 between 10 to 24°C in a dry area. Keep out of direct sunlight. Avoid excessive heat and do not freeze. Store all engineering fabric in a clean and dry area.

### SHELF LIFE

The shelf life is 1 year in the original, unopened container.

### TYPICAL PROPERTIES AT 25°C

<b>Tensile Strength</b> ASTM D307	44 MPa
<b>Flexural Strength</b> ASTM C580	82 MPa
<b>Flexural Modulus of Elasticity</b> ASTM D790	6.9 x 10 <sup>3</sup> MPa
<b>Hardness</b> ASTM D2240, Shore D	85 to 90
<b>Abrasion Resistance</b> ASTM D4060, CS17	0.07gm max weight loss
<b>Thermal Coefficient of Linear Expansion, ASTM C531</b>	21 x10 <sup>-6</sup> mm/mm/°C
<b>Colour</b>	Red or Grey
<b>VOC</b>	20g/litre
<b>Volume Solids</b>	100%

**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, values obtained on the field applied materials may vary.

## APPLICATION

### SUBSTRATE

Stonchem 655, with the appropriate primer, is suitable for application over concrete, wood, brick, quarry tile, metal or Euclid Concrete Repair products. For questions regarding other possible substrates or an appropriate primer, contact your local StonCor Africa representative or Technical Service Department.

### 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 (Carboclean 250 and Carboclean 252) and rinsing with clean water. Previously contaminated substrates should be neutralized and thoroughly rinsed clean with potable water. pH checks with litmus paper should be carried out to confirm neutral substrates. The surface must show open pores throughout with main aggregate in concrete exposed and have a sandpaper texture. Substrate moisture content prior to coating should be below 5% and substrate tensile strength above 2 MPa. For recommendations or additional information regarding substrate preparation, refer to surface preparation data sheet or contact StonCor Africa Technical Service Department.

### SUBSTRATE REPAIR, REPROFILING AND "NEGATIVE SIDE" WATERPROOFING

Reinstatement of damaged or defective concrete should be carried out using Euclid Concrete Repair products as per the product data sheets. The minimum depth repair should be no less than 10mm and perimeter edge cuts should be made perpendicular to the surface to avoid feather edging. For trafficable floor areas, a minimum depth of 25mm is required.

Reprofiling of uneven surfaces and controlling rising moisture should be carried out using Euclid Cement-based Waterproofing products applied as a dense 3mm layer using steel trowels, as per the product data sheet.

### CRACK TREATMENT

The joint or crack to be treated must be filled with Pro-Struct 849 prior to the application of Stonflex CR9. Pro-Struct 849 must be allowed to cure for a minimum of 12 hours at 21°C. Mix and apply Stonflex CR9 by brush over the crack at a thickness of 500 microns, 30mm either side of the crack.

Using pre-cut 50mm wide non-woven 110 to 120gm/m<sup>2</sup> geotextile fabric (pre-approved by StonCor Africa), centre the geotextile fabric lengthwise over the joint, firmly press and embed it into the Stonflex CR9 whilst still wet. Use a non-stick roller, squeegee or trowel to embed the geotextile fabric.

Apply a further coat, ensuring full saturation of the fabric. Allow to cure. Exposed fabric fibres or edges or other discontinuities shall not be accepted. Apply a further coat at 250µm.

### APPLICATION GUIDELINES

For optimal working conditions, substrate temperature must be between 15 to 30°C. Cold areas must be heated until the slab temperature is above 15°C to ensure the material achieves a proper cure. A cold substrate will make the material stiff and difficult to apply. Warm areas or areas in direct sunlight must be shaded or arrangements made to work during evenings or at night. A warm substrate (15 to 30°C) will aid in the material's workability; however, a hot substrate (30 to 35°C) or a substrate directly in the sun will shorten the material's working time and can cause other phenomenon such as pinholing and bubbling. Substrate temperature should be greater than 3°C above dew point.

Application and curing times are dependent upon ambient and surface conditions. Consult StonCor Africa Technical Service Department if conditions are not within recommended guidelines.

### PRIMING

Vacuum the substrate before priming, and make sure the surface is dry. The use of Stonprime 786OPR is necessary in all applications of Stonchem 655. This ensures maximum product performance. (See the Stonprime 786OPR product data sheet for details).

**NOTE: Stonprime 786OPR must be tack-free prior to the application of the Saturant – Basecoat (usually 4 to 6 hours). If primer is left longer than 12 hours, it must be abraded and reprimed.**

### APPLYING

#### Saturant – Basecoat – Stonchem 600S

Mix the Part A & B in the 5 litre container using a heavy-duty, slow-speed mechanical mixer (400 to 600 rpm) with a Jiffy Mixer for one minute. Pour the saturant onto the substrate and spread out with a 1mm notched trowel. The saturant should be spread out in a sequence to allow for easy application of the engineering fabric. Do not leave any puddling during this trowel step. Puddling will lead to over saturation of the fiberglass.

March 2022 replaces August 2017

(Stonchem 655)

To the best of our knowledge the technical data contained herein are true and accurate at the date of issuance and are subject to change without prior notice. User must contact StonCor Africa to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to StonCor Africa quality control. We assume no responsibility for coverage, performance or injuries resulting from use. Liability, if any, is limited to replacement of products. Prices and cost data, if shown, are subject to change without prior notice. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY STONCOR AFRICA, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

### Engineering Fabric

Place the engineering fabric on the saturant immediately after the saturant is applied. This is important to achieve maximum wetting. Press the fabric into the saturant with a dry, medium nap roller. Overlap adjacent fabric 10mm. Immediately apply the next saturant step.

### Saturant – Stonchem 600S

Mix Part A& B in the 5 litre container using a heavy-duty, slow-speed mechanical mixer (400 to 600 rpm) with a Jiffy Mixer for one minute and transfer to a paint tray. Apply the saturant to the engineering fabric with a saturated medium nap roller. To wet the roller, dip it into the tray. Do not pour the saturant directly onto the fabric. This will decrease the saturant's coverage. If air temperature is high, the use of plastic buckets will increase the pot life of the material. The fabric is complete saturated when white strands are no longer present. When the fabric is completely saturated, roll with a ribbed roller to release air pockets in the reinforcement and to help mesh glass and saturant together. To saturate the overlaps, roll several times over the length of the overlap with a saturated roller. Then, roll with a ribbed roller several times until the overlap is no longer visible. Allow the saturant and fabric to cure (usually 4 to 6 hours) before proceeding.

### Topcoat – Stonchem 600T

Lightly sand the saturant and engineering fabric in all areas to remove protrusions. Vacuum the area completely. Mix Part A& B in a 10 litre container, using a heavy-duty, slow-speed mechanical mixer (400 to 600 rpm) with a Jiffy Mixer for two minutes. Pour the material onto the floor and spread out with a 1mm notched trowel. Backroll the area with a medium nap roller to remove trowel lines using long roll strokes to decrease the visibility of roller lines. For vertical surfaces, pour a bead of material along the base of the wall. Using a medium nap roller, roll the material up onto the wall. The wet film thickness of the coating is 250 to 350 microns. Check the thickness with a wet film gauge.

### CURING

The surface of Stonchem 655 will be tack-free in 4 to 6 hours at 21°C. The coated area may be put back into service in 24 hours at 21°C. Ultimate physical characteristics will be achieved in 7 days.

### RECOMMENDATIONS

- Apply only on clean, sound, dry and properly prepared substrates.
- Minimum ambient and surface temperature is 15°C at the time of application.
- Maximum surface temperature should not exceed 30°C during application. **Substrate temperatures above 38°C will drastically affect the working time of the product.**
- Substrate temperature should be greater than 3°C above dew point.
- Material should not be applied if humidity is above 85%.
- Application and curing times are dependent upon ambient and surface conditions. Consult Stonhard's Technical Service Department if conditions are not within recommended guidelines.

### PRECAUTIONS

- Carboline Thinner # 2 or # 10 are recommended for clean-up of Stonchem 655 material spills. Use these materials only in strict accordance with the manufacturer's recommended safety procedures. Dispose of waste materials in accordance with government regulations.
- The use of NIOSH/MSHA approved respirators using an organic vapor / acid gas cartridge is highly recommended.
- The selection of proper protective clothing and equipment will significantly reduce the risk of injury. Body coverage apparel, safety goggles and impermeable gloves are highly recommended.
- In case of contact, flush the area with copious amounts of water for 15 minutes and seek medical attention. Wash skin with soap and water.
- Use only with adequate ventilation.

### NOTES

- Material Safety Data Sheets for Stonchem 655 are available online at [www.stoncor.co.za](http://www.stoncor.co.za), under products or upon request.
- Specific information regarding chemical resistance of Stonchem 655 is available in the Stonchem 600 Series Chemical Resistance Guide.
- A staff of technical service engineers is available to assist in product application or to answer questions related to Stonhard products.
- Requests for technical literature or service can be made through local sales representatives and offices, or corporate offices located worldwide.