



### PRODUCT DESCRIPTION

Stonclad XP is a four-component, conductive, spark-proof epoxy mortar system. The system consists of an epoxy resin, amine curing agent, selected graded non-silica aggregates and conductive elements. It is sealed with a black conductive epoxy sealer. The system is conductive and spark-proof throughout. The standard thickness for Stonclad XP is a nominal 1/4 in./6 mm. Stonclad XP cures to an extremely hard, conductive, spark-proof, impact resistant mortar that exhibits excellent abrasion, wear and chemical resistance.

### USES, APPLICATIONS

Stonclad XP can be used in any application where static electricity must be controlled. It is designed for explosive environments such as munitions manufacture and storage where static build-up and sparks may present operating hazards.

### SUBSTRATE

Stonclad XP, with the appropriate primer, is suitable for application over concrete, wood, brick, quarry tile or metal. Not recommended for use on asphalt, mastic, gypsum based products or painted surfaces. These must first be removed by mechanical means to expose the substrate prior to priming and overlayment.

### SYSTEM OPTIONS

#### **Waterproofing**

Where the total system must be waterproof, use of Stonhard's Stonproof ME7 is required with strict adherence to application instructions.

#### **Cove Base**

To provide an integral seal at the joint between the floor and the wall, cove bases in heights from 2 to 6 in./5 to 15 cm are available.

#### **Pigmented Topcoat**

Stonkote AT5 may be used to provide a tough, abrasion resistant coating in 12 dynamic colors.

### PHYSICAL CHARACTERISTICS

|  |   |
|--|---|
| <b>Compressive Strength</b> . . . . .                    | 8,500 psi                                 |
| (ASTM C-579)   | after 7 days                              |
| <b>Tensile Strength</b> . . . . .                        | 1,700 psi                                 |
| (ASTM C-307)   |   |
| <b>Flexural Strength</b> . . . . .                       | 2,800 psi                                 |
| (ASTM C-580)   |   |
| <b>Flexural Modulus of Elasticity</b> . . . . .          | $3.0 \times 10^4$ psi                     |
| (ASTM D-790)   |   |
| <b>Hardness</b> . . . . .                                | 75 to 80                                  |
| (ASTM D-2240, Shore D)                                   |   |
| <b>Bond Strength</b> . . . . .                           | >400 psi                                  |
| (ASTM D-7234)  | (100% concrete failure)                   |
| <b>Abrasion Resistance</b> . . . . .                     | 0.08 gm max weight loss*                  |
| (ASTM D-4060, CS-17)                                     |   |
| <b>Coefficient of Friction (dry)</b> . . . . .           | 0.83*                                     |
| (ASTM F-1679)  |   |
| <b>Flammability</b> . . . . .                            | Class 2                                   |
| (ASTM E-648)   |   |
| <b>Slip Resistance Index (wet)</b> . . . . .             | 0.66                                      |
| (ASTM F-1679)  |   |
| <b>Thermal Coefficient of Linear Expansion</b> . . . . . | $5.0 \times 10^{-5}$ in./in. $^{\circ}$ C |
| (ASTM C-531)   |   |
| <b>Water Absorption</b> . . . . .                        | 3.0%                                      |
| (ASTM C-413)   |   |
| <b>Heat Resistance Limitation</b> . . . . .              | 140 $^{\circ}$ F/60 $^{\circ}$ C          |
|  | (continuous exposure)                     |
|  | 200 $^{\circ}$ F/93 $^{\circ}$ C          |
|  | (intermittent exposure)                   |
| <b>Cure Rate</b> . . . . .                               | 8 hours for foot traffic                  |
| (@ 77 $^{\circ}$ F/25 $^{\circ}$ C)                      | 24 hours for normal operations            |

\* Test samples are finished with two coats of high solids epoxy coating.

### STATIC CONTROL PROPERTIES

**Surface Resistance** . . . . .0.025 to 1.0 megaohms  
(NFPA 99 Test Method, ESD-S7.1)

**Spark Generation** . . . . . No visible sparks  
(NFGS-09965)

**Note:** The above physical properties were measured in accordance with the referenced standards. Samples of the actual floor system, including binder and filler, were used as test specimens.

## PACKAGING

Stonclad XP is packaged in units for easy handling.

Each unit consists of:

2 cartons, each containing:

- 6 foil bags of Part A (curing agent)
- 6 poly bags of Part B (resin)

12 individual bags of Part C (aggregate)

12 individual bags of Part C-1 (conductive elements)

1 carton of Stonclad XP Sealer containing:

- 2 foil bags of Part A (curing agent)
- (2) 1 gallon cans of Part B (resin)

## COVERAGE

Each unit of Stonclad XP will cover approximately 200 sq. ft./18.6 sq. m of surface at a nominal 1/4 in./6 mm thickness.

## STORAGE CONDITIONS

Store all components of Stonclad XP between 60 to 85°F/16 to 30°C in a dry area. Avoid excessive heat and do not freeze. The shelf life is 3 years in the original, unopened container.

## COLOR

The standard color for Stonclad XP is black. A pigmented topcoat is optional. Stonkote AT5 may be applied and is available in 12 standard colors. Refer to the Stonclad Color Sheet. Custom colors are available upon request.

## 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 (Stonklean DG9) 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.

## PRIMING

The use of Standard Primer is necessary for all applications of Stonclad XP over all substrates except Stonset grouts. Over Stonset grouts, Stonhard's Stonset Primer is used. The Standard or Stonset Primer must be tacky during the application of Stonclad XP. If the primer becomes tack-free, the area must be re-primed prior to continuing the application.

## MIXING

1. Empty the entire contents of one foil bag of Part A (liquid) and one poly bag of Part B (liquid) into a 5 gallon mixing pail.
2. Place this mixing pail on a JB Power Blender and activate the timer to start the one minute blending cycle. After 30 seconds, add the conductive element Part C-1.
3. When the blender stops, reactivate the timer and immediately pour the entire contents of one bag of Part C into the rotating pail. Allow the contents to mix for the complete one minute cycle.
4. When the blender stops, scrape off excess from the mixing blade and remove the pail, delivering it to the floor area for application.

## POT LIFE

After mixing, Stonclad XP has a working time of approximately 20 minutes at 70°F/21°C. The working time will vary depending upon ambient and surface conditions.

## APPLYING

- Material must be used immediately after mixing.
- A Screed Applicator is used to apply the mixed Stonclad XP to the floor. Before use, a special Trailing Edge, used only for Stonclad XP, must be attached to the Screed Applicator.
- Steel finishing trowels are used to compact and smooth the surface of the material to the required 1/4 in./6 mm.
- Two coats of XP Sealer are required to seal the Stonclad XP surface. After the Stonclad XP has cured, grind and vacuum the surface, then apply the Stonclad XP Sealer. Once the first coat of Stonclad XP Sealer has cured approximately 6 to 8 hours at 77°F/25°C, apply the second coat.
- When the pigmented topcoat option (Stonkote AT5) is chosen, the Stonclad XP must be sealed with one coat of XP Sealer and followed by the Stonkote AT5. This will ensure that the proper electrical properties are maintained.

**Note:** No wax or finish should be applied to the Stonclad XP surface. This will result in a loss of conductivity.

## ELECTRICAL TESTING

After the XP Mortar has cured overnight, it should be tested for surface resistance. This testing must be conducted before application of the first coat of XP Sealer and all tests must fall below  $1 \times 10^5$  ohms. Once the first topcoat has been applied and has been allowed to cure overnight, the floor must again be tested for surface resistance before the second coat of XP Sealer or Stonkote AT5 is applied. All readings should once again fall below  $1 \times 10^5$  ohms. After the

second coat of XP Sealer or Stonkote AT5 has been allowed to cure overnight, the system should be tested one final time. Record all results on a Static Control Flooring Report and have the customer sign off on the readings. Take a minimum of 10 readings per 1,000 sq. ft./93 sq. m and mark the locations on the map. All readings should fall below  $1.0 \times 10^6$  ohms.

## GROUNDING

If grounding plates are used, the plate should be placed in the wet mortar either directly below the grounding device (outlet, piping, etc.) or as close as possible to avoid obstacles.

## RECOMMENDATIONS

- DO NOT attempt to install material if the temperature of the Stonclad XP components and substrate are not within 60 to 85° F/16 to 30° C. **The cure time and application properties of the material are severely affected.**
- DO NOT use water or steam in the vicinity of the application. **Moisture can seriously affect the working time and other properties.**
- The use of safety glasses and impervious gloves is required during application.
- Avoid contact with all liquid Parts A and B as they may cause skin and/or eye irritation. Workmen should cover hands with rubber gloves.
- Use only with adequate ventilation.

## NOTES

- Procedures for cleaning and maintenance can be found in the Stonhard Floor Maintenance Guide.
- Specific information regarding chemical resistance is available in the Stonclad XP Chemical Resistance Guide.
- Material Safety Data Sheets for Stonclad XP are available on line at [www.stonhard.com](http://www.stonhard.com) under Tech Info or upon request.
- A staff of technical service engineers is available to assist with installation or to answer questions related to Stonhard products.
- Requests for technical service or literature 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.

7/08

Rev. 7/08

**STONHARD** An RPM Company



[www.stonhard.com](http://www.stonhard.com)

**Worldwide Offices:**

|        |               |               |                  |             |                |        |                  |
|--------|---------------|---------------|------------------|-------------|----------------|--------|------------------|
| USA    | 800.257.7953  | Mexico        | (52)55.9140.4500 | Europe      | (32)2.720.8982 | Africa | (27)11.254.5500  |
| Canada | (905)430.3333 | South America | (54-3327)44.2222 | Middle East | (971)4.3470460 | Asia   | (86)21.5466.5118 |