PRODUCT DESCRIPTION

Stonlux ESD is a seamless, self-leveling, conductive floor system that provides outstanding static control properties along with the high performance and durability associated with Stonhard flooring systems. Stonlux ESD provides a smooth, easy-to-clean, high-gloss surface and has excellent chemical and abrasion resistance. This system can be applied at a thickness of 2 mm or 3 mm. The Stonlux ESD system is comprised of:

Standard Primer
A two-component, penetrating epoxy primer

SL Primer
A three-component, thixotropic, pigmented epoxy primer

ATK Primer
A two-component, conductive epoxy primer

Ground Plates
Ensures conduction and dissipation of electricity

Stonlux ESD
A three-component, self-leveling, epoxy formulation consisting of resin, curing agent and selected, graded aggregates that provide conductivity throughout the flooring system.

PHYSICAL CHARACTERISTICS

Tensile Strength (ASTM C-307)	2,250 psi
Flexural Strength (ASTM C-580)	4,200 psi
Flexural Modulus of Elasticity (ASTM D-790)	3.8 x 10^5 psi
Hardness (ASTM D-2240, Shore D)	70 to 80
Abrasion Resistance (ASTM D-4060, CS-17)	0.10 gm max. weight loss
VOC Content (ASTM D-2369)	5 g/l
Thermal Coefficient of Linear Expansion (ASTM C-531)	5.3 x 10^{-5} in./in.˚C
Water Absorption (ASTM C-413)	0.3%
Cure Rate (@77˚F/25˚C)	24 hours for initial set 48 hours for light traffic 72 hours normal operations

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.

SUGGESTED APPLICATIONS

Stonlux ESD flooring systems can be used when static electricity must be controlled. It is especially applicable in electronics manufacturing, packaging, assembly, and test facilities, and in installations of highly sensitive electronic equipment. Since Stonlux ESD is seamless and easy to maintain, it is ideal for clean environments. Stonlux ESD is also perfect for static control applications, which require good chemical, impact, and abrasion resistance.

SUBSTRATE

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

SYSTEM OPTIONS

Cove Base
To provide for 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. When coating the coves, you will need to use Stonkote GS4/HT4 or Stonseal PA7. Do not use the liquids from the flooring system to coat the coves.

Moisture Barrier
To ensure long-term adhesion to concrete slabs in the absence of a proper vapor barrier, the use of Stonhard's Stonfil OP2 grouting system is required with strict adherence to application instructions.

Static Dissipative Range
Where a static dissipative range is required, we can use ATM Primer instead of ATK Primer to meet this specification. 1-1,000 Megahoms.

PACKAGING

Stonlux ESD is packaged in units for easy handling. Each unit consists of the following:

1 cartons of Iso
A carton contains:
3 foil bags of Amine
(3) 5-gallon pail of Resin
½ carton of Part C
A carton contains:
6 bags of Part C

COVERAGE
Each unit of Stonlux ESD will cover approximately:
150 sq. ft./14 sq. m at 80 mil/2 mm thickness or 96 sq. ft./8.9 sq. m at 1/8 in./3 mm thickness.

STORAGE CONDITIONS
Store all components of Stonlux ESD from 65 to 85˚F/18 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
Stonlux ESD is available in 6 standard colors. Refer to the Stonlux Color Sheet.

SUBSTRATE
Stonlux ESD is suitable for application over properly prepared concrete, wood or steel surfaces. It is not recommended for use over asphalt, mastic, gypsum-based products, brick, or painted surfaces. These must first be removed by mechanical means to expose the substrate prior to overlayment.

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.

Note: Since Stonlux ESD is a free-flowing system, it is essential that the installation surface be flat. When going over a rough substrate, it is important that any holes be patched prior to installation.

PRIMING
The prepared substrate must be completely sealed utilizing the appropriate Stonhard priming system. Once these primers are cured, a coat of ATK Primer is installed. Refer to product data sheets for the correct installation procedures for Standard, SL and ATK Primer.

TESTING PRIMER
Once the ATK/ATM Primer is tack-free, it must be tested for proper conductivity.
- ATK .02 to 0.5 megohms at 100 volts
- ATM 1-500 megohms at 100 volts
- If the above readings are not obtained, contact Stonhard's Technical Service Department.

MIXING
1. Using a drill and a 2-to-5-gallon Jiffy mixer, premix the resin using a slow speed drill (400-600 rpm) until the material looks uniform.
2. Empty the entire contents of one foil bag of amine into a mixing pail.
3. Place the mixing pail on a JB Blender and activate the timer to start the 110 second blending cycle.
4. When the blender stops, reactivate the timer, and slowly pour the entire contents of one bag of the Part C (aggregate) into the rotating pail. Allow the contents to mix for the complete 110 second cycle.
5. Just prior to pouring, mix the material with a slow speed drill (400-600 rpm) and a 2-to-5-gallon Jiffy Mixer for 30 seconds.

POT LIFE
After mixing, Stonlux ESD will have a working time of approximately 30 minutes at 70˚F/21˚C.The working time will vary depending upon temperature.

APPLYING
1. Pour the mixed Stonlux ESD onto the floor in a bead.
2. Distribute the material using the appropriate notched trowel or rake pertaining to the desired finished thickness.
3. Roll with a spiked roller.
4. For further details regarding mixing or applying Stonlux ESD, refer to the Stonlux ESD Direction Sheet.

ELECTRICAL TESTING
The floor must be tested after the application of Stonlux ESD mortar. Once the Stonlux ESD is tack-free, point-to-point and point-to-ground readings should be taken. All values must fall below $1.0x10^6$ ohms(Ω).

STATIC CONTROL PROPERTIES

Stonlux ESD 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..... <1.0 megohms* (ESD-S7.1)
Body Voltage Generation .....<100 volts** (ESD STM97.2)

*In conjunction with ATK Primer

** 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 ATK Primer 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 $0.5x10^6$ ohms(Ω).

The floor must also be tested after the application of Stonlux ESD. Once the Stonlux ESD is tack-free, point-to-point and point-to-ground readings should be taken. All values must fall below $1.0x10^6$ 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.

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RECOMMENDATIONS

- DO NOT attempt to install the material if the temperature of the Stonlux ESD components is above 85˚F/30˚C. High temperatures will cause the material to harden more quickly than desired. Conversely, if the temperature of the components is 65˚F/18˚C or lower, Stonlux ESD will not flow and level properly.
- Do not use water or steam in the vicinity of the application. Moisture can seriously affect the working time and other properties.
- Application equipment must be cleaned immediately after use with scouring pads and warm, soapy water, or acetone.
- Avoid contact with all liquid Parts A and B as they may cause skin and/or eye irritation.
- 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 the area with copious amounts of water. Wash skin with soap and water.
- If material is ingested, immediately contact a physician. DO NOT INDUCE VOMITING.
- Use only with adequate ventilation.

NOTES

- All material on-site must be counted, and all lot numbers recorded. If more than one lot number of Part B (resin) is found, provisions must be made for blending the different lot numbers to produce one uniform color. Contact Stonhard's Technical Service Department for additional details.
- Detailed instructions on application and installation can be found in the Stonlux ESD Directions.
- Procedures for maintenance of the flooring system during operations are described in the Stonkleen Floor Cleaning Procedures Brochure.
- Specific information regarding chemical resistance is available in the Stonlux Chemical Resistance Guide.
- Safety Data Sheets for Stonlux ESD are available online at www.stonhard.com under Products or upon request.
- A staff of technical service engineers is available to assist with installation or to answer questions related to our flooring 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

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