SILSPEC® 950 POLYMER CONCRETE

DESCRIPTION

SILSPEC® 950 Polymer Concrete is a two-component, rapid-curing, liquid polymer that cures to a dense, semi-flexible, weather-, abrasion-, and impact-resistant polymer mortar. It is used for the construction or repair of expansion and construction joints on parking and other structures. The combined polymer is mixed with SILSPEC® Engineered Aggregate to form a polymer-based mortar for joint nosings or repairs. When installed with SILSPEC® RFS Reinforced Foam Seal, it comprises the SSI PDX Joint System.

USES

- SILSPEC® 950, upon curing, develops a tough, chemical-, wear-, and impact-resistant surface for use in areas exposed to foot and vehicular traffic. (Contact SSI for procedures for obtaining skid resistance.)
- It is ideally suited for use as a binder for mortar preparations.
- When combined with SILSPEC® Engineered Aggregate, it can be used to repair damaged expansion and construction joints in parking and other structures. It can also be used for small repairs.
- Due to its low water absorption, it provides excellent protection during freeze-thaw cycles.
- When used in conjunction with SILSPEC® RFS Reinforced Foam Seal, it provides an alternative for strip seals, compression seals, T-joints, and elastomeric devices in new deck expansion joints.

PROPERTIES

Shelf Life: 2 years, when stored properly in unopened containers
Storage Conditions: Store at 40 - 90° F
Condition at 65 - 85° F before mixing

Combined Liquid Components		
Mixing Ratio	1:1 by Volume	
Viscosity	2,000 cps @ 77° F	
Color	Black	
Gel Time, Minutes	15 Minutes	60g Mass
Elongation, Percent	45 (7 Day)	ASTM D638#
Tensile Strength, Min. psi	2,000 (7 Day)	ASTM D638#
Shore D Hardness @ 25° C (77° F)	65 - 75	ASTM D2240
Bond Strength		ASTM C882
2 Day Cure	2,000 psi	
14 Day Cure	2,500 psi	
Compressive Properties		ASTM C882
Compressive Strength	5,000 psi	
Compressive Modulus	90,000 psi	

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Cured Mortar			
Aggregate – Supplied by Manufacturer			
Compressive Strength			ASTM C579
	psi @ 3 Hours	1,500	
	psi @ 24 Hours	5,000	
Bond Strength	psi	300	ASTM C882
Wet Bond Strength	psi	450	Tex-618-J
Shrinkage on Cure	%	0.2	ASTM D2566
Resilience	%	95	Tex-618-J
Thermal Compatibility	–	Pass	ASTM C884
Water Absorption	% (24 Hour)	0.2	ASTM D570
Chloride Ion Permeability	Coulomb	0.0	AASHTO T277

PACKAGING & YIELD

Kit Yield: 0.5 cu. ft. (0.014 cu m) Kit
Components: Binder liquid and aggregate in 5 gallon pail
Kit can be mixed in the waterproof pail.

STANDARD TYPE

Will permit cure to a minimum of 7° C (45° F). SILSPEC® 900/950 Accelerator can be added to speed curing at low temperatures. Contact SSI for recommendations.

Modification in viscosity to decrease problems of sag or "running" on steep inclines or ramps can be made by adding additional aggregate. No modification of the material should be attempted without consulting SSI.

GENERAL USE PROCEDURES

Surface Preparation: Regardless of substrate, SILSPEC® 950 must be applied to a clean, dry, and sound surface for effective bond.

All unsound material must be removed from structurally sound substrate by jack hammering, sandblasting, or similar mechanical methods.

All loose material must be removed by brushing, vacuuming, or blowing. Old paint, rust, or other coatings must be removed by proper methods.

Asphalt/Bituminous & Steel Substrates: Observe above methods carefully. Do not use solvents.
Note: While SILSPEC® 950 adheres to asphalt, the asphalt itself has poor structural strength. Consequently, we recommend whenever possible, that SILSPEC® 950 be bonded to concrete or sound steel substrate.

Steel surfaces shall be sandblasted to near white condition.

Mixing of Liquid Components: SILSPEC® 950 is a two-component product (base and reactor). These must be **thoroughly** combined prior to use in a separate container, in the proper ratio of one volume base to one volume reactor. **We strongly recommend that the cans be wiped out with a spatula. If this is not done, 10% or more of the material can be left in the container.** Therefore, it is critical that the material be scraped out of the cans in order to assure adequate liquid/aggregate ratio. In small batches only, base and reactor can be hand mixed. However, mechanically mixing, using a heavy-duty low speed drill motor with paint-type paddle stirrers, is strongly recommended. Mixing time should not be less than three minutes. Care should be taken to ensure thorough mixing from top to bottom, as well as the sides of the container.

CAUTION: Water retards the cure of SILSPEC® 950 Polymer Concrete. Therefore if a mixture of clean aggregate and water is used to clean the mixer, extreme care should be taken to ensure that the mixer is thoroughly dry and any uncured material is removed prior to mixing new material.

NOTE: Do not mix more material than can be used at one time.

Mixing and Placing of Mortar: The mixed SILSPEC® 950 is made into a mortar by combining one (1) volume of mixed polymer with three and one half (3.5) volumes of SILSPEC® Engineered Aggregate. After combining the base and reactor for a minimum of 3 minutes, place in a mixing container. Then, add the SILSPEC® Engineered Aggregate to produce a mortar. When mixing mortar in a bucket with a drill motor, never mix more than ½ cu. ft. at a time. Always measure the materials to ensure the proper ratios. Extreme care should be taken to ensure that the aggregate is mixed uniformly, from top to bottom in the bucket. It is extremely important that the material be thoroughly compacted. Care should be taken to assure good compaction on the vertical face of the joint and along the side of the Styrofoam form. Simply smoothing the top with a steel float **is not** compacting the mix. A small margin trowel, or other means, should be used for compaction.

The blended batch must be applied to the surface in 5 - 10 minutes. Once spread out, working time will be approximately ½ hour, depending upon temperature. Clean equipment immediately with Citrus Cleaner or other approved solvents.

When using SILSPEC® 950 as an expansion joint header, care should be taken to ensure the mortar is even with the plane of the deck, or a fraction lower. Leaving the mortar higher than the plane of the deck can subject it to snowplow or other impact damage. If, after removal of the forming material, the mortar is found to be higher than the adjacent deck or overlay, it may be re-profiled using a handheld grinder with a diamond cup wheel.

Cure: At 21° C (70° F) [surface and air temperature], the mortar will cure sufficiently to accept traffic in four hours. Higher temperatures will shorten the cure, while lower temperatures will lengthen the cure time. For temperatures in excess of 38° C (100° F) or lower than 15° C (60° F), contact SSI for recommended procedures and cure times.

In cold weather, we recommend that liquid and aggregate be stored in a heated area until just prior to use.

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Temperature	Working Time	Initial Cure Time*
50° F	40 Minutes	12 Hours
60° F	30 Minutes	8 Hours
70° F	25 Minutes	4 Hours
80° F	20 Minutes	3 Hours
90° F	15 Minutes	2 Hours
100° F	10 Minutes	1.5 Hours
* Compressive Strength reaches approximately 1,000 psi.		

CAUTION

- During all operations, established safety codes and workman protection must be observed.
- Use of protective creams, clothing, goggles, and rubber gloves are recommended during all phases of handling and use. Read and follow all handling precautions on labels. Use common sense in handling SILSPEC® 950 and all other chemicals.
- Observe good housekeeping rules and regulations during all phases of use and handling of either unmixed or mixed products.
- Ample ventilation should be provided during all periods of sandblasting, mixing, and application procedures.
- In accordance with ICC Regulation #49, Item 173.4: Containers containing less than one (1) fluid ounce of liquid are considered non-hazardous material. Empty containers may be crushed and should be disposed of, in accordance with state and local regulations.
- Remove epoxy immediately with a clean, dry towel. Wash skin thoroughly with soap and water.
- Good housekeeping rules are always important. Provide ample ventilation in all areas of handling, mixing, and use. Avoid prolonged breathing of possible fumes. Minimize skin contact. Use of goggles, rubber gloves, and skin creams is recommended. If material gets into eyes, flush thoroughly with clean water for 20 minutes. Then, seek medical treatment. Observe all safety precautions when using any type of solvent for cleaning tools or equipment.

CLEAN UP

All tools, other applications, or mixing equipment must be cleaned at frequent intervals, and while SILSPEC® 950 remains soft and uncured.

For cleaning hand tools, Citrus Cleaner or other approved solvents are most effective. Cleaning can also be accomplished using a waterless hand cleaner.

Note: Some solvents are **FLAMMABLE** and all safety codes and regulations governing their use must be observed.

MATERIAL SPILL

Collect with absorbent material. Dispose of in accordance with local, state, and federal disposal regulations.

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FOR CHEMICAL EMERGENCY, CALL (800) 842-9300

(24 Hours per Day, 7 Days per Week)

CONTACT

Contact SSI for further information or installation instructions.

It is the users responsibility to familiarize themselves with all safety precautions, prior to use. A product Safety Date Sheet (SDS) is provided, upon request, by contacting SSI at (800) 888-8909.

(800) 888-8909 ssicm.com

To Purchase, Please Contact SSI at Any of the Following Locations:

Dallas, TX (972) 243-0676 ♦ Fort Worth, TX (682) 647-1881
Houston, TX (713) 460-8800 ♦ Austin, TX (512) 326-1156
San Antonio, TX (210) 930-6360 ♦ El Paso, TX (915) 591-6800
McAllen, TX (956) 782-1341 ♦ Springdale, AR (479) 365-8050
Baton Rouge, LA (225) 620-0950 ♦ New Orleans, LA (504) 539-3102
Kansas City, MO (816) 561-1617 ♦ St. Louis, MO (314) 410-6801
Oklahoma City, OK (405) 524-9525 ♦ Tulsa, OK (918) 587-5567

Thank You For Choosing SSI

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