

PRODUCT DESCRIPTION

Stonchem 878 is a highly cross-linked, vinyl ester lining system applied at a nominal thickness of 140 mil/3.5 mm. The mortar, engineering fabric, mortarcoat, and mineral composite topcoat sequencing provides a smooth, heavy-duty, chemical barrier which is resistant to thermal shock, thermal cycling, static cracks, permeation and abrasion. The Stonchem 878 system has excellent resistance to a broad base of chemicals, including strong organic acids, alkalis, solvents and moderate to strong inorganic acids.

USES, APPLICATIONS

- Secondary containment areas
- Tank farms
- Sumps and trenches
- Pump pads and pedestals
- Neutralization pits

PRODUCT ADVANTAGES

- Excellent chemical resistance to a broad range of acids, bases and solvents
- Engineering fabric resists cracking
- Mortarcoat for added abrasion resistance
- Mineral composite topcoat for increased impermeability
- Factory proportioned units for easy application

CHEMICAL RESISTANCE

Stonchem 878 is formulated to resist a variety of chemical solutions. Refer to the Stonchem 800 Series Chemical Resistance Guide which lists reagent concentration and temperature recommendations for each product.

PACKAGING

Stonchem 878 is packaged in units for easy handling. Each unit consists of:

Mortar

2 cartons of Stonchem 800/820 Liquids

A carton contains:

- 2 jars of Peroxide
- 2 cans of Resin

4 bags of 800 Mortar aggregate

Engineering Fabric

1 roll of Engineering Fabric

200 sq. ft./18.58 sq. m roll

PHYSICAL CHARACTERISTICS

Compressive Strength	11,000 psi
(ASTM C-579)	
Tensile Strength	3,000 psi
(ASTM D-638)	
Flexural Strength	13,000 psi
(ASTM C-580)	
Flexural Modulus of Elasticity	1.0×10^6 psi
(ASTM C-580)	
Hardness85 to 90
(ASTM D-2240, Shore D)	
Abrasion Resistance0.10 gm max. weight loss
(ASTM D-4060, CS-17)	
Thermal Coefficient of Linear Expansion	$.2 \times 10^{-5}$ in./in.°C
(ASTM C-531)	
Color	Gray
VOC	800/820 Liquids 53 g/l
(ASTM D-2369, Method E)	800 Topcoat 62 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.

Saturant

0.65 carton of Stonchem 800/820 Liquids

A carton contains:

- 2 jars of Peroxide
- 2 cans of Resin

Mortarcoat

1 carton of Stonchem 800/820 Liquids

A carton contains:

- 2 jars of Peroxide
- 2 cans of Resin

2 bags of 800 Mortarcoat aggregate

Topcoat

1 carton of Stonchem 800 Series Topcoat

A carton contains:

- 2 jars of Peroxide
- 2 cans of Resin

COVERAGE

Each unit of Stonchem 878 will cover approximately 180 sq. ft./16.72 sq. m at a thickness of 140 mil/3.5 mm.

STORAGE CONDITIONS

Store all components between 50 to 75/10 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 878, with the appropriate primer, is suitable for application over concrete, wood, brick, quarry tile, metal or Stonhard Stonset grouts. 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 should be greater than 5°F/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 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 878. This ensures maximum product performance. (See the Stonchem 700/800 Series Primer product data sheet for details.)

Note: Stonchem 700/800 Series Primer must be wet during installation of the Mortar.

APPLYING

Mortar

Pre-mix the peroxide and resin in a 5 gallon mixing container on a J.B. Blender for one minute. Next, gradually add the Mortarcoat aggregate while mixing for an additional 150 seconds. Mixing is complete when no clumps of dry material exist. For vertical applications, use Vertical Mortarcoat aggregate. Apply the mortar onto the substrate with a 3/8 in. x 3/8 in. V-notched trowel. To obtain the proper thickness, hold the trowel at approximately 45 degrees and keep the tips of the V-notches in contact with the substrate. The material must be applied evenly over the substrate with no clumps or ridges present before embedding the engineering fabric. The engineering fabric will not remove or hide any unevenness in the troweled mortar layer. If applying mortar on a vertical surface, use the same V-notched trowel to spread the material, then finish smooth with a flat steel finishing trowel. A smooth and even distribution of the material must exist on a vertical surface before embedding the reinforcement.

Engineering Fabric

Place the engineering fabric on the mortar immediately after the mortar is applied. Press the fabric onto the mortar using a dry, medium nap roller. Overlap adjacent fabric 1/2 in. Immediately apply the saturant.

Saturant

Mix the peroxide and resin in a 5 gallon mixing container using a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for one minute. Apply the saturant to the engineering fabric with a saturated medium nap roller. To wet the roller, dip it into the mixing container. Always work from the bucket. Do not pour the saturant directly onto the glass. This will decrease the saturant's coverage. If the air temperature is high, use of plastic mixing buckets will increase the pot life of the material. The fabric is completely saturated when white strands are no longer present. When the fabric is completely saturated, roll with a ribbed roller to release air pockets in the reinforcement and to embed the fabric into the mortar. To saturate the overlaps, roll several times over the length of the overlap with a saturated roller; then roll with a ribbed roller several times until the overlap is no longer visible. Allow the mortar, fabric and saturant to cure (usually 4 to 6 hours) before proceeding.

Mortarcoat

Lightly sand the fabric/saturant layer with a sanding disc attachment in areas with protruding fibers. Pre-mix the peroxide and resin in a 5 gallon mixing container with a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for one minute.

Next, gradually add the Mortarcoat aggregate while mixing for an additional 2 minutes. For vertical applications, use Vertical Mortarcoat aggregate. Mixing is complete when no dry clumps of material exist. Pour the material onto the floor and spread out with a 15 mil notched squeegee. Backroll the area with a medium nap roller to remove squeegee lines. The material may appear rough at first but will level out to a smooth finish. For vertical surfaces, use a large steel trowel or knife to pull an initial coat of vertical material onto the wall, then finish smooth with a flat rubber squeegee.

Topcoat

Lightly sand the mortarcoat in areas where protrusions exist. Vacuum the area completely. Mix the peroxide and resin in a 5 gallon mixing container using a heavy-duty, slow-speed drill (400 to 600 rpm) with a Jiffy Mixer for 2 minutes. Pour the material onto the floor and spread out with a 15 mil notched squeegee. Backroll the area with a medium nap roller to remove squeegee lines, using long roll strokes to decrease the visibility of roller lines. For vertical surfaces, pour a bead of material along the base of the wall and, using a medium nap roller, roll the material onto the vertical surface. The wet film thickness of the coating is 10 to 12 mil/250 to 300 microns. Check the thickness with a wet film gauge.

CURING

The surface of Stonchem 878 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

- Avoid contact with Stonchem 878 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 878 resin (vinyl ester resin and styrene monomer) and peroxide (catalyst/organic peroxide) material spills. Use these materials only in strict accordance with the manufacturers' recommended safety procedures. Dispose of waste materials in accordance with government regulations.
- **The use of NIOSH/MSHA 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.

- In case of contact, flush area with water for 15 minutes and seek medical attention. Wash skin with soap and water.
- If material is ingested, immediately contact a physician. **DO NOT INDUCE VOMITING.**
- Use only with adequate ventilation. Inhalation of vapors may cause severe headaches, nausea and possibly unconsciousness.

NOTES

- Material Safety Data Sheets for Stonchem 878 are available on line at www.stonhard.com under Products or upon request.
- Specific information regarding the chemical resistance of Stonchem 878 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's 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.

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