STONHARD

STONCHEM®858

PRODUCT DATA

PRODUCT DESCRIPTION

Stonchem 858 is a highly cross-linked, vinyl ester, heavy-duty lining system applied at a nominal thickness of 3mm. The Basecoat liquids are reinforced with a fiberglass scrim cloth that reinforces the system to resist stress failures caused by cracking. The heavily broadcasted aggregate 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, alkalies, 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
Each carton contains 2 cans
6 cartons of peroxide
Each carton contains 2 cans
7 bags of aggregate

Fiberglass Scrim Cloth

1 roll of Fiberglass Scrim Cloth 22.76 m^2 per roll

PHYSICAL CHARACTERISTICS

Compressive Strength (ASTM C-579)	121 N/mm^2
Tensile Strength (ASTM D-638)	69 N/mm^2
Flexural Strength (ASTM C-580)	152 N/mm^2
Flexural Modulus of Elasticity (ASTM C-580)	1.1×10^4 N/mm^2
Hardness (ASTM D-2240, Shore D)	80
Abrasion Resistance (ASTM D-4060, CS-17)	49 gm max. weight loss
Thermal Coefficient of Linear Expansion (ASTM C-531)	1.99×10^{-5} mm/m°C
Color	Gray

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.

COVERAGE

Each unit of Stonchem 858 will cover approximately 22.76 m^2 at a thickness of 3 mm.

Note: 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.

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 months 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 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 to 27°C. Measure the surface temperature with a surface thermometer. Cold areas must be heated until the slab temperature is above 13°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 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.

APPLICATION

Priming

Vacuum the surface before priming and make sure the substrate is dry. The use of Stonchem 800 Series Primer is necessary to ensure maximum product performance. Mix and apply Stonchem 800 Series Primer in accordance with the product data sheet. Allow the primer to cure prior to application of Stonchem 858.

Basecoat

Individually stir each separate peroxide and resin component to a smooth, uniform consistency and color. Pour the entire contents of peroxide into the resin and mix thoroughly for 2 minutes using a Jiffy type mixer. Apply a 1.25 mm base coat of Stonchem 800 Series Broadcast/Topcoat liquids using a notched squeegee.

Fiberglass Scrim Cloth

Immediately place a layer of the fiberglass scrim cloth into the wet Basecoat. 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. It is critical that the fabric 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. 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 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 12 hours at 24°C. The coated area may be put back into service in 48 hours at 24°C. Ultimate physical characteristics will be achieved in 7 days.

RECOMMENDATIONS

- Apply only on clean, sound, dry and properly prepared substrates.
- Minimum ambient and surface temperature is 10°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.
- Application and curing times are dependent upon ambient and surface conditions. Consult Stonhard's Technical Service Department if conditions are not within the recommended guidelines.

PRECAUTIONS

- Toluene or Xylene solvents are recommended for clean up of Stonchem 858 resin (vinyl ester resin) and peroxide (catalyst/ organic peroxide) material spills. Use these materials only in strict accordance with manufacturers' recommended safety procedures. Dispose of waste materials in accordance with the government regulations.
- The use of NIOSH/MSHA approved air purifying respirators equipped with an organic vapor/acid gas cartridge is required for all applications.
- After Stonchem 858 cures, acetone or MEK will be required. Chlorinated solvents may be used if flammable solvents are not allowed.
- Avoid contact with eyes and skin; do not ingest or inhale. 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.
- The selection of proper protective clothing and equipment will significantly reduce the risk of injury. Body covering apparel, safety goggles and impermeable nitrile gloves are highly recommended.
- Prolonged or repeated exposure to the unreacted peroxide and resin components of Stonchem 858 may cause skin irritation or allergic reactions.
- Use only with adequate ventilation.

NOTES

- Material Safety Data Sheets for Stonchem 858 are available 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.

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