Technical

Data Sheet

WVCO

Willamette Valley Company

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Partnering through service, innovation, and integrity

POLYQuik® PolyPrime

Fast-setting Primer for Concrete and Steel Substrates

DESCRIPTION

POLYQuik® PolyPrime is a two-component, 100% solids primer for bonding elastomeric coatings to concrete and steel. It can be applied by plural-component proportioner. It is used to create a strong bond between the substrate and topcoat, as well as help reduce the number of pinholes on porous substrates.

WHERE TO USE

- **Walls & Floors**–concrete and steel
- **Under Coatings**–polyurea, polyurethane, epoxy
- **Porous Substrates**–prepared concrete
- **Low Temperature Applications**–cures on cold substrates

FEATURES AND BENEFITS

- **Superior Adhesion**–steel and concrete
- **Two-Component**–topcoat after 1 hour
- **Minimizes Pinholes**–seals surface and promotes adhesion
- **Spray-Applied**–vertical & horizontal applications

PACKAGING

10 gallon (37.9 L) kits
100 gallon (379 L) kits

COLORS

Clear-amber

YIELD

300 sq.ft. per gallon at 4 mils
(7.5 sq. m. per liter at 0.1 mm)

SHELF LIFE

12 months when properly stored.

STORAGE

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

TECHNICAL INFORMATION

Typical Properties

VOC, lbs/gal (g/L), ASTM D 2369	0
Viscosity, cps, ASTM D 4878, Part A / Part B	275 / 1250
Service temperature, ° F (° C)	-22 to 135 (-30 to 57)
Gel time, min. at 70° F (21° C)	4
Ready for topcoat, min.	30 - 180 (see Cure Time chart)
Concrete adhesion, psi (MPa), ASTM D 4541	710 (4.9) 100% substrate
Adhesion to steel, lbf/in (N/m), ASTM D 903	35 (3.9) 100% cohesive

Cure Time

Temperature, 50% RH	Ready for topcoat, minutes	Max. Recoat time, hours
25°F (-4°C)	180	24
70° F (21° C)	45	8 – 12 hrs (same day)
90° F (32° C)	30	8 – 12 hrs (same day)

Processing Parameters

Ratio by volume	1 to 1
Application temp, ° F (° C)	25 to 90 (-4 to 32)
Recommended thick., mils (mm)	1 to 4 (0.025 to 0.10)
Meter equipment	Heated Plural Component (30 Mesh Y-Strainer Screens)
Gun requirement	Low output, impingement spray gun (40 Mesh Screens)
Spray pressure, psi (MPa)	2,000 - 3,000 (3.6 to 20.4)

APPLICATION

SURFACE PREPARATION

CONCRETE

1. The surface being coated must be fully cured 28 days, structurally sound (200 psi or greater according to ASTM D 4541), clean (ASTM D 4258), and dry (less than 5%, ASTM E 1907 and D 4263). PRIMER WILL FOAM IF MOISTURE IS GREATER THAN 5%.
2. The surface must have low moisture-vapor transmission (less than 3 lb/24 hr/1,000 ft2, RMA Test Method).
3. Profile surface according to ICRI Guide 03732 to a minimum of CSP 3 by abrasive blasting or hydroblasting. Remove contaminants before blasting.
4. Fill all voids and cracks between 0.06-0.50" (1.5-12.5 mm) with POLYQuik® HPU-FILLER to achieve a uniform application of primer.

STEEL & OTHER METALS

1. Steel surfaces must be cleaned before blasting (SSPC-SP1). Remove any sharp edges and other surface imperfections.
2. Dry abrasive blast surface according to SSPCSP-10/NACE No. 2 (0.003" profile). Remove any non-visible soluble salt contamination (less than 3 μg/cm2, NACE 6G186, CHLOR*RID).
3. Apply coating only if steel surface temperature is 5° F (3° C) above the dew point to avoid application over damp surface.
4. Apply primer and coating within the same day and before the prepared steel surface is chemically contaminated and before rusting reoccurs.
5. For aluminum and galvanized metals, contact your WVCO Representative for additional information.

PROCESSING

1. PolyPrime RESIN must be mixed in its original container before the RESIN and ISO are sprayed. Do not use isopropyl alcohol or any other alcohol-based products. Slowly mix RESIN for 2 to 3 minutes using a pnumatic drum mixer or equivalent

METERED SPRAY APPLICATION

1. Apply POLYQuik® PolyPrime no more than 4 wet mils (0.1 mm) per application. PRIMER WILL FOAM AND ADHESIVE FAILURE WILL OCCUR WHEN APPLIED GREATER THAN 4 MILS. Make sure primer does not puddle or build up in bugholes, crevices, or joints.
2. Before priming, protect adjacent surfaces with tape or other kinds of protective barriers.
3. Begin priming only if the polyurea topcoat or joint sealant can be applied before exposure to rain or the formation of dew.
4. Concrete is a porous material that contains air. When the temperature of the concrete rises, the air expands. This phenomenon, outgassing, may produce pinholes or blisters in primers and polyurea coating systems. To reduce the risk of pinholes from outgassing, apply POLYQuik® PolyPrime and the coating when the concrete temperature is stable or dropping.

SPRAY AND BACKROLL

1. This method is recommended for detail priming, or large flat areas. For convenience, brushes can be attached to a rod and used as the applicator stands.
2. Use a 1/2" (12.5 mm) nap roller, ensuring no puddles while spraying primer.
3. This method is recommended for coating large areas, vertical areas, and confined spaces where solvents are prohibited.
4. Wear proper personal and respiratory protection during spray application.
5. Use a plural-component Gusmer H20/35 Series Metering System or equivalent. Only use Polyprime RESIN and ISO, do not thin with solvent. Meter must be thoroughly flushed of all other materials before use.
6. Set meter temperature between 110 to 160° F (43 to 70° C) and pressure at 2,500 psi (17 Mpa). Use a Gusmer GX-8 Spray Gun or equivalent with a fan pattern control disk to apply POLYQuik® PolyPrime at no more than 4 wet mils (0.1 mm").
7. Backroll the primer into porous surfaces.
8. Prior to applying topcoat, remove excess primer or primer that has foamed by scraping.

NOTE: Topcoats must be applied before primer becomes contaminated with rain, debris, oil, or other foreign materials. If topcoat time is exceeded, mechanically remove primer and re-prime area.

MANUAL MIXING AND APPLICATION

PREPARATION

1. PolyPrime can be mechanically mixed and applied using a mixing blade and drill. Care must be taken to rapidly mix and pour the material onto the concrete surface to avoid pot life issues.
2. Precondition PolyPrime RESIN and ISO to 50-70°F (21°C) for 24 hours before using.
3. Only mix material in a 1:1 (RESIN:ISO) ratio by volume.
4. Check that surfaces are ready for application of PolyPrime before applying mixed material.
5. 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.
6. Use a clean mixing blade with a width 1/3 the diameter of the mixing container. Use a 500RPM drill.
7. POTLIFE IS LESS THAN 2 MINUTES. POUR ALL POLYPRIME IMMEDIATELY AFTER MIXING.

MIXING AND APPLICATION

1. Protect the surfaces around the application area to prevent contamination during the installation.
2. In a 5-gallon bucket add PolyPrime RESIN and ISO.
3. Using the drill and mixing blade, mix material together for 45-seconds.
4. All of the RESIN and ISO must be thoroughly mixed before applying to surface. THE MATERIAL WILL NOT CURE PROPERLY IF IT IS IMPROPERLY MIXED. Signs of poor mixing include dark swirls and tacky material that does not solidify.
5. IMMEDIATELY pour PolyPrime onto the surface and back roll or brush into the surface.
6. When the material is on the concrete surface, the work life is approximately 5-minutes at 70°F but will vary with surface temperature.
7. Prior to applying topcoat, remove excess primer or primer that has foamed by scraping

CLEANING & MAINTENANCE

- Use POLYQuik® Cleaner to clean guns and parts after every use. Do not immerse gun in Cleaner.
- Flush the metering equipment with POLYQuik® Pump Lube and replace Pump Lube when cloudy.

HEALTH AND SAFETY

Willamette Valley Company recommends reading and becoming familiar with the MSDS before using this product.

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