SILSPEC® 900 POLYMER NOSING SYSTEM

DESCRIPTION

SILSPEC® 900 POLYMER NOSING SYSTEM (PNS) is a two-component rapid curing liquid polymer that cures to a dense, semi-flexible, weather, abrasion, impact, and UV radiation resistant polymer mortar for the construction or repair of expansion and construction joints on bridge and parking decks. The combined polymer is mixed with SILSPEC® BLENDED AGGREGATE to form a polymer-based mortar for nosing or joint repair. It can also be cured in the "neat" form as a combination sealant primer and protective coating for steel.

SILSPEC® 900PNS is 100% non-volatile. Due to its relatively low viscosity, SILSPEC® 900PNS is easy to mix and place. SILSPEC® 900PNS is one of the more versatile and economical systems available.

USES

- SILSPEC® 900 PNS, 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 binder for mortar preparations.
- When combined with SILSPEC® BLENDED AGGREGATE, it can be used to repair damaged expansion and construction joints in bridges, roadway pavements, and parking 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 DOWSIL™ 902 RCS Silicone Sealant, it provides an alternative for strip seals, compression seals, and elastomeric devices in new bridge deck expansion joints; and results in substantially improved performance at lower cost.

PROPERTIES

Combined Liquid Components*

Mixing Ratio	1:1 By Volume	
Viscosity	15-25 Poises (Spindle No. 2 30 RPM, 25° C ±2°)	ASTM D2393 / D2566
Color	Black	
Gel Time, minutes	15-25**	ASTM D2471
Elongation, percent	45-65	ASTM D638#
Tensile Strength, Min. PSI	2000	ASTM D638#
Shore D Hardness @ 25° C, (77° F.)	65-75	ASTM D2240

*Test Method Type 1, Molded Specimens, 6.4mm (.25 in) Thickness
** Gel Time for Standard (nonaccelerated) Mixed Components

Cured Mortar

Compressive Strength	PSI @ 24 hrs (Method B)	3000 Min	ASTM C579
Bond Strength	PSI	1000 Min	ASTM C882
Abrasion Resistance	Wear Index (Taber H-22)	1.0 Max	ASTM C501

Aggregate– Supplied by manufacturer

Shelf Life– 2 years when stored properly in unopened containers.
Storage Conditions: Store at 50° F to 90°F
Condition at 65°F to 80°F before mixing.

PACKAGING & YIELD

Kit Yield	Components
0.5 cu ft (.014 cu m) Kit	1 gal liquid, 1 bag aggregate
1.0 cu ft (.028 cu m) Kit	2 gal liquid, 2 bags aggregate
5.0 cu ft (.140 cu m) Kit	10 gal liquid, 10 bags aggregate

STANDARD TYPE

Will permit cure to a minimum of 7º C. (45º 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® 900PNS must be applied to clean, dry and sound surfaces 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 coating must be removed by the proper methods.

Asphalt/Bituminous & Steel Substrates

Observe above methods carefully. Do not use solvents. NOTE: While SILSPEC® 900PNS adheres to asphalt, the asphalt itself has poor structural strength. Consequently, we recommend whenever possible, that SILSPEC® 900PNS be bonded to concrete or sound steel substrate.

Steel Surfaces shall be sandblasted to near white condition.

Mixing of Liquid Components

SILSPEC® 900PNS 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, mechanical 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® 900PNS, *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® 900PNS is made into a mortar by combining one (1) volume of mixed polymer with three and one half (3.5) volumes of

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SILSPEC® BLENDED AGGREGATE. After combining the base and reactor for a minimum of 3 minutes, it is placed in a suitable mixer, then add the SILSPEC® BLENDED AGGREGATE to produce a mortar. When mixing mortar in a bucket with a drill motor, never mix more than 1/2 kit at a time. Always measure the materials to insure the proper ratios. **Extreme care** should be taken to insure 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 1/2 hour depending upon temperature. Clean equipment immediately with Citrus Cleaner or other approved solvent.

When using SILSPEC® 900PNS as an expansion joint header, care should be taken to insure the mortar is even with the plane of the bridge deck or a fraction lower. Leaving the mortar higher than the plane of the bridge 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 bridge deck or overlay, it may be re-profiled using a handheld grinder with a diamond cup wheel.

CURE

At 21°C. (70°F.) *(surface & air temperature)*, the mortar will cure sufficiently to accept traffic in 3.5 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 S.S.I. for recommended procedures and cure time.

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

Temperature	Working Time	Initial Cure Time*	W/ Accelerator
50°F	20 min	7hrs	5hrs
60°F	20 min	5hrs	4hrs
70°F	20 min	3.5hrs	2.5hrs
80°F	20 min	2hrs	1.5hrs
90°F	15 min	1hrs	
100°F	10 min	1hrs	

* Compressive Strength reaches approximately 1000 psi (Traffic Open Time).
Note: The above times can be influenced by such factors as Material Temperature, Weather Conditions and Substrate Temperatures. Always consult the manufacturer for guidance when time critical applications are called for. It is best to always follow preconditioning recommendations for all applications.

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® 900PNS and all other chemicals.
- Observe good housekeeping rules and regulations during all phases of use and handling of either unmixed or mixed product.
- 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 clean, dry towel and 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 ofpossible 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 application or mixing equipment must be cleaned at frequent intervals and while SILSPEC® 900 PNS remains soft and uncured.

For cleaning hand tools, CITRUS CLEANER or other approved solvents are most effective, or cleaning can be accomplished using 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.

FOR CHEMICAL EMERGENCY CALL
1-800-842-9300
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 SDS is provided upon request by contacting SSI at **(800)888-8909.**

800-888-8909 • Fax 918-582-7510 • **www.ssicm.com**

For Purchase, contact SSI at the following locations:

TULSA OK (918)587-5567 ♦ OKLAHOMA CITY OK (405)524-9525 ♦ SPRINGDALE AR (479)365-8050 ♦ DALLAS TX (972)243-0676 ♦ FT WORTH TX (682)647-1881

HOUSTON (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

BATON ROUGE LA (225)620-0950 ♦ NEW ORLEANS LA (504)539-3102 ♦ KANSAS CITY MO (816)561-1617 ♦ ST LOUIS MO (310)410-6801

We know you have a choice, thank you for choosing SSI.