RUST-OLEUM®

4700 SYSTEM ULTRAPLEX™ SD S

ESD CONTROL EPOXY FLOOR COATING - SMOOTH STATIC DISSIPATIVE

DESCRIPTION AND USES

UltraPlex™ SD S floor coating is a 100% solids epoxy designed to meet the static dissipative requirements of a wide variety of industrial flooring needs. As a total system, including Prime & Seal™ Primer or Penetrating Prime & Seal™ Primer, UltraPlex™ ESD-WB Primer and UltraPlex™ SD S topcoat provides 32 mils of protection.

UltraPlex SD S is designed for protection of concrete in light to medium service areas, typically used for foot traffic and rubber covered wheel traffic.

UltraPlex SD S is a two component formulation of epoxy resin and cycloaliphatic curative. The use of conductive particulate provides the required degree of static dissipation.

UltraPlex SD S floor coating is ideally suited for electronic assembly areas, computer control rooms and clean rooms.

This CPS Type II product is typically installed by factory trained contractors. Be sure you are fully aware of all application procedures and have all the required equipment available prior to beginning the installation of this product.

PRODUCT FEATURES AND BENEFITS

- Electrostatic dissipative: Designed for areas where electrostatic charge build-up hinders productivity. (1 megohm to 1,000 megohms or 1.0 x 10^6 to 1.0 x 10^9 megohms) at 100 volts based on ASTM F150 test method.
- Chemical resistant: Is splash and spill resistant to a variety of acids, alkalis, and solvents.
- Durability: UltraPlex SD S provides a wear surface for protection where conductive tile, carpet and rubber mats just isn't enough.
- Maintenance: UltraPlex SD S is nonporous. It is easily cleaned with a mop or hose.
- Monolithic: Its monolithic construction provides a wall-to-wall or joint-to-joint seamless floor.
- Tough: Has high resistance to impact. May be used in wet areas. Resists water erosion without moisture absorption.

PRODUCTS

UltraPlex SD S is available in six standard colors. Custom colors are available upon request. Product codes listed below are for 3-Gallon kits. Mixing ratios are shown on the product labels.

3-Gal. Kit	DESCRIPTION
241747	National Blue
241751	Light Green
237418	Tile Red
241749	Dark Gray
237426	Light Gray
237430	Navy Gray
237434	Custom

PRODUCT APPLICATION

SURFACE PREPARATION

Preparation of the existing concrete is the most important step in the installation of an UltraPlex SD S Epoxy Floor Coating.

All grease, oil and other contamination must be removed. The surface of the concrete must be clean and rough to enable the epoxy based polymer to achieve maximum bond. Mechanical methods, including shot blasting, and grinding are used to prepare the floor. Prior to the application of an UltraPlex floor, the concrete should be at least 28 days old and have 200 psi tensile strength. See Technical Data Sheet for Prime & Seal Primer or Penetrating Prime & Seal Primer for proper application of primer.

Contact Rust-Oleum Technical Service for assistance.

Curing compounds should be limited to those types which can be removed by mechanical preparation of the surface. Existing control and expansion joints should be carefully analyzed to ensure that proper application will provide the maximum monolithic seamless floor.

All edges are taped with a double layer of duct tape. Every attempt should be made to terminate the floor at walls and doors to eliminate gradation problems at any edge.

PRIMERS

Successive single coats of Prime & Seal Primer or Penetrating Prime & Seal Primer and Primer ESD-WB are required to be applied to the properly prepared concrete surface with a rubber squeegee then rolled with a ⅜" nap roller. Rate of application will vary depending on the surface roughness and porosity.

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PRODUCT APPLICATION (cont.)

PRIMERS (cont.)

Expected coverage rates will be:

Prime & Seal Primer 150-200 sq.ft./gal.
Penetrating Prime & Seal Primer 200 sq.ft./gal.
Primer ESD-WB 200 sq.ft./gal.

NOTE: Consult Rust-Oleum Technical Data Sheets for mixing instructions for the primers

The primers should be allowed to "set" prior to the placement of UltraPlex SD S floor topping. This is an important step in order to insure a safe, pinhole free base for the UltraPlex SD S. Primer setting time will vary with ambient temperature. At 75°F, primer set time will be approximately 8 to 10 hours per coat.

MIXING

Note: Before starting, ensure that the material, concrete surface, and the ambient air **MUST** be a minimum of 65°F; maximum of 90°F. Hand mixing is not adequate. You must combine the base and activator by power mixing using either a 3" Jiffler mixer or Birdcage mixer. Mix at 500-750 rpm for 1-3 minutes. Do not over mix or use higher speeds.

APPLICATION

Immediately pour the material onto the floor, use a rubber squeegee to spread the material out over the entire section. Roll the material smooth using a ⅜" nap, lint free roller with a phenolic core to ensure proper coverage of 100 square feet at 16 mils. Make all final passes parallel and in the same direction. Do not roll excessively and do not re-roll the material after the final passes are made. Doing so may result in color variations.

Place 3M #3050 male grounding connectors in the material at predetermined locations at the rate of one per 1,000 sq. ft. After the floor has cured, 3M #3040 ground leads are connected at these points. Copper foil is also acceptable for grounding. Refer to the Application Guide for UltraPlex ESD System or contact Rust-Oleum Technical Service for assistance.

CLEAN UP

Xylene can be used to remove material from equipment if it is cleaned before the material has started to set up; otherwise, stronger solvents such as methylene chloride will be necessary.

TESTING

After cure, approximately 48 hours, surface resistivity should be tested for confirmation with job specifications. (Refer to the UltraPlex Specification Guide.) Final readings should be taken after 5 days.

PRODUCT APPLICATION (cont.)

SAFETY

UltraPlex SD S contains amine curing agents. Avoid skin contact. In case of eye contact or ingestion, contact a physician immediately. In case of skin sensitivity to these materials, use protective clothing and gloves.

SAFETY DATA SHEET

Safety Data Sheets are available. It is strongly recommended that they be read by all persons handling UltraPlex SD S.

If there are any questions on the use of this product, please consult Rust-Oleum Technical Service department.

PERFORMANCE CHARACTERISTICS

COMPRESSIVE STRENGTH
METHOD: ASTM C579
TYPICAL VALUE: 10,700 psi

FLEXURAL STRENGTH
METHOD: ASTM C580
TYPICAL VALUE: 3,600 psi

TENSILE STRENGTH
METHOD: ASTM C307
TYPICAL VALUE: 2,500 psi

BOND STRENGTH TO CONCRETE
METHOD: ASTM D4541
TYPICAL VALUE: Exceeds tensile strength of concrete (concrete fails first)

TABER ABRASION
METHOD: ASTM 4060, CS 17
TYPICAL VALUE: Loss/1000 cycles = 69 mg.

LINEAR COEFFICIENT OF THERMAL EXPANSION
METHOD: ASTM C531
TYPICAL VALUE: 2.5 X 10^{-5} in./in./°F

IMPACT RESISTANCE
METHOD: MIL-D-3134J
TYPICAL VALUE: Satisfactory per 3.15

COEFFICIENT OF FRICTION
METHOD: ASTM D2047
TYPICAL VALUE: 0.6 minimum

FILM HARDNESS, SHORE D
METHOD: ASTM D2240
TYPICAL VALUE: 75

SURFACE RESISTANCE
(ESD) 1 to 1,000 megohms @ 100 volts ASTM F-150

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PHYSICAL PROPERTIES

		4700 SYSTEM ULTRAPLEX SD S
Resin Type		Polyamine Converted Epoxy
Pigment Type		Varies depending on color
Solvents		Benzyl Alcohol
Weight*	**Per Gallon**	10.0-10.2 lbs.
	Per Liter	1.20-1.22 kg
Solids*	**By Weight**	100%
	By Volume	100%
Volatile Organic Compounds*		<135 g/l (1.12 lbs./gal.)
Recommended Dry Film Thickness (DFT) Per Coat		16 mils
Wet Film to Achieve DFT		16 mils
Practical Coverage at Recommended DFT (assumes 15% material loss)		100 sq. ft./gal.
Mixing Ratio		2:1 base to activator by volume
Induction Period		None
Pot Life @ 70-80°F (21-27°C) & 50% Relative Humidity		25-30 minutes. Higher temperatures and larger quantities of activated material will significantly reduce pot life. Pour material onto floor immediately after mixing.
Dry Times at 70-80°F (21-27°C) and 50% Relative Humidity	**Foot Traffic**	24 hours
	Light Traffic	48 hours
	Full Traffic	72 hours
Shelf Life		2 months from date of manufacture
Flash Point		>200°F (93°C)
Safety Information		For additional information, see SDS

Calculated values are shown and may vary slightly from the actual manufactured material.
*Activated material