STONCHEM 620

PRODUCT DESCRIPTION

Stonchem 620 is a highly cross-linked, novolac epoxy, conductive and spark-proof lining system applied at a nominal thickness of 135 mil/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

- Excellent chemical resistance to most mineral acids, solvents and all caustics
- 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 600/620 Liquids
A carton contains:
4 foil bags of amine
4 poly bags of resin
8 bags of 620 Mortarcoat 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)	14,000 psi
Tensile Strength (ASTM D-638)	2,000 psi
Flexural Strength (ASTM C-580)	6,500 psi
Flexural Modulus of Elasticity (ASTM C-580)	1.8 x 10^6 psi
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)	1.2 x 10^{-5} in./in.˚F
Color	Black
Cure Rate (@70F˚/21˚C)	4 to 6 hours tack-free
VOC (ASTM D-2369, Method E)	Stonchem 620 Topcoat 68 g/l . Stonchem 600/620 Liquids 20 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.

COVERAGE

Each unit of Stonchem 620 will cover approximately 180 sq. ft./16.72 sq. m at a thickness of 135 mil/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 50 to 75˚F/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

Stonchem 620, with appropriate primer, is suitable for application over concrete and the following uncoated newly applied Stonhard mortars and grouts: GS, HT, UR, UT,TG6,TG8, CR5 and PM5. 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 mus t 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 60 to 80˚F/15 to 27˚C. Cold areas must be heated until the slab temperature is above 55˚F/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 (60 to 80˚F/15 to 27˚C) will aid in the material's workability; however, a hot substrate (80 to 100˚F/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 must be greater than 5˚F/3˚C above dew point during application and curing period.

Application and curing times are dependent upon ambient and surface conditions. Consult Stonhard's Technical Service Department if conditions are not within recommended guidelines.

APPLYING
Priming
Vacuum before priming and make sure the substrate is dry. The use of Stonchem Epoxy Primer is necessary in all applications of Stonchem 620.This ensures maximum product performance. (See the Stonchem Epoxy Primer product data sheet for details.)

Note: The Stonchem Epoxy Primer must remain tacky during 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 the 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-notched trowel.

The entire contents of the bucket is now poured onto the floor, the material remaining in the bucket will settle. Additional mixing is required to remove the settled material from the bucket. Screed material immediately after it has been poured. Material allowed to settle on the substrate will be hard to screed. To achieve proper thickness of 125 mil/3 mm, the trowel should be held at a 45-degree angle with notched 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.

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 10 to 12 mil/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.

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

*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 5.0x105 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 1.0x106 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. Contact the Stonhard's technical service department if you wish to use a different test method.

CURING

The surface of Stonchem 620 will be tack-free in 4 to 6 hours at 70˚F/21˚C.The area may be put back into service in 24 hours at 70˚F/21˚C. Ultimate physical and chemical characteristics will be achieved in 7 days.

PRECAUTIONS

- Avoid contact with Stonchem 620 amine and resin, as they may cause skin, respiratory and eye irritation.
- Acetone is recommended for cleanup of Stonchem 600 amine and resin material spills. Use this material 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 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 case of contact, flush the area with copious amounts of 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.

NOTES

- Safety Data Sheets for Stonchem 620 are available online at www.stonhard.com under Products or upon request.
- Specific information regarding chemical resistance is available in the Stonchem 600 Series Chemical Resistance Guide.
- 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, or corporate offices located worldwide.
- The appearance of all floor, wall and lining systems will change over time due to normal wear, abrasion, traffic and cleaning. Generally, high-gloss coatings are subject to a reduction in gloss, while matte-finish coatings can increase in gloss level under normal operating conditions.
- Surface texture of resinous flooring surfaces can change over time as a result of wear and surface contaminants. Surfaces should be cleaned regularly and deep cleaned periodically to ensure no contaminant buildup occurs. Surfaces should be periodically inspected to ensure they are performing as expected and may require traction-enhancing maintenance to ensure they continue to meet expectations for the particular area and conditions of use.

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STONHARD EST. 1922

USA HQ (800) 257 7953
Canada (800) 263 3112
Mexico +(52) 55 9140 4500
Argentina +(54) 11 5032 3113
Belgium +(32) 67 49 37 10
Dubai, UAE +(971) 4 3470460
South Africa +(27) 11 254 5500
India +(91) 22 28500321
Australia +(61) 3 9587 7433