

Technical Data Sheet



Willamette Valley Company
www.wilvaco.com
800.333.9826

Partnering through service,
innovation, and integrity

POLYQuik® P-500

Extended Set Time Polyurea Coating

DESCRIPTION

POLYQuik® P-500 is a two-component aromatic 100% solids sprayable polyurea elastomeric coating with extended working time and high abrasion resistance, possessing high elongation, and resistance to abrasion, corrosion, and a wide range of chemicals. POLYQuik® P-500 can receive a broadcast of aggregate for slip resistance.

WHERE TO USE

- **Parking Decks & Ramps**—for traffic surfaces
- **Waterproofing**—interior or exterior
- **Abrasion Resistant Coating**—for floors & tanks
- **Protective Coating**—for concrete, wood, metal

FEATURES AND BENEFITS

- **Superior Elongation**—excellent crack-bridging ability
- **Superior Abrasion Resistance**—durable membrane
- **Serviceable Within 2 hours**—fast turn-around time
- **Excellent Chemical Resistance**

PACKAGING

5-gal. pails (18.9 L)
50-gal. drums (189 L)

COLORS

Black, Gray

YIELD

5-gallon bucket set (10 gal total) = 1.34 ft³
50-gallon drum set (100 gal total) = 13.36 ft³

Sprayed Yield*: 26 ft² per gal or 3.8 gal per 100 ft²
at 60 mil DFT (0.63 m² per L at 1.5 mm DFT)

*assumes 100% transfer

SHELF LIFE

1 year 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, Resin / Iso	440 / 1025
Service temperature , ° F (° C)	-26 to 190 (-32 to 88)
Gel time , ASTM 2471-99 sec	30
Tack-free time , sec	180
Recoat time , hours	12
Tensile ,* psi (MPa), ASTM D 412	2,500 (17)
Elongation ,* %, ASTM D 412	590
Hardness , Shore D, ASTM D 2240	38
Tear ,* pli (kN/m), ASTM D 1938	450 (78)
Tear, (Die C)* pli (kN/m), ASTM D 624	312 (54)
Abrasion Resistance mg lost, H-18 wheel, 1kg, 1k cycles, ASTM D 4060	390

*Properties achieved using specific dispensing equipment – Contact WVCO for more information.

Chemical Resistance

Chemical	Splash & Spill (Less than 2 hrs.)	Long Term Exposure
Diesel	R	R
Xylene	C	NR
Acetone	C	NR
Sat. Caustic	R	R
12% Sod. Hypochlorite	R	R
10% Sulfuric Acid	R	R
10% Acetic Acid	R	R
10% Propylene Glycol	R	R

R = Recommended; NR = Not recommended; C = Conditional

Processing Parameters

Ratio by volume	1 to 1
Application temp , ° F (° C)	40 to 110 (4.4 to 43)
Recommended thick. , mils (mm)	20 to 125 (0.5 to 3.0)
Meter equipment	Heated Plural Component (30 Mesh Y-Strainer)
Gun requirement	Impingement spray gun (40 Mesh Screens)
Spray pressure , psi (MPa)	2,000 to 3,000 (13.6 to 20.4)
Spray temperature , primary heaters and hose, ° F (° C)	130 to 150 (55 to 65)

APPLICATION

SURFACE PREPARATION

WOOD

1. Store wood in a covered, dry location, and protect surface from damage and contamination.
2. For a completely uniform appearance in the finished product, fill all voids, spaces, or damaged areas prior to coating. Repair or fill areas with POLYQuik® HPU-FILLER or other suitable filler. Contact WVCO representative for filler options and technical recommendations. Remove any excess filler by sanding until level with surrounding area.
3. Priming may be required: prime with POLYQuik Epoxy Primer, PolyPrime, or other suitable primer. Contact WVCO representative for primer options and technical recommendations. Refer to primer technical data sheet for application and cure time information.
4. Ensure wood surface is smooth and dry prior to applying POLYQuik® P-500. Surface must have at least a 36-120-grit surface and less than 10% surface moisture. Humidity levels greater than 85% and surface moisture greater than 10% will create blisters between the coating and wood surface.
5. Apply POLYQuik® P-500 in two 15-20 mils (0.3-0.5 mm) coats in crosshatch pattern and allow to cure for 2-3 minutes. Repeat this application until desired thickness is achieved.

CONCRETE

1. Priming is required; prime with POLYQuik Epoxy Primer, PolyPrime, or other suitable primer. Contact WVCO representative for primer options and technical recommendations. Refer to primer technical data sheet for application and cure time information.
2. The surface being coated must be fully cured (28 days minimum), structurally sound (200 psi or greater tensile strength according to ASTM D 7234), clean (ASTM D 4258), and dry (less than 5% surface moisture, ASTM E1907 and D4263).
3. The surface must have low moisture vapor transmission (less than 3 lb/24 hr/1000 ft², RMA Test Method).
4. Do not apply over concrete if vapor barrier is not present or unknown.
5. Profile surface according to ICRI Guide 03732 to a minimum of CSP 3 by abrasive blasting or hydroblasting. Remove contaminants before blasting.
6. Fill all voids and cracks between 0.06-0.50" (1.5-12.5 mm) with POLYQuik® HPU Filler or other suitable filler. Contact WVCO representative for filler options and technical recommendations.

STEEL & OTHER METALS

1. Steel and other metal surfaces must be cleaned before blasting according to SSPC-SP1. Remove any sharp edges, weld splatters and other surface imperfections.
2. Blast according to SSPC-SP10 / NACE No. 2 Near White standard (0.003" (0.08 mm) profile).
3. Test the surface for non-visible soluble salt contamination according to NACE 6G186. If necessary treat the surface with CHLOR*RID or equivalent chloride remover until less than 3mg/cm² is detected.
4. PRIMING STEEL OR OTHER METALS – Apply POLYQuik® Epoxy Primer or PolyPrime only if metal surface temperature is 5° F (3°C) above the dew point to avoid application over damp surface. Refer to primer technical data sheet for application and cure time information. Other primers may also be used. Do not use without contacting your WVCO Representative for approval.
5. For aluminum and galvanized metals, contact your WVCO Representative for additional information.

GEOTEXTILE SURFACES

1. P-500 is applied to the heat treated side of non-woven polypropylene geotextiles. Choose the geotextile weight based on application. Speak to a WVCO Representative before using other types of geotextiles. Protect geotextile surfaces from damage before applying coating. Minimize

wrinkles when laying out geotextile. Only walk on geotextile while applying coating to prevent scuffing or frayed surfaces.

2. Apply coating over entire geotextile before adhering it to perimeter surfaces. Use the coating to bond geotextile to perimeter surface after the entire area has cured for 60 minutes, or else bury the coated geotextile in a trench surrounding the application area.
3. Recommended geotextiles include: GEOTEX 1201 and GEOTEX 2x2HF (spray P-500 on the black side).

PROCESSING

PLURAL COMPONENT METER

1. Precondition material to at least 70°F (21°C) for 24 hours. Secure an air driven mixer with 3 folding blades in the center bung hole of the drum. Air driven mixer blade configuration: 8" blade - bottom, 6" blade - middle, and a 6" blade - top. Ensure the mixer is spinning clockwise at a speed adequate enough to thoroughly mix the resin. Mix for 30 minutes before spraying. Repeat above mixing instructions after every 4 hours of operation. Avoid mixing for more than 30 minutes as air may become entrapped in the resin. Mixers are available through WVCO Precision Technologies.
2. P-500 must be sprayed with a high pressure plural-component proportioner. Contact WVCO representative for plural component proportioner recommendations and configurations. Proportioner should be able to heat resin and iso to 150-180°F (65-82°C).
3. Proportioner must generate a minimum spray pressure of 2,000 psi (13.8 MPa), maintain a stable pressure during spray and keep minimal pressure differential between resin and iso – no more than 300 psi – during application.
4. Contact WVCO representative for high and low output application equipment. Equivalent applicator setups from other manufacturers are available. CAUTION: APPLICATOR OUTPUT MUST NOT EXCEED 75% OF METER OUTPUT.

APPLICATION

1. When priming, prime according to Surface Preparation guidelines. Refer to primer technical data sheet for application and cure time information.
2. Avoid blisters and poor adhesion by not applying coating when the humidity is above 85%. Apply the coating when the substrate temperature is stable or dropping. Minimize out-gassing and pinholes on concrete with primers, and with multiple thin applications of coating (10 mils or less per pass) on wood.
3. Clean surface of contaminants (i.e. dust, dirt). Surface may be blown with dry compressed air or tack cloth.
4. Spray P-500 in a consistent sweeping pattern, 15-20 mils per pass as a general guideline and maintaining a consistent distance from the substrate. ALWAYS START AND STOP SPRAYING OFF TARGET TO AVOID BLISTERING.
5. Recoat without surface preparation is possible within 12 hours of application at 70°F (21°C). After 12 hours, mechanically abrade the surface and clean with acetone or POLYQuik® Cleaner within 1 hour of recoat. Topcoat within one hour of cleaning.
6. For color stability, aliphatic topcoats may be used. Contact WVCO representative for options and technical recommendations.

CLEANING & MAINTENANCE

- Use POLYQuik® Cleaner to clean and parts after every use. Do not immerse the equipment in Cleaner.CLEAN Y-STRAINERS REGULARLY.
- Contact WVCO representative for pump flushing and long term storage stability recommendations.

NOTE: Proper application is the responsibility of the user. Field visits by WVCO Representative are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

HEALTH AND SAFETY

Before handling, you should become familiar with the Material Safety Data Sheet (MSDS) regarding the risks and safe use of this product. To obtain an MSDS please call 800-333-9826 or send an email to: msds@wilvaco.com.

DISCLAIMER OF WARRANTY

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WILLAMETTE VALLEY COMPANY

www.wilvaco.com
info@wilvaco.com

DIVISIONS

WESTERN DIVISION

1075 Arrowsmith Street
PO Box 2280
Eugene, OR 97402
Tel 541.484.9621
www.POLYQUIK.com
www.SPIKEFAST.com

EASTERN DIVISION

6662 Marbut Road
Lithonia, GA 30058
Tel 888.878.9826

MIDWEST DIVISION

1549 Hwy 2
Two Harbors, MN 55616
Tel 218.834.3922

PRECISION TECHNOLOGIES DIVISION

675 McKinley Street
Eugene, OR 97402
Tel 541.484.2368
www.pre-tec.com

SOUTHERN DIVISION

100 Dixie Mae Drive
PO Box 4450
Pineville, Louisiana 71361
Tel 318.640.5077

SUBSIDIARIES

CANADIAN WILLAMETTE

19081- 27th Avenue
Surrey BC V3S 5T1
Tel. 800.663.4298

ECLECTIC PRODUCTS INC.

Corporate Office
1075 Arrowsmith Street
Eugene, OR 97402
Tel 541.284.4667
www.eclecticproducts.com

IDAHO MILL & GRAIN

445 North 430 West Hwy
PO Box 188
Malad City, Idaho 83252
Tel 208.766.2206

TAPEL WILLAMETTE LTD. S.A.

Av. Estero La Posada 3625 Parque
Industrial Coronel Coronel, Chile
Tel 011.56.41.2.928.100
www.tapel.cl

