

PRODUCT DESCRIPTION

Stonchem 558HD is a solvent-free, epoxy, heavy-duty lining system applied at a nominal thickness of 150 mil/3.81mm. A fiberglass scrim cloth is embedded into the basecoat broadcast liquids to reinforce the system and mitigate stress concentrations which prevent cracking. The heavily broadcast topcoat over the fabric helps protect it by providing a wear layer that adds durability and abrasion resistance to the system. Stonchem 558HD 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 558HD 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 558HD is packaged in units for easy handling. Each unit consists of:

Broadcast Liquids/Topcoat

- 8 cartons of liquids Each carton contains:
 - 2 cans of Amine
 - 2 cans of Resin
- 7 bags of Silica Broadcast Aggregate
- 4 bags of Aluminum Oxide Aggregate

Fiberglass Scrim Cloth

- 1 roll @ 245 sq. ft./22.7 sq. m roll

COVERAGE

Each unit of Stonchem 558HD will cover approximately 245 sq. ft./22.76 sq. m at a thickness of 150 mils/3.81 mm.

STORAGE CONDITIONS

Store all components between 50 to 75°F/10 to 24°C in a dry area. Keep out of direct sunlight. The shelf life is 3 years in the original, unopened container.

SUBSTRATE

Stonchem 558HD, 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 60 to 80°F/15 to 27°C. Cold areas must be heated until the slab

PHYSICAL CHARACTERISTICS

Tensile Strength.....	8,600 psi
(ASTM D-638)	
Flexural Strength	15,800 psi
(ASTM C-580)	
Flexural Modulus of Elasticity	7.7 x 10 ⁵ psi
(ASTM C-580)	
Hardness75 to 85
(ASTM D-2240, Shore D)	
Abrasion Resistance.....	0.056 gm weight loss
(ASTM D-4060, CS-17)	
Thermal Coefficient	
of Linear Expansion	1.1 x 10 ⁻⁵ in./in.°F
(ASTM C-531)	
Color	Gray
Cure Rate	12 to 18 hours tack free
(@70°F/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 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.

temperature is above 55°F/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. A warm substrate (60 to 80°F/15 to 27°C) will aid in the material's workability; however, a hot substrate (80 to 100°F/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 5°F/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 applications of Stonchem 558HD. 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

Broadcast Liquids/Fiberglass Scrim Cloth/Broadcast Individually stir 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 resin and amine into a clean 5-gallon mixing container. Mix in the mixing container using a heavy-duty, slow-speed drill (400 to 600 rpm) 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 2in./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 liquid is still wet, immediately broadcast with 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 a nap roller, apply the topcoat material to seal the exposed aggregate. A minimum of 15 mil/375 micron will be required to adequately cover the exposed aggregate. More may be needed to meet the finish texture and the 150 mil/3.81mm 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 558HD will be tack-free in 4 to 6 hours at 70°F/21°C. The coated area may be put back in service in 24 hours at 70°F/21°C. Ultimate physical characteristics will be achieved in 7 days.

PRECAUTIONS

- Acetone is recommended for cleanup of Stonchem 558HD 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 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 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 558HD may cause skin irritation or allergic reactions.
- Use only with adequate ventilation.

NOTES

- Safety Data Sheets for Stonchem 558HD are available online at www.stonhard.com under Products or upon request.
- Specific information regarding chemical resistance of Stonchem 558HD 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.

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.

06/19

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