

### PRODUCT DESCRIPTION

Stonshield ATS is a nominal 2 mm/80 mil, seamless, conductive floor system which provides outstanding static control properties and durability. Stonshield ATS is designed for areas where ESD sensitive components are present and where there is increased traffic and loading.

It is comprised of:

#### *Standard Primer*

A two-component, penetrating, epoxy primer

#### *Stonshield Conductive Undercoat*

A two-component, conductive epoxy formulation consisting of resin and curing agent

#### *Stonshield ATS Aggregate*

Brightly colored, quartz broadcast aggregate combined with conductive elements

#### *Stonshield Conductive Sealer*

A three-component, high-performance, conductive, UV resistant, clear epoxy sealer

### USES, APPLICATIONS

Typical applications for Stonshield ATS include: loading docks, traffic aisles, AGV aisles, electronic parts assembly, maintenance and repair shops, server assembly, paint booths, and pharmaceutical processing and packaging. Stonshield ATS is also perfect for static control applications which require good chemical, impact, and abrasion resistance.

### SUBSTRATE

Stonshield ATS is suitable for application over properly prepared concrete that does not require renovation. In most cases, this will be new or very smooth concrete. If the concrete is rough or requires patching, the use of Stonshield HRI Base may be required to level and smooth the surface. Not recommended over brick, asphalt, mastic, gypsum based products or painted surfaces. These must first be removed by mechanical means prior to priming and overlayment. The system may be applied over existing polymer overlayments if approved by a Stonhard representative.

### SYSTEM OPTIONS

#### *Thickness*

Stonshield HRI Base can be applied if the substrate requires patching or leveling. This system will have a nominal thickness of 3/16 in./5 mm.

### PHYSICAL CHARACTERISTICS

<b>Tensile Strength</b> . . . . .	1,600 psi
(ASTM D-638)	after 7 days
<b>Flexural Strength</b> . . . . .	4,000 psi
(ASTM D-790)	
<b>Flexural Modulus of Elasticity</b> . . . . .	$5.0 \times 10^6$ psi
(ASTM D-790)	
<b>Bond Strength</b> . . . . .	>400 psi
(ASTM D-7234)	(100% concrete failure)
<b>Impact Resistance</b> . . . . .	>160 in./lbs.
(MIL-D-2794)	
<b>Abrasion Resistance</b> . . . . .	.006 gm max. weight loss
(ASTM D-4060, CS-17)	
<b>Slip Resistance Index</b> . . . . .	Dry: 0.96
(ASTM F-1679)	Wet: 0.93
<b>Flammability</b> . . . . .	Class I
(ASTM E-648)	
<b>Linear Coefficient of Thermal Expansion</b> . . . . .	$1.8 \times 10^{-5}$ in./in.°C
(ASTM C-531)	
<b>Water Absorption</b> . . . . .	0.1%
(ASTM C-413)	
<b>Heat Resistance Limitation</b> . . . . .	140°F/60°C
	(for continuous exposure)
	200°F/93°C
	(for intermittent spills)
<b>Cure Rate</b> . . . . .	24 hours for foot traffic
(@ 77°F/25°C) . . . . .	48 hours for normal operations

#### *Moisture Barrier*

To ensure long-term adhesion to concrete slabs in the absence of a proper vapor barrier, or where moisture transmission is a problem, the use of Stonhard's Stonfill OP2 grouting system is recommended with strict adherence to application instructions.

### PACKAGING

Stonshield ATS is packaged in units for easy handling. Each unit consists of:

#### *Stonshield Conductive Undercoat*

1 carton containing:

- (2) 1 gallon pails of Part A (curing agent)
- (2) 2 gallon pails of Part B (resin)

### Stonshield ATS Aggregate

9 individual bags of colored quartz aggregate

1 carton containing:

6 bags of conductive broadcast elements

### Stonshield Conductive Sealer

1.5 cartons, each containing:

(2) 1 gallon cans of Part A (curing agent)

(2) 1 gallon cans of Part B (resin)

(2) 1 oz. vials of conductive fibers

### COVERAGE

Each unit of Stonshield ATS will cover approximately 300 sq. ft./27.9 sq. m of surface at a 2 mm/80 mil nominal thickness.

### STORAGE CONDITIONS

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

### COLOR

Stonshield ATS is available in 15 standard colors. Refer to the Stonshield Color Sheet.

### 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 (Stonkleen DG2) 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

Application of the Stonshield ATS system is accomplished as follows:

1. Standard Primer is mixed and applied to the floor with a squeegee and a nap roller. Stonshield Aggregate is broadcast into the wet primer using a special Stonhard Spraycaster. Allow 8 hours to cure and sweep off excess aggregate.
2. Stonshield ATS Undercoat is mixed just prior to use in accordance with prescribed directions. It is applied to the floor with a squeegee and medium nap roller.
3. The Stonshield Aggregate is mixed with the conductive elements and is then broadcast into the wet Undercoat using the special Stonhard Spraycaster. Allow 8 hours to cure, then sweep off the excess aggregate. Do not vacuum.
4. Stonshield ATS Sealer is mixed and applied using a rubber squeegee and then rolled using a medium nap roller. It is then finish-rolled with a texture roller. Allow 12 hours to cure.
5. Apply the second coat of Stonshield ATS Sealer in the same fashion as the first.

Refer to the Stonshield ATS Directions for further details.

### STATIC CONTROL PROPERTIES

Stonshield ATS 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** . . . . . <1.0x10<sup>8</sup> ohms(Ω)  
(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 undercoat/conductive broadcast layer is tack-free, it must be tested for proper conductivity. Point-to-point and point-to-ground readings should be taken and all values should fall below 1.0x10<sup>6</sup> ohms(Ω).

The floor must also be tested after each application of conductive sealer. Once the conductive sealer is tack-free, point-to-point and point-to-ground readings should be taken. All values must fall below 1.0x10<sup>8</sup> 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. Please contact the Stonhard's technical service department if you wish to use a different test method.

### RECOMMENDATIONS

- DO NOT attempt to install material if the temperature of Stonshield ATS 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 at temperatures outside of this range.**
- 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 NIOSH/MSHA approved respirators and safety glasses are recommended.
- 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.

## PRECAUTIONS

- Solvents are recommended for clean up of the unreacted Stonshield ATS material. The reacted material will require mechanical means of removal.
- Use these materials only in strict accordance with manufacturer's recommended safety procedures. Dispose of waste materials in accordance with government regulations.
- The use of safety glasses and impervious gloves is required during application.
- 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.
- Use only with adequate ventilation.

## NOTES

- Material Safety Data Sheets for Stonshield ATS are available on line at [www.stonhard.com](http://www.stonhard.com) under Tech Info or upon request.
- Specific information regarding chemical resistance is available in the Stonshield Chemical Resistance Guide.
- Procedures for cleaning of the flooring system during operations can be found in the Stonhard Floor Maintenance Guide.
- 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.

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