



HIGHWAY • AIRPORT • BRIDGE

SILSPEC® 2000 POLYMER NOSING SYSTEM

DESCRIPTION

SILSPEC® 2000 is a flexible, two-component rapid curing urethane 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 bridge decks, concrete pavements and parking decks. The SILSPEC® 2000 liquid component is mixed with Silspec® Blended Aggregate to form a polymer based concrete for nosing's or joint/pavement repairs.

SILSPEC® 2000 is ultra-low VOC and can ship as non-hazardous materials. The urethane based mortar system allows for rapid installation, fast open times, and easy installation.

SILSPEC® 2000 can be installed to 32° F (0°C) (Material must be preconditioned prior to installation).

USES

• When combined with SILSPEC® Blended Aggregate, it is used as a mortar system to construct or repair expansion joint headers on bridge or parking structures, repair joint edge spalls or corner brakes on pavements, or as a pothole repair material.

- It has excellent resistance to freeze-thaw cycles, impact, and wear.
- SILSPEC® 2000 can be used with a wide variety of seal materials on bridges and parking structures. When combined with Dow Corning 902RCS Silicone Sealant it allows for very fast re-opening of expansion joints in traffic sensitive areas.
- SILSPEC® 2000 upon curing, develops a tough, chemical, wear, and impact resistant surface for use in areas exposed to foot or vehicular traffic. (Contact SSI for procedures for obtaining skid resistance)

TYPICAL PHYSICAL PROPERTIES

Combined Liquid Components*

* Physical Properties After 24 Hour Cure At 70°F Test Method ASTM C579 Method B, Load Rate II Aggregate- Supplied by Manufacturer

| | | |
|---------------------------------|---------------------------------------|-----------|
| Mixing Ratio | 2 parts Resin to 1 part Iso By Volume | |
| Color | Charcoal Gray | |
| Viscosity (ASTM D4878) | | 1700 |
| Gel Time (ASTM D2471) minutes | | 5-7 |
| Set time in mass | | 10 Min |
| Tack Free Time | | 20-30 Min |
| Hardness (Shore D) (ASTM D2240) | | 65-75 |
| Elongation (ASTM D412) | | >200% |
| Tensile Strength (ASTM D 412) | | >1600 psi |
| Adhesion psi | concrete | >500 |
| | Steel | >500 |

CURED MORTAR

| | |
|-----------------------------------|-------------------------|
| Compressive Strength (ASTM C579)* | >3000psi |
| Resilience | 99% No Fracture/Failure |

PACKAGING, YIELD, SHELF LIFE

PACKAGING & YIELD

2 Gallons Mixed Binder + 2 Bags Aggregate Yield:
1.0 CUFT Kit

COLOR- Charcoal Gray

SHELF LIFE

1 YEAR WHEN STORED PROPERLY.

Store and ship this product in a clean, dry, low-humidity environment at 60 -90° F (15-32°C).

FEATURES AND BENEFITS

- Cold Applied- easy to use and safe to apply
- Fast Curing- reopen to traffic quickly
- Flexible- absorbs impact and stress
- Excellent Adhesion- concrete or steel surfaces
- Ultra-Low VOC content system, ships as non-hazardous

AGGREGATE INFORMATION

1. Use recommended SILSPEC® Blended Aggregate for mortar applications.
2. 1- 2 Gallon Unit of SILSPEC®2000 requires 2 bags of SILSPEC® Blended Aggregate.
3. Aggregate must be stored in a dry location and bags not allowed to become wet. Discard if bags become wet.

KIT PROCESSING

1. Precondition the resin and iso to 65°F (18°C) for 24 hours before use. Aggregate must be dry.
2. Resin, iso, and aggregate can be heated up to 100°F (38°C) to speed cure at colder temperatures. It is recommended to heat all components when the surface temperature is below 50°F (10°C).
3. Check that primed surfaces are ready for application of SILSPEC® 2000 before applying mixed material.

4. Ensure that the mixing station is a short distance from the application area. Multiple kits can be mixed at the same time when repairing large or multiple repairs.
5. Use entire kit and do not divide.
6. Use a clean mixing blade with a heavy-duty 500 RPM drill.
7. POTLIFE IS LESS THAN 5 MINUTES. USE IMMEDIATELY AFTER MIXING.

TABLE 1: Effect of temperature on pot life and working time.

| Temp. °F (°C) | Pot Life (min.) | Working Time with aggregate |
|---------------|-----------------|-----------------------------|
| 100 (38) | 4 | 6-9 |
| 70 (21) | 5 | 15-20 |
| 50 (10) | 8 | >60 |

GENERAL USE PROCEDURES

Surface Preparation

Regardless of substrate SILSPEC® 2000 must be applied to clean, dry, and structurally sound surfaces for effective bond.

Concrete substrates must be 28 days old before installation.

All unsound material must be removed from substrate by chipping, sandblasting, or similar mechanical means.

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

SILSPEC® 2000 must be applied over dry substrates or substrates containing 5% or less concrete moisture content.

Follow all safety guidelines applicable to



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SILSPEC® 2000 POLYMER NOSING SYSTEM

Asphalt/Bituminous Substrates

Observe above methods carefully. Do not use solvents. NOTE: While SILSPEC® 2000 adheres to asphalt, the asphalt itself has little structural strength. Consequently, we recommend whenever possible, that SILSPEC® 2000 be bonded to prepared concrete or steel substrate.

Steel Substrates

Surface shall be sandblasted to near white condition.

Priming (SILSPEC® Primer 2000 LV)

SILSPEC® 2000 is used in conjunction with a fast-setting primer (SILSPEC® Primer 2000 LV) to enhance bond. Priming is required on all substrates. SILSPEC® Primer 2000 LV is available in easy to use 600ml dual cartridge sets. It is applied using a multi-component hand gun to the prepared substrate and brushed, rolled or sprayed to spread. Avoid puddling primer on substrate and allow to become tack-free before proceeding with installation (10 to 30 minutes). Refer to the SILSPEC® PRIMER 2000 LV technical data sheet for more details.

Mixing Liquid Components

1. Protect the surfaces around the application area to prevent contamination during the installation.
2. Remove the liquid contents from the kit box. Inside are two containers (1.33 gal – resin, 0.66 gallon – iso).
3. SILSPEC® 2000 mixed polymer can be used neat in cracks, joints, or shallow repairs.
4. Vigorously shake the resin container for 30 seconds and pour the contents into the mixing bucket.
5. Add the iso to the mixing bucket and mix together with a heavy-duty, 500 RPM maximum drill for 20 seconds. Scrape the SIDES and BOTTOM of the bucket with a wooden straight edge and continue to mix for an additional 20 seconds. All of the iso must be thoroughly incorporated in the resin before adding it to the spall. THE MATERIAL MAY NOT SET-UP IF IT IS IMPROPERLY MIXED. Signs of poor mixing include dark swirls and tacky material that does not solidify.
6. If the material is being used neat to fill cracks or shallow repairs, use immediately. If it is being combined with aggregate to create mortar, proceed to the next step.
7. Pour the mixed SILSPEC® 2000 Resin into a mixing tub capable of holding a full cubic foot of mixed material. IMMEDIATELY add the SILSPEC® Blended Aggregate to the mixed SILSPEC® 2000 resin and mix till there are no dry pockets of aggregate. This should be done 1 bag at a time and ensure that each bag is thoroughly blended into the SILSPEC® 2000 resin and there are no “dry pockets” of aggregate in the mix.
8. Pour the mixed SILSPEC® 2000 Mortar into prepared block-out, compact and use a trowel to finish SILSPEC® 2000 Mortar level with or slightly below surrounding surface, avoid overfilling block-out.

9. POTLIFE IS LESS THAN 5 MINUTES. USE IMMEDIATELY AFTER MIXING.

10. Repair can be topped with sand to aid in skid resistance, apply topping sand to refusal and blow off excess.

11. Allow the SILSPEC® 2000 mortar to become hard, remove form and install the desired seal. Open to traffic.

Mixing Tips– 1.0 CUFT Mortar Kit:

1. SILSPEC® 2000 mortar can be mixed directly in a mixing tub that has smooth sides and bottom. A mixing bucket will not be needed.
2. Shake the resin container for 30 seconds to ensure material is thoroughly mixed.
3. The end of a short 2 X 4 or similar object can be used to compact the mortar mixture.

Installation Parameters

Do not install this material in areas subject to submersion.

Block-out or patch area must be dry and cleaned before installation begins.

Set form for header then prime.

Do not mix more material than can be placed in more than 5 to 10 minutes.

SILSPEC® 2000 should not be installed in lifts greater than 3”.

During all operations, established safety codes and workman protection must be observed.

Observe good housekeeping rules during all phases of use and handling of either mixed or unmixed product.

Ample ventilation should be provided during all periods of sandblasting, mixing, and application procedures.

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**.

Cleaning

Clean tools and equipment immediately after use with Acetone. Cured material must be mechanically removed.

CAUTION– ACETONE IS FLAMMABLE and all safety codes and regulations governing their use must be observed.

CONTACT

Contact SSI for further information or installation instructions.

**FOR CHEMICAL EMERGENCY CALL INFOTRAC
1-800-535-5053.**

24 hours per day, 7 days per week.

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