

Technical Data Sheet



Willamette Valley Company

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Partnering through service,
innovation, and integrity

POLYQuik® EJC-NS

Polyurethane Expansion Joint (Type M, Grade NS, Class-12.5)

DESCRIPTION

POLYQuik® EJC-NS is a non-sag, highly flexible, two-component, rapid setting, polyurethane-based compound for joint filling. EJC-NS can be applied vertically or on slopes. EJC-NS passes Class-12.5 Hockman testing for expansion joint compounds.

WHERE TO USE

- **Vertical Expansion Joints**— +/-12.5% movement joints
- **Sloped Joints**— Infrastructure repair
- **Parking Decks, Bridge Decks, Roofing, Sidewalks**

FEATURES AND BENEFITS

- **Quick Set**— 1-hour return to service
- **Highly Elastic**—moves readily with the joint
- **Non-Sag**—applied vertically or in non-level applications
- **Flexible At Freezing Temperatures**—does not harden
- **Passes Hockman Type-12.5 Test**—dynamically stable
- **100% Solids 0 VOC**—environmentally friendly

PACKAGING

450-mL Cartridge
5-Gallon Buckets
50-Gallon Drums

COLOR

Concrete Gray,
Colors Available Upon Request

YIELD

450-mL Cartridge = 27.5in³
15-Gallon Bucket Sets (15-gal total) = 3465in³
50-Gallon Drum Sets (150-gal total) = 20.05ft³

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

| | |
|--|-----------------------------|
| Hockman Type 12.5 Testing (ASTM C719) | Pass < 0.05" Set No Failure |
| Service temperature , ° F (° C) | -30 to 170 (-34 to 77) |
| VOC , lbs/gal (g/L), ASTM D 2369 | 0 |
| Tensile , ASTM D412, (psi) | 540 |
| Elongation , ASTM D412 (%) | 280 |
| Modulus , ASTM D412 (ksi) | 0.1 |
| Hardness , ASTM D 2240 (Shore A) | 50 |
| Mixed Viscosity , 70°F (21°C) (cP) | 40,000 |
| Work Life , 70°F (21°C) (min) | 10 |
| Set Time , 70°F (21°C) (min) | 20 |
| Return to Service , 70°F (21°C) (min) | 40 |

Processing Parameters

| | |
|-------------------------------------|---|
| Application temp , ° F (° C) | 50 to 100 (10 to 37) |
| Mix Ratio By Volume | 2:1 (RESIN:ISO) |
| Application equipment | 450-mL cartridge Applicator; 2:1 WVCO Meter or Equivalent |

APPLICATION

SURFACE PREPARATION: CONCRETE

1. The concrete surface being repaired should be fully cured 28 days, structurally sound (200psi or greater according to ASTM D7234, clean (ASTM D4258), and dry (less than 5%, ASTM E1907).
2. Joint concrete surfaces must be sound, dry, clean, free of dirt, moisture, loose particles, oil, asphalt, tar, paint, wax, rust, waterproofing and curing/parting compounds, membranes, and other foreign matter.
3. Clean concrete where necessary by grinding, sandblasting, or wire brushing. Expose a sound surface free of contamination

OLD CONCRETE PREVIOUSLY CAULKED

1. Remove all old joint sealing material by saw cut.
2. Priming is required if previous jointing compound is not saw-cut free (see PRIMING section below).
3. If joint sides have absorbed oils or latents, cut away sufficient concrete to ensure a clean, fresh surface.

INSTALLATION

JOINT DESIGN

1. Use POLYQuik® EJC-NS only in joints where shrinkage and movement will be less than +/- 12.5% of original joint width. Contact Willamette Valley for details if greater movement capabilities are required.
2. POLYQuik® EJC-NS is not recommended for joints greater than 1" (25mm) wide.
3. Joints filled with POLYQuik® EJC-NS should be designed and prepared according to industry ACI standards. To ensure joint compound performance, sealant depth should be ½ sealant width.
4. Backer rods should be used according to ACI guidelines in all expansion joints. Control or construction joints can be filled to full depth. While EJC-NS is not intended for use in control or construction joints, it may be used as engineering requirements see fit. Contact Willamette Valley for more details.

PRIMING

1. For expansion joint movement greater than +/- 12.5% of original joint width (or 25% total joint movement), concrete priming is required. Priming all concrete surfaces is recommended. Prime with POLYPrime or Epoxy Primer. Contact manufacturer for proper selection.
2. On surfaces other than concrete, conduct a test application to verify adhesion and primer selection. If practical send a substrate sample to Willamette Valley for adhesion analysis.
3. For joint movement less than +/- 12.5% original joint width, priming may not be required. While priming is typically recommended by manufacturers and industry associations, it is not always a requirement. Decisions whether to use primer are the responsibility of the engineer and contractor alike.
4. For immersion applications priming is required.
5. To minimize contamination of adjacent surfaces apply masking tape before priming and remove before the sealant has begun to thicken and set.
6. Prime a thin, uniform film (typically 1–2 mils). Avoid buildup of excess film thickness and application of primer beyond joint faces. Excess primer should be blown out of the joint surface with 150-psi dry air while still liquid.
7. Contact Willamette Valley for specific recommendations for further priming applications. Jointing compound application times varies with selection of primer.

Coverage Rate, Linear feet (meters): Per 450mL cartridge

| Joint Size in (mm) | ¼ (6.4) | ½ (12.7) | ¾ (19.1) | 1 (25.4) |
|--------------------|----------|-----------|-----------|-----------|
| ¼ (6.4) | 36 (11) | 18 (5) | 12 (3.8) | 9 (2.7) |
| ½ (12.7) | 18 (5) | 12 (3.8) | 6 (1.8) | 4.5 (1.4) |
| ¾ (19.1) | 12 (3.8) | 6 (1.8) | 4.5 (1.4) | 3 (0.9) |
| 1 (25.4) | 9 (2.7) | 4.5 (1.4) | 3 (0.9) | 2.3 (0.7) |

METER DISPENSED

PROCESSING

1. Use Willamette Valley metering equipment or equivalent at a 2:1 ratio by volume (resin:iso). For metering applications contact Willamette Valley Precision Technologies for equipment recommendations.
2. Condition RESIN and ISO to approximately 70°F (21°C) for 24-hours before using.
3. Mechanically mix RESIN for 30-60 minutes, avoid over mixing. Use mix blades that are 1/3 the diameter of the container.
4. Test the meter operation of EJC-NS before dispensing in joint area. Use a 13-mm diameter mix tube with 32-elements or recommended equivalent (contact Willamette Valley for equivalents). Initially dispense into a container to verify EJC-NS color/mixing is uniform and the material sets uniformly in 40-min at 70°F (21°C). Continue with application after thoroughly inspecting cured material.

APPLICATION

1. Dispense into jointing area using a pressure that is efficient and comfortable for the individual application technician.
2. Application pressures and rates will vary with equipment and jointing configuration. Pressures should not fall below 40-psi on WVCO meters. Shallow joints will require lower application pressures compared to deep joints.
3. Fill the joint from the bottom up. Fill joint in 1 or 2-passes, avoid overfilling. Depending on joint size, multiple application passes may be necessary. Overfilled joints should be troweled level with the surface of the concrete.
4. Topping-sand can be applied for texture or to speed tack-time.
5. Stopping more than 60-seconds can clog mix-tubes. Change mix-tubes if dispensing stops more than 60-seconds at 70°F (21°C). Elevated temperatures decrease tube life.
6. Periodically inspect applied jointing material for uniformity and proper set. If inspected areas are non-uniform, stop, change mix tube and check meter operation for compliance.

CARTRIDGE DISPENSED

PROCESSING

1. Condition cartridges to approximately 70°F (21°C) for 24-hours before using.
2. Use a square 30-element mix tube with a pneumatic gun. Hand pumping is not recommended due to the increased chances of poor mixing. Contact supplier for further instructions if hand pumping is required.

APPLICATION

1. Use a 2-to-1 pneumatic dispenser (maximum of 80 psi) and ensure that the pneumatic dispenser is the proper sizing.
2. Keep the cartridge upright during assembly.
3. Remove the retaining nut and caps from the cartridge.
4. Place mixing tube on cartridge nozzle and hand tighten the retaining nut over the mix-tube.
5. Keep cartridge upward and load into applicator gun.
6. While pointing cartridge upright, trigger handle to remove any air trapped in cartridges.
7. Point cartridge over waste container and dispense initial material (20-40mL) outside the jointing area.
8. Fill the joint from the bottom up. Fill joint in 1 or 2-passes, avoid overfilling. Depending on joint size, multiple applications may be necessary. Overfilled joints should be troweled level with the surface of the concrete.
9. Topping sand may be applied for texture or to speed tack-time.

NOTE: Material sets approximately in 20-minutes at 70°F (21°C). Colder temperatures slow cure. Warmer temperatures speed the cure. Return to service time is typically 40-minutes at 70°F (21°C).

NOTE: POLYQuik® EJC-NS is an aromatic compound discoloration from UV light may occur, however, the physical properties are unaffected.

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