



# PRODUCT DATA SHEET

## SikaPronto®-500 PPC

### Polyester Polymer Concrete System

#### PRODUCT DESCRIPTION

SikaPronto®-500 PPC is a polyester polymer-based overlay, nosing and patching material that is designed to be used in durable bridge deck repair systems.

#### USES

SikaPronto®-500 PPC may only be used by experienced professionals.

- Above grade concrete conditions
- Highway overlays and repairs
- Structural repair material for concrete roadways, highways and bridges
- Can be used as a nosing, patching, or overlay material with SikaPronto®-19 4K primer

#### CHARACTERISTICS / ADVANTAGES

- SikaPronto®-500 PPC conforms to the latest polyester polymer concrete specifications
- High early strength
- Rapid curing
- Can return traffic within 1.5 - 3 hours at temperatures 40°F and rising
- Low viscosity for easy mixing
- Excellent finishing and sealing characteristics
- Superior abrasion resistance to traffic
- Superior adhesion to Portland cement concrete, latex modified concrete, and silica fume concrete
- Improved friction values

#### PRODUCT INFORMATION

##### Packaging

##### Component

##### Packaging

SikaPronto®-500 PPC Polyester Resin	55 gal. (~500 lb) drums, 275 gal. (~2,300 lbs) totes, 4400 gal. (~40,000 lb) tankers
SikaPronto®-500 PPC Sand Blend	50 lb bag, 2000 lb super sack, 3000 lb super sack, 4000 lb super sack
SikaPronto®-500 PPC Stone Blend	50 lb bag, 2000 lb super sack, 3000 lb super sack, 4000 lb super sack
SikaPronto®-500 PPC Broadcast Sand	50 lb bag
Norox® MEKP-9 Initiator	1 gal. jug, 5 gal. pail
DMAA Accelerator (optional)	1 gal. jug, 5 gal. pail

##### Shelf Life

6 months in original, unopened containers.

##### Storage Conditions

SikaPronto®-500 PPC resin, initiator and accelerator should be stored in a cool, dry location and in their original containers. All components should be

stored out of direct sunlight and away from moisture. At elevated temperatures, storage shelf life is reduced. Store all bagged aggregates in a clean, dry location away from moisture. Aggregates must absolutely be protected from any moisture.

<b>Density</b>	Mixed Cured Density	135-140 lbs/ft <sup>3</sup>	(ASTM C-138)
	Specific Gravity (Resin only)	1.07 (8.92 lb/gal)	(ASTM D-1475)
<b>Solid content by mass</b>	Styrene	~45%	(ASTM D-2369)
	Silane	>1.0%	
<b>Viscosity</b>	Approximately 120 cps.		
<b>Tensile Strength</b>	7 days	>3,500 psi (24.1 MPa)	(ASTM D-638)
<b>Elongation at Break</b>	7 days	35% min.	(ASTM D-638)
<b>Tensile Adhesion Strength</b>	24 hrs	>500 psi (3.45 MPa)	(CTM-551)

## APPLICATION INFORMATION

**Coverage** One 55 gallon drum of SikaPronto®-500 PPC resin yields approximately 31-34 ft<sup>3</sup> of polymer concrete at a 12% resin load.  
Yield is dependent on resin load. Allowance must be made for surface profile, unavoidable variation in applied film thickness, loss, and waste. Tined concrete, cracks, spalls, and pop offs will consume more material.

**Ambient Air Temperature** Minimum ambient air temperature of 40°F (4°C). Maximum ambient air temperature of 95°F (35°C).

### Cure Time

#### Initiator Cure Matrix

Recommended dosages of SikaPronto®-500 PPC resin are designed to have a neat resin pot life of approximately 20 minutes.

Temperature	4 gallons of SikaPronto®-500 PPC resin	1 gallon of SikaPronto®-500 PPC resin
40-49°F (4-8°C)	Norox® MEKP-9 Initiator 10 fl.oz. (300 ml) DMAA Accelerator 2.0 fl.oz. (60 ml)	Norox® MEKP-9 Initiator 2.5 fl.oz. (75 ml) DMAA Accelerator 0.5 fl. oz. (15 ml)
50-59°F (10-15°C)	Norox® MEKP-9 Initiator 10 fl.oz. (300 ml) DMAA Accelerator 1.55 fl.oz. (47 ml)	Norox® MEKP-9 Initiator 2.5 fl.oz. (75 ml) DMAA Accelerator 0.38 fl. oz. (12 ml)
60-69°F (16-20°C)	Norox® MEKP-9 Initiator 7.5 fl.oz. (225 ml)	Norox® MEKP-9 Initiator 1.8 fl.oz. (55 ml)
70-79°F (21-26°C)*	Norox® MEKP-9 Initiator 7.5 fl.oz. (225 ml)	Norox® MEKP-9 Initiator 1.8 fl.oz. (55 ml)
80-95°F (27-35°C)*	Norox® MEKP-9 Initiator 7.5 fl.oz. (225 ml)	Norox® MEKP-9 Initiator 1.8 fl.oz. (55 ml)

\*For temperatures above 75°F(24°C), consider a night time application. Contact Sika Technical Services.

## BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

## LIMITATIONS

- Ambient temperature must be 40°F (4°C) or higher during application and drying time.
- Working time will be greatly reduced at elevated temperatures. For warmer climates, consider a night time application.
- For extreme temperatures, refer to initiator cure matrix for proper dosage of SikaPronto®-500 PPC.
- Addition of DMAA Accelerator is only recommended for temperatures below 60°F (15°C).
- Provide supplemental heat and protection from precipitation as needed.
- Product must be protected from freezing, if frozen discard.
- Use only on surfaces that are sound, clean, dry, and free from any residue that might affect the ability of SikaPronto®-19 4K and SikaPronto®-500 PPC to bond to the substrate.
- Minimum age of concrete prior to the application is 21-28 days, depending on curing and drying conditions.
- For overlay depths over 6", contact Sika Technical Services.
- Do not use SikaPronto®-500 PPC at relative humidity > 90% or if rain is forecasted within the job site specification.
- Allow substrate sufficient time to dry after rain or other inclement conditions until substrate is dry to touch and moisture content is below 5% via Tramex moisture meter.
- Do not thin. Addition of solvents will prevent proper cure.
- Refer to SikaPronto®-19 4K product data sheet for use as a primer.
- Not recommended for roofing.
- Not recommended for use on asphalt.

## ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

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SikaPronto®-500 PPC  
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## APPLICATION INSTRUCTIONS

### SURFACE PREPARATION

**Concrete Overlay:** Surface must be clean, sound, and dry prior to application. Remove dust, laitance, grease, asphalt, curing compounds, impregnations, and waxes to expose the aggregate of the concrete deck surface. Shot blasting, sandblasting, scarifying, chipping, or other cleaning processes (ICRI CSP 5-9) are required to provide proper surface preparation for polymer overlay. Unsound concrete areas should be located and repaired prior to polyester application.

**Patching/Nosing:** Surface must be clean, sound, and dry prior to application. Remove dust, laitance, grease, asphalt, curing compounds, impregnations, and waxes to expose the aggregate of the concrete deck surface. Shot blasting, sandblasting, scarifying, chipping, or other cleaning processes are required to provide proper surface preparation for polymer overlay. Unsound concrete areas should be located and repaired prior to polyester application.

**Steel** - Should be cleaned and prepared thoroughly by blast cleaning to white metal finish

### PRIMING

Prime substrate with SikaPronto®-19 4K HMWM resin at a 100-150 ft<sup>2</sup>/gal coverage rate. Sealed concrete surface may appear blotchy due to differential absorption of SikaPronto®-19 4K. If substrate appears "dry" prior to SikaPronto®-500 PPC application, reprime the surface. SikaPronto®-500 PPC should only be applied wet on wet to ensure that the product bonds to the substrate. Refer to SikaPronto®-19 4K product data sheet for specific mixing and application instructions.

### MIXING

Mixing can be performed using a mortar mixer or volumetric mixing truck. Use appropriate measuring tools (i.e. syringes, pipettes, measuring cups) to properly dose SikaPronto®-500 PPC. **Refer to Initiator Cure Matrix at the current ambient and substrate temperatures for the correct amounts of initiator and accelerator (if needed).**

For a 9 cubic foot mortar mixer, add 4 gallons of SikaPronto®-500 PPC Resin. Add the correct amount of Norox® MEKP-9 initiator to the mortar mixer. If needed, add the correct amount of DMAA accelerator to the existing resin mixture. Mix for approximately 2 minutes. While mortar mixer is turning with SikaPronto®-500 PPC Resin and initiator(s), add 2 x 50 lb bags of Stone Blend and 4 x 50 lb bags of Sand Blend. Dump mixed and catalyzed overlay/patching compound into a wheelbarrow to transport to application area. Immediately recharge mixer with proper volume of SikaPronto®-500 PPC Resin. Continue mixing procedure ONLY if crew is ready for another mix. Temperature and application timing have a definite effect upon set time of

the polyester polymer concrete and the ultimate return to service. For any alterations to the mix design please consult Sika Technical Services.

Volumetric mixers may also be utilized for high output applications. The utilization of volumetric equipment is highly recommended for large overlay projects requiring rapid return to service.

## APPLICATION

Once the SikaPronto®-500 PPC is mixed it should be immediately placed onto the bridge deck. SikaPronto®-500 PPC should only be applied onto substrates primed with SikaPronto®-19 4K while the primer is still wet. For large areas, a vibratory screed or slip form paving machine can be used while hand finishing concrete tools can be utilized for smaller patches. After the SikaPronto®-500 PPC is compacted and finished, broadcast topping sand at a rate of 1-1.5 lbs/ sq.ft. and provide mechanical texture using spring steel tines. Typically, tines are 1/8" deep at a frequency of 3/4"-1".

## CLEANING OF TOOLS

The agitating mortar mixer with SikaPronto®-500 PPC Resin only, without catalyst, will keep your mixer clean and reduce build-up. Once application is complete, mixers can be cleaned using appropriate solvents (e.g. Acetone, MEK, Xylene). Adding additional stone to solvent will aid in cleaning of any hardened material.

## OTHER RESTRICTIONS

See Legal Disclaimer.

- Patches can be filled to 3" depth and more. Deep areas up to 5' x 5' can be applied without normally impacting stiffness of the bridge deck. Design engineers should consider the semi-rigid nature of Polyester Polymer Concrete in those calculations. If design factors require a rigid patch system, utilize high alumina concrete patch systems. Properly placed high alumina concrete patch systems may be overlaid with PPC 24 hours after placement.

## LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

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