STONCHEM® 658

PRODUCT DESCRIPTION
Stonchem 658 is a solvent-free, high-performance epoxy, heavy-duty lining system applied at a nominal thickness of 125 mil/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 broadcast 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 acids, alkalies and solvents.

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
- 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.)

PHYSICAL CHARACTERISTICS

Tensile Strength (ASTM D-638)	8,500 psi
Flexural Strength (ASTM C-580)	13,000 psi
Flexural Modulus of Elasticity (ASTM C-580)	7.5 x 10^5 psi
Hardness (ASTM D-2240, Shore D)	75 to 85
Abrasion Resistance (ASTM D-4060, CS-17)	0.056 gm weight loss
Thermal Coefficient of Linear Expansion (ASTM C-531)	1.1 x 10^{-5} in./in.˚F
Color	Gray
Cure Rate 70˚F/21˚C	12 to 18 hours tack free
VOC (ASTM D-2369, Method E)	Broadcast Liquids/Topcoat 6 g/l

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.

PACKAGING
Stonchem 658 is packaged in units for easy handling. Each unit consists of:

Broadcast Liquids/Topcoat
6 cartons of liquid, each carton contains:
2 cans of Amine
2 cans of Resin
7 bags of Silica Broadcast Aggregate

Fiberglass Scrim Cloth
1 roll @ 245 sq. ft./22.7 sq. m

COVERAGE
Each unit of Stonchem 658 will cover approximately 245 sq. ft./22.76 sq. m at a thickness of 125 mil/3.17 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 658, 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 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 658.This ensures maximum product performance. (See the 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 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, 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 125 mil/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 surface of Stonchem 658 will be tack-free in 4 to 6 hours at 70˚F/21˚C.The coated area may be put back into 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 658 amine or resin spills. Use this material only in strict accordance with the manufacturer's recommended safety procedures. Dispose of waste materials in accordance with government regulations.
- Avoid contact with eyes and skin; do not ingest or inhale.
- 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.
- Prolonged or repeated exposure to the unreacted amine and resin components of Stonchem 658 may cause skin irritation or allergic reactions.
- Use only with adequate ventilation.

NOTES
- Safety Data Sheets for Stonchem 658 are available online at www.stonhard.com under Products or 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 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.

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STONHARD
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