

## PRODUCT DESCRIPTION

Stonchem 858 is a vinyl ester resin , heavy-duty lining system applied at a nominal thickness of 3.17 mm. A fiberglass scrim cloth is embedded into the basecoat broadcast liquids to reinforce the system and mitigate stress concentrations which prevent cracking. The heavy broadcast topcoat helps protect the fabric by providing a wear layer that adds durability and abrasion resistance to the system. The Stonchem 858 system has excellent broad-range chemical resistance to strong organic acids, alkalis, solvents and moderate inorganic acids.

## 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

## CHEMICAL RESISTANCE

Stonchem 858 is formulated to resist a variety of chemical solutions. Refer to the Stonchem 800 Series Chemical Resistance Guide for lists of reagent concentrations and temperature recommendations.

## PACKAGING

Stonchem 858 is packaged in units for easy handling. Each unit consists of:

### Basecoat/Topcoat

6 cartons of resin of Broadcast liquids/BPO

Each carton contains:

- (2) 4 liter cans of Resin
- 2 jars of peroxide
- 7 bags of Broadcast aggregate

### Fiberglass Scrim Cloth

1 roll of Fiberglass Scrim Cloth 22.76 m<sup>2</sup> per roll

## COVERAGE

Each unit of Stonchem 858 will cover approximately 22.76 m<sup>2</sup> at a thickness of 3.17 mm.

## STORAGE CONDITIONS

Store all components between 10 to 24°C in a dry area. Keep out of direct sunlight. When stored in the unopened containers at the proper temperatures, the shelf life is 6 months. Store all engineering fabric in a clean and dry area.

## SUBSTRATE

Stonchem 858, with appropriate primer, is suitable for application over concrete and the following uncoated newly applied Stonhard mortars and grouts: GS, HT, UR, UT, TG6, TG8, CR5 and PM8. For questions regarding other possible substrates or an appropriate primer, contact your local Stonhard representative or Technical Service.

## SUBSTRATE PREPARATION

Proper preparation is critical to ensure an adequate bond and system performance. The substrate must be dry and properly prepared utilizing mechanical methods. For existing coated surfaces, the coating must be completely removed back down to an intact mortar or substrate. Once the coating is removed, prime the prepared surface with Stonchem Epoxy Primer and broadcast with silica aggregate to refusal. Remove any excess silica aggregate prior to system overlayment. Omitting these steps could result in uncured material. Questions regarding substrate preparation should be directed to you local Stonhard representative or Technical Service.

## APPLICATION GUIDELINES

For optimal working conditions, the substrate temperature must be Between 15 to 27°C. Cold areas must be heated until the slab temperature is above 13°C to ensure the material achieves a proper cure. A cold substrate will make the material stiff and difficult to apply.

## PHYSICAL CHARACTERISTICS

Tensile Strength .....	69 N/mm <sup>2</sup> (ASTM D-638)
Flexural Strength .....	152 N/mm <sup>2</sup> (ASTM C-580)
Flexural Modulus of Elasticity .....	1.1 x 10 <sup>4</sup> N/mm <sup>2</sup> (ASTM C-580)
Hardness .....	80 (ASTM D-2240, Shore D)
Abrasion Resistance .....	0.049 gm max. weight loss (ASTM D-4060, CS-17)
Thermal Coefficient of Linear Expansion .....	1.99 x 10 <sup>-5</sup> mm/m°C (ASTM C-531)
Color .....	Gray
Cure Rate .....	4 to 6 hours tack-free (@21°C) 24 hours chemical service
VOC .....	Broadcast Liquids 33 g/l (ASTM D-2369, Method E)

**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 environment, values obtained on field applied materials may vary and certain test methods can only be conducted on lab made test coupons.

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 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 during application period.

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

### **FIELD GEL TESTS**

Due to the unique nature of the 800 Series resins, their reactivity is affected by storage conditions and age; therefore, it is important to test the cure of the materials prior to application. Gel tests should be performed for each lot of each product shipped to a job to prevent problems related to material curing. Field gel test kits are included in every shipment of 800 Series material. One gel test contains directions and all of the necessary materials to conduct the testing. Test all lots of material prior to use.

### **PRIMING**

Vacuum the surface before priming and make sure the concrete substrate is dry. The use of Stonchem 700/800 Series Primer is necessary in all applications of Stonchem 858. This ensures maximum product performance. (See the Stonchem 700/800 Series Primer Product Data Sheet for details.)

**Note:** Stonchem 700/800 Primer must be tack-free prior to application of the broadcast liquids.

### **APPLYING**

#### ***Broadcast Liquids/Fiberglass Scrim Cloth/Broadcast***

Individually stir each jar of peroxide and resin component to a smooth, uniform consistency and color. Mix the peroxide and resin in a 20 liter mixing container using a heavy-duty, slowspeed drill (400 to 600 rpm) with a Jiffy Mixer for 2 minutes. With a flat squeegee and roller, apply a thin layer of broadcast liquids and set the fiberglass scrim cloth into the wet broadcast liquids. Overlap seams a minimum of 5 cm and apply a liberal amount of material between the overlapping layers. Use a flat trowel to smooth, flatten and embed the engineering fabric.

Once the engineering fabric is placed, using a steel squeegee and roller, apply a layer of broadcast liquids making sure to completely saturate fiberglass scrim cloth. This may require multiple passes in opposite direction to achieve. Use a fully saturated nap roller to evenly level broadcast liquids material. It is critical that the fabric be completely saturated and none left exposed.

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

For the second broadcast layer of aluminum oxide, apply another layer of broadcast liquids using a flat, rubber squeegee and a medium nap roller. Once rolled and leveled, broadcast the aluminum oxide to refusal. Once this layer cures, remove the excess aggregate and prepare to apply the final topcoat

#### ***Topcoat***

Using a flat rubber squeegee and nap roller, apply the topcoat material to seal the exposed aggregate. A minimum of 375 micron will be required to adequately cover the exposed aggregate. More may be needed to meet the finish texture and the 3.17 mm thickness required by the job specification. Allow the material to cure.

#### ***Vertical Surfaces***

Consult your local Stonhard representative or Stonhard's Technical Service Department for a recommendation.

### **CURING**

The surface of Stonchem 858 will be tack-free in one hour. Area may be returned into service in 48 hours at 21°C. Ultimate physical characteristics will be achieved in 7 days.

### **PRECAUTIONS**

- Avoid contact with Stonchem 858 resin (vinyl ester resin and styrene monomer) and peroxide (catalyst/organic peroxide), as they may cause skin, respiratory and eye irritation.
- Acetone is recommended for clean up of Stonchem 858 resin (vinyl ester resin and styrene monomer) and peroxide (catalyst/ organic peroxide) material spills. Use this material only in strict accordance with the manufacturers' recommended safety procedures. Dispose of waste materials in accordance with government regulations.
- The use of NIOSH approved respirators using an organic vapor/acid gas cartridge is mandatory.
- The selection of proper protective clothing and equipment will significantly reduce the risk of injury. Body covering apparel, safety goggles or safety glasses and impermeable gloves are required.

### **NOTES**

- Safety Data Sheets for Stonchem 858 are available online at [www.stonhard.com](http://www.stonhard.com) under Products or upon request.
- Specific information regarding chemical resistance of Stonchem 858 is available in the Stonchem 800 Series Chemical Resistance Guide.
- A staff of technical service engineers is available to assist with 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.

- The appearance of all floor, wall and lining systems will change over time due to normal wear, abrasion, traffic and cleaning. Generally, high-gloss coatings are subject to a reduction in gloss, while matte-finish coatings can increase in gloss level under normal operating conditions.
- Surface texture of resinous flooring surfaces can change over time as a result of wear and surface contaminants. Surfaces should be cleaned regularly and deep cleaned periodically to ensure no contaminant buildup occurs. Surfaces should be periodically inspected to ensure they are performing as expected and may require traction-enhancing maintenance to ensure they continue to meet expectations for the particular area and conditions of use.

**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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