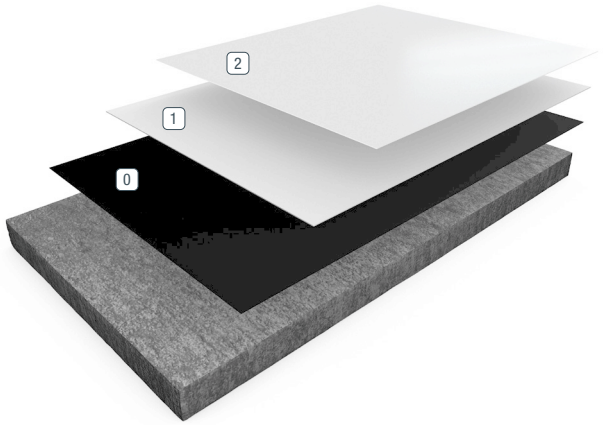
RESUFLOR™ TOPFLOOR SL12 SD

Sherwin-Williams Resuflor Topfloor SL12 SD provides high build (minimum 1/16") protective surfacing. By utilizing a high solids, low viscosity binder resin this Resuflor system provides a fluid, self-leveling mixture that is easily spread with a v-notched trowel or v-notched squeegee which results in a smooth attractive finish. Resuflor Topfloor SL12 SD can be finished with a high gloss urethane or a stipple finish epoxy topcoat.



0 **Primer**

1 **Slurry**

2 **Topcoat**

BENEFITS

- 106 -109 ohms resistance protects sensitive equipment throughout entire system
- Meets NFPA 99 Standards
- Seamless, smooth, attractive urethane topcoat
- Long-term gloss retention
- Ultraviolet stable epoxy topcoat
- Stipple finish
- Easy to maintain
- Chemical resistant

USES

- Electronics assemble
- Electronics production
- Clean rooms
- Computer rooms
- Quality control labs

TYPICAL PHYSICAL PROPERTIES

Color 4620 3725	 Standard Light, Medium Gray
Hardness, Shore D ASTM D 2240	80/65
Conductivity Resistance 10^6-10^9 ANSI/ESD-S7.1	**Static Charge Decay Dissipates a 5,000 volt charge to zero in <0.1 seconds**
Abrasion Resistance ASTM D 4060	100 mgs lost
Compressive Strength ASTM D 695	8,500 psi
Tensile Strength ASTM D 638	2,500 psi
Flexural Strength ASTM D 790	10,000 psi
Hardness, Shore D ASTM D 2240 Adhesion ACI 503R	75/70
Flammability	Self-extinguishing over concrete
Gloss Meter 60º 4620E 3725	 80-100 pts. Stipple gloss
Adhesion ACI 503R	300 psi concrete failure

ASTM C = Mortar System
ASTM D = Resin only

INSTALLATION

The following information is to be used as a guideline for the installation of the Resuflor Topfloor SL12 SD. Contact the Sherwin-Williams Technical Service Department for assistance prior to application.

SURFACE PREPARATION — GENERAL

Sherwin-Williams systems can be applied to a variety of substrates if the substrate is properly prepared. Preparation of surfaces other than concrete will depend on the type of substrate, such as wood, concrete block, quarry tile, etc. Should there be any questions regarding a specific substrate or condition, please contact the Sherwin-Williams Technical Service Department prior to starting the project. Refer to Surface Preparation Form G-1.

SURFACE PREPARATION — CONCRETE

Concrete surfaces shall be abrasive blasted to remove all surface contaminants and laitance. The prepared concrete shall have a surface profile depending upon system selected. Refer to Form G-1..

After initial preparation has occurred, inspect the concrete for bug holes, voids, fins and other imperfections. Protrusions shall be ground smooth while voids shall be filled with a Sherwin-Williams system filler. For recommendations, consult the Sherwin-Williams Technical Service Department.

TEMPERATURE

Throughout the application process, substrate temperature should be 50-90°F. Substrate temperature must be at least 5°F above the dew point. Applications on concrete substrates should occur while temperature is falling to lessen off gassing. The material should not be applied in direct sunlight, if possible.

APPLICATION INFORMATION - SURFACE PREP PROFILE CSP 4-6

VOC MIXED	APPLICATION STEP	MATERIAL	MIXED RATIO	THEORETICAL COVERAGE PER COAT CONCRETE	PACKAGING
<50 g/L	Conductive Primer	3424 1-1.5 pints water per 1.25 gallon kit	3:1	250 sq. ft. / gal	1.25 gals
<50 g/L 0	Slurry	3564	3:1	37.5 sq. ft. / gal	4 or 20 gals
		5305	Static Dissipative Aggregate	9 lbs. / 1 gal	18 lbs.
<10 g/L	Topcoat	4620E	2:1	300 sq. ft. / gal	3 or 15 gals

For different optional seal coats, such as 3725 Static Control Epoxy, consult individual Technical Data Sheet for mixing and application instructions.

STATIC CONTROL FLOORS

Static control flooring can be defined as a flooring system that can drain and/ or dissipate static charges by grounding personnel, equipment or other objects contacting the floor's surface or that controls the generation and accumulation of static charges. The resistance to the movement of electrons across the material's surfaces defines static control floorings into the following two categories:

i) Conductive Floor has a resistance of 2.5 x 10^4 - 10^6 ohms per 3 ft. It can drain static charge dissipating a 5,000-volt charge to zero in 0.05 seconds.

ii) Static Dissipative Floor has a resistance of 10^6 - 10^9 ohms per 3 ft. It adds no static electricity to the environment and drains off a 5,000-volt charge to zero in less than 0.2 seconds.

A conductive floor has a much lower electrical resistance than a dissipative floor. It will carry the static charges to a ground quickly and efficiently to prevent accidental discharge and ignition. If the floor is too conductive, an operator on the floor can become too effectively grounded and will suffer electrical shock. For this reason, the NFPA requires all flooring surfaces to have a minimum resistance of 25,000 ohms. Frequent contact between tools and equipment or dropping tools on the floor will cause spark and ignition. For those circumstances, a spark-proof conductive flooring system is highly recommended. The rapid rate of charge dissipation of conductive flooring can create a magnetic field, which can present a problem for manufacturers of electronic components.

Dissipative flooring systems have greater resistance to electric current flow than conductive floorings. In a working environment dealing with high test voltages, such as facilities where electronic components are manufactured or assembled, a dissipative floor should be installed so that the static charges can be gradually transferred to the ground, protecting personnel from electrical shock while also protecting sensitive electronic equipment.

CONDUCTIVE FLOORING MEASUREMENT GUIDE

There are three test standards available for the evaluation of static dissipative or conductive floors. They are ANSI/ ESD-S7.1, ASTM F 150 and NFPA 99 (56A). These test methods describe three types of measurements to be taken, which are summarized below:

(1) Surface-to-surface resistance: Two 2.5-inch diameter electrodes, each weighing 5 lbs., are placed 3 ft. apart on the floor. Apply the prescribed voltage (10VDC for Conductive or 100VDC for Static Dissipative) and take the readings 5 seconds after the application of voltage or once the reading has reached equilibrium. The resistance in ohms is read on a properly calibrated Megohmmeter ("megger").

(2) Point-to-groundable point resistance: An electrode with a 2.5-inch diameter, weighing 5 lbs., is connected to a Megohmmeter and placed on the surface being tested. The other megger lead is connected directly to a groundable point on the surface being tested.

(3) Surface resistance: Two parallel metal electrodes of equal length and cross section are placed on the surface being tested. The distance between the electrodes should be the same as the length of the electrodes. Resistance is read on a Megohmmeter connected to the two electrodes and is expressed in ohms/square.

For quality control and lab procedures, the surface-to-surface test is most convenient. The measurements of point-to-groundable point test on smaller lab samples usually vary considerably from readings on a practical large floor. Based on these test results, a facility manager can check if the flooring conforms to the specification when initially installed and track continual performance of the floor periodically.

NFPA 99 requires 5 measurements in each room and the average of the five readings is used to determine the resistance level. ANSI/ESD standards also require 5 measurements per room and a minimum of 5 tests per 5,000 square feet for larger areas. At least 3 of the 5 readings must be conducted in areas of wear due to traffic, chemical or water exposure. The ANSI/ ESD and NFPA standards require testing records to include date, temperature, humidity, testing voltage, duration of the test and the equipment used.

MAINTENANCE OF RESINOUS STATIC CONTROL FLOORS

Providing floors with good maintenance is always the best solution to lasting service life for any type of floor. The standard of NFPA 99 describes the appropriate maintenance for a conductive floor to maintain its conductive property through its service life. There are four maintenance guidelines for static dissipative floors.

i) The surface of conductive or dissipative floors shall not be insulated by a film of oil or wax. Any waxes, polishes or dressings used for maintenance of conductive floors shall not adversely affect the conductivity of the floor.

ii) Floors that depend upon applications of water, salt solutions or other treatments of a nonpermanent nature for their conductivity are not acceptable.

iii) Cleaning instructions for conductive and dissipative floors shall be established, such as a daily basic cleaning, non-abrasive brush or pads being used and requirements for cleaners. They should be carefully followed to assure that conductivity characteristics of the floor are not adversely affected by such treatments.

iv) The floor's resistance shall be periodically tested to ensure it still falls the range as initially specified.

GROUNDING STATIC CONTROL FLOORING

All static control flooring systems must be connected through an equipotential couple to a permanent earth ground. It is absolutely critical that a true earth ground is established and that a reference ground not be used. The ground couple is established over the primer layer with a conductive strip, mesh, wire or tape in accordance with EOS/ESD S6, "Standard for Protection of Electrostatic Discharge Susceptible Items – Grounding – Recommended Practice." Contact the Sherwin-Williams Technical Service Department for additional information.

CONDUCTIVE PRIMER

MIXING AND APPLICATION

1. Premix 3424A (hardener) and 3424B (resin) separately, using a low-speed drill and Jiffy blade. Mix for one minute until uniform, exercising caution not to whip air into the material.
2. Add 4 parts 3424A (hardener) to 1 part 3424B (resin) by volume. Mix with low-speed drill and Jiffy blade for three minutes until uniform. 3424 must be reduced with potable water up to 10-15% minimum. DO NOT reduce product until after both components have been mixed together for 90 seconds, Mix side A and side B for a minimum of 90 seconds, then ADD 1-1.5 pints water per 1.25 gallon kit. Reduction water must be added after A side and B side is mixed first.
3. Apply using a short nap roller at a rate of 250-320 square feet per gallon (5-6 WFT mils). Allow to cure for at least 4 hours prior to topcoating but no more than 24 hours. A light sanding may be required prior to applying topcoat.
4. Inspect primer coat prior to application of system. Test surface resistance in accordance with NFPA 99. Resistance range should be less than 150,000 ohms. If deviation from this range occurs, consult the Sherwin-Williams Technical Service Department immediately.

SLURRY COAT

MIXING AND APPLICATION

1. Premix 3564 A (resin) using a low-speed drill and Jiffy blade. Mix for one minute until uniform, exercising caution not to whip air into the material.
2. Add 3 parts 3564A (3 quarts resin) to 1 part 3564B (1 quart hardener) by volume. Mix with a low-speed drill and Jiffy blade for three minutes until uniform. Slowly add 9 lbs. of 5305 Static Dissipative Aggregate until material is wet out. Apply using a v-notched trowel or notched squeegee and backroll with a looped roller. Allow to self-level (approximately 10-15 minutes). Allow to cure overnight.
3. Inspect base coat prior to application of seal coat. Test surface resistance in accordance with NFPA 99. Average resistance range should be less than 1,000,000,000 ohms. If deviation from this range occurs, consult the Sherwin-Williams Technical Service Department immediately.

SEAL COAT (4620E)

MIXING AND APPLICATION

1. Premix 4620EA (resin) using a low-speed drill and Jiffy blade. Mix for one minute until uniform, exercising caution not to whip air into the material.
2. Add 2 parts 4620EA (resin) to 1 part 4620B (hardener) by volume. Mix with low-speed drill and Jiffy blade for three minutes until uniform. Apply material via airless spray or roller at a spread rate of 300 sq. ft. per gallon to yield 5 mils WFT. Allow material to cure 8-10 hours.

Average resistance range should be 1,000,000-1,000,000,000 ohms. If deviation from this range occurs, consult the Sherwin-Williams Technical Service Department immediately. Allow to cure at least 24 hours before opening to light foot traffic.

For different optional seal coats, such as 3525 Static Control Epoxy, consult individual Technical Data Sheet for mixing and application instructions.

APPLICATION EQUIPMENT

Brush / Roller
Use 1/4" phenolic core rollers and professional quality, medium stiff natural bristle brushes.

CLEANUP

Clean up mixing and application equipment immediately after use. Use toluene or xylene. Observe all fire and health precautions when handling or storing solvents.

SAFETY PRECAUTIONS

Refer to the SDS sheet before use. Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

MATERIAL STORAGE

Store materials in a temperature controlled environment (40°F to 90°F) and out of direct sunlight.

Keep resins, hardeners and solvents separated from each other, and away from sources of ignition.

MAINTENANCE

Occasional inspection of the installed material and spot repair can prolong system life. For specific information, contact the Sherwin-Williams Technical Service Department.

DISCLAIMER

The information and recommendations set forth in this document are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams.

NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

THE SHERWIN-WILLIAMS DIFFERENCE

Sherwin-Williams High Performance Flooring delivers world-class industry subject matter expertise, unparalleled technical and specification service, and unmatched regional commercial team support to our customers around the globe.

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