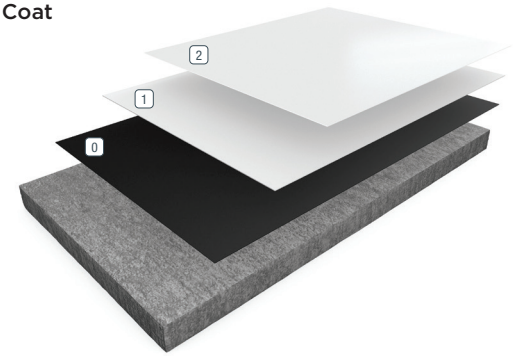
RESUTILE™ TOPCOAT SD

Resutile Topcoat SD is comprised of a conductive water-based epoxy primer and aliphatic urethane topcoat. Conforms to ANSI S20.20 for ESD protection.

[2] **Topcoat**

[1] **Body/Fill Coat**

[0] **Primer**



BENEFITS

- Epoxy primer provides aggressive bond to substrate
- Color stability
- Superior gloss retention
- Resists certain aggressive chemicals
- Economical

USES

- Electronics production
- Clean rooms
- Computer rooms
- Aircraft hangars

TYPICAL PHYSICAL PROPERTIES

Color 4620E	Standard Colors
Conductivity Resistance ANSI/ESD-S7.1	$<10^9$ ohms
Static Charge Decay MIL-B-81705B	Dissipates a 5,000 volt charge to zero in less than 0.1 seconds
Abrasion Resistance ASTM D 4060	35 mg 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	75/70
Adhesion ACI 503R	> 300 psi concrete failure
Flammability	Self-extinguishing over concrete
Gloss Meter 60° 4620E	80-100 pts.

ASTM C = Mortar System
ASTM D = Resin only

INSTALLATION

The following information is a guideline for the installation of the Resutile Topcoat 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 minimum surface profile equal to 40-60 grit sandpaper.

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	MIX RATIO	THEORETICAL COVERAGE PER COAT CONCRETE	PACKAGING
<50 g/L	Conductive Primer	3424 1-1.5 pints water per 1.25 gallon kit	4:1	250 sq. ft. / 1.25 gal	1.25 - 25 gals
<10 g/L	Body/Fill Coat	3564	3:1	130-200 sq. ft. / gal	4 or 20 gals
<10 g/L	Topcoat	4620E	2:1	300-333 sq. ft. / gal	3 or 15 gals

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 10-15% with potable water to improve flow and leveling. DO NOT reduce product until 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 of 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).
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.

BODY COAT/FILL COAT (3564)

MIXING AND APPLICATION

1. 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.
2. 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.
3. Apply material via brush, roller or squeegee at a spread rate of 130-200 sq. ft. per gallon to yield 8-12 mils WFT. This material must be sanded or abraded prior to topcoating if allowed to cure for more than 24 hours.

TOPCOAT (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 300-333 sq. ft. per gallon to yield 5 mils WFT.
3. Allow to cure for 24 hours minimum before opening to light foot traffic.

APPLICATION EQUIPMENT

Brush / Roller

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

STATIC CONTROL FLOORS

Static control flooring is defined as a flooring system that can drain and/or dissipate static charges by grounding objects that contact the floor surface, or by controlling 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 <10^9 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 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. In a working environment that deals 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 and 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 (500VDC 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 appropriate maintenance for a conductive floor to maintain its conductive properties 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 on conductive floors shall not adversely affect the conductivity of the floor.

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

iii) Cleaning protocols 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 followed carefully 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 within the range initially specified.

CLEAN UP

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

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 (50-90°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 our technical service team.

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(s) offered at the time of publication. Published technical data and instructions are subject to change without notice.

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.

United States & Canada
sherwin-williams.com/resin-flooring
swflooring@sherwin.com

High Performance Flooring
PM-279170-03 07/21