

### PRODUCT DESCRIPTION

Stonchem 620 is a highly cross-linked, novolac epoxy, conductive and spark-proof lining system applied at a nominal thickness of 3.3 mm. One trowel applied mortar layer provides a heavy-duty, conductive and non-sparking chemical barrier for moderate traffic areas with no thermal shock or cracking. Stonchem 620 is the ideal lining surface for solvent storage and other areas where an explosion is a potential from sparking. When tested using ESD S7.1 test method, this carbon based system measures a resistance lower than 1,000,000 ohms. Stonchem 620 has excellent resistance to concentrated sulfuric acid, solvents and caustics.

### USES, APPLICATIONS

- Secondary Containment Areas
- Solvent Storage Rooms
- Drum Storage Areas
- Pump Pads and Pedestals
- Explosion Rooms

### PRODUCT ADVANTAGES

- Superior chemical resistance to concentrated sulfuric acid and chlorinated solvents
- Optional carbon filled topcoat
- Factory proportioned units for easy application
- Conductive and non-sparking

### CHEMICAL RESISTANCE

Stonchem 620 is formulated to resist a variety of chemical solutions. Refer to the Stonchem 600 Series Chemical Resistance Guide, which lists reagent concentration and temperature recommendations for each product.

### PACKAGING

Stonchem 620 is packaged in units for easy handling. Each unit consists of:

#### Mortar

2 cartons of Stonchem 620 Series Mortar

A carton contains:

- 6 foil bags of amine
- 6 poly bags of resin
- 12 bags of Mortar aggregate

#### Topcoat

1 carton of Stonchem 620 Series Topcoat

A carton contains:

- 2 foil bags of amine
- 2 cans of resin

### PHYSICAL CHARACTERISTICS

Compressive Strength (ASTM C-579)	90 N/mm <sup>2</sup>
Tensile Strength (ASTM D-638)	14 N/mm <sup>2</sup>
Flexural Strength (ASTM C-580)	45 N/mm <sup>2</sup>
Flexural Modulus of Elasticity (ASTM C-580)	1.2 x 10 <sup>4</sup> N/mm <sup>2</sup>
Hardness. (ASTM D-2240, Shore D)	85 to 90
Abrasion Resistance (ASTM D-4060, CS-17)	0.07 gm max. weight loss
Thermal Coefficient of Linear Expansion (ASTM C-531)	3.9 x 10 <sup>-5</sup> m/mm°C
Color	Black

**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 620 will cover approximately 16.72 m<sup>2</sup> at a thickness of 3.3 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 3 years in the original, unopened container.

### 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, 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 12.7°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 (32 to 37°C) or a substrate directly in the sun will shorten the material's working time and can cause pinholing and bubbling.

## APPLICATION

### Priming

Vacuum the substrate to remove all dirt and dust. Dry all wet spots completely before priming. Prime the concrete with HT Primer before applying the mortar.

**Note:** The HT Primer must remain tacky during the installation 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 J.B. Blender for 90 seconds. Start the J.B. Blender and gradually add the Mortar aggregate. The mixed mortar should be free of any clumping. Apply the mortar onto the substrate by pouring the entire contents of the bucket onto the floor and screeding the mortar with a 1/2 in. x 1/2 in. V-notch trowel. If the entire contents of the bucket is not poured onto the floor, the material remaining in the bucket will settle. Additional mixing is required to remove settled material from the bucket. Screed material immediately after it has been poured. Material allowed to settle on the substrate will become hard to screed. To achieve proper thickness of 3 mm, the trowel should be held at a 45 degree angle with the notch tips in contact with the substrate at all times. Using a nap roller, roll the surface of the mortar until an even finish is achieved. Allow to cure for 4 to 6 hours.

**Note:** If the application requires a conductive system, you must test the mortar layer for conductivity using the megger to ensure it is within the proper range. The conductivity of the mortar layer must be below 500,000 ohms.

## STATIC CONTROL PROPERTIES

Stonchem 620 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 mortar 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  $5.0 \times 10^5$  ohms( $\Omega$ ).

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  $1.0 \times 10^6$  ohms( $\Omega$ ).

**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.

### Topcoat

Sand the mortar with a mechanical sander and sanding disc. Vacuum the area completely before applying Stonchem 620 Series Topcoat. Mix the Stonchem 620 Series Topcoat amine and epoxy 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 using a 15 mil notched squeegee. Backroll the area with a medium nap roller to remove squeegee lines. When backrolling, use long roll strokes to decrease the visibility of roller lines. The wet film thickness of the coating is 250 to 300 microns. Check the thickness with a wet film gauge. If the coating is too thick the conductivity readings will be effected.

**Note:** If the application requires a conductive system, you must test the finished system for conductivity using the megger to ensure it is within the proper range. The conductivity of the final system should be below 1,000,000 ohms. A static control report detailing the resistance readings over the entire area must be filled out and submitted to the customer.

## CURING

The surface of Stonchem 620 will be tack-free in 4 to 6 hours at 21 °C. The area may be put back into service in 24 hours at 21 °C. Ultimate physical and chemical characteristics will be achieved in 7 days.

## RECOMMENDATIONS

- Apply only on clean, sound, dry and properly prepared substrate.
- Minimum ambient and surface temperatures are 13°C at the time of application.
- Maximum ambient temperatures should not exceed 32°C during application.
- Substrate temperatures 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 620 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 620 resin and amine, 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 glasses 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.

## 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.

- Use only with adequate ventilation. Inhalation of vapors may cause severe headaches, nausea and possibly unconsciousness.

## NOTES

- Material Safety Data Sheets for Stonchem 620 are available online at [www.stonhard.com](http://www.stonhard.com) under Tech Info or upon request.
- Specific information regarding chemical resistance of Stonchem 620 is available in the Stonchem 600 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.

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