

### PRODUCT DESCRIPTION

Stonchem 778 is a chlorendic acid-based, unsaturated, polyester resin lining system applied at a nominal thickness of 3.5 mm. The mortar, engineering fabric, mortarcoat, 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 778 system has excellent resistance to strong oxidizers such as concentrated nitric and chromic acids.

### USES, APPLICATIONS

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

### PRODUCT ADVANTAGES

- Excellent chemical resistance to strong oxidizers such as concentrated nitric and chromic acids
- Engineering fabric resists cracking
- Mortarcoat for added abrasion resistance
- Mineral composite topcoat for increased impermeability
- Factory proportioned units for easy application

### CHEMICAL RESISTANCE

Stonchem 778 is formulated to resist a variety of chemical solutions. Refer to the Stonchem 700 Series Chemical Resistance Guide which lists reagent concentration and temperature recommendations for each product.

### PACKAGING

Stonchem 778 is packaged in units for easy handling. Each unit consists of:

#### Mortar

- 2 cartons of Stonchem 700/720 Liquids
- A carton contains:
  - 2 jars of Peroxide
  - 2 cans of Resin
  - 4 bags of 700 Mortar aggregate

#### Engineering Fabric

- 1 roll of Engineering Fabric 18.58 m<sup>2</sup> roll

### PHYSICAL CHARACTERISTICS

Compressive Strength (ASTM C-579)	79 N/mm <sup>2</sup>
Tensile Strength (ASTM D-638)	21 N/mm <sup>2</sup>
Flexural Strength (ASTM C-580)	89 N/mm <sup>2</sup>
Flexural Modulus of Elasticity (ASTM C-580)	6 x 10 <sup>3</sup> N/mm <sup>2</sup>
Hardness (ASTM D-2240, Shore D)	85 to 90
Abrasion Resistance (ASTM D-4060, CS-17)	0.10 gm max. weight loss
Thermal Coefficient of Linear Expansion (ASTM C-531)	3.6 x 10 <sup>-5</sup> mm/m°C
Color	Gray
VOC Content (ASTM D-2369, Method E)	700/720 Liquids - 31 g/l 700 Series Topcoat - 8 g/l

**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.

#### Saturant

- 0.8 carton of Stonchem 700/720 Liquids
- A carton contains:
  - 2 jars of Peroxide
  - 2 cans of Resin

#### Mortarcoat

- 1 carton of Stonchem 700/720 Liquids
- A carton contains:
  - 2 jars of Peroxide
  - 2 cans of Resin
  - 2 bags of 700 Mortarcoat aggregate

#### Topcoat

- 1 carton of Stonchem 700 Series Topcoat
- A carton contains:
  - 2 jars of Peroxide
  - 2 cans of Resin

## **COVERAGE**

Each unit of Stonchem 778 will cover approximately 16.72 m<sup>2</sup> at a thickness of 3.5 mm.

## **STORAGE CONDITIONS**

Store all components between 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 778, 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 pin holing 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 700 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 700 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 778. 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. Back roll 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 250 to 300 microns. Check the thickness with a wet film gauge.

### CURING

The surface of Stonchem 778 will be tack-free in 4 to 6 hours at 21°C. The coated area may be put back into service in 24 hours at 21°C. Ultimate physical characteristics will be achieved in 7 days.

### PRECAUTIONS

- Avoid contact with Stonchem 778 resin (polyester 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 778 resin (polyester 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 778 are available online at [www.stonhard.com](http://www.stonhard.com) under Products or upon request.
- Specific information regarding the chemical resistance of Stonchem 778 is available in the Stonchem 700 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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