

PRODUCT DESCRIPTION

Stonchem 558 is a solvent-free, epoxy, heavy-duty lining system applied at a nominal thickness of 3.17 mm. A fiberglass scrim cloth is embedded into the broadcast liquids to reinforce the system and mitigate stress concentrations which prevent cracking. The broadcast topcoat over the fabric helps protect it by providing a wear layer that adds durability and abrasion resistance to the system. The Stonchem 558 system has moderate resistance to acids, alkalis and solvents.

USES, APPLICATIONS

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

PRODUCT ADVANTAGES

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

CHEMICAL RESISTANCE

Stonchem 558 is formulated to resist a variety of chemical solutions. (Refer to the Stonchem 500 Series Chemical Resistance Guide for lists of reagent concentrations and temperature recommendations.)

PACKAGING

Stonchem 558 is packaged in units for easy handling. Each unit consists of:

Basecoat/Topcoat

6 cartons of liquid
Each carton contains:

- 2 cans of amine
- 2 cans of resin
- 7 bags of aggregate

Fiberglass Scrim Cloth

1 roll of Fiberglass Scrim Cloth 22.7 m² roll

COVERAGE

Each unit of Stonchem 558 will cover approximately 22.76 m² 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. Avoid excessive heat and do not freeze. The shelf life is 3 years in the original, unopened container.

SUBSTRATE

Stonchem 558, 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 PM5. 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. Questions regarding substrate preparation should be directed to your local Stonhard representative or Technical Service.

APPLICATION GUIDELINES

For optimal working conditions, 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. Warm areas or areas in direct sunlight must be shaded or arrangements made to work during evenings or at night.

PHYSICAL CHARACTERISTICS

Tensile Strength	59 N/mm ²
(ASTM D-638)	
Flexural Strength	109 N/mm ²
(ASTM C-580)	
Flexural Modulus of Elasticity	5.3 x 10 ³ N/mm ²
(ASTM C-580)	
Hardness	75 to 85
(ASTM D-2240, Shore D)	
Abrasion Resistance	0.056 gm max. weight loss
(ASTM D-4060, CS-17)	
Thermal Coefficient	
of Linear Expansion	1.99 x 10 ⁻⁵ m/mm°C
(ASTM C-531)	
Color	Gray
Cure Rate 12 to 14 hours tack free for Broadcast	
Liquids/topcoats (@21°C)	
VOC.....	Broadcast Liquids/Topcoat 6 g/l
(ASTM D-2369, Method E)	

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. 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.

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 must be greater than 3°C above dew point during application and curing 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.

PRIMING

Vacuum the surface before priming and make sure the substrate is dry. The use of Stonchem Epoxy primer is necessary in all stonchem 558. This ensures maximum product performance. (See Stonchem Epoxy Primer Product Data Sheet for details.)

Note: Stonchem Epoxy Primer must be tack-free prior to application of the broadcast liquids.

APPLYING

Basecoat Liquids/Fiberglass Scrim Cloth/ Broadcast

Individually stir each amine and resin component to a smooth, uniform consistency and color. Any sediment in the container must be thoroughly scraped up and re-dispersed. Pour the entire contents of the amine in a clean 20 liter mixing container. Mix in the mixing container using a heavy-duty, slow speed drill (400-600rpm) with a Jiffy Mixer for 2 minutes.

With a flat rubber 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. It is critical that the fabric be completely saturated and none left exposed.

While the broadcast liquids are still 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 material to cure. Remove the excess aggregate.

Topcoat

Using a flat rubber squeegee and nap roller, apply the topcoat material to seal the exposed aggregate. A minimum of 375 microns will be required to adequately cover the exposed aggregate. More may be needed to meet the finish texture and the 3 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 Topcoat of Stonchem 558 will be tack-free in 12 to 14 hours at 21°C. Stonchem 558 Broadcast Liquids will also be tack-free in 12 to 14 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.

PRECAUTIONS

- Acetone is recommended for clean up of Stonchem 558 material spills. Use this material only in strict accordance with the manufacturer's recommended safety procedures. Dispose of waste materials in accordance with government regulations.
- 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 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.
- Prolonged or repeated exposure to the unreacted amine and resin components of Stonchem 558 may cause skin irritation or allergic reactions.
- Use only with adequate ventilation.

NOTES

- Safety Data Sheets for Stonchem 558 are available on line at www.stonhard.com under products or upon request.
- Specific information regarding chemical resistance of Stonchem 558 is available in the Stonchem 500 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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