

PRODUCT DESCRIPTION

Stonchem 510 is a high performance epoxy hybrid, corrosion resistant lining that withstands temperatures as high as 122°C. This three-component, epoxy based system forms an easily applied mortar for use on horizontal and vertical surfaces. It is installed at normal room temperatures (16 to 27°C) and hardens to provide an excellent corrosion and abrasion resistant equipment lining. Stonchem 510 is specially formulated to provide excellent resistance to caustics and moderate concentrations of acids.

USES, APPLICATIONS

- Concrete or metal chutes and troughs
- Acid tanks and pits
- Sumps
- Cyclone
- Ducts and hoppers

PRODUCT ADVANTAGES

- Excellent chemical resistance to caustics and moderate concentrations of acids.
- Mineral composite topcoat for increased impermeability.
- Factory proportioned units for easy application.

CHEMICAL RESISTANCE

Stonchem 510 is formulated to resist a variety of chemical solutions. Refer to the Stonchem 500 Series Chemical Resistance Guide which lists reagent concentration and temperature recommendations for each product.

PACKAGING

Stonchem 510 is packaged in units for easy handling. Each unit consists of:

Mortar

- 2 cartons of Stonchem 510 Mortar

A carton contains:

- 6 foil bags of amine
- 6 poly bags of resin
- 12 bags of Stonchem 510 aggregate

Topcoat

- 1 carton of Stonchem 500 Series Topcoat

A carton contains:

- 4 foil bags of amine
- 4 poly bags of resin

PHYSICAL CHARACTERISTICS

Compressive Strength (ASTM C-579)	76 N/mm ²
Tensile Strength (ASTM D-638)	13 N/mm ²
Flexural Strength (ASTM C-580)	34 N/mm ²
Flexural Modulus of Elasticity (ASTM C-580)	6.9 x 10 ³ N/mm ²
Hardness (ASTM D-2240, Shore D)	85 to 90
Abrasion Resistance (ASTM D-4060, CS-17)	0.07 gm max. weight loss
Flammability (ASTM D-635)	Self Extinguishing Extent of burning 2 cm max.
Thermal Coefficient of Linear Expansion (ASTM C-531)	1,8 x 10 ⁻⁷ m/mm.°C
VOC Content (EPA Method 24)	20 g/l
Heat Resistance Limitatio (in service temperature)	122°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 510 will cover approximately 11.14 m² at a thickness of 3 mm over new, blasted concrete.

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 and in a dry area. Keep out of direct sunlight. When stored in the unopened containers at the proper temperatures, the shelf is 3 years.

SUBSTRATE PREPARATION

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. The surface must show open pores throughout and have a sandpaper texture. For recommendations or additional information regarding substrate preparation, please 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, 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 pinholing and bubbling.

APPLYING

Stonchem 510 is mixed just prior to use and must be immediately applied over the freshly primed surface. Application is as follows:

Priming

Vacuum the substrate before priming and make sure it is dry. The use of HT Primer is recommended in all applications of Stonchem 510. This ensures maximum product performance.

Note: HT Primer must be wet prior to application of the Mortar.

Mortar

Empty the amine and resin into a 5 gallon mixing bucket. Put the container on a J.B. Blender and pre-mix for one minute. When pre-mixing is complete, set the timer for 60 seconds. Start the J.B. Blender and gradually add the Mortar aggregate. The mixed mortar should be free of any clumps. Apply the mortar onto the substrate by pouring the entire contents of the bucket onto the floor and screed with a flat trowel. Use a steel finishing trowel to compact and smooth the surface. Allow the material to cure for 6 to 8 hours.

Topcoat

Lightly sand the mortar in areas where protrusions exist. Vacuum the area completely. Mix the amine and the 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 250 to 300 microns. Check the thickness with a wet film gauge.

CURING

The surface of Stonchem 510 will be tack-free in 4 to 6 hours at 21°C. The area may be put back into service in 24 hours. Ultimate physical and chemical characteristics will be achieved in 7 days.

RECOMMENDATIONS

- Apply only on clean, sound, dry and properly prepared substrates.
- Minimum ambient and surface temperature is 13°C at the time of application.
- Maximum surface temperature should not exceed 27°C during application. Substrate temperatures above 27°C will drastically affect the working time of the product.
- Substrate temperature should be greater than 3°C above dew point.
- Material should not be applied if humidity is above 85%.
- Application and curing times are dependent upon ambient and surface conditions. Consult Stonhard's Technical Service Department if conditions are not within recommended guidelines.

PRECAUTIONS

- Toluene or Xylene solvents are recommended for clean up of Stonchem 510 material spills. Use these materials only in strict accordance with the manufacturer's 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 highly recommended.
- The use of protective clothing such as long sleeve shirts, safety goggles and impermeable nitrile gloves is 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.
- Use only with adequate ventilation.

NOTES

- Material Safety Data Sheets for Stonchem 510 are available on line at www.stonhard.com under Tech Info or upon request.
- Specific information regarding chemical resistance of Stonchem 510 is available in the Stonchem 500 Series Chemical Resistance Guide.
- A staff of technical service engineers is available to assist in 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.

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