

PRODUCT DESCRIPTION

Stonchem 701 is a chlorendic acid-based unsaturated polyester lining system applied at a nominal thickness of 600 microns. Two coats of the mineral composite filled coating are ideal for the coating of bases, piers, walls and concrete structures. A one coat, 250 to 300 micron application, will renew the surface of an aged lining system. The Stonchem 701 system has excellent resistance to strong oxidisers such as concentrated nitric and chromic acid.

USES

- Secondary containment areas
- Concrete pads and pedestals
- Splash / Spill areas

PRODUCT ADVANTAGES

- Excellent chemical resistance to strong oxidisers such as concentrated nitric and chromic acids
- Mineral composite filled for increased impermeability
- Factory proportioned units for easy application

CHEMICAL RESISTANCE

Stonchem 701 is formulated to resist a variety of chemical solutions. Refer to the Stonchem 700 Series Chemical Resistance Guide which lists reagent concentration and temperature recommendations for each product.

PRECAUTION

Stonchem 700 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: Stonchem 700/800 Primer
5lt kit; Part A, B and C – approximately 14m²/5 litre

Topcoat: Stonchem 700T
5lt kit; Part A, B and C – approximately 16m²/5 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.

ORDERING PROCESS

Due to Stonchem 700 series limited shelf life, material will only be manufactured on order, and note should be taken of manufactured dates and storage condition requirements.

STORAGE CONDITIONS

Store all components between 10 to 24°C in a dry area. Keep out of direct sunlight.

SHELF LIFE

When stored in the unopened containers at the proper temperatures, the shelf life is 3 months.

TYPICAL PROPERTIES AT 25°C

Tensile Strength ASTM D-638	47 MPa
Flexural Strength ASTM C580	93 MPa
Flexural Modulus of Elasticity ASTM D580	0.6 x 10 ³ MPa
Hardness ASTM D2240, Shore D	85 to 90
Abrasion Resistance ASTM D4060, CS17	0.1gm max weight loss
Full Cure	7 Days
Thermal Coefficient of Linear Expansion, ASTM C531	3.6 x 10 ⁻⁵ mm/mm/°C
Colour	Charcoal, Grey or Red
VOC	8 g/litre
Volume Solids	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 701, 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 grinding. 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 areas, minimum 25mm).

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 on both sides of the crack.

Using pre-cut 50mm wide non-woven 110 to 120 gm/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 Stonchem 700/800 Primer is necessary in all applications of Stonchem 601. This ensures maximum product performance. (See the Stonchem 700/800 Primer product data sheet for details).

NOTE: Stonchem 700/800 Series Primer must be tack-free prior to the application of the Topcoat (usually 4 to 6 hours). If primer is left longer than 12 hours, it must be abraded and reprimed.

APPLYING

Topcoat – 1st Coat Stonchem 700T

Lightly sand and vacuum the primed area completely. Premix the resin and catalyst for 30 seconds in a 5 litre container, using a heavy-duty, slow-speed mechanical mixer (400 to 600 rpm) with a Jiffy Mixer. Add the peroxide and mix for a further one minute. 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.

2nd Coat Stonchem 700T

Apply in the same manner as the 1st coat. (If 1st coat is not overcoated within 24 hours, then sand the surface lightly, vacuum and continue).

CURING

The surface of Stonchem 701 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 Carboline Thinner # 10 solvents are recommended for clean-up of Stonchem 701 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 701 are available online at www.stoncor.co.za, under products or upon request.
- Specific information regarding chemical resistance of Stonchem 701 is available in the Stonchem 700 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.