

## PRODUCT DESCRIPTION

Stonchem 310 is a 100% solids, aggregate-filled, 0.3 l cm. trowel applied polyamine cured epoxy lining system.

## USES, APPLICATIONS

- Highly Corrosive Environments
- Municipal Wastewater Facilities

## PRODUCT ADVANTAGES

- Trowel or spray applied
- Non-sagging liner
- Applied to either damp or dry concrete
- Produces 0.3 l cm thick protective liner on vertical, horizontal or overhead surfaces

## CHEMICAL RESISTANCE

Excellent resistance to water, brine solutions, oils, hydrogen sulfide and acids generated by microbiological sources encountered in municipal wastewater treatment environments.

## PACKAGING

Stonchem 310 is offered in units for easy handling. Each unit consists of 6 cartons of Stonchem 310 Mortar liquids. Each carton contains:

- 1 gallon can of amine
- 1 gallon can of epoxy resin

6 bags of Aggregate

## COVERAGE

Stonchem 310 is packaged in premeasured units. One mix will cover 9.14 m<sup>2</sup> at 3.175 mm thickness (theoretical). One unit will cover 16.72 m<sup>2</sup>. Actual coverage may vary depending upon the condition of the concrete.

## STORAGE CONDITIONS

Store all components between 10 to 29°C in a dry area. Keep out of direct sunlight. Avoid excessive heat and do not freeze. The shelf life is 3 years in the original, unopened container.

## SUBSTRATE PREPARATION

Remove oil, grease, foreign contaminants, previously applied paints and deteriorated mortar. Abrasive blasting with a fine abrasive aggregate and reducing pressure will produce a good bonding tooth. A texture of 40 to 60 grit sandpaper is desired. Hydro-blasting is also acceptable.

## PHYSICAL CHARACTERISTICS

Compressive Strength (ASTM C-579)	46 N/mm <sup>2</sup>
Flexural Strength (ASTM C-580)	30 N/mm <sup>2</sup>
Modulus of Elasticity (ASTM C-580)	6.5 x 10 <sup>3</sup> N/mm <sup>2</sup>
Tensile Strength (ASTM C-580)	12 N/mm <sup>2</sup>
Thermal Coefficient of Linear Expansion (ASTM C-531)	6.80 x 10 <sup>-5</sup> m/mm°C
Abrasion Resistance (ASTM D-4060, CS-17)	0.22 g max wt. loss
Pot Life	30 to 40 minutes @ 21°C
Absorption (ASTM C-413)	<0.03%
Color	Light Gray and Yellow

**Note:** Physical properties were determined on specimens prepared under laboratory conditions using applicable ASTM procedures. Actual field conditions may vary and yield different results; therefore, data is subject to reasonable deviation.

## 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.

## APPLICATION

### Mixing

Blend amine and resin in the 5 gallon pail supplied, using a slow speed, paddle-type mixer or a low RPM drill motor mixer. Add the Aggregate gradually while mixing into the amine/resin mixture. Mix to a uniform consistency.

**CAUTION!!** Application in direct sunlight and rising surface temperature may result in bubbling, blistering, or pinholes due to expansion of entrapped air or moisture in the concrete. Concrete in direct sunlight must be shaded for 24 hours prior to application and remain shaded until the initial set has taken place. When the surface temperatures are rising, it may be necessary to postpone the application or apply during the cooler evening hours. Trowel or spray apply Stonchem 310 evenly over the surface (building low spots to the desired thickness).

Apply at approximately 9.1 m per mix or 0.31 cm thick. Once the material is mixed it will have a 30 to 40 minute working time at 21°C. After each unit has been applied, back roll with a short nap roller dampened with water to remove trowel marks and produce a smooth finish. Do not wet the roller excessively.

#### **Troweling**

A trowel with rounded corners (referred to as a swimming pool trowel) is recommended.

#### **Spraying**

Spray equipment is utilized to replace a trowel as the means of transferring the material from the container to the surface. Due to the heavy viscosity of the material, a fine atomization cannot be obtained. When applying by spray, a trowel wipe of the liner surface prior to back rolling is recommended. Special equipment is required: Air Tech Spray Systems, P.O. Box 10070, Houston, TX, 77206; 7:1 swinger unit, 25,4 mm fluid hose, 9,5 mm nozzle with air pressure at 0,69 N/mm<sup>2</sup> and fluid pressure at 4,8 N/mm<sup>2</sup>. Contact Stonhard's Technical Service Department for more information on the spray equipment.

#### **CURING**

Stonchem 310 will be dry to the touch in 12 hours at 21°C, will be firm to the touch in 24 hours at 21°C and will be suitable for chemical service in 36 hours at 21°C.

#### **LINING REPAIR**

Before any touch-up or recoat material can be applied, the first coat must be properly prepared for intercoat adhesion. The first coat must be cured firm to the touch. Coating on floors must be able to support foot traffic.

If the first coat cures more than 24 hours, sand and solvent wipe the surface to ensure good intercoat adhesion. Any surface to be touched up or recoated should be protected. When the recoat material is applied, the surface must be dry and free of all dirt, dust, debris, oil, grease and other contamination.

#### **RECOMMENDATIONS**

- Apply only on a clean, sound, properly prepared substrate.
- Minimum ambient, material and surface temperatures are 10°C, 10°C and 10°C respectively, at the time of application.
- Maximum ambient, material and surface temperatures are 32°C, 29°C and 32°C respectively, at the time of application.
- Relative humidity should not exceed 85%.
- Substrate temperature should be 3°C above the 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.

#### **PRECAUTIONS**

- Toluene or Xylene solvents are recommended for clean up of Stonchem 310 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.
- Avoid contact with Stonchem 310 amine and resin, as they may cause skin, respiratory and eye irritation.
- The use of NIOSH/MSHA approved respirators using an organic vapor/acid gas cartridge is recommended.
- 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.
- In the event of accidental eye contact, rinse eyes immediately with water.
- If material is ingested, immediately contact a physician and reference the MSDS.
- Use only with adequate ventilation. Inhalation of vapors may cause severe headaches, nausea and possibly unconsciousness.

#### **NOTES**

- Material Safety Data Sheets for Stonchem 310 are available on line at [www.stonhard.com](http://www.stonhard.com) under Tech Info or upon request.
- Specific information regarding the chemical resistance of Stonchem 310 can be found on the Stonhard website or by contacting Stonhard's Technical Service Department.
- 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 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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