

## NOVOLAC EPOXY LINING SYSTEM

### PRODUCT DESCRIPTION

Stonchem 658 is a 100% solids, high performance epoxy, heavy-duty lining system applied at a nominal thickness of 3mm. The base coat liquids are reinforced with a fiberglass cloth that reinforces the system to resist the stresses caused by cracks. The heavily broadcasted aggregate topcoat over the fiberglass scrim cloth helps protect the fabric by providing a wear layer that adds durability and abrasion resistance to the system – more than a typical reinforced lining system. Stonchem 658 has excellent resistance to sulphuric acid up to 98%.

### USES, APPLICATIONS

- Process slabs
- Tank farms
- Chemical loading and unloading areas
- Spill containment areas
- Truck unloading areas

### PRODUCT ADVANTAGES

- Excellent resistance to chemical attack
- Excellent abrasion and impact resistance
- Exceptional thermal shock resistance
- Superior bonding qualities
- High cohesive strength and flexibility
- Low permeability
- Low odor

### CHEMICAL RESISTANCE

Stonchem 658 is formulated to resist a variety of chemical solutions. (Refer to the Stonchem 600 series chemical resistance guide for lists of reagent concentrations and temperature recommendations).

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

### PACKAGING

#### PRIMER, STONPRIME 786 O.P.R.

5lt Kit Part A + B: Approximately 3m<sup>2</sup>/lt/coat

#### BASE COAT / TOPCOAT, STONCHEM 658

5lt Kit Part A + B: Approximately 2lt/m<sup>2</sup>

#### BROADCAST AGGREGATE:

25kg Medium Texture # 6222, Approximately 2kg/m<sup>2</sup>

#### VERTICAL MORTAR:

7,5kg (5lt) Medium Texture # 6222 per 5lt Stonchem 658

Yields 8lt per kit : approximately 3m<sup>2</sup>/kit

#### CRACK TREATMENT: Stonproof CT5

2lt Kit Part A and Part B: approximately 10 linear metres, 300mm wide with 10 oz woven glass SC-GSB250

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.

#### ACID-RESISTANT WEAVED CLOTH

1 Roll SC-GSC450 (50 x 1,5m)

### TYPICAL PROPERTIES AT 25°C

<b>Compressive Strength (ASTM C-579)</b>	16000 psi
<b>Tensile Strength (ASTM D-638)</b>	8500 psi
<b>Flexural Strength (ASTM C-580)</b>	13000 psi
<b>Flexural Modulus of Elasticity (ASTM C-580)</b>	7,5 x 10 <sup>6</sup> psi
<b>Hardness (ASTM D-2240, Shore D)</b>	75-85
<b>Bond Strength (ASTM D-4541)</b>	>300 psi (100% concrete failure)
<b>Abrasion Resistance (ASTM D-4060, CS-17)</b>	56gm max. weight loss
<b>Thermal Coefficient of Linear Expansion (ASTM C-531)</b>	11.1 x 10 <sup>-6</sup> in./in.°C
<b>Colour</b>	Grey / Red
<b>Pot Life</b>	15-20 Minutes
<b>Application Temperature</b>	13-35°C
<b>Shelf Life</b>	1 Year if correctly stored

**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.

### STORAGE CONDITIONS

Store all components between 10-24°C in a dry area. Keep out of direct sunlight. Avoid excessive heat and do not freeze. The shelf life is 1 year in the original, unopened container.

## SUBSTRATE PREPARATION

### General

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. 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 15-27°C. Measure the surface temperature with a surface thermometer. Cold areas must be heated until the slab temperature is above 10°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 15-27°C will aid in the material's workability; however, a hot substrate 27-37°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.

### APPLYING

#### Priming

Vacuum the surface before priming and make sure the substrate is dry. The use of Stonprime 786 O.P.R. is necessary to ensure maximum product performance. Mix and apply in accordance with the product data sheet. Avoid puddling. Allow the primer to cure tack-free, approximately 4-6 hours, prior to application of Stonchem 658. If primer is left longer than 12 hours, it must be abraded and reprimed.

#### Crack Treatment

Apply Stonproof CT5 with a 2mm notch trowel, 300mm wide over the crack. Lightly lay 250mm wide 10oz woven glass over the crack, ensuring no wrinkles exist. Apply Stonproof CT5 into the roving ensuring that the roving remains on the surface of the treatment.

#### Joint Treatment Prior to Lining

All joints should be profiled such that they are raised and liquids flow away from the joints and not along the joint. If this has not been catered for in the design, an epoxy mortar consisting of 1 litre of Stonprime 786OPR mixed with 6kg of Pro-Struct # 622 graded aggregates should be screeded 100mm on either side of the joint to create a

wedge shape at least 5mm high at the joint, screeded down to 1mm on the perimeter. Allow to cure and re-cut the joint to the width specified by the engineer to cater for slab movement.

Apply Stonchem 658 lining system over the epoxy mortar up to the raised joint and when cured, recut the joint to give clean, sound edges. Prime the cut sides with Pro-Struct 626 and place a backing cord to a minimum depth of 10mm. Install Pro-Struct 849 sealant tooling level with the lining system, ensuring depressions are not left in the sealant to harbour chemical attack.

#### Floor / Wall Junctions, Equipment & Tank Footings

Onto primed surfaces, run a 10mm fillet of Stonproof CT5 onto both surfaces and carry the elastomer over equipment footings as per our lining design details.

#### Basecoat

Individually stir amine and resin to a smooth, uniform consistency. Any sediment in the container must be thoroughly scraped up and re-dispersed. Pour the entire contents of the resin into the amine and mix thoroughly for 2 minutes using a Jiffy Mixer. Evenly apply a base

coat of material at approximately 1.2mm. The preferred hand tools for applying material are a notched squeegee or a notched trowel.

#### Fiberglass Cloth

Immediately place a layer of fiberglass cloth into the wet base coat. Overlap seams a minimum of 5cm and apply a liberal amount of material between the overlapping layers. Use a flat trowel to smooth, flatten and embed the fiberglass scrim cloth. It is critical that the fiberglass scrim cloth be completely saturated and none left exposed.

#### Broadcast Aggregate

While wet, immediately broadcast the aggregate. Do not allow the aggregate to be broadcast ahead of the applicator. Broadcast the aggregate until a dry layer is achieved. Allow the coating to cure. Remove the excess aggregate.

#### Topcoat

Apply the topcoat material to seal the exposed aggregate. At least 0.38mm will be required to adequately cover the exposed aggregate. More may be needed to meet the finish texture and the 3mm thickness required by the job specification. Allow the material to cure.

#### Vertical Surfaces

Prime surface using Stonprime 786OPR and broadcast Pro-Struct 6222 Aggregate into wet primer. Allow to cure. Mix Stonchem 658 Part A & B for 3 minutes mechanically and slowly add a 5 litre measuring bucket of Pro-Struct 6222 Aggregate into the mix to make a trowelable mortar.

**CAUTION: MAY CONTAIN FLAMMABLE SOLVENTS. KEEP AWAY FROM SPARKS AND OPEN FLAMES. IN CONFINED AREAS WORKMEN MUST WEAR FRESH AIRLINE RESPIRATORS. HYPERSENSITIVE PERSONS SHOULD WEAR GLOVES OR USE PROTECTIVE CREAM. ALL ELECTRONIC EQUIPMENT AND INSTALLATIONS SHOULD BE MADE AND GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. IN AREAS WHERE EXPLOSION HAZARDS EXIST, WORKMEN SHOULD BE REQUIRED TO USE NONFERROUS TOOLS AND TO WEAR CONDUCTIVE AND NONSPARKING SHOES**



### StonCor Africa (Pty) Ltd

Co. Reg. No. 1996/001848/07

Tel: +27 (0)11 254 5500

Website: [www.stoncor.co.za](http://www.stoncor.co.za)

E-mail: [stoncorsa@stoncor.com](mailto:stoncorsa@stoncor.com)

Using a 10mm square shaped notched trowel, skim the mortar onto the primer and embed the scrim cloth into the mortar. Using a flat trowel, smooth out the cloth, ensuring it is saturated. Allow to cure and apply a seal coat of Stonchem 658.

### CURING

The surface of Stonchem 658 will be tack-free in 12 to 18 hours at 24°C. The coated area may be put back into service in 36 hours at 24°C. Ultimate physical characteristics will be achieved in 7 days. The curing time may vary depending upon ambient and surface conditions.

### 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

- Before it cures, Stonchem 658 may be cleaned from tools and equipment using hot, soapy water.
- After Stonchem 658 cures, Xylene or MEK will be required to clean tools and equipment. Chlorinated solvents may be used if flammable solvents are not allowed.
- Avoid contact with eyes and skin; do not ingest or inhale.
- 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.
- When spraying in a confined area, always wear a fresh air hood and make provision for forced ventilation.
- When spraying in an open area, NIOSH/MSHA approved respirators suitable for organic vapors can replace the fresh air hood.
- Prolonged or repeated exposure to the unreacted amine and resin components of Stonchem 658 may cause skin irritation or allergic reactions.

### NOTES

- Refer to material safety data sheets regarding individual components. Material safety data sheets are available upon request.
- Specific information regarding the chemical resistance of Stonchem 658 is available in the Stonchem 600 series chemical resistance guide.
- A staff of technical service engineers is available to assist with product application or to answer questions related to Stonhard's products.
- Requests for technical literature or service can be made through local sales representatives and offices, or corporate offices located worldwide.

### SAFETY

#### READ THIS NOTICE!

#### SAFETY & MISCELLANEOUS EQUIPMENT

For tank lining work it is recommended that the operator provide himself with clean overalls and rubber soled shoes and observe good personal hygiene. Certain personnel may be sensitive to various types of resins which may cause dermatitis.

Toluene or Xylene solvents are recommended for clean-up of Stonchem 658 amine or resin 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 air purifying respirators equipped with an organic vapor / acid gas cartridge is required for all applications.

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.

**CAUTION: MAY CONTAIN FLAMMABLE SOLVENTS. KEEP AWAY FROM SPARKS AND OPEN FLAMES. IN CONFINED AREAS WORKMEN MUST WEAR FRESH AIRLINE RESPIRATORS. HYPERSENSITIVE PERSONS SHOULD WEAR GLOVES OR USE PROTECTIVE CREAM. ALL ELECTRONIC EQUIPMENT AND INSTALLATIONS SHOULD BE MADE AND GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. IN AREAS WHERE EXPLOSION HAZARDS EXIST, WORKMEN SHOULD BE REQUIRED TO USE NONFERROUS TOOLS AND TO WEAR CONDUCTIVE AND NONSPARKING SHOES**



**StonCor Africa (Pty) Ltd**

Co. Reg. No. 1996/001848/07

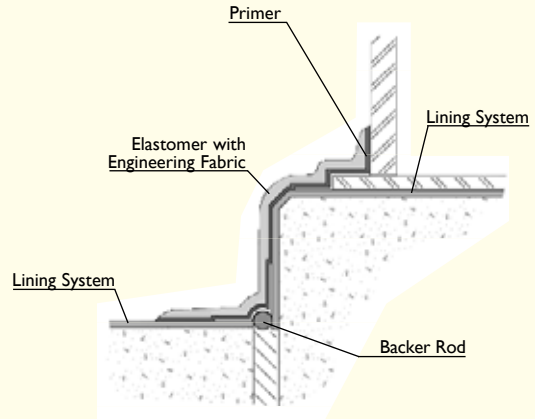
Tel: +27 (0)11 254 5500

Website: [www.stoncor.co.za](http://www.stoncor.co.za)

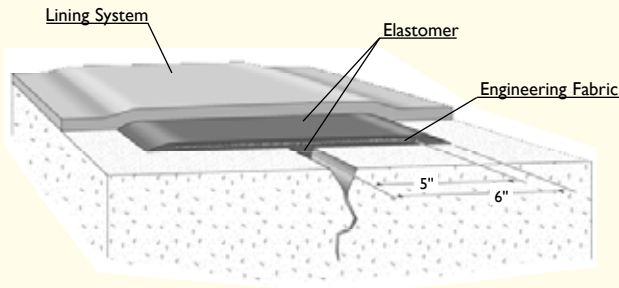
E-mail: [stoncorsa@stoncor.com](mailto:stoncorsa@stoncor.com)

**SEAMLESS LINING SYSTEMS**

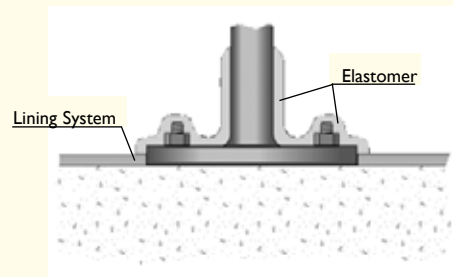
Stonhard's lining experts are devoted exclusively to concrete corrosion protection. And protection begins with proper design and engineering details. Our experience coating both primary and secondary containment areas gives us the ability to offer you the most safe, effective, long-term solutions, from products to installation. Stonhard also offers seamless floor protection to work in conjunction with your lining solutions. Proven performance for 90 years, Stonhard gives you a single source warranty on floor and lining systems.



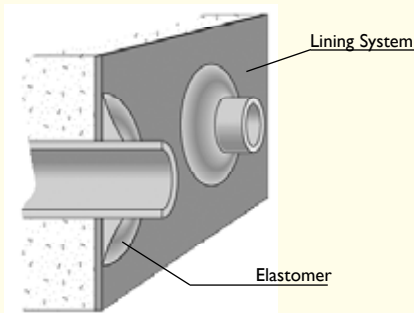
Seal for Tank Bottom and Foundation Treatment



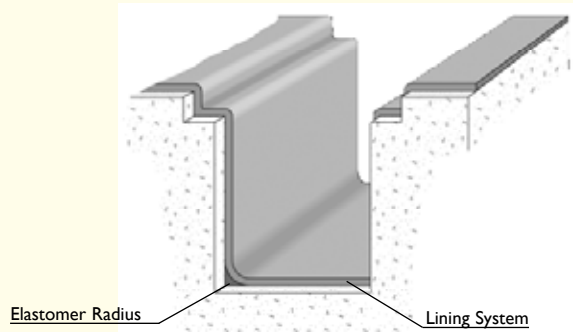
Crack Treatment  
Reinforced Crack Repair



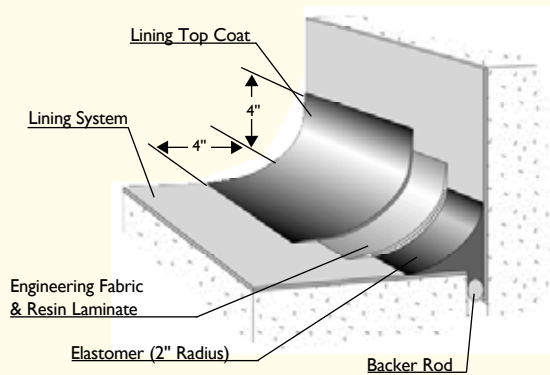
Treatment for Equipment Footings



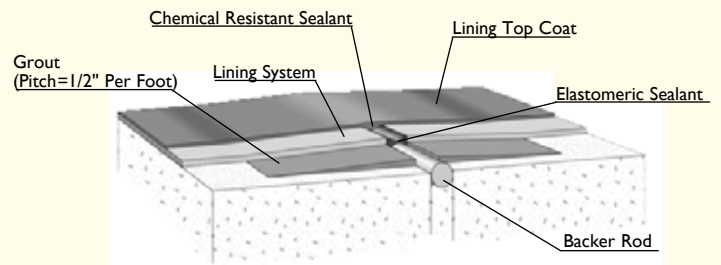
Seal for Pipe Penetrations



Treatment for Sumps and Trenches



Joint Treatment  
Horizontal – Vertical Isolation Joint



Joint Treatment  
High Movement Joint