

PRODUCT DESCRIPTION

Stonchem 610 is a highly cross-linked novolac epoxy mineral composite lining system applied to horizontal surfaces at a thickness of 3.3mm. One trowel applied mortar layer Stonchem 610 provides a heavy-duty chemical barrier for moderate traffic areas. The Stonchem 610 system has excellent resistance to concentrated sulphuric acid and is recommended for areas with severe solvent exposure.

USES

- Process floors
- Solvent storage rooms
- Drum storage areas

PRODUCT ADVANTAGES

- Superior chemical resistance to concentrated sulphuric acid and chlorinated solvents
- Mineral composite topcoat for low permeability
- Factory proportioned units for easy application

CHEMICAL RESISTANCE

Stonchem 610 is formulated to resist a variety of chemical solutions. Refer to the Stonchem 600 Series Chemical Resistance Guide for concentration and temperature recommendations.

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 & COVERAGE

Primer: Stonprime 786 OPR
5lt kit; Part A and B – approximately 14m²/5 litre

Mortar Screed: 5lt Stonchem 600S + 24kg Stonchem 600MS Aggregate
Saturant + Mortar Screed Aggregate = 15 litres – Approximately 5m²/15 litre at 3.0mm thickness

Topcoat: Stonchem 600T
8lt kit; Part A and B – approximately 25m²/8 litre/coat at 300µm – 2 coats required for 600 microns

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

Compressive Strength ASTM D579	69 MPa
Tensile Strength ASTM D638	13 MPa
Flexural Strength ASTM C580	28 MPa
Flexural Modulus of Elasticity ASTM C580	5.5 x 10 ³ MPa
Hardness ASTM D2240, Shore D	85 to 90
Abrasion Resistance ASTM D4060, CS17	0.07gm max weight loss
Thermal Coefficient of Linear Expansion , ASTM C531	21 x 10 ⁻⁶ mm/mm/°C
Volume Solids	100%
VOC	20 g/litre
Full Cure	7 Days
Colour	Red or Grey

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 610, 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/m² 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 610. 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 Mortar Screed (usually 4 to 6 hours). If primer is left longer than 12 hours, it must be abraded and reprimed.

Mortar Screed – Stonchem 600S + 600MS Aggregate

Pre-mix Part A&B in a mixing container using a heavy-duty, slow-speed mechanical mixer (400 to 600 rpm) with a Jiffy Mixer for one minute. Next, gradually add the Mortar Screed aggregate while mixing for an additional two minutes. Mixing is complete when no dry clumps of material exist. Apply the mortar onto the substrate by pouring the entire contents of the bucket onto the floor and screeding with a 10mm V-notch trowel. If the entire contents of the bucket is not poured onto the floor, the material remaining in the bucket will settle. Additional mixing is required to remove settled material from the bucket. Screed the material

immediately after it has been poured. Material allowed to settle on the substrate will become harder to screed. To achieve proper thickness of 3mm, the trowel should be held at a 45 degree angle with the notch lips in contact with the substrate at all times. Using a spike roller, roll the surface of the mortar until an even finish is achieved. Allow the material to cure for 4 to 6 hours.

Topcoat – Stonchem 600T

Lightly sand the Mortarcoat. Vacuum the area completely. Mix the Part A& B in a 5 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 610 will be tack-free in 4 to 6 hours at 21°C. The coated area may be put back in 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

- Avoid contact with Stonchem 610 amine and resin as they may cause skin, respiratory and eye irritation.
- Carboline Thinner # 2 or Carboline Thinner # 10 are recommended for clean-up of Stonchem 656 resin and amine 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 the event of accidental eye contact, rinse eyes immediately with water.
- If material is ingested, immediately contact a physician. **DO NOT INDUCE VOMITING.**
- Use only with adequate ventilation. Inhalation of vapours may cause severe headaches, nausea and possibly unconsciousness.

NOTES

- Material Safety Data Sheets for Stonchem 610 are available upon request.
- 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.