RESUFLOR™ DECO QUARTZ SD FLOORING SYSTEM

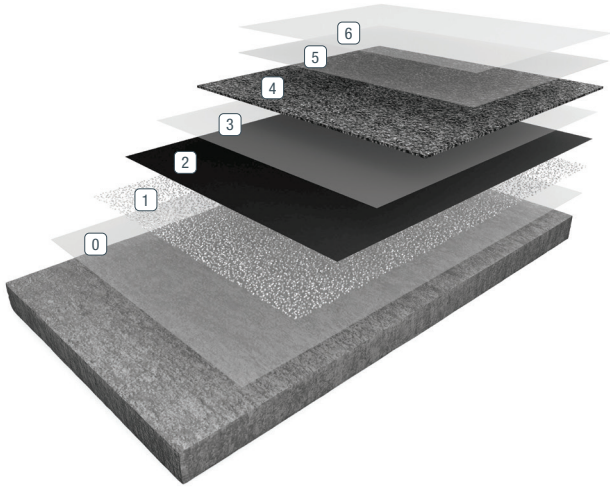
Sherwin-Williams Resuflor Deco Quartz SD combines the aesthetics and wear of quartz flooring with electrostatic protection for sensitive electronic components.

BENEFITS

- Aesthetically pleasing appearance
- Wide color selection
- Wear and slip resistant
- Complies with ANSI/ESD S20.20 ohms resistance
- Urethane or epoxy finish

USES

- Electronics manufacturing and assembly
- Clean rooms
- Laboratories
- Computer rooms



0 **Primer**

1 **Broadcast**

2 **Conductive Primer**

3 **ESD Base Coat**

4 **Color Quartz Broadcast**

5 **Grout Coat**

6 **Seal Coat**

TYPICAL PHYSICAL PROPERTIES

Color	Pre-Blended Standard Colors
Abrasion Resistance	4620 topcoat 30 mg lost 3564 topcoat 70 mg lost
Adhesion ACI 503R	Concrete failure
Compressive Strength ASTM C 579	8,500 psi
Conductivity Resistance ANSI/ESD-S7.1	<109 ohms
Static Charge Decay Dissipates a 5,000-volt MIL-B-81705B charge to zero in less than 0.1 seconds	4,500 psi
Hardness @ 24 hours, Shore D ASTM D 2240	75
Flammability	Self-Extinguishing over concrete
Tensile Strength ASTM C 307	2,500 psi

INSTALLATION

Sherwin-Williams High Performance Flooring materials shall only be installed by approved contractors. The following information is to be used as a guideline for the installation of the Resuflor Deco Quartz 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 equal to CSP 3-5. 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 system compatible 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 substrate should occur while temperature is falling to lessen off gassing. The material should not be applied in direct sunlight, if possible.

APPLICATION INFORMATION

VOC MIXED	APPLICATION STEP	MATERIAL	MIXED RATIO	THEORETICAL COVERAGE PER COAT CONCRETE	PACKAGING
<50 g/L 0	Primer Broadcast	3579 5310-7	2:1 To Excess	160 sq. ft. / gal .4 lb. / sq. ft.	3 or 15 gals 50 lbs.
<50 g/L	Base Coat	3424 plus 1-1.5 pints Water	4:1	160-200 sq. ft. / gal	1.25-5 gals
<50 g/L 0	Bonding Coat 1st Broadcast	3564 5900F*	3:1 To Excess	100-150 sq. ft. / unit .4 lbs. / sq. ft.	4 or 20 gals 50 lb. bag
<50 g/L	Grout Coat	3564	3:1	100-150 sq. ft. / unit	4 or 20 gals
<100 g/L	Seal Coat	4620E	2:1	300-400 sq. ft. / gal	3 or 15 gals

*5900F (Blend must contain a minimum of 10% conductive)

Different optional topcoats available, such as 3564 Static Dissipative Binder Resin. Consult individual Technical Data Sheet for mixing and application instructions.

PRIMER / BROADCAST

MIXING AND APPLICATION

1. Add 2 parts 3579 A (resin) to 1 part 3579 B (hardener) by volume. Mix with low-speed drill and Jiffy blade for three minutes until uniform. To ensure proper system cure and performance, strictly follow mix ratio recommendations.
2. 3579 may be applied via, roller or brush at a spread rate of 160 sq. ft per gal at 8 mils, evenly, with no puddles. Coverage will vary depending upon porosity of the substrate and surface texture.
3. Broadcast 5310-7 Dry Silica Sand to excess into resin lightly but uniformly until the floor appears completely dry.
4. Allow to cure. (Cure times vary depending on environmental conditions.)

BASE COAT

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 10-15% with potable water to improve flow and leveling. 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 ADD1-1.5 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 160-200 square feet per gallon (8-10 WFT mils). Allow to cure at least 5-6 hours.
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.

BONDING COAT / BROADCAST

MIXING AND APPLICATION

1. Add 3 parts 3564A (resin) to 1 part 3564B (hardener) by volume. Mix with low-speed drill and Jiffy blade for three minutes until uniform.
2. Immediately pour the mixed material onto the substrate and pull out using a 1/4" v-notched squeegee and cross roll with a 3/8" nap roller at a spread rate of 100-150 square feet per gallon.
3. Allow material to self-level 10-15 minutes. Begin evenly seeding the 5900F into wet resin much the same as grass seed is spread. Granules may be spread by hand or mechanical blower but should be broadcast in such a way that the granules fall lightly into resin without causing the resin to move. Continue broadcasting to excess until the floor appears completely dry.
4. Allow to cure for 24 hours, sweep off excess granules with a clean, stiff-bristled broom. Clean granules can be saved for future use. All imperfections such as high spots should be smoothed before the application of the seal coat.

GROUT COAT

MIXING AND APPLICATION

1. Inspect base coat prior to application of seal coat. Test surface resistance in accordance with NFPA 99. Average resistance range should be 25,000-1,000,000 ohms. If deviation from this range occurs, consult the Sherwin-Williams Technical Service Department immediately.
2. Premix 3564A (resin) using a low-speed drill and Jiffy blade. Mix for one minute until uniform, exercising caution not to whip air into the material.
3. Add 3 parts 3564A (3 quarts resin) to 1 part 3564B (1 quart hardener) by volume. Mix with low-speed drill and Jiffy blade for three minutes until uniform.

Refer to System Bulletin for complete installation procedures.

Note: Electrical resistance testing is required for every conductive and ESD coating system. Please refer to the appropriate System Bulletin for testing and acceptable ranges for each coating layer within the system.

SEAL COAT

MIXING AND APPLICATION

1. Inspect base coat prior to application of seal coat. Test surface resistance in accordance with NFPA 99. Average resistance range should be 25,000-1,000,000 ohms. If deviation from this range occurs, consult the Sherwin-Williams Technical Service Department immediately.
2. 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.
3. 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 300-400 sq. ft. per gallon to yield 4-5 mils WFT.
4. Allow to cure overnight. In order to assure proper adhesion, lightly sand or abrade between coats.

Different optional topcoats available, such as 3564 Static Dissipative Binder Resin. 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 that contact the floor surface or 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 104 -106 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 106 -109 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 as 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 the tools on the floor will cause spark and ignition. For those circumstances, a sparkproof 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. At 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 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: 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 (either 500VDC for conductive flooring or 100VDC for static dissipative flooring) 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 and 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 appropriate maintenance for a conductive floor to maintaining 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 treatment of a nonpermanent nature for their conductivity are not acceptable.

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

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

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-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.

Consult www.sherwin-williams.com/resin-flooring to obtain the most recent Product Data information and Application instructions.

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.

High Performance Flooring
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