

PRODUCT DESCRIPTION

Stonchem 655 is a highly cross-linked novolac epoxy lining system applied at a nominal thickness of 1 mm. 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 sulfuric acid, chlorinated solvents and caustics.

USES, APPLICATIONS

- 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 sulfuric 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.)

PACKAGING

Stonchem 655 is packaged in units for easy handling. Each unit consists of:

Saturant

1.2 cartons of 600 Series Saturant
 A carton contains:
 6 foil bags of amine
 6 poly bags of resin

Engineering Fabric

1 roll of Engineering Fabric 18.58 m² roll

Topcoat

1 carton of Stonchem 600 Series Topcoat
 A carton contains:
 4 foil bags of amine
 4 poly bags of resin

PHYSICAL CHARACTERISTICS

Tensile Strength (ASTM D-307)	45 N/mm ²
Flexural Strength (ASTM C-580)	83 N/mm ²
Flexural Modulus of Elasticity (ASTM C-790)	6.9 x 10 ³ N/mm ²
Hardness (ASTM D-2240, Shore D)	85 to 90
Abrasion Resistance (ASTM D-4060, CS-17)	0.07 gm max. weight loss
Thermal Coefficient of Linear Expansion (ASTM C-531)	2.1 x 10 ⁻⁵ m/mm°C
Color	Gray

Note: The above physical properties were measured in accordance with the referenced standards. Samples of the actual system, including binder and filler, were used as test specimens.

COVERAGE

Each unit of Stonchem 655 will cover approximately 16.72 m² at a thickness of 1 mm.

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.

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. The shelf life is 3 years in the original, unopened container. Store all engineering fabric in a clean and dry area.

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 and rinsing with clean water. The surface must show open pores throughout and have a sandpaper texture. For recommendations or additional information regarding substrate preparation, contact Stonhard's Technical Service Department.

APPLICATION GUIDELINES

Before mixing and applying any material, make sure environmental conditions are satisfactory for application. For optimal working conditions, the substrate temperature must be between 15 to 27°C. Measure the surface temperature with a surface thermometer. Cold areas must be heated until the slab temperature is above 13°C. This will allow the material to achieve a proper cure. Also, 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 27°C) will aid in the material's workability; however, a hot substrate (27 to 37°C) or a substrate in direct sunlight will shorten the material's working time and can cause other phenomenon such as pinholing and bubbling.

APPLYING

Priming

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

Note: HT Primer must be tack-free prior to application of the Saturant – Base Coat.

Saturant – Base Coat

Mix amine and resin in a 5 gallon bucket using a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for one minute. Pour the saturant onto the substrate and spread out with a 15 mil notched squeegee. The saturant should be spread out in a sequence to allow application of the engineering fabric. Do not leave any puddling during this squeegee step. Puddling will lead to over saturation of the engineering fabric.

Engineering Fabric

Place the engineering fabric on the saturant immediately after it is applied. This is important to achieve maximum wetting. Press the engineering fabric into the saturant with a dry, medium nap roller. Overlap adjacent engineering fabric 13 mm. Immediately apply the next saturant.

Saturant

Mix amine and resin in a 5 gallon bucket using a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for one minute. Apply the saturant to the fabric with a saturated medium nap roller. To wet the roller, dip it into the mixing bucket. Always work from the bucket. Do not pour the saturant directly onto the engineering fabric. This will decrease the saturant's coverage. If air temperature is above 27°C, the use of plastic buckets will increase the pot life of the material. The engineering fabric is completely saturated when white strands are no longer present. When the engineering fabric is completely saturated, roll with a ribbed roller to release air pockets in the reinforcement and to help mesh the engineering fabric 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 engineering fabric to cure (usually 4 to 6 hours) before proceeding.

Topcoat

Lightly sand the saturant and engineering fabric in areas where protrusions exist. Vacuum the area completely. Mix amine and resin in a 5 gallon mixing container using a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for one minute. Pour the material onto the floor and spread out with a 15 mil notched squeegee. Backroll the area with a medium nap roller to remove squeegee 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 300 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 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 13°C at the time of application.
- Maximum surface temperature should not exceed 32°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

- Toluene or Xylene solvents 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 covering 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 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.

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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