

PRODUCT DESCRIPTION

Stonchem 822 is a conductive and spark-proof, vinyl ester lining system applied at a nominal thickness of 1 mm. The mortarcoat and carbon filled topcoat sequencing provides a light-duty, conductive and non-sparking chemical barrier. When tested using ESD S7.1 test method, this carbon based system measures a resistance lower than 1,000,000 ohms. The Stonchem 822 system has excellent resistance to a broad base of chemicals, including hydrofluoric acid, strong organic acids, alkalis, solvents and moderate to strong inorganic acids.

USES, APPLICATIONS

- Secondary containment areas/tank farms
- Concrete sumps, vaults and trenches
- Pump pads and pedestals
- Storage tanks
- Chemical storage rooms

PRODUCT ADVANTAGES

- Excellent chemical resistance to hydrofluoric acid
- Carbon filled
- Factory proportioned units for easy application
- Conductive and non-sparking

CHEMICAL RESISTANCE

Stonchem 822 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 822 is packaged in units for easy handling. Each unit consists of:

Mortarcoat

1.5 cartons of Stonchem 800/820 Liquids

Each carton contains:

- 2 jars of Peroxide
- 2 cans of Resin
- 3 bags of 820 Mortarcoat Aggregate

Topcoat

1 carton of Stonchem 820 Series Topcoat

Each carton contains:

- 2 jars of Peroxide
- 2 cans of Resin.

PHYSICAL CHARACTERISTICS

Tensile Strength (ASTM D-638)	21 N/mm ²
Flexural Strength (ASTM C-580)	83 N/mm ²
Flexural Modulus of Elasticity (ASTM C-580)	3.4 x 10 ³ N/mm ²
Hardness (ASTM D-2240, Shore D)	85-90
Abrasion Resistance (ASTM D-4060, CS-17)	0.10 gm max. weight loss
Thermal Coefficient of Linear Expansion (ASTM C-531)	2.2 x 10 ⁻⁵ mm/m°C
Color	Black
Cure Rate (@25°C)	4 to 6 hours tack-free 24 hours chemical service
VOC (ASTM D-2369, Method E)	800/820 Liquids 53 g/l 820 Topcoat 48 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.

COVERAGE

Each unit of Stonchem 822 will cover approximately 16.72 m² at a thickness of 1 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 6 months in the original, unopened container.

SUBSTRATE

Stonchem 822, 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 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. 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 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 822. 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 tack-free prior to application of the Mortarcoat.

STATIC CONTROL PROPERTIES

Stonchem 822 has been specifically designed to comply with the ANSI/ESD S20.20 specification for the protection of electrical and electronic parts, assemblies and equipment.

Surface Resistance (ESD-S7.1)	< 1 megohms
Body Voltage Generation (ESD STM97.2)	< 100 volts*

**Body Voltage Generation is not solely a function of flooring conductivity but is a combination of many factors, including footwear and environmental conditions. Your specific environment and choice of footwear may yield slightly different results.*

Electrostatic Discharge (ESD) flooring has a variety of applications from microchip manufacturing to military ordinance. Therefore, each facility may have unique resistance requirements based on their individual ESD programs. It is important to identify the resistance requirements and test method used for each project prior to installing any ESD flooring.

ELECTRICAL TESTING

Once the conductive mortarcoat layer has cured, it must be tested for proper conductivity. Point-to-point and point-to-ground readings should be taken and all values should fall below 5.0×10^5 ohms(Ω).

The floor must also be tested after the carbon filled topcoat has cured. Once the conductive sealer is tack-free, point-to-point and point-to-ground readings should be taken. All values must fall below 1.0×10^6 ohms(Ω).

Note: Stonhard tests all floors in accordance with the ESD S7.1 test method. Various other ESD standards and test methods are available and they each have their own unique parameters. Please contact the Stonhard's technical service department if you wish to use a different test method.

APPLYING

Mortarcoat

Pre-mix the peroxide and resin in a 5 gallon mixing bucket with a heavy-duty, slow-speed drill (400 to 500 rpm) and a mixing blade for one minute. Next, gradually add the Mortarcoat aggregate while mixing for an additional two 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

After allowing the Mortarcoat to cure, lightly grind areas where ridges or imperfections exist. Vacuum the area completely. Mechanically mix the peroxide and resin in a 5 gallon mixing bucket using a heavy-duty drill (400 to 600 rpm) with a mixing blade for 2 to 3 minutes. Immediately pour the material onto the substrate and spread out using a 15 mil notched squeegee. Do not let material sit in the 5 gallon bucket after mixing – carbon will settle at the bottom and will not disperse properly. To finish, roll the material with a medium nap roller. Use long strokes to decrease visibility of roller lines. For vertical surfaces, pour a bead of material along the base of the wall. Using a medium nap roller, roll the material onto the wall. The wet film thickness of the coating is 250 to 300 microns. Check the thickness with a wet film gauge.

Note: If the application requires a conductive system, using the meggar, test the topcoat layer for conductivity.

PRECAUTIONS

- Avoid contact with Stonchem 822 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 822 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.

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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NOTES

- Specific information regarding chemical resistance is available in the Stonchem 800 Series Chemical Resistance Guide. If a coating is utilized to seal the Stonchem 822 surface, please ensure that you consult the Product Data sheet for the coating for details regarding chemical resistance of the coating utilized.
- Material Safety Data Sheets for Stonchem 822 are available on line at www.stonhard.com under Products or upon request.
- A staff of technical service engineers is available to assist with installation or to answer questions related to Stonhard products.
- Requests for literature can be made through local sales representatives and offices or corporate offices located worldwide.