



HIGH PERFORMANCE FLOORING

RESUFLOTM DECO FLAKE SB SYSTEM

FORMERLY FLAKE SB

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LEGAL TERMS

All sales are subject to The Sherwin-Williams Company Terms and Conditions of Sale located at:

www.sherwin-williams.com/terms-and-conditions

Any customer terms and conditions that are in addition to, are different from or in conflict with the Sherwin-Williams Terms and Conditions of Sale are rejected by Sherwin-Williams and shall be of no force or effect unless accepted and agreed to in a separate writing from Sherwin-Williams.

Estimating tools and usage guides are provided for convenience and are not exact instructions. Estimates are provided on a best endeavors basis only and a fixed price quotation should be obtained prior to quoting. Additional guidance on estimating materials needs, costs, and installation methods and best practices are available from your Sherwin-Williams representative. Prices are subject to change at Sherwin-Williams' discretion, without notice.

PART A GP3760A01
PART B GP3760B01

CLEAR
HARDENER

Revised: June 3, 2025

PRODUCT INFORMATION

PRODUCT DESCRIPTION

RESUFLO MPE is a neutral, two-component, high solids epoxy. Applied at 3 mils (76.2 microns) for priming or up to 30 mils (762 microns) (1/32 inch) as a build coat. Slurry option is available (instructions at end of document) for thicker applications. Colors are optional.

Advantages:

- LEED® v4 – Indoor Air Quality credits available - meets requirements per CDPH-CA Section 01350 Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental chambers Version 1.2.
- Seals concrete, protecting against dirt and spills
- Cleans easily, saving detergent, labor and water
- Complies with SCAQMD VOC regulations - <100 g/L

TYPICAL USES

- Stand-alone coating (a finish coat of urethane is recommended)
- Seed coat for full broadcast flake and quartz floors
- Resin for epoxy mortar system
- Use as a concrete primer before applying another epoxy or urethane
- Use as a random crack filler when combined with thickening agents
- Level floor after mechanical prep

GENERAL INFORMATION

Colors: Use colorants at a rate of one unit per 3-gallon (11.34 litres) mix of Resuflo MPE. Standard Colorants--White, Yellow and Light Gray will not impart total hide. Use these colorants at a rate of two units per 3-gallon (11.34 litres) mix. Similar colorants also may not hide as well. Refer to Color Selection Guide or consult Sherwin-Williams Technical Support. (White and Light Gray are only recommended if topcoating with a non-yellowing urethane. Due to possible color inconsistencies, Battleship Gray and Medium Gray colorants are only recommended if topcoated.)

LIMITATIONS:

Colors: Multiple coats may be needed to achieve complete hide in lighter systems. UV/Light Stability: This product is not light stable and will yellow/amber over time. Contamination (Fisheyes): Products may fisheye if oil, silicones, mold release agents or other contaminants are present

ORDERING INFORMATION

Packaging:

Part A: 2 gallons (7.56L) in a 5 gallon (18.9L) pail,
5 gallon (18.9L) filled pails, 55 gallon (208L) filled drums

Part B: 1 gallon (3.78L) containers, 5 gallon (18.9L)
filled pails, 55 gallon (208L) filled drums

PRODUCT CHARACTERISTICS

Color: Clear

Volume Solids: 95.27%, mixed (ASTM D1475)

Weight Solids: 95.45%, mixed (ASTM D1475)

Mix Ratio: 2:1 by volume

VOC (ASTM D3960): 49 g/L ; 0.41 lb/gal

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	3.0 (75)	30.0 (750)
Coverage sq ft/gal (m²/L):	53 (1.3)	535 (13.1)

Drying Schedule:

	@ 65°F/18°C	@ 70°F/21°C	@ 75°F/24°C	@ 80°F/27°C	@ 90°F/32°C
Tack Free:	18 hours	10.5 hours	9.5 hours	7.5 hours	5.5 hours
Dry Hard (able to be sanded):	24 hours	20 hours	16 hours	12 hours	8 hours
Foot Traffic:	24 hours	24 hours	24 hours	24 hours	24 hours
Recoat Window:	Maximum: Up to 24 hours for all conditions				

Shelf Life: 12 months, unopened
Store indoors at 65°F (18°C) to 90°F (32°C)

PERFORMANCE CHARACTERISTICS

Test Name	Test Method	Results*
Abrasion Resistance	ASTM D4060, CS-17 wheel, 1000gm load, 1000 cycles	83.1 mg loss
Adhesion to Concrete	ASTM D7234	>480 psi (3.3 MPa) (max psi machine can register)
Coefficient of Friction	ASTM D2047	0.42
Compressive Strength	ASTM D695	13,500 psi (93.079 MPa)
Percent Elongation	ASTM D2370	5
Shore D Hardness	ASTM D2240	80-85 @ 0 sec ; 75-80 @ 15 sec
Tensile Strength	ASTM D2370	8,000 psi (55,158 MPa)

*results are based on conditions at 77°F (25°C)

Revised: June 3, 2025

PRODUCT INFORMATION

SURFACE PREPARATION

CHECK THE TEMPERATURE AND HUMIDITY: Floor temperature and materials should be between 65°F (18°C) and 85°F (29°C). Humidity must be less than 70% or the result may be a hazy appearance. DO NOT coat unless floor temperature is more than five degrees over the current, local dew point.

CHECK THE CONCRETE: Concrete must be structurally sound and free of curing membrane, paint or other sealer. If you suspect that the concrete has been previously sealed, call your Sherwin-Williams representative for further instructions.

CHECK FOR MOISTURE: Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. In-situ relative humidity testing is recommended. Readings must be below 75% relative internal concrete humidity. Test methods can be purchased at www.astm.org, see F2170, or follow manufacturer's instructions. If moisture issues are present, the use of a moisture mitigation system may be a consideration. Consult your Sherwin-Williams representative for further information / instructions.

NOTE: Although testing is critical, it is not a guarantee against future problems. This is especially true if there is no vapor barrier or the vapor barrier is not functioning properly and/or you suspect you may have concrete contamination from oils, chemical spills or excessive salts.

APPLICATION EQUIPMENT

- Protective clothing
- Jiffy® mixer blade
- 100 grit sandpaper
- 60 grit sandpaper
- 18-24" flat rubber squeegee
- 18-24" notched rubber squeegee
- 3/8" medium nap roller (shed resistant)
- Roller assembly (18")
- 80 grit sandpaper
- Spiked shoes
- Slow speed drill (500 rpm or less)

ASSEMBLE EQUIPMENT: Due to the limited pot life of the material, all application equipment, etc. should be ready for immediate use. (Clean roller with tape to remove any residual lint.)

PREPARATION

Ensure concrete is free of dirt, grease, oil or other contaminants. Certain types of contaminant may interfere with coating adhesion and cause fisheyes or defect in the coating. Scrub with detergent, rinse with clean water, and allow to fully dry.

CONCRETE PREPARATION OPTIONS FOR THIN TO MEDIUM FILM APPLICATIONS (25 MILS (0.63 MM) MAXIMUM):
Diamond Grind: (results of diamond grinding may vary depending on technique and the hardness of the concrete. Additional mils may be required). Sweep to remove large debris and vacuum to remove fine dust.

Light Blast: Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust.

CONCRETE PREPARATION OPTIONS FOR THICK-FILM APPLICATIONS

Steel Shot Blast: Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust.

Scarify: Sweep to remove large debris and vacuum to remove fine dust.

FILLING JOINTS: Depending on the preference of the facility owner, joints may or may not be filled. If the joints are filled, non-moving joints, i.e. contraction or control joints, can be hard filled with thickened epoxy or with a semi-rigid joint filler such as Resufloor 3580. Construction joints less than one inch wide may also be filled with Resufloor 3580. Isolation or expansion joints must be filled with a flexible material designed for this purpose. Coating applied over filled joints may crack if there is concrete movement.

APPLICATION INSTRUCTIONS (PRIMER COAT)

PRIMER COAT:

A thin coat of primer will wet out concrete, help seal off concrete pores and minimize outgassing bubbles. Apply a tight coat of primer with a clean, flexible squeegee. Backrolling is not recommended. There should be no mil build over the high spots of the concrete.

COVERAGE RATE will depend upon coating thickness. Much of this will soak into porous concrete. One gallon (3.78 litres) of Resufloor MPE will cover:

535 ft² (49.70 m²) @ 3 mils (0.08 mm) wet/dry film
400 ft² (37.16 m²) @ 4 mils (0.10 mm) wet/dry film
321 ft² (29.82 m²) @ 5 mils (0.13 mm) wet/dry film

PREMIX PART A using a Jiffy mixer blade and slow speed drill. (This is required for both 3-gallon (11.34 litres) and full-filled 5-gallon (18.9 litres) units.) For full-filled 5 gallon pails (18.9 litres), pour out 2 gallons (7.56 litres) into a measuring container. Then, pour the measured Part A into a mixing pail.

COLORS: Premix Sherwin-Williams Colorants to ensure uniform color. Colorant is added to the Part A and mixed using a Jiffy® mixer blade and slow speed drill. **NOTE:** When using colorant in the bulk units, add the colorant to the Part A that has been measured into the "mixing pail".

PREMIX Resufloor MPE PART B by rapidly tipping the pail end-over-end several (approximately 6) times. ADD Resufloor MPE PART B TO PART A (3 GALLONS / 11.34 LITRES TOTAL MIX). For full-filled 5-gallon pails (18.9 litres), pour out 1 gallon (3.78 litres) Part B into a measuring container that is separate from the one used with the Part A. Then, add the measured Part B to the Part A already in the mixing pail. **POTLIFE:** Mix only enough material which can be applied within the work time (time between the addition of Part B to Part A and the completion of all application actions). Check the following chart for work times at various temperatures. For smaller quantities, use 2 parts A to 1 part B by volume.

APPROXIMATE WORK TIME (minutes) - °F (°C):

65 (18.3) 70 (21.1) 75 (23.9) 80 (26.7) 90 (32.2)
40 30 25 20 15

MIX FOR 2 MINUTES using a Jiffy mixer blade and slow speed drill. (Failure to do so could result in lower/diminished coating properties.)

IMMEDIATELY POUR ALL OF THE MIXED MATERIAL onto the floor in a single bead.

PUSH THE FLAT SQUEEGEE at an even speed with sufficient down pressure to apply the thinnest coat.

START THE SECOND AND REMAINING PASSES by pushing material parallel to the first stroke. Hold the bead of material near the center of the bar. **NOTE:** Resufloor MPE applied thin may "bridge" holes and cracks momentarily before soaking in--make sure the previously squeegeed area is overlapped (halfway). **NOTE:** The use of spiked shoes will allow freedom of movement on the wet floor.

TO REDUCE OUTGASSING BUBBLES, it is best to wait until the primer has set up enough to walk on before applying a build coat of Resufloor MPE. The primer does not need to be sanded if coated within 24 hours at floor temperatures 65°F-90°F (18°C-32°C).

If primer is not coated within 24 hours, it must be sanded with 60 grit paper. We recommend thorough sanding with a swing-type buffer so that multiple scratch marks cause an obvious gloss loss on all areas (depressions will remain shiny), and the floor is uniformly dulled. The ability to see individual scratch marks is an indication that sanding is not adequate. Scrub with detergent and rinse with clean water before coating.

**PART A
PART B**

**GP3760A01
GP3760B01**

**CLEAR
HARDENER**

Revised: June 3, 2025

PRODUCT INFORMATION

APPLICATION INSTRUCTIONS (CONT'D)

BUILD COAT (if required):

COVERAGE RATE will depend upon required thickness. One gallon (3.78 litres) of Resufloor MPE will cover:

160 ft² (14.86 m²) @ 10 mils (0.25 mm) wet/dry film
107 ft² (9.94 m²) @ 15 mils (0.38 mm) wet/dry film
80 ft² (7.43 m²) @ 20 mils (0.51 mm) wet/dry film

NOTE: Total Resufloor MPE (prime and build coat) should not exceed 35 mils (0.89 mm).

REPEAT STEPS used for mixing and spreading of the primer coat. A notched squeegee can be used to increase the thickness applied.

*1/16" notched squeegee to apply 10-15 mils (0.25-0.38 mm)
*1/8" notched squeegee to apply 15-20 mils (0.38-0.51 mm)
*1/4" notched squeegee to apply more than 20 mils (0.51 mm)
*These guidelines were arrived at by using new squeegees on smooth concrete with little applied pressure. The application rate is affected by worn squeegees, applied pressure and texture of the concrete.

Immediately after the Resufloor MPE is applied and there is room to roll, a second person will BACKROLL THE MATERIAL with a 3/8" roller to a smooth and uniform appearance. **NOTE:** Get off the Resufloor MPE as soon as possible.

ALLOW COATING TO CURE 24 hours at 75°F (24°C) before opening to light traffic. Allow more time at low temperatures or for heavier traffic. Full coating properties take 14 days to develop.

SANDING REQUIRED:

Resufloor MPE must be thoroughly sanded if applying Resutile 4641 (see chart below).

APPROXIMATE SAND TIME (hours) - °F (°C):

65 (18.3)	70 (21.1)	75 (23.9)	80 (26.7)	90 (32.2)
24	20	16	12	8

Resufloor MPE must also be sanded if applying other Sherwin-Williams urethanes after 24 hours. Use 80 grit sandpaper except for Resutile 4641, WearGuardTM-240 Gloss and Sherwin-Williams CRU—use 100 grit sandpaper. The use of more aggressive paper will introduce deep grooves that will not be covered by a single, thin coat of urethane; swirl marks will be particularly evident if the topcoat is glossy. We recommend thorough sanding with a swing-type buffer so that multiple scratch marks cause an obvious gloss loss on all areas (depressions will remain shiny), and the floor is uniformly dulled. The ability to see individual scratch marks is an indication that sanding is not adequate. Scrub with detergent and rinse with clean water before coating and tack rag to remove fine dust.

APPLICATION INSTRUCTIONS (CONT'D)

OPTIONAL SLURRY:

NOTE: If a slurry application is desired, follow instructions below. A primer coat will reduce the risk of outgassing bubbles and is strongly recommended for porous concrete. See Application - Primer Coat section.

COVERAGE RATE of Resufloor MPE Slurry will depend upon required thickness. One mix will cover approximately:
80 ft² (7.4 m²) @ 70 mils (1.78 mm) wet/dry film
40 ft² (3.7 m²) @ 125 mils (3.18 mm) wet/dry film

PREMIX RESUFLOTM MPE PART A using a Jiffy mixer blade. Pour out 1 gallon (3.78 litres) into a measuring container. Then, **POUR THE MEASURED PART A INTO THE MIXING TOTE.** Begin mixing.

PREMIX RESUFLOTM MPE PART B. Pour out 0.50 gallons (1.89 litres) Part B into a measuring container that is separate from the one used with the Part A. Then, **ADD THE MEASURED PART B TO THE PART A** already in the mixing tote.

MIX FOR 1 MINUTE or until thoroughly blended using a Jiffy mixer blade and slow speed drill.

POUR ONE GALLON (3.78 LITRES) OF #290 SILICA FLOUR into the mixing tote. Mix until uniform (approximately one minute). The resin needs to completely wet out the Part C.

COLORS: ADD 1/2 pint of pigment per batch.

ADD ONE GALLON (3.78 LITRES) OF #60 MESH FINE SILICA SAND into the mixing tote. Mix until uniform (approximately one minute). The resin needs to completely wet out the sand.

POTLIFE AT 75°F: Mix only enough material, which can be raked, troweled and porcupine rolled in a 15-minute period.

POUR THE MIXED MATERIAL onto floor.

GAUGE RAKE/NOTCH TROWEL material over desired area.

USE HAND TROWELS to finish along edges and drains.

USE PORCUPINE ROLLER to release any entrained air as well as work resins to the surface. This will help remove gauge rake marks and level material.

ALLOW COATING TO DRY 24 HOURS at 75°F (24°C), 50% relative humidity before opening to light traffic. Allow more time at low temperatures, low humidity or for heavier traffic. Full coating properties take 14 days to develop.

APPLICATION OF ADDITIONAL COATINGS:

If Resufloor MPE is being topcoated with a Sherwin-Williams urethane except Resutile HPS 100 at floor temperatures of 65-90°F (18-32°C), it does not need to be sanded if applied within 24 hours. **NOTE:** This is a Sherwin-Williams solution only, DO NOT try this with competitive epoxies.

Revised: June 3, 2025

PRODUCT INFORMATION

CHEMICAL RESISTANCE

Reagent	1 Day	7 Days
Hydrochloric Acid 10%	E	E
Hydrochloric Acid 30% (Muriatic)	E	G
Nitric Acid 10%	E	G
Phosphoric Acid 50%	F	G
Sulfuric Acid 37% (Battery Acid)	G	G
Acetic Acid 10%	G	F
Citric Acid 10%	G	G
Oleic Acid	G	F
Ammonia Hydroxide 10%	E	E
Sodium Hydroxide 50%	E	E
Ethylene Glycol (Antifreeze)	E	G
Isopropyl Alcohol	F	P
Methanol	F	F
D-Limonene	G	G
JP-4 Jet Fuel	E	E
Gasoline	G	G
Mineral Spirits	E	E
Xylene	F	F
Methylene Chloride	P	P
MEK	P	P
PMA	F	F
Ammonium Nitrate 20%	E	E
Brake Fluid	F	F
Bleach	E	E
Motor Oil (SAE 30)	E	E
Skydrol® 500B	F	F
Skydrol® LD4	F	F
Sodium Chloride 20%	E	E
1% Tide® Laundry Soap	E	E
10% Trisodium Phosphate	E	E

ASTM D1308 Test Method 3.1.1 spot test, covered. Results are based on 1-day and 7-day. Coating cured 2 weeks prior to testing.

E - Excellent (no adverse effect) - Recommended
G - Good (limited adverse effect) - Use for short-term exposure only
F - Fair (moderate adverse effect) - Not recommended
P - Poor (unsatisfactory) - Little or no resistance to chemical

*only adverse effect was staining

NOTE: Reduced chemical resistance and staining is possible in pigmented versions of the system

MAINTENANCE

Allow floor coating to cure at least one week before cleaning by mechanical means (e.g., sweeper, scrubber, disc machine).

Care: Proper maintenance will increase the life and help maintain the appearance of your new Sherwin-Williams floor coating. Sweep and scrub your new coating regularly, as dirt and dust are abrasive and can quickly dull the finish, decreasing the life of your coating. Remove spills quickly as certain chemicals may stain and could possibly permanently damage the finish. Use soft nylon brushes or white pads on your new floor coating. Any brush more abrasive than a soft nylon or white pad can cause premature loss of gloss.

Caution: Avoid scratching or gouging the surface. All floor coatings will scratch if heavy objects are dragged across the surface. Do not drop heavy or pointed items on the floor as this may cause chipping or concrete popouts in the case of a weak cap. Rubber tires can permanently stain the floor coating from plasticizer migration. Plexiglass® between the tire and the floor coating can prevent discoloration. Rubber burns from quick stops and starts can heat the coating to its softening temperature, causing permanent marking.

Repair: Repair gouges or scratches or chip outs as soon as possible to prevent moisture or chemical contamination.

TINTING

Only tint with HPF Universal Colorants. Do not tint with GIS colorants. Use one pint of colorant per 3-gallon mix of ResufloTM MPE for most colors, and two pints per 3-gallon mix of ResufloTM MPE for White, Bright Yellow, Light Gray, and Rotunda Red.

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.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet 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 your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

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.

PART A
PART B
GP3570A01
GP3570B01
CLEAR
HARDENER

Revised: January 2, 2025

PRODUCT INFORMATION

PRODUCT DESCRIPTION

RESUFLOTM UVE high solids, two-component epoxy with excellent UV resistance. Typically used to seal quartz and flake applications and is one of the primary components of the metallic system. ResufloTM UVE may also be used as a standalone coating. Orange-peel option using fumed silica is available (instructions at end of document) for applications requiring a thicker product (e.g., wall systems).

Advantages:

- LEED® CREDIT - LEED Green Building Certification Program credits may be available:
 - Indoor Environmental Quality
 - 4.2 Low-Emitting Materials, Paint & Coatings
- Excellent UV resistance
- Seals concrete, protecting against dirt and spills
- Cleans easily, saving detergent, labor and water

TYPICAL USES

- Stand-alone coating (a finish coat of urethane is recommended for better UV and chemical resistance)
- Use over other 100% solids epoxies for increased UV resistance
- Recommended epoxy for metallic pigment system
- Seals full broadcast quartz or flake applications
- Colored background in random flake applications

GENERAL INFORMATION

OPTIONS:

Colors: Use colorants at a rate of one unit per 3-gallon (11.34 litres) mix of ResufloTM UVE. Standard Colorants--White, Yellow and Light Gray will not impart total hide. Use these colorants at a rate of two units per 3-gallon (11.34 litres) mix. Similar colorants also may not hide as well. Refer to Color Selection Guide or consult Sherwin-Williams Technical Support. Orange Peel: ResufloTM UVE with fumed silica can be used as a topcoat to achieve a textured appearance.

LIMITATIONS:

Colors: Multiple coats may be needed to achieve complete hide in lighter systems.

UV/Light Stability: This is an epoxy product with improved UV resistance, but it may amber/yellow over time.

Thickness: The clear, thickened version of ResufloTM UVE with fumed silica will "ghost" or will appear cloudy if applied at >8 mils per coat.

Contamination (Fisheyes): Products may fisheye if oil, silicons, mold release agents or other contaminants are present.

ORDERING INFORMATION

Packaging:

Part A: 1 gallon (3.78L) containers, 2 gallons (7.56L) in a 5 gallon (18.9L) pail, 5 gallon (18.9L) filled pails, 55 gallon (208L) filled drums

Part B: 1 gallon (3.78L) containers, 5 gallon (18.9L) filled pails, 55 gallon (208L) filled drums

PRODUCT CHARACTERISTICS

Volume Solids:	98%, mixed (ASTM D2369)
Weight Solids:	97.87%, mixed (ASTM D2369)
Mix Ratio:	2:1 by volume
VOC (ASTM D3960):	<50 g/L ; 0.4 lb/gal, mixed

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	3.0 (75)	30.0 (750)
Coverage sq ft/gal (m²/L):	53 (1.3)	535 (13.1)

Drying Schedule:

	@ 65°F (18°C)	@ 70°F (21°C)	@ 75°F (24°C)	@ 80°F (27°C)	@ 90°F (32°C)
Tack Free Time:	12.5 hours	10 hours	8.5 hours	7 hours	5.5 hours
Dry Hard (able to be sanded):	18 hours	14 hours	12 hours	10 hours	8 hours
Foot Traffic:	24 hours	24 hours	24 hours	24 hours	24 hours
To Recoat:	Maximum: up to 24 hours for all conditions				

Shelf Life: 12 months, unopened
Store indoors at 65°F (18°C) to 90°F (32°C)

PERFORMANCE CHARACTERISTICS

Test Name	Test Method	Results*
Abrasion Resistance	ASTM D4060, CS-17 wheel, 1000gm load, 1000 cycles	42 mg loss
Adhesion to Concrete	ASTM D7234	>480 psi (3.31 MPa), max psi machine can register
Compressive Strength	ASTM D695	15,800 psi (108.94 MPa)
Percent Elongation	ASTM D2370	4% (10 mils, 7 day cure)
Shore D Hardness	ASTM D2240	80-85 @ 0 sec / 70-85 @ 15 sec
Tensile Strength	ASTM D2370	6,900 psi (47.57 MPa)
Water Absorption (24-hour immersion, resin only)	ASTM D570	2.35% increase in weight

*Results are based on conditions at 70°F (21°C)

PART A
PART B
GP3570A01
GP3570B01
CLEAR
HARDENER

Revised: January 2, 2025

PRODUCT INFORMATION

CHEMICAL RESISTANCE

	24-hour uncovered	1 Day / 7 Days covered
10% Hydrochloric Acid	E	E / E
30% Hydrochloric Acid (Muriatic)	E	G / G
10% Nitric Acid	E	E / G
50% Phosphoric Acid	F	F / F
37% Sulfuric Acid (Battery Acid)	E	E / G
10% Acetic Acid	F	F / F
10% Citric Acid	E	E / G
Oleic Acid	G	F / F
10% Ammonium Hydroxide	E	E / E
50% Sodium Hydroxide	E	E / E
Ethylene Glycol (Antifreeze)	E	E /
Isopropyl Alcohol	E	F / F
Methanol	G	P / P
d-Limonene	E	G / G
Jet Fuel - JP-4	E	E / G
Gasoline	E	E / G
Mineral Spirits	E	E / E
Xylene	E	F / F
Methylene Chloride	P	P / P
Methyl Ethyl Ketone (MEK)	G	P / P
Propylene Glycol Methyl Ether Acetate (PMA)	F	F / F
20% Ammonium Nitrate	E	E / E
Brake Fluid	F	F / F
Bleach	E	E / E
Motor Oil (SAE 30)	E	E / E
Skydrol 500B	F	F / F
Skydrol LD4	F	F / F
20% Sodium Chloride	E	E / E
1% Tide Laundry Soap	E	E / E
10% Trisodium Phosphate	E	E / E
Jet Fuel Phillips "Blue" Aviation Gasoline	E	E / G
Unleaded Gas + Ethanol	E	F / F

ASTM D1308 Test Method 3.1.1 spot test, covered. Results are based on 1-day and 7-day. Coating cured 2 weeks prior to testing.

E - Excellent (no adverse effect) - Recommended
G - Good (limited adverse effect) - Use for short-term exposure only
F - Fair (moderate adverse effect) - Not recommended
P - Poor (unsatisfactory) - Little or no resistance to chemical

*only adverse effect was staining

NOTE: Reduced chemical resistance and staining is possible in pigmented versions of the system

MAINTENANCE

Allow floor coating to cure at least one week before cleaning by mechanical means (e.g., sweeper, scrubber, disc machine).

Care: Proper maintenance will increase the life and help maintain the appearance of your new Tennant floor coating. Sweep and scrub your new coating regularly, as dirt and dust are abrasive and can quickly dull the finish, decreasing the life of your coating. Remove spills quickly as certain chemicals may stain and could possibly permanently damage the finish.

Use soft nylon brushes or white pads on your new floor coating. Any brush more abrasive than a soft nylon or white pad can cause premature loss of gloss.

Caution: Avoid scratching or gouging the surface. All floor coatings will scratch if heavy objects are dragged across the surface.

Do not drop heavy or pointed items on the floor as this may cause chipping or concrete popouts in the case of a weak cap.

Rubber tires can permanently stain the floor coating from plasticizer migration. Plexiglass between the tire and the floor coating can prevent discoloration.

Rubber burns from quick stops and starts can heat the coating to its softening temperature, causing permanent marking.

Repair: Repair gouges or scratches or chip outs as soon as possible to prevent moisture or chemical contamination.

TINTING

Only tint with HPF Universal Colorants. Do not tint with GIS colorants. Use one pint of colorant per 3-gallon mix of Resufloor UVE for most colors and two pints per 3-gallon mix of Resufloor UVE for White, Bright Yellow, Light Gray, and Rotunda Red.

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.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet 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 your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

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.

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CLEAR
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Revised: January 2, 2025

PRODUCT INFORMATION

SURFACE PREPARATION

CHECK THE CONCRETE: Concrete must be structurally sound and free of curing membrane, paint or other sealer. If you suspect that the concrete has been previously sealed, call Sherwin-Williams Company, technical support for further instructions.

CHECK FOR MOISTURE: Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. In-situ relative humidity testing is recommended. Readings must be below 75% relative internal concrete humidity. Test methods can be purchased at www.astm.org, see F2170, or follow manufacturer's instructions. If moisture issues are present, the use of a moisture mitigation system may be a consideration. Please call Sherwin-Williams Company Technical Support for further information / instructions.

NOTE: Although testing is critical, it is not a guarantee against future problems. This is especially true if there is no vapor barrier or the vapor barrier is not functioning properly and/or you suspect you may have concrete contamination from oils, chemical spills or excessive salts.

CHECK THE TEMPERATURE AND HUMIDITY: Floor temperature and materials should be between 65°F (18°C) and 85°F (29°C). Humidity must be less than 70% or the result may be a hazy appearance. **DO NOT** coat unless floor temperature is more than five degrees over the current, local dew point.

APPLICATION EQUIPMENT

- Protective clothing
- Jiffy mixer blade
- Slow speed drill (500 rpm or less)
- 18-24" Flat rubber squeegee
- 18-24" Notched rubber squeegee
- Roller assembly (18")
- Medium (3/8") nap roller (shed resistant)
- 80 grit sandpaper
- 100 grit sandpaper
- Spiked shoes
- 60 grit sandpaper

ASSEMBLE EQUIPMENT: Due to the limited pot life of the material, all application equipment, etc. should be ready for immediate use. (Clean roller with tape to remove any residual lint.)

PREPARATION

Ensure concrete is free of dirt, grease, oil or other contaminants. Certain types of contaminant may interfere with coating adhesion and cause fisheyes or defect in the coating. Scrub with detergent, rinse with clean water, and allow to fully dry.

Concrete Preparation Options for Thin to Medium Film Applications (25 mils (0.63 mm) maximum):

Diamond Grind: (results of diamond grinding may vary depending on technique and the hardness of the concrete. Additional mils may be required). Sweep to remove large debris and vacuum to remove fine dust.

Light Blast: Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust.

PREPARATION (CONT'D)

Concrete Preparation options for Thick-Film Applications:
Steel Shot Blast: Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust.
Scarify: Sweep to remove large debris and vacuum to remove fine dust.

Filling Joints: Depending on the preference of the facility owner, joints may or may not be filled. If the joints are filled, non-moving joints, i.e. contraction or control joints, can be hard filled with thickened epoxy or with a semi-rigid joint filler such as Resufloor 3580. Construction joints less than one inch wide may also be filled with Resufloor 3580. Isolation or expansion joints must be filled with a flexible material designed for this purpose. Coating applied over filled joints may crack if there is concrete movement.

APPLICATION INSTRUCTIONS

A primer coat is needed when using Resufloor UVE as part of an epoxy system. A thin coat of Resufloor UVE may be used as a primer to wet out concrete, help seal off concrete pores and minimize outgassing bubbles. Apply a tight coat of primer with a clean, flexible squeegee. Backrolling is not recommended. There should be no mil build over the high spots of the concrete.

COVERAGE RATE will depend upon coating thickness. Much of this will soak into porous concrete. One gallon (3.78 litres) of Resufloor UVE will cover:

535 ft² (49.70 m²) @ 3 mils (0.08 mm) wet/dry film
400 ft² (37.16 m²) @ 4 mils (0.10 mm) wet/dry film
321 ft² (29.82 m²) @ 5 mils (0.13 mm) wet/dry film

PREMIX PART A using a Jiffy mixer blade and slow speed drill. Pour out 2 gallons (7.56 litres) into a measuring container. Then, pour the measured Part A into a mixing pail.

COLORS: Premix Sherwin-Williams Colorants to ensure uniform color. Colorant is added to the Part A and mixed using a Jiffy mixer blade and slow speed drill. **NOTE:** When using colorant in the bulk units, add the colorant to the Part A that has been measured into the "mixing pail".

ADD RESUFLOTM UVE PART B TO PART A (3 GALLONS / 11.34 LITRES TOTAL MIX). Pour out 1 gallon (3.78 litres) Part B into a measuring container that is separate from the one used with the Part A. Then, add the measured Part B to the Part A already in the mixing pail. **POTLIFE:** Mix only enough material which can be applied within the work time (time between the addition of Part B to Part A and the completion of all application actions). Check the following chart for work times at various temperatures. For smaller quantities, use 2 parts PART A to 1 part PART B by volume.

APPROXIMATE WORK TIME (minutes) - °F (°C):
65 (18.3) 70 (21.1) 75 (23.9) 80 (26.7) 90 (32.2)
50 40 35 30 25

MIX FOR 2 MINUTES using a Jiffy mixer blade and slow speed drill. (Failure to do so could result in lower/diminished coating properties.)

IMMEDIATELY POUR ALL OF THE MIXED MATERIAL onto the floor in a single bead.

PUSH THE FLAT SQUEEGEE at an even speed with sufficient down pressure to apply the thinnest coat.

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Revised: January 2, 2025

PRODUCT INFORMATION

APPLICATION INSTRUCTIONS (CONT'D)

START THE SECOND AND REMAINING PASSES by pushing material parallel to the first stroke. Hold the bead of material near the center of the bar. NOTE: Resufloor UVE applied thin may "bridge" holes and cracks momentarily before soaking in--make sure the previously squeegeed area is overlapped (halfway). NOTE: The use of spiked shoes will allow freedom of movement on the wet floor.

TO REDUCE OUTGASSING BUBBLES, it is best to wait until the primer has set up enough to walk on before applying a build coat of Resufloor UVE. The primer does not need to be sanded if coated within 24 hours at floor temperatures 65°F-90°F (18°C-32°C).

If primer is not coated within 24 hours, it must be sanded with 60 grit paper. We recommend thorough sanding with a swing-type buffer so that multiple scratch marks cause an obvious gloss loss on all areas (depressions will remain shiny), and the floor is uniformly dulled. The ability to see individual scratch marks is an indication that sanding is not adequate. Scrub with detergent and rinse with clean water before coating.

BUILD COAT / GROUT COAT:

COVERAGE RATE will depend upon required thickness. One gallon (3.78 litres) of Resufloor UVE will cover:
160 ft² (14.86 m²) @ 10 mils (0.25 mm) wet/dry film
107 ft² (9.94 m²) @ 15 mils (0.38 mm) wet/dry film
80 ft² (7.43 m²) @ 20 mils (0.51 mm) wet/dry film
NOTE: Total Resufloor UVE (prime and build coat) should not exceed 35 mils (0.89 mm).

REPEAT STEPS used for mixing and spreading of the primer coat. A notched squeegee can be used to increase the thickness applied.
*1/16" (1.59 mm) notched squeegee to apply 10-15 mils (0.25-0.38 mm)
*1/8" (3.18 mm) notched squeegee to apply 15-20 mils (0.38-0.51 mm)
*1/4" (6.35 mm) notched squeegee to apply more than 20 mils (0.51 mm)
*These guidelines were arrived at by using new squeegees on smooth concrete with little applied pressure. The application rate is affected by worn squeegees, applied pressure and texture of the concrete.

Immediately after the Resufloor UVE is applied and there is room to roll, a second person will BACKROLL THE MATERIAL with a 3/8" roller to a smooth and uniform appearance. NOTE: Get off the Resufloor UVE as soon as possible.

ALLOW COATING TO CURE 24 hours at 75°F (24°C) before opening to light traffic. Allow more time at low temperatures or for heavier traffic. Full coating properties take 14 days to develop.

OPTIONAL APPLICATION OF ORANGE PEEL TEXTURE:
IF ORANGE PEEL SURFACE IS DESIRED OR IF MATERIAL IS BEING USED AS PART OF A WALL SYSTEM, USE RESUFLOOR UVE with fumed silica.

The seal coating should be applied in multiple thin coats. The intent is to fill in any voids without leaving excessive milage on the surface.

COVERAGE RATE:

WALLS: A gallon (3.78 litres) of Resufloor UVE with fumed silica will cover: 267 ft² (24.8 m²) at 6 mils (0.15 mm) wet/dry film.
NOTE: Thickened Resufloor UVE applied greater than 6 mils (0.15 mm) may sag.

FLOORS: A gallon (3.78 litres) of Resufloor UVE with fumed silica will cover: 267 ft² (24.8 m²) at 6 mils (0.15 mm) wet/dry film maximum for unpigmented application
NOTE: Unpigmented Resufloor UVE will dry "milky" if applied at more than 6 mils (0.15 mm).

APPLICATION INSTRUCTIONS (CONT'D)

PREMIX PART A using a Jiffy mixer blade and slow speed drill. Pour out 1 gallon (3.78 litres) into a measuring container. Then, pour the measured Part A into a mixing pail.

ADD APPROXIMATELY ½ GALLON FUMED SILICA to the measured Resufloor UVE Part A in the mixing pail. MIX UNTIL UNIFORM.

ADD RESUFLOOR UVE PART B TO PART A (1.5 GALLONS / 5.67 LITRES TOTAL MIX). Pour out ½-gallon (1.89 litres) Part B into a measuring container that is separate from the one used with the Part A. Then, add the measured Part B to the thickened Part A already in the mixing pail. POTLIFE: Mix only enough material which can be applied within the work time (time between the addition of Part B to Part A and the completion of all application actions). Check the following chart for work times at various temperatures. For smaller quantities, use 2 parts A to 1 part B by volume.

APPROXIMATE WORK TIME (minutes) - °F (°C):				
65 (18.3)	70 (21.1)	75 (23.9)	80 (26.7)	90 (32.2)
50	40	35	30	25

MIX FOR 2 MINUTES using a Jiffy mixer blade and slow speed drill. (Failure to do so could result in lower/diminished coating properties.)

WALLS:

IMMEDIATELY POUR ALL OF THE MIXED MATERIAL into an application tray. DIP 3/8" (10 mm) ROLLER, SPREAD THE RESUFLOOR UVE with fumed silica at 6 mils (0.15 mm) and backroll for a uniform finish.

FLOORS:

IMMEDIATELY POUR ALL OF THE MIXED MATERIAL onto the floor in a single bead.

PUSH THE NOTCHED SQUEEGEE at an even speed with sufficient down pressure to apply the thinnest coat.

START THE SECOND AND REMAINING PASSES by pushing material parallel to the first stroke. Hold the bead of material near the center of the bar. NOTE: The use of spiked shoes will allow freedom of movement on the wet floor.

Immediately after the Resufloor UVE is applied and there is room to roll, a second person will BACKROLL THE MATERIAL with a 3/8" roller to a uniform appearance. NOTE: Get off the Resufloor UVE with fumed silica as soon as possible.

APPLICATION OF ADDITIONAL COATINGS:

If Resufloor UVE is being topcoated with a Sherwin-Williams urethane except Resutite HPS 100 at floor temperatures of 65-90°F (18-32°C), it does not need to be sanded if applied within 24 hours. NOTE: This is a Sherwin-Williams solution only, DO NOT try this with competitive epoxies.

SANDING REQUIRED:

Resufloor UVE must be thoroughly sanded if applying Resutite HPS 100 (see chart below).

APPROXIMATE SAND TIME (hours) - °F (°C):				
65 (18.3)	70 (21.1)	75 (23.9)	80 (26.7)	90 (32.2)
18	14	12	10	8

Resufloor UVE must also be sanded if applying other Tennant urethanes after 24 hours. Use 80 grit sandpaper except for Resutite HPS 100, WearGuardTM-240 Gloss and Tennant CRU—use 100 grit sandpaper. The use of more aggressive paper will introduce deep grooves that will not be covered by a single, thin coat of urethane; swirl marks will be particularly evident if the topcoat is glossy. We recommend thorough sanding with a swing-type buffer so that multiple scratch marks cause an obvious gloss loss on all areas (depressions will remain shiny), and the floor is uniformly dulled. The ability to see individual scratch marks is an indication that sanding is not adequate. Scrub with detergent and rinse with clean water before coating and tack rag to remove fine dust.

PART A GP4640A01
PART B GP4640B01

CLEAR
HARDENER

Revised: March 7, 2025

PRODUCT INFORMATION

PRODUCT DESCRIPTION

RESUTILE HPS 100 is a clear, high solids, two-component, aliphatic, moisture-cure urethane applied over an epoxy primer or used to recoat an existing epoxy or urethane floor, wall or ceiling.

Advantages:

- LEED® v4 – Indoor Air Quality credits available - meets requirements per CDPH-CA Section 01350 Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental chambers Version 1.2.
- Designed to withstand industrial traffic
- Light stable, high-gloss finish provides superior light reflectivity
- Resists Skydrol®, jet fuels and other industrial chemicals
- Low VOC (7 g/L). (Complies with SCAQMD VOC regulations.)

TYPICAL USES

- Hangar floor
- Automotive manufacturing
- Mechanical room
- Assembly / Production
- Packaging
- Clean room / lab

GENERAL INFORMATION

Use colorants at a rate of one unit per 1-gallon (3.78 litres) of Resutile HPS 100. Standard colorants: White, Yellow and Sandy Beige will not impart total hide. Similar colorants also may not hide as well.

LIMITATIONS:

Contamination (Fisheyes): Product may fisheye if oil, silicones, mold release agents or other contaminants are present.

Chemical Resistance / Staining: Reduced chemical resistance and staining is possible in pigmented versions of the system.

ORDERING INFORMATION

~1 gallon (3.8L) mix:

Part A: 0.74 gallons (2.8L) in a gallon (3.8L) can
Part B: 0.20 gallons (0.8L) in a quart (0.9L) can

~2 gallon (7.6L) mix:

Part A: 1.48 gallons (5.6L) in a 5 gallon (18.9L) pail
Part B: 0.40 gallons (1.5L) in a 0.5 gallon (1.9L) can

PRODUCT CHARACTERISTICS

Color:	Clear
Mix Ratio:	1:1 by unit
Volume Solids:	91.60%, mixed (ASTM D2369)
Weight Solids:	91.34%, mixed (ASTM D2369)
VOC (ASTM D3960):	<100 g/L ; 0.8 lb/gal

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	3.2 (80)	3.2 (80)
Dry mils (microns)	2.9 (73)	2.9 (73)
~Coverage sq ft/gal (m²/L):	500 (12.3)	500 (12.3)

Drying Schedule:

	@ 60°F/16°C 20% RH	@ 60°F/16°C 80% RH	@ 75°F/24°C 13% RH	@ 90°F/32°C 20% RH	@ 90°F/32°C 80% RH
Tack Free:	12-16 hours	12-16 hours	6.5 hours	3.5 hours	1.5 hours
Foot Traffic:	24 hours	24 hours	24 hours	24 hours	24 hours
Recoat Window:	Maximum: Up to 24 hours for all conditions				

Shelf Life: 12 months, unopened
Store indoors at 65°F (18°C) to 90°F (32°C)

PERFORMANCE CHARACTERISTICS

Test Name	Test Method	Results*
Abrasion Resistance	ASTM D4060, CS-17 wheel, 1000gm load, 1000 cycles	14.9 mg loss
Coefficient of Friction	ASTM D2047	0.61
Elongation	ASTM D2370	6%
Flammability	ASTM D635	182 mm/min
Koenig Hardness, 3 Mil Film (resin only)	ASTM D4366	171.3
Tensile Strength	ASTM D2370	6,250 psi
Water Absorption, 24-hour immersion	ASTM D570	1.81%
Wet Static Coefficient of Friction, BOT 3000	ANSI/NFSI B101.1	0.99

*results are based on conditions at 77°F (25°C)

**PART A
PART B**

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**CLEAR
HARDENER**

Revised: March 7, 2025

PRODUCT INFORMATION

SURFACE PREPARATION

CHECK THE TEMPERATURE AND HUMIDITY: Floor temperature and materials should be between 65°F (18°C) and 90°F (32°C). Humidity must be less than 80%. **DO NOT** coat unless floor temperature is more than five degrees over the current, local dew point.

CHECK FOR MOISTURE: Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. In-situ relative humidity testing is recommended. Readings must be below 75% relative internal concrete humidity. Test methods can be purchased at www.astm.org, see F2170, or follow manufacturer's instructions. If moisture issues are present, the use of a moisture mitigation system may be a consideration. Consult your Sherwin-Williams representative for further information / instructions.

NOTE: Although moisture testing is critical, it is not a guarantee against future problems. This is especially true if there is no vapor barrier or the vapor barrier is not functioning properly and/or you suspect you may have concrete contamination. Additional testing may be necessary to determine the vapor barrier and any contamination.

APPLICATION EQUIPMENT

- Protective clothing
- Jiffy® mixer blade
- Application tray
- Disc machine
- Roller assembly (18")
- Medium (3/8") nap roller
- 100 grit sandpaper
- Slow speed drill (500 rpm or less)

ASSEMBLE EQUIPMENT: Due to the limited pot life of the material, all application equipment, etc. should be ready for immediate use. (Clean roller with tape to remove any residual lint.)

APPLICATION INSTRUCTIONS

Recoat: Resutile HPS 100 may be used to coat over an existing epoxy or urethane in sound condition. Detergent scrub and rinse with clean water to remove surface dirt, grease, oil and contaminants. Floor must be sanded thoroughly with 100 grit paper prior to recoating. The use of more aggressive paper will introduce deep grooves that will not be covered by a single, thin coat of urethane; swirl marks will be particularly evident if the topcoat is glossy. We recommend thorough sanding with a swing-type buffer so that multiple scratch marks cause an obvious gloss loss on all areas (depressions will remain shiny), and the floor is uniformly dulled. The ability to see individual scratch marks is an indication that sanding is not adequate. Scrub with detergent and rinse with clean water before coating.

Resutile HPS 100 must be applied over a Sherwin-Williams' 100% solids epoxy primer. Epoxy must be thoroughly sanded and cleaned prior to application of Resutile HPS 100.

Premix Part A for 3 minutes using a Jiffy mixer blade with slow speed drill. Pot Life: Mix only enough material which can be used in a two-hour period. Note: Once opened, this material cannot be resealed for later use.

Colors: Premix Sherwin-Williams colorants before adding to Resutile HPS 100 to ensure uniform color. Add colorant to Resutile HPS 100 Part A.

Add Part B while mixing. Mix for 3 minutes using a Jiffy mixer blade and slow speed drill. Pour into application tray.

Apply Resutile HPS 100 at the rate of 500 sq. ft./gallon (46.45 m²/3.78 litres) with a 3/8" nap roller. For proper appearance and development of physical properties, it is crucial that material is not applied above or below this rate. Dip the roller in the coating and lightly roll out excess in the application tray. Apply two 8-10 foot (2.4-3.0 meters) long paths on the concrete, making one stroke left to right and one right to left. Rewet the roller and apply two more paths adjacent to the first pair. Rewet roller and apply a third pair adjacent to the second.

Spread the material evenly with V-shaped cross passes.

Make sure the floor has just enough coating to cover evenly. Excess material could cause the floor to blister, especially in high humidity. Insufficient material will cause the floor to look non-uniform.

Level the area with straight passes that cross the initial material paths. These final strokes will reduce roller marks. If the appearance is not satisfactory, reroll the area.

Allow coating to dry 24 hours at 75°F (24°C), 50% relative humidity before opening to light traffic. Allow more time at low temperatures, low humidity or for heavier traffic. Full coating properties take 14 days to develop.

Revised: March 7, 2025

PRODUCT INFORMATION

CHEMICAL RESISTANCE

Reagent	1 Day	7 Days
Hydrochloric Acid 10%	E	E
Hydrochloric Acid 30% (Muriatic)	E	E
Nitric Acid 10%	G	P
Phosphoric Acid 50%	G	G
Sulfuric Acid 37% (Battery Acid)	E	G
Acetic Acid 10%	E	E
Citric Acid 10%	E	E
Oleic Acid	E	E
Ammonia Hydroxide 10%	E	E
Sodium Hydroxide 50%	E	E
Ethylene Glycol (Antifreeze)	E	E
Isopropyl Alcohol	G	G
Methanol	G	F
D-Limonene	E	E
JP-4 Jet Fuel	E	E
Gasoline	E	E
Mineral Spirits	E	E
Xylene	E	E
Methylene Chloride	P	P
MEK	F	F
PMA	E	G
Ammonium Nitrate 20%	E	E
Brake Fluid	E	E
Bleach	E	E
Motor Oil (SAE 30)	E	E
Skydrol® 500B	E	E
Skydrol® LD4	E	E
Sodium Chloride 20%	E	E
1% Tide® Laundry Soap	E	E
10% Trisodium Phosphate	E	E
Coffee	E	E
Coke®	E	E
Ketchup	E	E
Mustard	G*	G*
Red Wine	E	G*
3M™ DuraPrep™	G*	F
Purdue Betadine Solution	G*	G*

ASTM D1308 Test Method 3.1.1 spot test, covered. Results are based on 1-day and 7-day. Coating cured 2 weeks prior to testing.

E - Excellent (no adverse effect) - Recommended
G - Good (limited adverse effect) - Use for short-term exposure only
F - Fair (moderate adverse effect) - Not recommended
P - Poor (unsatisfactory) - Little or no resistance to chemical

*only adverse effect was staining

NOTE: Reduced chemical resistance and staining is possible in pigmented versions of the system

MAINTENANCE

Allow floor coating to cure at least one week before cleaning by mechanical means (e.g., sweeper, scrubber, disc machine).

Care: Proper maintenance will increase the life and help maintain the appearance of your new Sherwin-Williams floor coating. Sweep and scrub your new coating regularly, as dirt and dust are abrasive and can quickly dull the finish, decreasing the life of your coating. Remove spills quickly as certain chemicals may stain and could possibly permanently damage the finish. Use soft nylon brushes or white pads on your new floor coating. Any brush more abrasive than a soft nylon or white pad can cause premature loss of gloss.

Caution: Avoid scratching or gouging the surface. All floor coatings will scratch if heavy objects are dragged across the surface. Do not drop heavy or pointed items on the floor as this may cause chipping or concrete popouts in the case of a weak cap. Rubber tires can permanently stain the floor coating from plasticizer migration. Plexiglass® between the tire and the floor coating can prevent discoloration. Rubber burns from quick stops and starts can heat the coating to its softening temperature, causing permanent marking.

Repair: Repair gouges or scratches or chip outs as soon as possible to prevent moisture or chemical contamination.

TINTING

Only tint with HPF Universal Colorants. Do not tint with GIS colorants. Use two pints of colorant per ~1.88 gallon mix of Parts A and B.

Standard colorants: White, Bright Yellow, Rotunda Red and Sandy Beige will not impart total hide. Similar colorants also may not hide as well.

SAFETY

Refer to the SDS sheet before use.

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WARRANTY

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PART A GP4640A01
PART B GP4640B01
PART C GP4621C01

**CLEAR
HARDENER
AGGREGATE**

Revised: March 7, 2025

PRODUCT INFORMATION

PRODUCT DESCRIPTION

RESUTILE SDS is a light-stable urethane that contains a conductive filler to yield static dissipative properties. This coating has a satin appearance for long-lasting durability.

Advantages:

- Electrostatic discharge control - meets ANSI/ESD S20.20-2007 for resistance <1x10⁹ ohms and <100 volts Body Voltage Generation
- LEED® v4 – Indoor Air Quality credits available - meets requirements per CDPH-CA Section 01350 Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental chambers Version 1.2.
- Reduced solvent means less evaporation and less waste
- Low odor - can be applied during normal business hours
- Complies with SCAQMD VOC regulations

TYPICAL USES

- Manufacturing / Automotive manufacturing
- Electric Assembly / Production
- Packaging
- Avionics
- Clean Room / Lab
- Warehouse / Distribution

GENERAL INFORMATION

Use the same color in the epoxy and Resutile SDS. White is not recommended for this system.

Colors in Epoxy: Use colorants at a rate of one unit per 3-gallon (11.34 liters) mix. Standard Colorants - Yellow and Light Gray will not impart total hide. Use these colorants at a rate of two units per 3-gallon (11.34 liters) mix. Similar colorants also may not hide as well.

Colors in Resutile SDS: Use Colorants at a rate of one-half unit per 1-gallon (3.78 liters) mix.

LIMITATIONS:

Colors: The use of color is recommended in Resutile SDS. DO NOT USE White.

Hide: The topcoat must be applied over a pigmented primer or existing coating of similar color to obtain color hide in Resutile SDS. The resulting system color will be closer to the primer.

Contamination (Fisheyes): Product may fisheye if oil, silicones, mold release agents or other contaminants are present.

Chemical Resistance / Staining: Reduced chemical resistance and staining is possible in pigmented versions of the system.

Resutile SDS will have a slight gray hue and could change the appearance of decorative flooring.

ORDERING INFORMATION

~1 gallon (3.8L) mix:

Part A: 0.74 gallons (2.8L) in a gallon (3.8L) can
Part B: 0.20 gallons (0.8L) in a quart (0.9L) can
Part C: 3.31 lbs. (1.5kg) in a 2 gallon (7.6L) can

~2 gallon (7.6L) mix:

Part A: 1.48 gallons (5.6L) in a 5 gallon (18.9L) pail
Part B: 0.40 gallons (1.5L) in a 0.5 gallon (1.9L) can
Part C: 6.62 lbs. (3kg) in a 2 gallon (7.6L) can

PRODUCT CHARACTERISTICS

Color:	Grayish Clear (when mixed)
Volume Solids:	92.49%, mixed (ASTM D2369)
Weight Solids:	93.67%, mixed (ASTM D2369)
Mix Ratio:	1:1:1 by unit (see Ordering Information)
VOC (ASTM D3960):	<100 g/L ; 0.8 lb/gal

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	3.0 (75)	3.0 (75)
~Coverage sq ft/gal (m²/L):	600 (14.7)	600 (14.7)

Drying Schedule:

	@ 60°F/16°C	@ 60°F/16°C	@ 75°F/24°C	@ 90°F/32°C	@ 90°F/32°C
	20% RH	80% RH	13% RH	20% RH	80% RH
Tack Free:	12-16 hours	12-16 hours	6.5 hours	3.5 hours	1.5 hours
Foot Traffic:	24 hours	24 hours	24 hours	24 hours	24 hours
Recoat Window:	Maximum: Up to 24 hours for all conditions				

Shelf Life: 12 months, unopened
Store indoors at 65°F (18°C) to 90°F (32°C)

PERFORMANCE CHARACTERISTICS

Test Name	Test Method	Results*
Abrasion Resistance	ASTM D4060, CS-17 wheel, 1000gm load, 1000 cycles	38 mg loss
Body Voltage Generation	ANSI/ESD STM 97.2 (ANSI/ESD S20.20 - Method 2)	12 volts with ESD shoes ; 32 volts with heel straps
Body Voltage Decay (with ESD shoes or heel straps)	AATCC 134-1979 (modified)	1,000 volts to <10 volts in <1.0 second
Coefficient of Friction	ASTM D2047	0.50
Flammability (topcoat resin)	ASTM D635	182 mm/min
Koenig Hardness, 3 Mil Film (resin only)	ASTM D4366	171.3
Resistance to Ground in Combination with a Person	ANSI/ESD STM 97.1 (ANSI/ESD S20.20 - Method 1)	<3.5 x 10 ⁷ ohms (ESD shoes or heel straps)
Surface Resistance Point to Point / Point to Ground	ESD Assoc. ANSI/ESD STM 7.1-2013	1x10 ⁵ ohms to 1x10 ⁹ ohms
Water Absorption, 24-hour immersion	ASTM D570	1.81%
Wet Static Coefficient of Friction, BOT 3000	ANSI/NFSI B101.1	0.95

*results are based on conditions at 77°F (25°C)

PART A GP4640A01
PART B GP4640B01
PART C GP4621C01

CLEAR
HARDENER
AGGREGATE

Revised: March 7, 2025

PRODUCT INFORMATION

SURFACE PREPARATION

CHECK THE TEMPERATURE AND HUMIDITY: Floor temperature and materials should be between 65°F (18°C) and 80°F (27°C). Humidity must be less than 70%. DO NOT coat unless floor temperature is more than five degrees over the current, local dew point.

CHECK THE CONCRETE: Concrete must be structurally sound and free of curing membrane, paint and/or other sealer. If you suspect that the concrete has been previously sealed, call your Sherwin-Williams representative for further instructions.

CHECK FOR MOISTURE: Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. In-situ relative humidity testing is recommended. Readings must be below 75% relative internal concrete humidity. Test methods can be purchased at www.astm.org, see F2170, or follow manufacturer's instructions. If moisture issues are present, the use of a moisture mitigation system may be a consideration. Consult your Sherwin-Williams representative for further information / instructions.

NOTE: Although moisture testing is critical, it is not a guarantee against future problems. This is especially true if there is no vapor barrier or the vapor barrier is not functioning properly and/or you suspect you may have concrete contamination. Additional testing may be necessary to determine the vapor barrier and any contamination.

APPLICATION EQUIPMENT

- Protective clothing
- Jiffy® mixer blade
- Application tray
- Spiked shoes
- Disc machine
- 18-24" flat rubber squeegee
- 18-24" 1/16" notched rubber squeegee
- Roller assembly (18")
- 3/8" medium nap roller (18")
- 80 grit sandpaper
- 60 grit sandpaper
- Slow speed drill (500 rpm or less)

ASSEMBLE EQUIPMENT: Due to the limited pot life of the material, all application equipment, etc. should be ready for immediate use. (Clean roller with tape to remove any residual lint.)

PREPARATION

Detergent scrub and rinse with clean water to remove surface dirt, grease, oil and contaminants.

THICK FILM APPLICATIONS (25 mils / 0.64 mm):
Steel Shot Blast: Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust.
Diamond Grind: Sweep to remove large debris and vacuum to remove fine dust.

JOINTS: Depending on the preference of the facility owner, joints may or may not be filled. If the joints are filled, non-moving joints, i.e. contraction or control joints, can be hard filled with thickened, 100% solids epoxy or with a semi-rigid joint filler such as Resufloor 3580. Construction joints less than one inch wide may also be filled with Resufloor 3580. Isolation or expansion joints must be filled with a flexible material designed for this purpose.

APPLICATION INSTRUCTIONS

RESUTILE SDS MUST BE APPLIED OVER A SHERWIN-WILLIAMS 100% SOLIDS EPOXY PRIMER. (See appropriate epoxy product bulletin for application instructions.)

AT LEAST 8 MILS OF AN EPOXY BUILD COAT ON TOP OF THE EPOXY PRIMER ARE RECOMMENDED FOR COMPLETE HIDE. (See appropriate epoxy product bulletin for application instructions.)

If Resutile SDS is the primary ground, then a grounding system that meets the customer's specifications needs to be connected to the common ground of the facility. If copper tape is used, install the copper tape on the insulator coat, underneath the Resutile SDS.

PREMIX PART A USING A JIFFY® MIXER BLADE with slow speed drill. **POT LIFE:** Mix only enough material which can be used within 30 minutes. **NOTE:** Once opened, this material cannot be resealed for later use.

CONTINUE TO MIX AND ADD PART B. MIX FOR 1 MINUTE using a Jiffy® mixer blade and slow speed drill.

POUR MIXED PARTS A/B INTO PART C while mixing. **NOTE:** The Part C is not blended—DO NOT SPLIT MIX OR PRODUCT MAY NOT MEET PERFORMANCE SPECIFICATIONS.

MIX FOR 3 MINUTES using a Jiffy® mixer blade and slow speed drill. Move the blade up and down the sides of the pail and across the bottom to ensure contents are thoroughly mixed so no dry filler remains.

COLORS: Use colorants at a rate of one-half unit per 1-gallon (3.78 litres) of Resutile SDS. Premix Sherwin-Williams Colorant before adding to the combined Parts A/B/C to ensure uniform color. Add colorant to combined Parts A/B/C and mix using a Jiffy mixer blade and slow speed drill. Mix until well blended. Pour into application tray.

APPLY Resutile SDS at the rate of 600 ft²/gallon (55.7 m²/3.78 L) with a 3/8" (10 mm) nap roller. For proper appearance and development of physical properties, it is crucial that material is not applied above or below this rate. Material applied at a lower application rate will tend to foam at higher humidities and temperatures. Dip the roller in the coating and lightly roll out excess in the application tray. Apply material in an area no wider than 10 feet (3.0 meters). One dip should cover about 45 sq. ft. (4.2 m²).

SPREAD THE MATERIAL evenly with V-shaped cross passes.

MAKE SURE THE FLOOR HAS JUST ENOUGH COATING TO COVER EVENLY. Excess material could cause the floor to blister, especially in high humidity and will show more roller marks. Insufficient material will cause the floor to look non-uniform. If you cannot see the grit texture, the material is too thick.

LEVEL THE AREA with straight passes that cross the initial material paths. These final strokes will reduce roller marks. If the appearance is not satisfactory, reroll the area.

REMIX THE MATERIAL in the tray occasionally (with the roller) to prevent settling of the Part C (filler).

NOTE: This product cannot be finish rolled by a separate individual. Late finish rolling may introduce foam in the coating especially at higher humidities and temperatures.

ALLOW COATING TO DRY 24 HOURS at 75°F (24°C), 50% relative humidity before opening to light traffic. Allow more time at low temperatures, low humidity or for heavier traffic. Full coating properties take 14 days to develop.

Revised: March 7, 2025

PRODUCT INFORMATION

CHEMICAL RESISTANCE

Reagent	1 Day	7 Days
Hydrochloric Acid 10%	E	E
Hydrochloric Acid 30% (Muriatic)	E	F
Nitric Acid 10%	E	E
Phosphoric Acid 50%	F	F
Sulfuric Acid 37% (Battery Acid)	E	E
Acetic Acid 10%	E	E
Citric Acid 10%	E	E
Oleic Acid	E	E
Ammonia Hydroxide 10%	E	E
Sodium Hydroxide 50%	E	E
Ethylene Glycol (Antifreeze)	E	E
Isopropyl Alcohol	E	E
Methanol	P	P
D-Limonene	F	F
JP-4 Jet Fuel	E	E
Gasoline	E	F
Mineral Spirits	E	E
Xylene	E	E
Methylene Chloride	P	P
MEK	F	F
PMA	E	E
Ammonium Nitrate 20%	E	E
Brake Fluid	E	E
Bleach	E	E
Motor Oil (SAE 30)	E	E
Skydrol® 500B	E	E
Skydrol® LD4	E	E
Sodium Chloride 20%	E	E
1% Tide® Laundry Soap	E	E
10% Trisodium Phosphate	E	E
Coffee	E	E
Coke®	E	E
Ketchup	E	E
Mustard	G*	G*
Red Wine	E	G*
3M™ DuraPrep™	G*	F
Purdue Betadine Solution	G*	G*

ASTM D1308 Test Method 3.1.1 spot test, covered. Results are based on 1-day and 7-day. Coating cured 2 weeks prior to testing.

E - Excellent (no adverse effect) - Recommended
G - Good (limited adverse effect) - Use for short-term exposure only
F - Fair (moderate adverse effect) - Not recommended
P - Poor (unsatisfactory) - Little or no resistance to chemical

*only adverse effect was staining

NOTE: Reduced chemical resistance and staining is possible in pigmented versions of the system

MAINTENANCE

Allow floor coating to cure at least one week before cleaning by mechanical means (e.g., sweeper, scrubber, disc machine).

Care: Proper maintenance will increase the life and help maintain the appearance of your new Sherwin-Williams floor coating. Sweep and scrub your new coating regularly, as dirt and dust are abrasive and can quickly dull the finish, decreasing the life of your coating. Remove spills quickly as certain chemicals may stain and could possibly permanently damage the finish. Use soft nylon brushes or white pads on your new floor coating. Any brush more abrasive than a soft nylon or white pad can cause premature loss of gloss.

Caution: Avoid scratching or gouging the surface. All floor coatings will scratch if heavy objects are dragged across the surface. Do not drop heavy or pointed items on the floor as this may cause chipping or concrete popouts in the case of a weak cap. Rubber tires can permanently stain the floor coating from plasticizer migration. Plexiglass® between the tire and the floor coating can prevent discoloration. Rubber burns from quick stops and starts can heat the coating to its softening temperature, causing permanent marking.

Repair: Repair gouges or scratches or chip outs as soon as possible to prevent moisture or chemical contamination.

TINTING

Only tint with HPF Universal Colorants. Do not tint with GIS colorants. Use one pint of colorant per ~2.10 gallon kit of Parts A, B and C.

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.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet 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 your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

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.

PART A GP4640A01
PART B GP4640B01
PART C GP4640C01

**CLEAR
HARDENER
AGGREGATE**

Revised: March 7, 2025

PRODUCT INFORMATION

PRODUCT DESCRIPTION

RESUTILE HTS 100 is a clear, high solids, three-component, aliphatic, moisture-cure urethane applied over an epoxy primer or used to recoat an existing epoxy or urethane floor.

Advantages:

- LEED® v4 – Indoor Air Quality credits available - meets requirements per CDPH-CA Section 01350 Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental chambers Version 1.2.
- Lasts twice as long as standard urethanes; up to four times as long as standard epoxies
- Light stable, satin finish maintains fresh look in traffic aisles
- Resists Skydrol®, jet fuels and other industrial chemicals
- Low VOC (6 g/L). (Complies with SCAQMD VOC regulations.)

TYPICAL USES

- Hangar Floor
- Automotive manufacturing
- Mechanical Room
- Assembly / Production
- Packaging
- Clean Room / Lab

GENERAL INFORMATION

Use colorants at a rate of one unit per 1-gallon (3.78 litres) of Resutile HTS 100. Standard colorants: White, Yellow Sandy Beige will not impart total hide. Similar colorants also may not hide as well.

LIMITATIONS:

Contamination (Fisheyes): Product may fisheye if oil, silicones, mold release agents or other contaminants are present.

Chemical Resistance / Staining: Reduced chemical resistance and staining is possible in pigmented versions of the system.

ORDERING INFORMATION

~1 gallon (3.8L) mix:

Part A: 0.74 gallons (2.8L) in a gallon (3.8L) can
Part B: 0.20 gallons (0.8L) in a quart (0.9L) can
Part C: 4.04 lbs. (1.8kg) in a quart (0.9L) can

~2 gallon (7.6L) mix:

Part A: 1.48 gallons (5.6L) in a 5 gallon (18.9L) pail
Part B: 0.40 gallons (1.5L) in a 0.5 gallon (1.9L) can
Part C: 8.08 lbs. (3.7kg) in a 2 gallon (7.6L) can

~5 gallon (18.9L) mix:

Part A: 3.7 gallons (14L) in a 5 gallon (18.9L) pail
Part B: 1 gallon (3.8L) in a gallon (3.8L) can
Part C: 20.18 lbs. (9.2kg) in a 2 gallon (7.6L) can

PRODUCT CHARACTERISTICS

Color:	Clear
Mix Ratio:	1:1:1 by unit (see Ordering Information)
Volume Solids:	91.60%, mixed (ASTM D2369)
Weight Solids:	91.34%, mixed (ASTM D2369)
VOC (ASTM D3960):	<100 g/L ; 0.8 lb/gal

Recommended Spreading Rate per coat:

	Minimum	Maximum
Dry mils (microns)	3.0 (75)	3.0 (75)
~Coverage sq ft/gal (m²/L):	500 (12.3)	500 (12.3)

Drying Schedule:

	@ 60°F/16°C	@ 60°F/16°C	@ 75°F/24°C	@ 90°F/32°C	@ 90°F/32°C
	20% RH	80% RH	13% RH	20% RH	80% RH
Tack Free:	12-16 hours	12-16 hours	6.5 hours	3.5 hours	1.5 hours
Foot Traffic:	24 hours	24 hours	24 hours	24 hours	24 hours
Recoat Window:	Maximum: Up to 24 hours for all conditions				

Shelf Life: 12 months, unopened
Store indoors at 65°F (18°C) to 90°F (32°C)

PERFORMANCE CHARACTERISTICS

Test Name	Test Method	Results*
Abrasion Resistance	ASTM D4060, CS-17 wheel, 1000gm load, 1000 cycles	11.7 mg loss
Coefficient of Friction	ASTM D2047	0.61
Elongation	ASTM D2370	6%
Flammability	ASTM D635	182 mm/min
Koenig Hardness, 3 Mil Film (resin only)	ASTM D4366	171.3
Tensile Strength (resin only)	ASTM D2370	6,250 psi
Water Absorption, 24-hour immersion	ASTM C413	0.2% weight increase
Wet Static Coefficient of Friction, BOT 3000	ANSI/NFSI B101.1	0.94

*results are based on conditions at 77°F (25°C)

PART A GP4640A01
PART B GP4640B01
PART C GP4640C01

CLEAR
HARDENER
AGGREGATE

Revised: March 7, 2025

PRODUCT INFORMATION

SURFACE PREPARATION

CHECK THE TEMPERATURE AND HUMIDITY: Floor temperature and materials should be between 65°F (18°C) and 90°F (32°C). Humidity must be less than 80%. DO NOT coat unless floor temperature is more than five degrees over the current, local dew point.

CHECK FOR MOISTURE: Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. In-situ relative humidity testing is recommended. Readings must be below 75% relative internal concrete humidity. Test methods can be purchased at www.astm.org, see F2170, or follow manufacturer's instructions. If moisture issues are present, the use of a moisture mitigation system may be a consideration. Consult your Sherwin-Williams representative for further information / instructions.

NOTE: Although moisture testing is critical, it is not a guarantee against future problems. This is especially true if there is no vapor barrier or the vapor barrier is not functioning properly and/or you suspect you may have concrete contamination. Additional testing may be necessary to determine the vapor barrier and any contamination.

APPLICATION EQUIPMENT

- Protective clothing
- Jiffy® mixer blade
- Application tray
- Disc machine
- Slow speed drill (500 rpm or less)
- Roller assembly (18")
- Medium (3/8") nap roller
- 60 grit sandpaper
- 80 grit sandpaper

ASSEMBLE EQUIPMENT: Due to the limited pot life of the material, all application equipment, etc. should be ready for immediate use. (Clean roller with tape to remove any residual lint.)

APPLICATION INSTRUCTIONS

Recoat: Resutile HTS 100 may be used to coat over an existing epoxy or urethane in sound condition. Detergent scrub and rinse with clean water to remove surface dirt, grease, oil and contaminants. Floor must be sanded thoroughly with 80 grit paper/60 grit screen prior to recoating. If sanding a high wear urethane, use 60 grit paper as the filler in high wear urethanes will wear down the paper very quickly. Change the paper every 200 sq. ft. (18.6 m2) so abrasive stays sharp. We recommend thorough sanding with a swing-type buffer so that multiple scratch marks cause an obvious gloss loss on all areas (depressions will remain shiny), and the floor is uniformly dulled. The ability to see individual scratch marks is an indication that sanding is not adequate. Scrub with detergent and rinse with clean water before coating.

Resutile HTS 100 must be applied over a Sherwin-Williams' 100% solids epoxy primer.

Premix Part A for 3 minutes using a Jiffy mixer blade with slow speed drill. Pot Life: Mix only enough material which can be used in a two-hour period. Note: Once opened, this material cannot be resealed for later use.

Colors: Premix Sherwin-Williams colorant before adding to Resutile HTS 100 to ensure uniform color. Add colorant to Resutile HTS 100 Part A and mix using a Jiffy mixer blade and slow speed drill. Use colorants at a rate of one unit per 1-gallon (3.78 litres) unit of Resutile HTS 100.

Pour Part C into Part A while mixing. Continue to mix and add Part B. Mix for 3 minutes using a Jiffy mixer blade and slow speed drill. Pour into application tray.

Apply Resutile HTS 100 at the rate of 500 sq. ft./gallon (46.45 m2/3.78 litres) with a 3/8" nap roller. For proper appearance and development of physical properties, it is crucial that material is not applied above or below this rate. Dip the roller in the coating and lightly roll out excess in the application tray. Apply two 8-10 foot (2.4-3.0 meters) long paths on the concrete, making one stroke left to right and one right to left. Rewet the roller and apply two more paths adjacent to the first pair. Rewet roller and apply a third pair adjacent to the second.

Spread the material evenly with V-shaped cross passes.

Make sure the floor has just enough coating to cover evenly. Excess material could cause the floor to blister, especially in high humidity. Insufficient material will cause the floor to look non-uniform.

Level the area with straight passes that cross the initial material paths. These final strokes will reduce roller marks. If the appearance is not satisfactory, reroll the area.

Remix the material in the tray occasionally (with the roller) to prevent settling of the Part C (filler).

NOTE: When multiple applicators are used to apply material, inconsistencies between areas may result. To ensure a more uniform finish, an individual outfitted with spike shoes may finish by pushing or pulling a roller across all applicator areas.

Allow coating to dry 24 hours at 75°F (24°C), 50% relative humidity before opening to light traffic. Allow more time at low temperatures, low humidity or for heavier traffic. Full coating properties take 14 days to develop.

Revised: March 7, 2025

PRODUCT INFORMATION

CHEMICAL RESISTANCE

Reagent	1 Day	7 Days
Hydrochloric Acid 10%	E	E
Hydrochloric Acid 30% (Muriatic)	E	E
Nitric Acid 10%	E	E
Phosphoric Acid 50%	E	G
Sulfuric Acid 37% (Battery Acid)	E	E
Acetic Acid 10%	E	E
Citric Acid 10%	E	E
Oleic Acid	E	E
Ammonia Hydroxide 10%	E	E
Sodium Hydroxide 50%	E	E
Ethylene Glycol (Antifreeze)	E	E
Isopropyl Alcohol	E	E
Methanol	E	E
D-Limonene	E	E
JP-4 Jet Fuel	E	E
Gasoline	E	E
Mineral Spirits	E	E
Xylene	E	E
Methylene Chloride	P	P
MEK	E	E
PMA	E	E
Ammonium Nitrate 20%	E	E
Brake Fluid	E	E
Bleach	E	E
Motor Oil (SAE 30)	E	E
Skydrol® 500B	E	E
Skydrol® LD4	E	E
Sodium Chloride 20%	E	E
1% Tide® Laundry Soap	E	E
10% Trisodium Phosphate	E	E
Coffee	E	E
Coke®	E	E
Ketchup	E	E
Mustard	G*	G*
Red Wine	E	G*
3M™ DuraPrep™	G*	F
Purdue Betadine Solution	G*	G*

ASTM D1308 Test Method 3.1.1 spot test, covered. Results are based on 1-day and 7-day. Coating cured 2 weeks prior to testing.

E - Excellent (no adverse effect) - Recommended
G - Good (limited adverse effect) - Use for short-term exposure only
F - Fair (moderate adverse effect) - Not recommended
P - Poor (unsatisfactory) - Little or no resistance to chemical

*only adverse effect was staining

NOTE: Reduced chemical resistance and staining is possible in pigmented versions of the system

MAINTENANCE

Allow floor coating to cure at least one week before cleaning by mechanical means (e.g., sweeper, scrubber, disc machine).

Care: Proper maintenance will increase the life and help maintain the appearance of your new Sherwin-Williams floor coating. Sweep and scrub your new coating regularly, as dirt and dust are abrasive and can quickly dull the finish, decreasing the life of your coating. Remove spills quickly as certain chemicals may stain and could possibly permanently damage the finish. Use soft nylon brushes or white pads on your new floor coating. Any brush more abrasive than a soft nylon or white pad can cause premature loss of gloss.

Caution: Avoid scratching or gouging the surface. All floor coatings will scratch if heavy objects are dragged across the surface. Do not drop heavy or pointed items on the floor as this may cause chipping or concrete popouts in the case of a weak cap. Rubber tires can permanently stain the floor coating from plasticizer migration. Plexiglass® between the tire and the floor coating can prevent discoloration. Rubber burns from quick stops and starts can heat the coating to its softening temperature, causing permanent marking.

Repair: Repair gouges or scratches or chip outs as soon as possible to prevent moisture or chemical contamination.

TINTING

Only tint with HPF Universal Colorants. Do not tint with GIS colorants. Use two pints of colorant per small kit (~2.12 gallon mix). Use five pints of colorant per large kit (~5.30 gallon mix).

Standard colorants: White, Bright Yellow, Rotunda Red and Sandy Beige will not impart total hide. Similar colorants also may not hide as well.

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.

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet 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 your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

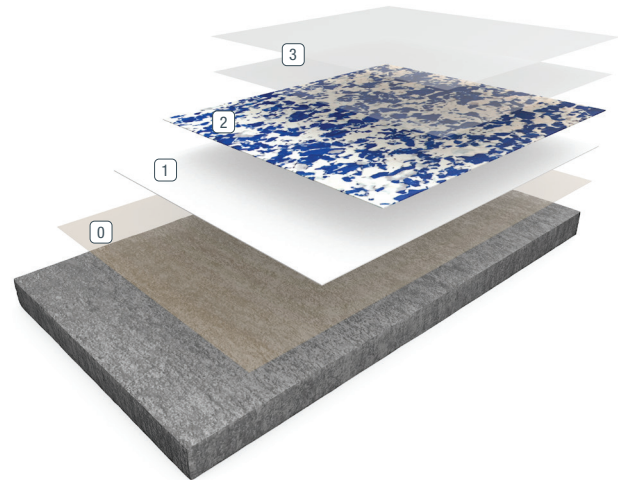
WARRANTY

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.

RESUFLOOR™ DECO FLAKE SB

Sherwin-Williams Resuflor Deco Flake SB

is a versatile, nominal 1/16th-inch thick, mosaic patterned floor covering. Decorative vinyl chips are incorporated with clear or pigmented epoxy and sealed with a clear polyurethane finish. The innovative chemistry imparts a finished floor with excellent chemical and abrasion resistance.



0 Primer

2 Broadcast

1 Basecoat

3 Grout/Seal Coat

BENEFITS

- Aesthetically pleasing appearance
- Limitless color options
- Seamless and sanitary
- Chemical- and stain-resistant
- Satin finish; high-gloss finish options
- Contributes to LEED® v4 credits

USES

- Nursing homes and healthcare facilities
- Clean rooms and pharmaceutical facilities
- Retail and office buildings
- Locker rooms and restrooms
- Schools and cafeterias



FEATURED COLORS



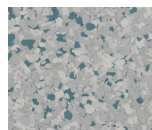
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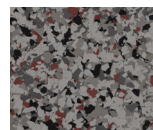
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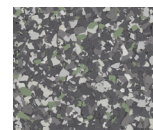
Almond Milk



Agave



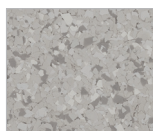
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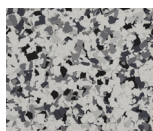
Korat



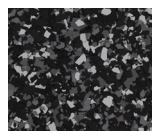
Chinchilla



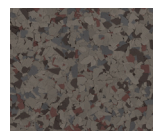
Limestone



Greyhound



Black Bean



Speckled Ash



Moon

Unlimited standard and custom blends available. Please see Resuflor Deco Flake SB Color Cards for the extensive collection of standard blends or use our Flooring Visualizer Tool to create your own custom blend at floorvisualizer.sherwin-williams.com. This reproduction approximates the actual color. Factors such as the type of product, degree of gloss, texture, size and shape of area, lighting, heat or method of application may cause color variance. Contact your Sherwin-Williams representative for details.

ABOUT CHEMICAL RESISTANCE

Sherwin-Williams High Performance Flooring offers a broad range of systems to accommodate nearly every industrial, commercial and institutional setting. Each flooring system includes a standard chemical-resistant topcoat or surface proven to perform under typical conditions.

Important considerations:

- The combination of cleaning solutions, sanitizing chemicals, processing substances and products found in any operational setting is unique.
- Knowing exactly which materials are present – as well as their concentrations and typical exposure times before cleanup – is critical for proper flooring system selection.
- During the specification process, a flooring system's standard chemical-resistant topcoat may get replaced with one better suited to unique facility conditions.

The ability of a flooring system to perform as designed relies heavily on proper selection. Matching each use case with the right chemical-resistant flooring is key to a having a facility looking great and functioning at peak level over the long term.

See our chemical resistance Guide and other technical resources on our website. Connect with a Sherwin-Williams High Performance Flooring expert for help with specifying an optimal flooring system for your facility.

TYPICAL PHYSICAL PROPERTIES

Color	Custom Color Blends Available
Abrasion Resistance ASTM D4060, CS-17 Wheel, 1,000 cycles	18 mg/loss Result based on independent lab testing of Resutile HTS
Adhesion ASTM D4541	450 psi concrete failure
Adhesion ASTM D7234	732 psi concrete failure
Flammability ASTM D635	182 mm/min
Flammability ASTM C = Mortar System ASTM D = Resin only	Self-Extinguishing over concrete

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

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High Performance Flooring
HPF-1697217-24 1/25

RESULFLOR™ DECO FLAKE SB

The following information is to be used as a guideline for the installation of the Resulflor Deco Flake SB flooring system. Contact the Sherwin-Williams Technical Service Department for assistance prior to application.

APPLICATION INFORMATION – SURFACE PREP PROFILE CSP 1-3

VOC MIXED	APPLICATION STEP	MATERIAL	MIX RATIO	THEORETICAL COVERAGE PER COAT OVER CONCRETE	PACKAGING
<50 g/L	Primer	MPE	2:1	321-535 sq ft/gal	3, 15, 165 or 750 gals
<50 g/L 0	Body Coat	MPE 6750/6755	2:1 To Excess	133-160 sq ft/gal 100-200 lbs/1,000 sq. ft.	3, 15, 165 or 750 gals 25 lbs
<50 g/L	Grout Coat	UVE	2:1	107 sq ft/gal	15 gals
<50 g/L	Seal Coat	HTS 100	Pre-Measured Kit	535 sq ft/gal	1.09 or 5.5 gals

ALTERNATE SYSTEM #1

VOC MIXED	APPLICATION STEP	MATERIAL	MIX RATIO	THEORETICAL COVERAGE PER COAT OVER CONCRETE	PACKAGING
<50 g/L	Grout Coat	UVE	2:1	107 sq ft/gal	15 gals
<50 g/L	Seal Coat	UVE	2:1	200 sq ft/gal	15 gals

ALTERNATE SYSTEM #2

VOC MIXED	APPLICATION STEP	MATERIAL	MIX RATIO	THEORETICAL COVERAGE PER COAT OVER CONCRETE	PACKAGING
<50 g/L	Grout Coat	4850	2:1	125-200 sq ft/gal	3 or 15 gals
<50 g/L	Seal Coat	4850	2:1	150-200 sq ft/gal	3 or 15 gals

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 Resulflor Deco Flake SB. 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 system compatible filler. For recommendations, consult the Sherwin-Williams Technical Service Department.

TEMPERATURE

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

For additional topcoat options, consult the Sherwin-Williams Topcoat Selection Guide or contact your Sherwin Williams representative.

PRIMER

MIXING AND APPLICATION – RESUFLO MPE

A thin coat of primer will wet out concrete, help seal off concrete pores and minimize outgassing bubbles. Apply a tight coat of primer with a clean, flexible squeegee. Backrolling is not recommended. There should be no mil build over the high spots of the concrete.

COVERAGE RATE: Much of this will soak into porous concrete. One gallon of Resuflo MPE will cover:

535 sq. ft. at 3 mils wet/dry film

400 sq. ft. at 4 mils wet/dry film

321 sq. ft. at 5 mils wet/dry film

PREMIX PART A using a Jiffy® mixer blade and slow speed drill. (This is required for both 3-gallon and full-filled 5-gallon containers). **COLORS:** Premix colorants to ensure uniform color. Colorant is added to the Part A and mixed using a Jiffy® mixer blade and slow speed drill.

NOTE: When using colorant in bulk units, add the colorant to the Part A that has been measured into the “mixing pail.” Pre-pigment the primer with the same color as the seed coat of Resuflo MPE to help with hide.

ADD RESUFLO MPE PART B TO PART A (3 GALLONS). Add one gallon of part B to two gallons of part A. **POTLIFE:** Mix only enough material that can be applied within the work time (time between the addition of Part B to Part A and the completion of all application actions). Check the following chart for work times at various temperatures. For smaller quantities, use 2 parts PART A to 1 part PART B by volume.

APPROXIMATE WORK TIME

65°F	70°F	75°F	80°F	90°F
40 min	30 min	25 min	20 min	15 min

MIX FOR 2 MINUTES using a Jiffy® mixer blade and slow speed drill. (Failure to do so could result in lower/diminished coating properties)

IMMEDIATELY POUR ALL OF THE MIXED MATERIAL onto the floor in a single bead.

PUSH THE FLAT SQUEEGEE at an even speed with sufficient down pressure to apply the thinnest coat. **NOTE:** The use of spiked shoes will allow freedom of movement on the wet floor. **CAUTION:** The surface will be slippery.

START THE SECOND AND REMAINING PASSES by pushing material parallel to the first stroke. Hold the bead of material near the center of the bar.

NOTE: Resuflo MPE applied thin may “bridge” holes and cracks momentarily before soaking in – make sure the previously squeegeed area is overlapped (halfway).

TO REDUCE OUTGASSING BUBBLES, it is best to wait until the primer has set up enough to walk on before applying the basecoat of Resuflo MPE. The primer must be coated within 24 hours at floor temperatures 65°F-90°F.

BASE COAT

MIXING AND APPLICATION - RESUFLO MPE

COVERAGE RATE: One gallon of Resuflo MPE will cover:

160 sq. ft. at 10 mils wet/dry film

145 sq. ft. at 11 mils wet/dry film

133 sq. ft. at 12 mils wet/dry film

REPEAT STEPS used for mixing and spreading of the primer coat.

A notched squeegee can be used to increase the thickness applied.

NOTE: As this is a single broadcast of flake, pigment the basecoat of Resuflo MPE the same color as the primer to help with hide.

Immediately after the Resuflo MPE is applied and there is room to roll, a second person will **BACKROLL THE MATERIAL** with a 3/8” roller to a smooth and uniform appearance. **NOTE:** Get off the Resuflo MPE as soon as possible.

APPLICATION – DECORATIVE FLAKE

IMMEDIATELY BROADCAST TO EXCESS WITH DECORATIVE FLAKE into the uncured Resuflo MPE resin on the floor. Do not dump or pile the material. Gently scatter it onto the floor by hand tossing, so as to cover the wet resin completely. **NOTE:** It is important that epoxy is not visible (no wet or shiny areas) after flake settles, because any visible epoxy will yellow.

A coverage rate of 0.2 pounds per sq. ft. of flake is recommended.

ALLOW SYSTEM TO CURE 8-10 hours at 75°F.

THOROUGHLY SWEEP AND VACUUM to remove loose colored flake from surface. **NOTE: DO NOT** save and reuse swept and vacuumed colored flake unless you have taken extra precautions.

GROUT COAT

MIXING AND APPLICATION – RESUFLO UVE

COVERAGE RATE: A gallon of Resuflo UVE will cover:

107 sq. ft. at 15mils wet/dry film

100 sq. ft. at 16 mils wet/dry film

PREMIX PART A using a Jiffy® mixer blade and slow speed drill. Pour out 2 gallons into a measuring container. Then, pour the measured Part A into a mixing pail.

ADD RESUFLO UVE PART B TO PART A (3 GALLONS TOTAL MIX). Add one gallon of part B to two gallons of part A.

POTLIFE: Mix only enough material that can be applied within the work time (time between the addition of Part B to Part A and the completion of all application actions). Check the following chart for work times at various temperatures. For smaller quantities, use 2 parts PART A to 1 part PART B by volume.

APPROXIMATE WORK TIME

65°F	70°F	75°F	80°F	90°F
50 min	40 min	35 min	30 min	25 min

MIX FOR 2 MINUTES using a Jiffy® mixer blade and slow speed drill. (Failure to do so could result in lower/diminished coating properties)

IMMEDIATELY POUR ALL OF THE MIXED MATERIAL onto the floor in a single bead.

PUSH THE FLAT SQUEEGEE at an even speed and down pressure to apply the desired thickness. **NOTE:** The use of spiked shoes will allow freedom of movement on the wet floor.

BACKROLL THE MATERIAL with a 3/8" nap roller for a smooth uniformed appearance. Backrolling is required to remove the puddles and squeegee lap marks in order to obtain uniform texture and a consistent mil thickness. **NOTE:** Get off the Resuflo UVE as soon as possible.

Resuflo UVE must be topcoated with Resutile HTS 100 at floor temperatures of 65°F-90°F within 24 hours.

SEAL COAT

MIXING AND APPLICATION – RESUTILETM HTS 100

NOTE: The topcoat of Resutile HTS 100 must be applied after the Resuflo UVE has set up enough to walk on and within 24 hours. Resuflo HTS 100 applied outside of these window will not adhere unless the Resuflo UVE is sanded and cleaned prior to application.

PREMIX PART A FOR 3 MINUTES USING A JIFFY® MIXER BLADE with slow speed drill. **POTLIFE:** Mix only enough material that can be used in a two-hour period.

NOTE: Once opened, this material cannot be resealed for later use.

POUR PART C INTO PART A while mixing.

CONTINUE TO MIX AND ADD PART B.

MIX FOR 3 MINUTES using a Jiffy® mixer blade and slow speed drill. Pour into application tray.

APPLY RESUTILE HTS 100 at the rate of 535 sq. ft./gallon with a 3/8" nap roller. For proper appearance and development of physical properties, it is crucial that material is not applied above or below this rate. Dip the roller in the coating and lightly roll out excess in the application tray. Apply two 8-10 foot long paths on the concrete, making one stroke left to right and one right to left. Rewet the roller and apply two more paths adjacent to the first pair. Rewet roller and apply a third pair adjacent to the second.

SPREAD THE MATERIAL evenly with V-shaped cross passes.

MAKE SURE THE FLOOR HAS JUST ENOUGH COATING TO COVER EVENLY. Excess material could cause the floor to blister, especially in high humidity. Insufficient material will cause the floor to look non-uniform.

LEVEL THE AREA with straight passes that cross the initial material paths. These final strokes will reduce roller marks. If the appearance is not satisfactory, reroll the area.

REMIX THE MATERIAL in the tray occasionally (with the roller) to prevent settling of the Part C (filler).

NOTE: When multiple applicators are used to apply material, inconsistencies between areas may result. To ensure a more uniform finish, an individual outfitted with spike shoes may finish by pushing or pulling a roller across all applicator areas.

ALLOW COATING TO DRY 24 HOURS at 75°F, 50% relative humidity, before opening to light traffic. Allow more time at low temperatures, low humidity or for heavier traffic. Full coating properties take 14 days to develop.

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 all Safety Data Sheets 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°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.

United States & Canada

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DECO FLAKE - 1/8" FLAKE

RESILIENT DECORATIVE FLOORING

Deco Flake systems combine multi-colored vinyl chips with resin to bring depth and interest to floor designs. The chips can be fully broadcast or lightly sprinkled as an accent. These affordable, attractive and customizable resinous floor solutions are ideal for educational, healthcare, retail and other commercial environments.



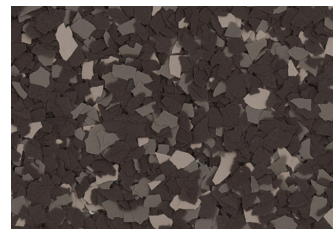
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Plover



Ocelot



Burnt Wood



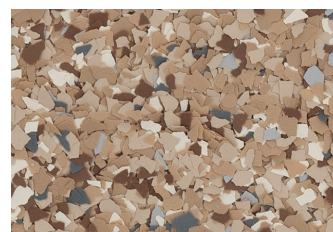
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Moose



Pretzel



Kiwi Skin



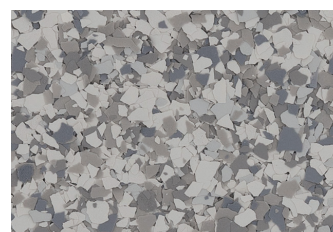
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Limestone



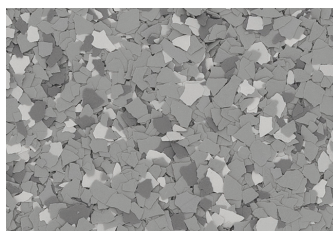
Chinchilla



Mountain Fog



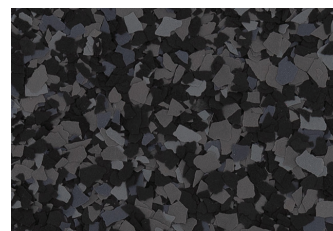
Husky Gray



Gray Parrot



Black Diamond



Castlerock

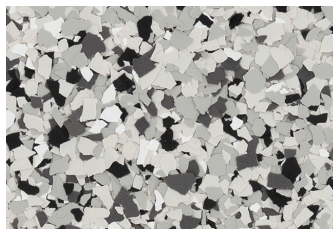
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DECO FLAKE - 1/8" FLAKE

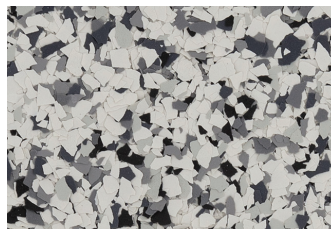
RESILIENT DECORATIVE FLOORING



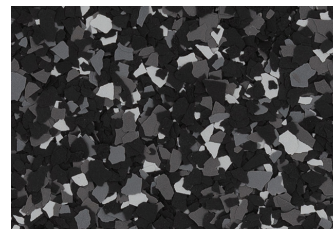
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Mackerel



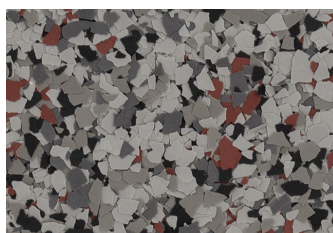
Grayhound



Black Bean



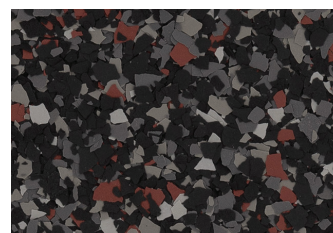
Cherry Cordial



Kingsnake



Speckled Ash



Black Quinoa



Bottlenose



Gneiss



Meteorite



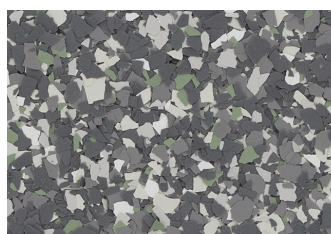
Tungsten



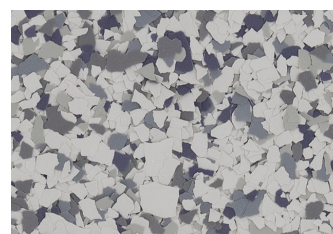
Agave



Siltstone



Korat



Rhino

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DECO FLAKE - 1/4" FLAKE

RESILIENT DECORATIVE FLOORING

Deco Flake systems combine multi-colored vinyl chips with resin to bring depth and interest to floor designs. The chips can be fully broadcast or lightly sprinkled as an accent. These affordable, attractive and customizable resinous floor solutions are ideal for educational, healthcare, retail and other commercial environments.



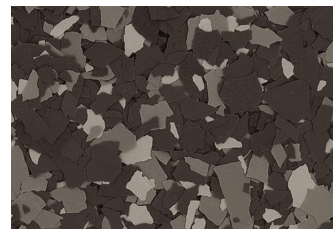
Almond Milk



Plover



Ocelot



Burnt Wood



Flaxseed



Moose



Pretzel



Kiwi Skin



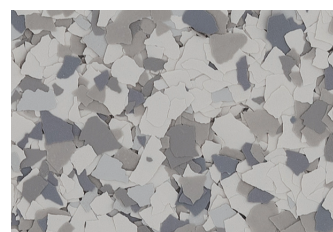
Moon



Limestone



Chinchilla



Mountain Fog



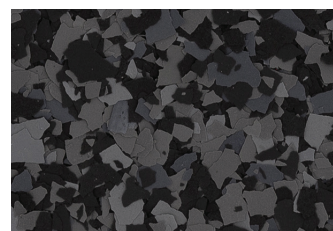
Husky Gray



Gray Parrot



Black Diamond

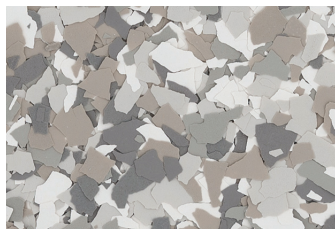


Castlerock

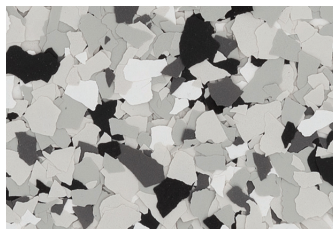
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DECO FLAKE - 1/4" FLAKE

RESILIENT DECORATIVE FLOORING



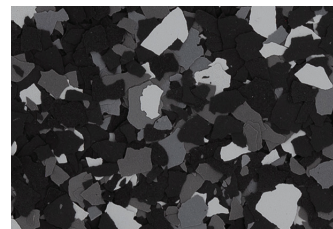
Gray Squirrel



Mackerel



Grayhound



Black Bean



Cherry Cordial



Kingsnake



Speckled Ash



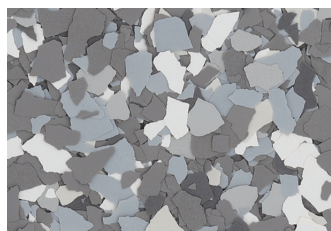
Black Quinoa



Bottlenose



Gneiss



Meteorite



Tungsten



Agave



Siltstone



Korat



Rhino

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GUIDELINE INSTRUCTIONS FOR CONCRETE SURFACE PREPARATION (FORM G-1, REVISED 04/25)

INTRODUCTION

The following concrete surface preparation guidelines serve as an aid to owners, design professionals, specifiers and contractors. All surfaces to receive Sherwin-Williams High Performance Flooring sealers, coatings, mortars and resurfacers must be structurally sound and clean. Proper surface preparation is an extremely important factor in the immediate and long-term successful performance of applied polymer floor or wall systems.

The contractor responsible for the installation of the polymer system shall be provided a substrate that is clean, durable, flat, pitched to specifications and free of surface contaminants. Providing the properly prepared substrate is the responsibility of the owner, the owner's appointed representative and the concrete contractor, unless specifically stated otherwise.

PROPER SURFACE PREPARATION

Proper surface preparation includes the following:

1. Inspection of the concrete substrate
2. Removal and replacement of non-durable concrete
3. Decontamination of the concrete surface
4. Creation of surface profile
5. Repair of surface irregularities

- 1. Inspection of the concrete substrate** to determine its general condition, soundness, presence of contaminants, presence of moisture vapor emissions and the best methods to use in preparation of the surface to meet the requirements of the owner or the owner's appointed representative is critical. A proper evaluation will lead to the selection of the proper tools and equipment to accomplish the objective.
- 2. Removal and replacement of non-durable concrete** must be accomplished prior to installation of the polymer system. Localized weak or deteriorated concrete must be removed to sound concrete and replaced with either cementitious or polymer concrete repair mortars or an engineered concrete mix design. For application of these systems and compatibility with the selected polymer sealer, coating, lining or topping, refer to the appropriate application guide or the Technical Service Department. Occasionally, plain fresh concrete is required and must be bonded to existing concrete. When bonding fresh concrete to existing, prepare the existing concrete surface by scabbling, scarifying, abrasive (sand) blasting, needle scaling, high-pressure water jetting (5,000-45,000 psi), or steel shot blasting. Apply a low modulus epoxy as the bonding agent at a rate of 80 square feet per gallon for a WFT of 20 mils, and then place the fresh concrete or mortar. Bonding to lightweight concrete may require a second coat of epoxy if the first coat is readily absorbed into the concrete surface. Always place the fresh concrete within the open time of the epoxy, while the epoxy-bonding agent is still wet. Rough concrete surfaces will require additional material depending on the surface profile. Fresh concrete should have a low water/cement ratio (w/c) not to exceed 0.40. When bonding fresh concrete containing latex polymer admixtures, check compatibility of the latex modified concrete mixture by either installing a test patch and performing a pull-off test, or by conducting a slant shear test in accordance with ASTM C882 in an independent concrete testing laboratory.

3. Decontamination of the concrete surface requires the removal of oils, grease, wax, fatty acids and other contaminants, and may be accomplished by the use of detergent scrubbing with a heavy duty cleaner/degreaser, low-pressure water cleaning (less than 5,000 psi), steam cleaning or chemical cleaning. The success of these methods is dependent upon the depth of penetration of the contaminant, which is completely dependent upon the contaminant's viscosity, the concrete's permeability and the duration of exposure. Special care should be taken when preparing concrete at an "in use" facility for repair, replacement or an initial floor topping. This is especially true for food processing facilities. Contaminants can be carried into exposed concrete, as most of these facilities use copious amounts of water. The contaminants can be animal fats/oils, blood, cleaning solutions, microbes, etc. They may not be completely removed during preparation (shot blasting or grinding) even though the concrete may appear clean and well profiled.

A simple method to ensure you have sound concrete is to test the pH. The chemistry of concrete is alkaline in nature. Normal concrete should be in the range of 11-13. Most of the contaminants mentioned are neutral to acidic in nature. After preparation, test the floor in multiple locations using distilled water and the pH paper. If the pH is 10 or lower, additional preparation will be required to ensure a good bond. In areas where the contaminants cannot be removed, the contaminated concrete must be removed and replaced as in Step 2 above.

Caution: Decontamination methods that introduce large amounts of water may contribute to moisture-related problems as referenced in APPENDIX A.

4. Creation of surface profile can be accomplished by a number of methods, each utilizing a selection of tools, equipment and materials to accomplish the intended purpose (See METHODS OF SURFACE PREPARATION below). Selection is dependent upon the type of surface to be prepared and the type of system to be installed. In addition, floors, walls, ceilings, trenches, tanks and sumps each have their own particular requirements. The type and thickness of the selected polymer system also plays an important role in the selection process. Regardless of the method selected or tools employed, we must provide a surface that will accept the application of polymer-based products and allow the secure mechanical bond of the polymer to the concrete. The type of service the structure will be subjected to will also help to define the degree of profile required. The surface profile is the measure of the average distance from the peaks of the surface to the valleys as seen through a cross-sectional view of the surface of the concrete.

This dimension is defined pictorially and through physical samples in the ICRI Technical Guideline No. 310.2, and is expressed as a Concrete Surface Profile number (CSP 1-10).

- For Sherwin-Williams High Performance Flooring coating and sealing applications from 4-15 mils in thickness, the surface profile shall be CSP 1, 2 or 3, typically accomplished through decontamination of the concrete surface as defined in Step 3 above, followed by acid etching, grinding or light shot blast.
- For Sherwin-Williams Resufloor™ Topfloor and other coating applications from 15-40 mils in thickness, the surface profile shall be CSP 3, 4 or 5, typically accomplished through decontamination of the concrete surface as defined in Step 3 above, followed by light shot blast, light scarification or medium shot blast.
- For Sherwin-Williams Resufloor Deco Quartz, Resufloor Topfloor SL23, Resufloor Topfloor SL12 SD, Resufloor Topcoat Metallic, Resufloor Aqua Topfloor, Resufloor Aqua MCS, Poly-Crete® SLB and other topping applications from 40 mils-1/8", the surface profile shall be CSP 4, 5 or 6. These are typically accomplished through decontamination of the concrete as defined in Step 3 above, followed by light scarification, medium shot blast or medium scarification.
- For Sherwin-Williams terrazzo systems, Resufloor Screed, Poly-Crete MD, Poly-Crete HF and other topping applications greater than 1/8", the surface profile shall be CSP 5, 6, 7, 8 or 9. These are typically accomplished through decontamination of the concrete as defined in Step 3 above, followed by medium shot blast, medium scarification, heavy abrasive blast, scabbling or heavy scarification.

5. Repair of surface irregularities including bugholes, spalls, cracks, deteriorated joints, slopes, areas near transition zones such as around drains and doorways, etc., must be repaired prior to the placement of the polymer system and/or the system must be designed to offset the thickness of the irregularities. For removal and replacement information and materials, refer to Step 2 above. For bugholes and other minor surface irregularities, fill with epoxy quick patch Resuflor 3500, Resuflor 3513 Instant Patch Resin or the system resin mixed with a vertical grade aggregate. For treatment of cracks and joints, refer to the section below entitled "Crack Isolation." For additional questions, contact the Technical Service Department or your local sales representative for specific recommendations.

For specific applications, always consult Sherwin-Williams System Overviews, Application Guides, data sheets or a Technical Service representative.

METHODS OF SURFACE PREPARATION

Depending upon conditions of the concrete, one or more methods of surface preparation may be required. It is common for decontamination to precede mechanical preparation, and if necessary a second decontamination to follow.

The preferred methods for creation of a surface profile, including the removal of dirt, dust, laitance and curing compounds, are steel shot blasting, abrasive (sand) blasting or scarifying. The steel shot blasting or vacuum blasting process is commonly referenced by equipment brand names, such as Blastrac, Vacu-Blast, Shot-Blast, etc. Vertical and overhead surfaces, such as cove base, wall and ceiling surfaces, shall be prepared utilizing methods of grinding, scarifying, abrasive (sand) blasting, needle scaling, high-pressure water jetting (5,000-45,000 psi) or vertical steel shot blasting.

Caution: The use of high-pressure water jetting will introduce large amounts of water, which may contribute to moisture-related problems as referenced in APPENDIX A. The following table provides a guide for the degree of surface profile required for the coating or overlay to be applied and the preparation methods used to generate each profile.

APPLICATION	PROFILE	SURFACE PREPARATION METHOD
SEALERS	0-3 mils	Detergent Scrub Low-pressure Water Acid Etching (not recommended) Grinding
THIN FILM	4-10 mils	Acid Etching (not recommended) Grinding Abrasive Blast Steel Shot Blast
HIGH-BUILD	10-40 mils	Abrasive Blast Steel Shot Blast Scarifying

APPLICATION	PROFILE	SURFACE PREPARATION METHOD
SELF-LEVELING	50 mils-1/8 inch	Abrasive Blast Steel Shot Blast Scarifying
POLYMER OVERLAY	1/8-1/4 inch	Abrasive Blast Steel Shot Blast Scarifying Needle Scaling High/Ultra-High Pressure Water Jetting Scabbling Flame Blasting Milling/Rotomilling

Surfaces to receive the bonded polymer system must be inspected after the surface is prepared to ensure that the substrate is sound and structurally durable. Areas found to be unsound or non-durable must be removed and replaced as described in Step 2 above. Dust or other deleterious substances not removed after the initial surface preparation must be vacuumed, leaving the surface dust free and clean.

Other surface preparation methods are mentioned in **Additional Surface Preparation References** below.

CRACK ISOLATION

The performance of elastomeric products such as Resuflor 3555 or Resuflor EOC internally flexible epoxy requires a relatively uniform dry film thickness to resist drying shrinkage and thermal movement of the concrete while maintaining a seamless bridge or seal over the concrete. Therefore it is critical that all mortar splatter, protrusions, ridges, penetrations or sharp projections in the surface of the concrete be ground smooth or otherwise made smooth, in addition to the normal surface preparation outlined above.

Prior to application of an elastomeric system, control/contraction joints, construction joints and cracks should be sealed with the selected system flexible sealant, i.e., Resuflor 3580 joint and crack filler. This coating should extend a minimum of 6" on either side of the joint or crack. The entire surface area should then receive the specified crack isolation system. Isolation and/or expansion joints should be detailed in accordance with the plans and specifications of an architectural or engineering design professional for the type of structure being considered. Consult the Technical Service Department for the proper selection and use of isolation materials and the potential use of fiberglass scrim cloth for additional crack bridging capabilities.

Note: Sherwin-Williams High Performance Flooring systems can be applied to a variety of substrates if the substrate is properly prepared. Preparation of surfaces other than concrete or steel, such as wood, concrete block, brick, quarry tile, glazed tile, cement terrazzo, vinyl composition tile, plastics and existing polymer systems, can be accomplished to receive bonded polymer sealers, coatings or toppings. For questions regarding a substrate other than concrete or steel, or a condition not mentioned in this Guideline, contact the Technical Service Department prior to starting the project.

ADDITIONAL SURFACE PREPARATION REFERENCES

Important and relevant information on surface preparation of concrete is available by referencing the following codes, standards and guidelines.

ADDITIONAL SURFACE PREPARATION REFERENCES	
AMPP	Association for Materials Protection and Performance, 800 Trumbull Drive, Pittsburgh, PA 15205, (412) 281-2331 - SSPC-SP 13 Surface Preparation of Concrete - SSPC-TU 2/NACE 6G197 Design, Installation, and Maintenance of Coating Systems for Concrete Used in Secondary Containment
ICRI	International Concrete Repair Institute, 38800 Country Club Drive, Farmington Hills, MI 48331, (248) 848-3809 - Technical Guideline No. 310.2, "Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays" Includes visual standards to act as a guide in defining acceptable surface profiles for the application of industrial coatings and polymer floor toppings. - Technical Guideline No. 03730, "Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion"
ASTM	American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, (610) 832-9585 - ASTM D4258 "Practice for Surface Cleaning Concrete for Coating" - ASTM D4260 "Standard Practice for Acid Etching Concrete" - ASTM D4261 "Practice for Surface Cleaning Unit Masonry for Coating" - ASTM D4262 "Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces"

APPENDIX A: TESTING FOR MOISTURE VAPOR EMISSION FROM CONCRETE

Excess moisture in concrete can produce harmful effects of discoloration, interruption of the polymerization of products, and delaminating of non-permeable resinous systems. Sources of moisture fall into three distinct categories: moisture present at the surface prior to or during application, moisture within the concrete that attempts to escape during and after application and a distinct source of moisture in intimate contact with the concrete that provides a continuous supply of moisture. Avoiding moisture-related problems and understanding the options available for remediation once they occur is important. Detecting moisture in concrete may be accomplished by employing a number of methods briefly described below:

Relative Humidity Method BS 8201 and BS 5325 - These are British Standards that result in pass/fail of whether or not moisture is being emitted, but do not quantify the results. This is not a useful test.

Gel-B Bridge Test - This test measures electrical resistance of the concrete, but is dependent not only on the moisture content of the concrete, but also on the other constituents of the concrete. Calibration of the results obtained with this method depend on knowing the mix design of the concrete and the raw material used. At best it is a difficult interpretation.

Radio Frequency (Capacitance-Impedance) Method - This method relies on portable electronic moisture meters that transmit strong radio waves that are absorbed by water. Calibration of the results obtained with this method depends on knowing the mix design of the concrete and the raw material used.

Carbide-Acetylene Test - This destructive test tells us nothing about the relative movement of moisture out of the concrete. It only quantifies that the portions of concrete removed and tested contain a measured content of moisture.

ASTM F2170-02 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes -

The test method, modeled after the process used in Europe for several years, requires drilling holes at a diameter of 5/8" to a depth equal to 40% of the slab's thickness. The hole is then lined with a plastic sleeve, capped and allowed to acclimate for 72 hours. The probe is placed in the sleeve, allowed to equilibrate for 30 minutes, and then readings are recorded.

Acceptable relative humidity readings for substrates receiving non-permeable flooring are 80% or lower. Testing should take place in an acclimated building and is required to equal three tests in the first 1,000 square feet, with one additional test per each additional 1,000 square feet of concrete slab surface. This test method is less subject to conditions occurring at the concrete surface that may influence calcium chloride test results. This method only defines existing moisture content of the sample and cannot address moisture vapor transmission.

ASTM D4263 - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method - This qualitative method will indicate the presence of moisture movement, but it will not quantify the amount of moisture movement and is only useful in determining whether additional testing is required.

ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride Moisture Emissions Test - Originally developed by the Rubber Manufacturers Association, moisture vapor test kits use anhydrous calcium chloride to make a quantitative evaluation of vapor emissions from the concrete. To determine the amount of moisture movement, the floor and surrounding environment must be in the anticipated service condition. The test must be conducted over raw exposed concrete which has been exposed to the environment for at least 24 hours. A quantitative evaluation is conducted wherein the anhydrous calcium chloride container and contents are pre-weighed on a gram scale, allowed to remain in its container with the lid removed, and the container placed under a sealed dome to prevent loss of moisture for a period of 60-72 hours.

Three tests are required for the first 1,000 square feet, with one additional test for every 1,000 square feet or fraction thereafter. The container is removed and again weighed on a gram scale to determine the weight gain of the anhydrous calcium chloride. A calculation is performed to determine the amount of moisture absorbed. These results are quantified as the rate of moisture vapor transmission expressed as pounds per 1,000 square feet of surface area per 24 hours. Sherwin-Williams High Performance Flooring has adopted a commonly accepted value for application of polymer coatings or toppings to be not more than 3 pounds of moisture per 1,000 square feet per 24 hours.

Moisture content and moisture movement are merely snapshots in time of dynamic conditions within the concrete. Moisture vapor movement is dependent upon the relationship between temperature and humidity of the two adjacent environments — in this case, the internal environment of concrete and the external environment of the air surrounding the concrete. Any change in temperature and/or moisture content of either will result in a change in vapor pressure and the attempted movement of moisture vapor into or out of the concrete as referenced below.

It is the combination of temperature and humidity (called vapor pressure) that determines the direction of moisture movement. Moisture will move from a higher vapor pressure to a lower vapor pressure. When there is air movement over the surface of the concrete, moisture will attempt to move out of the concrete toward the area of air movement. For these reasons, it is important to measure the temperature and relative humidity during the test period. The Moisture Vapor Test Kit values will not be useful in predicting possible problem areas unless the tests are conducted in the environment in which the structure will be used. The air temperature and humidity around the concrete during the test should be the same air temperature and humidity that will be in place during the useful life of the structure. Contact the Technical Service Department if there are any questions concerning the use of the test kits or interpretation of the results.

To successfully and predictably reduce moisture vapor emission rates, apply one of the following remediation systems:

- Poly-Crete SLB
- Resuflor Aqua MCS
- Resuprime™ MVB, MVP, MVP3

Consult with the Technical Service Department for specific recommendations and utilize in accordance with application instructions. For slabs with potential moisture issues, utilizing systems that are designed to accommodate moisture movement from the slab such as Poly-Crete SLB, Resuflor Aqua and Resuprime MVB, MVP or MVP3 may be the most cost-effective alternative. Whenever moisture issues present themselves on a project, document the conditions, inform the owner representative and consult with Sherwin-Williams High Performance Flooring Technical Service personnel.

Note: The industry standard for curing concrete is 28 days. This is usually sufficient to allow excess moisture to leave a concrete slab. To minimize moisture-related disbondment, new concrete should be allowed to cure 28 days before installation of Sherwin-Williams High Performance Flooring non-permeable resinous flooring systems. If any doubts exist concerning moisture in the slab, Calcium Chloride and/or Humidity tests should be run to document the presence of moisture.

DEW POINT CALCULATION CHART (FAHRENHEIT)

% RELATIVE HUMIDITY	AMBIENT AIR TEMPERATURE °F										
	20	30	40	50	60	70	80	90	100	110	120
90	18	28	37	47	57	67	77	87	97	107	117
85	17	26	36	45	55	65	75	84	95	104	113
80	16	25	34	44	54	63	73	82	93	102	110
75	15	24	33	42	52	62	71	80	91	100	108
70	13	22	31	40	50	60	68	78	88	96	105
65	12	20	29	38	47	57	66	76	85	93	103
60	11	19	27	36	45	55	64	73	83	92	101
55	9	17	25	34	43	53	61	70	80	89	98
50	6	15	23	31	40	50	59	67	77	86	94
45	4	13	21	29	37	47	56	64	73	82	91
40	1	11	18	26	35	43	52	61	69	78	87
35	-2	8	16	23	31	40	48	57	65	74	83
30	-6	4	13	20	28	36	44	52	61	69	77

TESTING

Testing for an Existing Sealer

Test to see if the floor is “sealed” by using the Water Break Test; please refer to ASTM 3191. If the poured water forms into droplets, then an existing sealer and/or paint may exist on the surface and must be removed by diamond grinding, steel shot blasting or other mechanical methods.

Salt Contamination Testing

Salt contaminated slabs that contain steel reinforcement are very susceptible to corrosion of the reinforcing steel. As the steel corrodes, it expands, causing cracking, delamination of concrete and any toppings bonded to it, and eventually, structural failure of the slab. Obvious signs of chloride or salt contamination are spalled concrete with exposed, rusted, reinforcing steel.

METHODS OF SURFACE PREPARATION

Diamond Grinding

Diamond grinding is another preferred choice for preparing concrete for polymer floor systems. Diamond grinders are floor grinders equipped with diamond abrasives. With multiple grit options available, they are capable of achieving a wide range of concrete surface profiles appropriate for most resinous flooring systems. Additionally, diamond grinding is used for mechanically profiling and removing existing coatings and adhesives. Immediately after diamond grinding, vacuuming is required to remove all dust from the substrate.

Hand Tool

Hand tool preparation consists of the use of mechanical tools and equipment designed to abrade or chip away the surface of the concrete. Common tools available include chipping hammers, handheld diamond grinders and concrete crack chasing saws. These tools are typically used to make keyways and prepare edges against walls and columns.

TYPES OF SUBSTRATES

Fiber-Filled Concrete

Fiber-filled concrete must be burned with a propane weed burner, swept and vacuumed perfectly clean, and then primed. When primer has completely cured, the floor must be sanded and tack ragged (This step may not be necessary for thick resurfacing systems).

Quarry/Ceramic Tile

Quarry/ceramic tile have been successfully resurfaced on many projects without the removal of the tile and setting bed. A site investigation along with cores through the entire slab will help identify the type of setting bed, the existence of any waterproofing membranes, additional toppings, or other unusual existing conditions. Water trapped within the floor will create long-term sanitation and performance problems.

If the tile is well bonded and placed over an unsaturated latex setting bed, the floor may be resurfaced. Please consult with a Sherwin-Williams Technical Service Representative to determine appropriate mechanical surface prep method, fillers and products.

Existing Epoxy Coating/Resurfacer

Existing seamless floors may be resealed or resurfaced from time to time due to excessive wear, or the need to change the appearance or skid resistance of the floor. The existing floor should first be cleaned and degreased with either EZ-Clean floor cleaner/degreaser or Simoniz 969 cleaner. It must then be mechanically abraded to totally remove the gloss and vacuumed perfectly clean. "Tack rag" area to remove remaining dust. Consult your Technical Service Manager to determine the best preparation for the individual coatings.

Plywood

The plywood substrate must be sound and non-flexing under the expected load. Typical plywood substrate must be exterior or marine grade, new, clean and smooth finish (NO KNOTS). Two layers with staggered joints are required. Plywood should be positively fastened to the existing surface with a high-quality construction adhesive as well as a 6" screw pattern. For further information on plywood substrates, please contact your local sales representative or Sherwin-Williams technical department.

WALLS

For Resuwall applications:

Block Wall

Apply Block Filler to fill pores over new or existing concrete block, following the application instructions.

Drywall

Drywall must be finished to a level #5 paint-ready finish prior to coating. Prime with Extreme Bond Primer. Substrate will affect final appearance of wall coating.

NOTE: Resuwall products require preparation in order to perform as expected. Substrates must be clean, sound and dry. If installing over substrates other than block wall or drywall, please consult the Sherwin-Williams Technical Service Department.

FLOOR EVALUATION GUIDELINES

Flooring problems on concrete from vapor emission, dew point, alkalinity, pH, etc., cause millions of dollars in repair and replacement costs annually. By recognizing potential problems, testing for and mitigating them, steps can be taken to ensure a long-lasting, successful flooring installation.

WHAT IS MOISTURE VAPOR EMISSION?

Water is added to turn cement, sand and aggregate into a concrete slab. There is a critical volume of water needed to “hydrate” the concrete and an excess volume of water used to make the concrete pourable and workable. It is this excess that can emit from the slab. Moisture is also a concern when the concrete slab has no vapor retarder installed, or the vapor retarder has been punctured.

HOW DOES MOISTURE MOVE THROUGH THE SLAB?

Capillary Moisture

Ground water touches the bottom of the concrete slab, and wicks into the concrete through microscopic bleeder water channels until it reaches the coating surface. As the water comes through the slab, it brings calcium/sodium salts with it; this can degrade the bond line and cause the coating to delaminate.

Osmotic Moisture

Actual water vapor transmission through the concrete slab condenses again at the bond line and causes the same problem as in the capillary moisture case. This can happen when the water table is far below the slab with an improperly installed or missing vapor retarder. Three conditions are needed for osmosis to occur: a semi-permeable membrane, which can be the polymer primer or the upper layers of the slab; a gradient of ionic activity (soluble salts, which are indigenous to concrete); and a source of moisture vapor. If any one of these three things is removed, osmosis cannot occur.

Hydrostatic

The surrounding water table is higher than the concrete slab on grade. Because water seeks its own level, it is forced through the slab under pressure. This type of water pressure is not the usual cause of coating failure.

The volume of moisture that can pass through a slab depends on the porosity of the slab. Porosity is a direct result of the water/cement ratio in the concrete mix design. As the water/cement ratio increases, the porosity of the concrete increases exponentially.

WHAT IS THE TRADITIONAL FAILURE MODE BECAUSE OF “MOISTURE” PROBLEMS?

There are two ways a polymeric floor can fail:

1. The floor system was never able to bond properly at the time of installation.
2. There were factors present at the time of installation to cause the bond to fail. Symptoms of failure on an already installed floor may include bubbles, blisters and/or delamination.

WHAT CAUSES A POLYMERIC FLOOR TO FAIL?

Specific ionic components of the surface chemistry of the slab (the top 0 - 3/16" [5mm]), past a certain threshold, can cause a failure to occur. Moisture failures such as capillary action, hydrostatic pressure and osmotic blistering can also occur.

Concrete defects resulting from alkaline-silicate reaction (ASR) or alkaline-aggregate reaction (AAR) within the slab may also contribute to floor failure. Sherwin-Williams High Performance Flooring recommends all concrete be tested for quality by a licensed petrographer.

HOW DO I TEST MY FLOOR?

Sherwin-Williams High Performance Flooring has developed a chart to assist you with identifying the moisture limits for each type of Sherwin-Williams flooring system. If you are planning to use our Epoxy or MMA, Sherwin-Williams recommends using in-situ Relative Humidity (RH) Testing per ASTM F-2170 as a quantitative test method. In-situ RH is the preferred method as it is not significantly impacted by ambient temperature and relative humidity conditions in the building, and thus likely to provide more accurate readings. Calcium chloride (CaCl) testing is not recommended for moisture testing as results will differ based on the environmental factors at time of testing.

In cases where a product can tolerate high levels of moisture such as Poly-Crete®, Hybri-Flex® or Resuprime MVP, Sherwin-Williams High Performance Flooring may recommend that cores be taken and analyzed to determine the levels of ionic components (salts) in the slab. Sherwin-Williams High Performance Flooring offers in-house core testing using ion-chromatography technology. Refer to the Sherwin-Williams High Performance Flooring Core Analysis Program on our website for more information.

Note: Test results from cores taken after osmotic blistering has already occurred may not be accurate due to the ionic components transferring from the substrate to the blisters.

SHERWIN-WILLIAMS HIGH PERFORMANCE FLOORING FLOOR MOISTURE LIMITATIONS

	RESUFLO®	ACCELERA®	CRYLAFLOR®	VENT-E®	RESUPRIME MVP PRIMER	RESUPRIME MVP3 PRIMER	POLY-CRETE & HYBRI-FLEX
RH % MAXIMUM (ASTM F-2170) Recommended Test Method	80%	80%	85% (with bond test)	99%	99%*	99%*	99%*
CACL MAXIMUM LBS. PER 1,000 SF PER 24 HOURS (ASTM F-1869)	3	3	5 (with bond test)	N/A	20*	24*	20*

*Poly-Crete, Hybri-Flex and Resuprime MVP Primers

Old Concrete (>1 yr. old)

Core analysis testing is recommended to rule out the potential for osmotic blistering caused by higher than normal levels (see next page) of soluble ion (salt) deposits at or near the surface. Refer to the Sherwin-Williams High Performance Flooring Core Analysis Program.

New Concrete (<1 yr. old)

Core testing is not required if NO concrete curing compounds, hardeners or densifiers were used. The use of any of these products may cause soluble ion (salt) deposits at or near the surface to exceed normal levels (see below), potentially producing conditions for osmotic blistering. In these cases, Sherwin-Williams recommends a core analysis to determine if these levels are suitable for an installation. Refer to the Sherwin-Williams High Performance Flooring Core Analysis Program.

The following data is based on testing of a concrete substrate profiled per G1 Concrete Surface Preparation Guidelines and free of any contaminants that could increase levels of the soluble ions listed. This data is to be used as a guide only. Please contact your local Sherwin-Williams High Performance Flooring Territory Sales Manager or the Sherwin-Williams High Performance Flooring Technical Service Department for a thorough analysis of your results.

NORMAL SOLUBLE ION LEVELS IN SUBSTRATE (PARTS PER MILLION)	
Sodium (Na)	~200-800 ppm
Potassium (K)	~200-800 ppm
Chloride (Cl)	~10-100 ppm
Sulfate (SO ₄)	~1500-5500 ppm

PRE-INSTALLATION ACCEPTABLE SOLUBLE ION LEVELS IN SUBSTRATE BY PRODUCT (COMBINED NA, K, CL)	
Epoxy, Resuprime MVP, MMA, Accelera®	1600 ppm
Resuprime MVP3	2400 ppm
Poly-Crete® SLB, MD, HF (with topcoats) Hybri-Flex® E, M or A	3200 ppm
Vent-E	4800 ppm
Poly-Crete MD, HF (no topcoats)	4800 ppm

In all cases, Sherwin-Williams High Performance Flooring products must be applied as per Sherwin-Williams High Performance Flooring Application Instructions on structurally sound and clean areas in which the concrete meets acceptable industry standards as defined in ACI Committee 201 Report, "Guide to Durable Concrete." Sherwin-Williams shall not be liable for bond failures caused by deficiencies in the substrate including, but not limited to, the presence of ionic compounds or soluble salts, alkali silicate reaction, alkali aggregate reaction, shale-pop, and other expansive reactions of aggregates and reinforcements. Sherwin-Williams recommends all concrete be tested for quality by a licensed petrographer.

	BROADCAST SYSTEMS			EPOXY COATINGS													URETHANE COATINGS					POLYASPARTIC/FAST CURE COATINGS				URETHANE CONCRETE	ACRY-LICS			
	RESUFLO [™] TOPFLOOR SL23	RESUFLO [™] DECO QUARTZ DB23	RESUFLO [™] DECO FLAKE SB	RESUFLO [™] 3725	RESUFLO [™] 3555	RESUFLO [™] 3741 NOVOLAC	RESUFLO [™] 3746 SELF-LEVELING	RESUFLO [™] CRN NOVOLAC	RESUFLO [™] PT 250 TOPCOAT	RESUFLO [™] MPE MULTI-PURPOSE	RESUFLO [™] GPE GENERAL PURPOSE	RESUFLO [™] UVE UV-RESISTANT	RESUFLO [™] GARD	RESUFLO [™] GLAZE	RESUFLO [™] ULTRA	RESUFLO [™] VENT-E	RESUTILE [™] 4638	RESUTILE [™] 4685	RESUTILE [™] HPS 100 AND HTS 100	RESUTILE [™] SDS STATIC DISSIPATIVE	RESUTILE [™] AT	ACCELERA [™] 4850	ACCELERA [™] 5	ACCELERA [™] (REGULAR, EXT, LH)	ACCELERA [™] ONE	POLY-CRETE (HF, MD, TF PLUS)	POLY-CRETE COLOR FAST	MMA COATINGS (CRYLAFLOR)		
3M [™] Stainless Steel	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	OK	TS	TS	TS		
3M [™] Duraprep	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	NR	SD	SD	TS	TS	NR	SD	TS	SD	TS	TS	SD	SD	SD	SD	SD		
AC-103 - 100%	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	OK	OK	SD	TS	TS	TS	TS	OK	TS	TS	SD	TS	OK	SD	OK			
Acetaldehyde	TS	TS	TS	OK	SD	OK	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	SD	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS		
Acetic Acid - 3%	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	OK	OK	OK	TS	TS	TS	TS	OK	TS	TS	OK	TS	OK	OK	OK			
Acetic Acid - 5%	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	TS	OK	OK	TS	OK	TS	TS	OK	TS	TS	TS	TS		
Acetic Acid - 10%	SD	OK	OK	OK	SD	OK	SD	SD	SD	SD	SD	SD	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	TS	OK	OK	OK		
Acetic Acid - 30%	SD	TS	TS	OK	SD	OK	SD	TS	TS	TS	TS	TS	SD	SD	OK	TS	SD	OK	TS	TS	SD	SD	TS	SD	TS	OK	SD	SD		
Acetic Acid - 50%	SD	TS	TS	OK	SD	OK	SD	TS	TS	TS	TS	TS	NR	NR	NR	TS	SD	OK	TS	TS	SD	SD	TS	SD	TS	SD	SD	NR		
Acetic Acid (50%) to Glacial (100%)	TS	TS	TS	SD	NR	SD	SD	TS	TS	TS	TS	TS	TS	TS	TS	TS	SD	SD	TS	TS	TS	SD	TS	TS	TS	TS	TS	TS		

**View Full Chemical
Resistance Chart**

The Chemical Resistance Guide can be found in its entirety at:
<https://industrial.sherwin-williams.com/content/dam/pcg/sherwin-williams/resin-flooring/na/us/en-us/pdfs/project-prep-docs/Flooring-Chemical-Resistance-Guide-SW.pdf>

MAINTENANCE RECOMMENDATIONS

GENERAL CLEANING & MAINTENANCE

Floors usually take the most abuse of any surface in the building. Floor maintenance is dependent upon the flooring system itself, the traffic conditions, and the type of dirt and debris to which it is exposed. Sherwin-Williams resinous floors are easily maintained because of their physical and chemical tough finishes.

In recognition of the need for regular floor maintenance, the following recommendations will help keep your Sherwin-Williams resinous floors looking like new. The recommended cleaning products and maintenance program is based on the type of floor you have.

RECOMMENDED CLEANING CHEMICALS

	AREA DESCRIPTION	RECOMMENDED CLEANER
FOOT TRAFFIC	Public areas, health care, dining room/cafeteria, lab, institutional, retail, foot traffic area	Neutral slip-resistant floor cleaner
LIGHT TO MODERATE SERVICE AREAS	Animal care, automotive service center, commercial kitchen/food prep area, patio	Cleaner/degreaser
MODERATE TO HEAVY SERVICE AREAS	Bottling plant, factory floor, loading dock, manufacturing/industrial, vehicular traffic area, stadium	Heavy-duty cleaner/degreaser
ESD/CONDUCTIVE FLOORS	Clean room, computer room, electronics production and assembly, quality control lab, surgery	Neutral floor cleaner
FOOD AND BEVERAGE PLANTS	Dairy plant, meat & poultry plant, food processing plant, brewery, winery and beverage plants	Cleaner/degreaser

CLEANING PROCESS

The best method to clean Sherwin-Williams flooring is a five-step process using the recommended cleaning product. The process varies between small and large floors, and between smooth and textured floors.

THE FIVE STEPS ARE:

- **Sweeping** - Always sweep the floor thoroughly before cleaning.
- **Application** - The means to put the cleaning product on the floor surface.
- **Agitation** - Movement of the cleaning product, with a piece of equipment, on the floor surface to aid in the release of foreign material.
- **Dwell Time** - Letting the cleaning product stand on the surface to allow time for emulsifying foreign material.
- **Removal** - Removing the cleaning product from the surface of the floor.

	SMOOTH FLOORING SURFACES		TEXTURED FLOORING SURFACES	
	SMALL AREA	LARGE AREA	SMALL AREA	LARGE AREA
SWEEPING	Broom or dust mop	Floor sweeper	Broom	Floor sweeper
APPLICATION	Synthetic mop or deck brush	Automatic floor scrubber	Deck brush or foamer/sprayer	Automatic floor scrubber or foamer/sprayer
AGITATION	Mop or deck brush	Automatic floor scrubber	Deck brush or rotary floor machine	Automatic floor scrubber or rotary floor machine
DWELL TIME	5-10 minutes	5-10 minutes	5-10 minutes	5-10 minutes
REMOVAL	Mop or wet vac	Automatic floor scrubber	Squeegee or wet vac	Automatic floor scrubber

Notes:

- Never use a mop to clean a floor that is greasy or oily.
- When using a deck brush, choose a medium/stiff bristle.
- When using a rotary floor machine, use a white, tan or red 3M pad or similar pad.
- When removing solution with a squeegee, use a soft, neoprene squeegee.
- Do not use a water spray to remove cleaning solution from the floor. It will over dilute the solution, causing greases and oils to fall back onto the floor surface.
- Through proper training and education, unnecessary wear of the floor, such as forklift spin and skid marks, can be avoided.
- Spills should be cleaned up immediately as a safety precaution as well as to prevent staining of the floor.
- Surfaces should be adequately protected when moving heavy equipment across the floor.

MAINTENANCE/DAMAGE PREVENTION

Sherwin-Williams resinous floors are installed with several basic types of finish coats including epoxy, polyurethane and acrylic.

Acrylic and polyurethane floors have exceptional mar and scratch resistance while epoxy finishes are harder and will scratch when subjected to abrasive dirt.

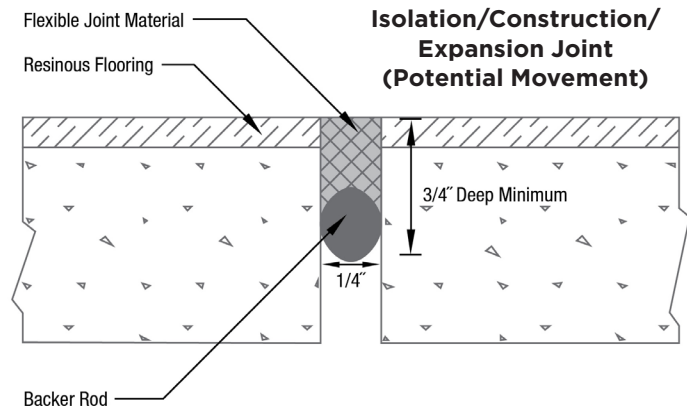
SHERWIN WILLIAMS® | HIGH PERFORMANCE FLOORING

JOINT GUIDELINES

The two basic joint types are Moving (dynamic) and Non-Moving (static).

MOVING JOINTS

Construction, Expansion and Isolation joints are considered moving joints. These allow horizontal and vertical movement between the slab and adjoining structures, such as walls and columns, helping to minimize cracking where the two meet.

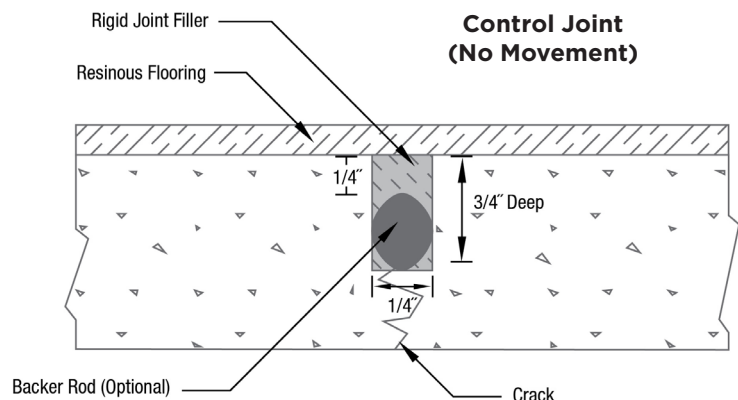


Prior to filling moving joints, Sherwin-Williams High Performance Flooring recommends “honoring” these joints by making a sawcut through the finished floor system at a minimum depth of $\frac{3}{4}$ ” deep and $\frac{1}{4}$ ” wide with a diamond blade saw attached to a vacuum. Refer to the joint sealant manufacturer’s product data sheet for the recommended depth. A bond breaker such as backer rod (closed cell) must be added to the bottom of the joint.

Potential cracking and/or stress/stretch lines (white lines) may occur on all resinous floor systems over or on either side of moving joints if the joints are not sawcut and properly filled. Also, if there is a variance of temperature of 20 degrees or more from the time the joint is filled and coated to its operational temperature, hairline cracking could occur even on non-moving joints.

NON-MOVING JOINTS

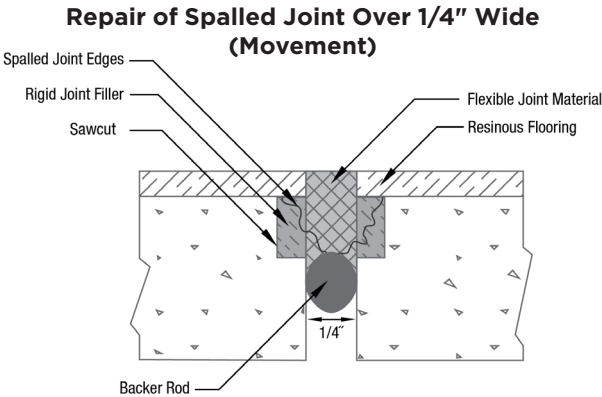
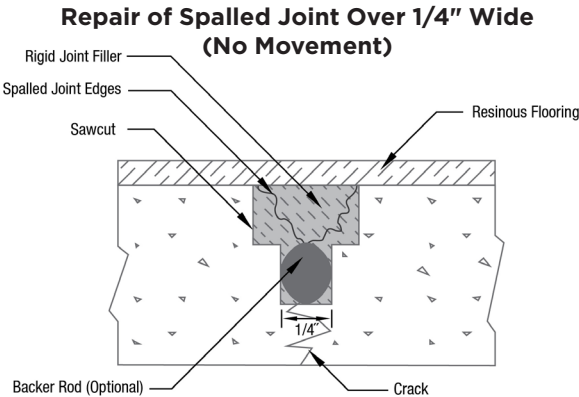
Control and/or Contraction joints are considered non-moving joints, which accommodate shrinkage and relieve internal stresses during the curing process of the concrete.



Prior to filling non-moving joints, be sure to prepare them by removing all laitance, debris and sealers to a depth of $\frac{3}{4}$ ” deep and $\frac{1}{4}$ ” wide with a diamond blade saw attached to a vacuum. A bond breaker such as backer rod (closed cell) may be added to the bottom. This will stop the joint material from seeping if the concrete is cracked through.

REPAIR OF DAMAGED/SPALLED JOINTS

Sawcut each side of spalled area and chip out the center with a chipping hammer or consider the use of a series of blades to reach the proper width. If using multiple blades, the center blade should reach the depth of the original joint and the outer blades should achieve a cut creating a “T” shape after cutting.



INSTALLATION TIMING

The American Concrete Institute (ACI) recommends that filling of industrial floor joints be deferred 60-90 days after floor slab pour or as long as possible. This is to allow control and construction joints time to open closer to their ultimate width through the concrete shrinkage process (In freezer/cooler areas, floor should be stabilized at ultimate operating temperature for 7 days prior to installation).

Prior to treatment of joints, be sure to contact the facility’s owner or manager to determine how long the concrete has cured as well as the location of moving and non-moving joints.

Refer to table below to determine which product is used where:

JOINTS	TYPE	BOND BREAKER	JOINT MATERIAL (1/4 INCH WIDE)	JOINT MATERIAL (OVER 1/4 INCH WIDE)
Moving (Dynamic)	Expansion/Construction/Isolation	Backer Rod 1/8" wider than joint	Flexible joint material (Metzger/McGuire, VersaFlex or equivalent)	Flexible joint material (Metzger/McGuire, VersaFlex or equivalent)
Non-Moving (Static)	Control/Contraction	Optional Backer Rod 1/8" wider than joint	- Epoxy flooring systems use Resuflor™ Glaze with Cab-O-Sil (No-Sag #2): Typical mix is 1 pint Resuflor Glaze hardener, 1 quart Resuflor Glaze resin, 3 quarts Cab-O-Sil (No-Sag #2) - Poly-Crete® flooring systems use Poly-Crete SL or MD to fill joint - MMA flooring systems use MMA SL Filler Mix - Vent-E flooring systems use Metzger/McGuire MM-80	- Epoxy flooring systems use Resuflor Glaze with Resuflor Screed III - Poly-Crete flooring systems use Poly-Crete MD or WR - MMA flooring systems use MMA SL Filler Mix or Cryl-A-Tex - Vent-E flooring systems use Metzger/McGuire MM-80

References:
ACI 224 "Joints in Concrete Construction"
ASTM Standards "C 1193 and C-920"
National Ready Mixed Concrete Association "Concrete in Practice"
Metzger/McGuire, Inc.
AMPP

In accordance with our warranty, Sherwin-Williams High Performance Flooring shall not be responsible for any claim resulting from failure to utilize product in a manner in which it was intended and in accordance with instructions provided for use of the product, such as these joint guidelines.

CRACK TREATMENT GUIDELINES

Similar to joints, cracks can be classified as static or dynamic and should be addressed in a similar manner as joints. Before treating, it is important to note what type of crack it is.

DYNAMIC CRACKS

Dynamic cracks, or active cracks, are any cracks for which the mechanism causing the cracking is still at work; any cracks that are still moving. If there is known movement or visible heaving, please contact a structural engineer before attempting repairs.

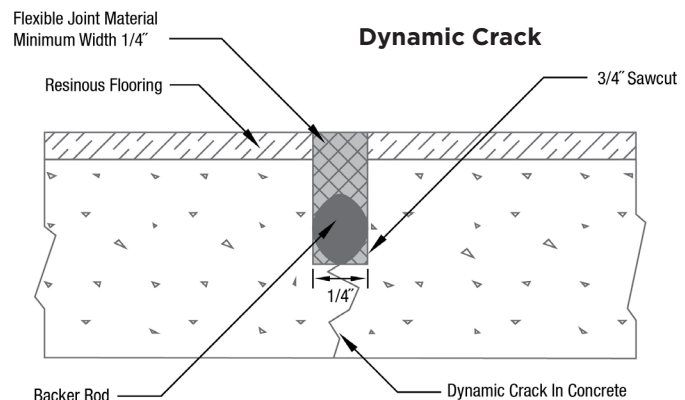
Examples of dynamic cracks are:

Settling/Structural Cracks may appear if the sub base of the slab shifts or settles after construction. These should be treated as moving joints and honored through the system.

Heaving Cracks are often a sign of continued movement of the slab or slabs.

Seismic Cracks can be caused by movement of the ground under or near a building. This can occur from natural seismic activity, or from man-made forces, such as nearby railroad tracks, etc. It is best to identify the cause of these and determine the best way to isolate the flooring from this movement if possible.

Prior to filling dynamic cracks, Sherwin-Williams High Performance Flooring recommends making a sawcut through the finished floor system to a depth of $\frac{3}{4}$ " deep and a minimum width of $\frac{1}{4}$ " with a diamond blade saw attached to a vacuum. Add a bond breaker such as a backer rod (closed cell) to the bottom. This will prevent three point adhesion.



STATIC CRACKS

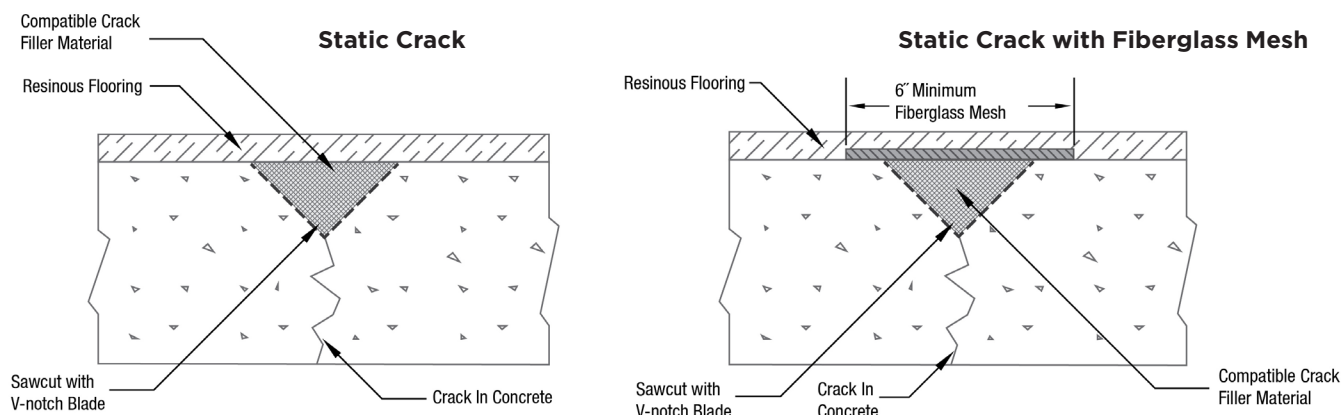
Static cracks, or dormant cracks, are any cracks that are not likely to become active in the future or whose movement is of such magnitude that a repair will not be affected.

Examples of static cracks are:

Craze Cracking refers to hairline cracks visible in the surface cream of the slab that typically do not extend very deep and are usually a result of rapid drying of the cream. Craze cracking usually does not require any special treatment and is usually mitigated in the prime coat.

Plastic Shrinkage Cracking is normal, non-structural cracking of the concrete that occurs as the slab cures. This can often be avoided by proper placement of control joints per ACI 302.1R-15.

- Plastic shrinkage cracks should be analyzed to ensure that they are static (not continuing to grow over time and do not show signs of heaving.)
- If plastic shrinkage cracks are observed prior to or during prep, they can be mitigated by patching the floor in the same method that would be used to treat a static joint.
- Plastic shrinkage cracks can also be treated using Resuflor 3555 or Resuflor EOC and fiberglass mesh to bridge the crack.



Prior to filling static cracks, be sure to prepare them by removing all laitance, debris and sealers. Make a sawcut with a V-notch blade attached to a vacuum.

Refer to the table below to determine which Crack Filler Material to use:

CRACKS	BOND BREAKER	REINFORCEMENT	CRACK FILLER MATERIAL (1/4 INCH WIDE)	CRACK FILLER MATERIAL (OVER 1/4 INCH WIDE)
Dynamic crack (moving)	Backer rod 1/8" wider than joint	-	Flexible joint material (Resufloor 3580, Loxon [S1, SL2 & NS2] or equivalent)	Flexible joint material (Resufloor 3580, Loxon [S1, SL2 & NS2] or equivalent)
Static crack (non-moving)	-	Optional 6 inch minimum fiberglass mesh	- Epoxy flooring systems use Resufloor Glaze with Cab-O-Sil (No-Sag #2): Typical mix is 1 pint Resufloor Glaze hardener, 1 quart Resufloor Glaze resin, 3 quarts Cab-O-Sil (No-Sag #2) - Poly-Crete flooring systems use Poly-Crete SL or MD to fill joint - MMA flooring systems use MMA SL Filler Mix - Vent-E flooring systems use Resufloor 3580	- Epoxy flooring systems use Resufloor Glaze with Resufloor Screed III. - Poly-Crete flooring systems use Poly-Crete MD or WR - MMA flooring systems use MMA SL Filler Mix or Cryl-A-Tex - Vent-E flooring systems use Resufloor 3580

INSTALLATION TIMING

The American Concrete Institute (ACI) recommends that filling of industrial floor joints be deferred 60-90 days after floor slab pour or as long as possible. This is to allow control and construction joints time to open closer to their ultimate width through the concrete shrinkage process (In freezer/cooler areas, floor should be stabilized at ultimate operating temperature for 7 days prior to installation). We suggest the same for treating cracks.

Prior to treatment of crack, be sure to contact the facility's owner or manager to determine how long the concrete has cured as well as the location of moving and non-moving joints.

Note: Even with proper treatment, there is no guarantee against future cracking.

References:

International Concrete Repair Institute
 ACI 224 "Joints in Concrete Construction"
 ASTM Standards "C 1193 and C-920"
 National Ready Mixed Concrete Association "Concrete in Practice"
 AMPP

In accordance with our warranty, Sherwin-Williams High Performance Flooring shall not be responsible for any claim resulting from failure to utilize product in a manner in which it was intended and in accordance with instructions provided for use of the product, such as these crack treatment guidelines.



LIMITED PRODUCT WARRANTY

The Protective and Marine Division of The Sherwin-Williams Company ("**Sherwin-Williams**") warrants the products in its Coating Systems to be manufactured free from defects in materials and workmanship for a period of one (1) year from the date of delivery (**the "Warranty Period"**).

Sherwin-Williams shall not be liable for any claims resulting from or related to (i) use of any Products in applications not recommended or approved in writing by Sherwin-Williams, (ii) improper application including improper surface preparation or failure to remove any bond breakers, curing compounds or laitance from the substrate, (iii) failure of or conditions related to the substrate, (iv) any damage or failure unrelated to the performance of the Products or (v) color.

EXCEPT FOR THE PRECEDING WARRANTIES, SHERWIN-WILLIAMS HEREBY DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, ORAL OR WRITTEN, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE. IN NO EVENT SHALL SHERWIN-WILLIAMS BE LIABLE TO APPLICATION CONTRACTOR OR ANY OTHER PARTY FOR ANY INDIRECT, SPECIAL, PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR LOSS OF USE IN ANY WAY ARISING FROM THE MANUFACTURE, SALE, INSTALLATION OR PERFORMANCE OF THE PRODUCTS.

Sherwin-Williams agrees to provide replacement Product for any Product proven to be defective under this Limited Warranty. Sherwin-Williams' entire liability for any Product proven to be defective, and the sole and exclusive remedy in any way relating to the Product, shall be limited to the replacement Product to make the necessary repairs. This Limited Warranty shall be governed and construed in accordance with the laws of the state of Ohio. Any and all disputes, claims, actions or proceedings directly or indirectly arising out of or related to this Limited Warranty shall be decided solely and exclusively by a federal or state court located in Cuyahoga County, Ohio.

Any claim under this Limited Warranty must be made in writing to Sherwin-Williams within thirty (30) days of discovery and prior to the expiration of the Warranty Period. All claims shall be sent to: The Sherwin-Williams Company, 101 W. Prospect Avenue, Cleveland, OH 44115, Attention: Vice-President - Sales, Protective & Marine Division. Each claim under this Limited Warranty must contain a description of the alleged defect and Sherwin-Williams must have an opportunity to inspect the application and perform any required product testing to make a determination on the claim.