**Technical**

**Data Sheet**

wvco

Willamette Valley Company

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Partnering through service, innovation, and integrity

# POLYQuik® EJC-25

## Polyurea Based Expansion Joint (Type M, Grade P, Class-25)

### DESCRIPTION

POLYQuik® EJC-25 is a highly flexible, two component, rapid setting, polyurea-based compound for joint filling. EJC-25 is a Class-25 expansion joint compound and has over 900% elongation.

### WHERE TO USE

- **Expansion Joints**— +/- 25% movement joints
- **Airport Runways and Highways**— Infrastructure repair
- **Parking Decks, Bridge Decks, Roofing, Sidewalks**

### FEATURES AND BENEFITS

- **Quick Set**— 2-4-hour return to service
- **Highly Elastic**—moves readily with the joint
- **Self Leveling**—flows readily, completely fills joint
- **Flexible At Freezing Temperatures**—does not harden
- **Passes Hockman Type-25 Testing**—dynamically stable
- **100% Solids 0 VOC**—environmentally friendly
- **1:1 By Volume**—apply through common meters

### PACKAGING

600-mL Cartridge
1500-mL Cartridge
5-Gallon Buckets
50-Gallon Drums

### COLOR

Concrete Gray,
Colors Available Upon Request

### YIELD

600-mL Cartridge = 36.61in$^3$
1500-mL Cartridge = 91.5 in$^3$
5-Gallon Bucket Sets (10-gal total) = 2310in$^3$
50-Gallon Drum Sets (100-gal total) = 13.36ft$^3$

### 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 25 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) | 500 |
| **Elongation,** ASTM D412 (%) | 900 |
| **Modulus,** ASTM D412, (ksi) | 0.05 |
| **Hardness,** ASTM D 2240 (Shore A) | 40-50 |
| **Mixed Viscosity,** 70°F (21°C) (cP) | 6,000 |
| **Gel Time,** ASTM D2240, 70°F (21°C) (minutes) | 3 |
| **Set Time,** 70°F (21°C) (hrs) | 1 |
| **Return to Service,** 70°F (21°C) (hrs) | 2 to 4 |

**Processing Parameters**

| | |
|---|---|
| **Application Temp** ° F (° C) | 50 to 100 (10 to 37) |
| **Mix Ratio By Volume** | 1:1 |
| **Application Equipment** | 600-mL and 1500-mL Pneumatic Cartridge Applicator; 1:1 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-25 only in joints where shrinkage and movement will be less than +/- 25% of original joint width.
2. POLYQuik® EJC-25 is not recommended for joints greater than 2" (50mm) wide.
3. Joints filled with POLYQuik® EJC-25 should be designed and prepared according to industry ACI standards. To ensure joint compound performance, sealant depth should be ½ sealant width.
4. POLYQuik® EJC-25 should not be used on slopes greater 7%.
5. Backer rods should be used according to ACI guidelines in all expansion joints. Control joints or random cracks can be filled to full depth.

*PRIMING*

1. For expansion joint movement greater than +/- 12.5% of original joint width (or 25% total joint movement), concrete priming is required. Prime with POLYQuik® IK Primer, 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 Co. for specific recommendations on further priming applications. Jointing compound application times will vary with primer selection.

**Coverage Rate,** Linear feet (meters): Per 600mL cartridge

| Joint Size in (mm) | ¼ (6.4) | ½ (12.7) | ¾ (19.1) | 1 (25.4) |
|---|---|---|---|---|
| ¼ (6.4) | 48 (15) | 24 (7) | 16 (5) | 12 (3.6) |
| ½ (12.7) | 24 (7) | 16 (5) | 8 (2.4) | 6 (1.8) |
| ¾ (19.1) | 16 (5) | 8 (2.4) | 6 (1.8) | 4 (1.2) |
| 1 (25.4) | 12 (3.6) | 6 (1.8) | 4 (1.2) | 3 (0.9) |

**METER DISPENSED**

*PROCESSING*

1. Use WVCO meter or equivalent at a 1 to 1 ratio by volume. For metering applications contact Willamette Valley Company Precision Technologies division 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, do not over mix. Use mix blades that are 1/3 the diameter of the container.
4. Test the meter operation of EJC-25 before dispensing in joint area. Use a 13-mm diameter mix tube with 32-elements or recommended equivalent (contact Willamette Valley Co. for approved equivalents). Initially dispense into a mold-released container. Verify EJC-25 color/mixing is uniform and the material sets uniformly in 1-hour at 70°F (21°C). Cut container away from cured urethane to thoroughly inspect 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 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. Completely fill joint in 1-pass, avoid overfilling. In cases where slab elevations differ, fill to the lower slab height. 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 then 30-seconds can clog mix-tubes. Change mix-tubes if dispensing stops more than 30-seconds at 70°F (21°C). Elevated temperatures decrease mix-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 32-element 13-mm diameter static 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.

*CARTRIDGE APPLICATION*

1. Use a 1-to-1 pneumatic dispenser (maximum of 80 psi) and ensure that the pneumatic dispenser is the proper sizing.
2. Remove the retaining nut and caps from the cartridge.
3. Keep the cartridge upright during assembly.
4. Check alignment of plungers inside cartridge; level if necessary.
5. Place mix-tube on cartridge nozzle and hand tighten the retaining nut over the mix-tube.
6. Keep cartridge upright and load into applicator gun.
7. While pointing cartridge upright, trigger handle to remove any air trapped in cartridges.
8. Point cartridge over waste container and dispense initial material (20-40mL) outside the jointing area.
9. Stopping more then 30-seconds can clog mix-tubes. Change mix-tubes if dispensing stops more than 30-seconds at 70°F (21°C). Elevated temperatures decrease mix-tube life.
10. Fill the joint from the bottom up. Completely fill joint in 1 pass, avoid overfilling. Avoid triggering on and off. In cases where slab elevations are different, fill to the lower slab height.
11. Topping sand may be applied for texture or to speed tack-time.

**NOTE:** Material sets approximately in 1-hour at 70°F (21°C). Colder temperatures will slow the cure. Warmer temperatures will speed the cure. Return to service time is typically 4-hours at 70°F (21°C).

**NOTE:** POLYQuik® EJC-25 is an aromatic compound discoloration from UV light may occur, however, the physical properties are unaffected.



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Revision Date: Oct 2011