



**GREENUMBRELLA™**

Engineered Polished Concrete

# POLYLOCK

**CUT, FILL, SHAVE THE SAME DAY**

Green Umbrella Polylock POLYUREA JOINT FILLER / CLEAN AND DRY is a new and revolutionary joint and crack treatment system that solves the problem of edge disbondment frequently experienced after placing new joint filling materials. The system is composed of:

- First - "Clean and Dry" application - cleans and dries the concrete surface of the joint.
- Second - Application of our proprietary Polyurea Joint Filler (which is applied in a manner similar to traditional joint fillers/sealants).

Maintains a clean, aesthetically pleasing, functional joint edge. Allows for early application after concrete pour, and drastically improves the performance of the control joint.

Self-leveling, low viscosity, solvent free and flexible, allowing up to 25% movement of installed joint width.

Can be applied at temperatures between 0°F (-17°C) to 120°F (48°C). Has an in service temperature range of -40°F (-40°C) to 140°F (60°C).

\*\*\* The complete system must be applied in order to achieve maximum adhesion and joint material elongation.

- Keeps joints free of debris and provides a continuous load bearing surface for wheeled traffic
- May be applied to newly cut control joints when using low shrinkage concrete or when using shrinkage reducing curing compounds
- Filled joints can be opened to traffic in 90 minutes at 75°F (24°C)
- Self-leveling, low viscosity system
- Freezer and other cold temperature applications
- Acceptable for use in USDA inspected facilities
- Wide temperature range of usage/application
- Can be covered with primer/topcoat for aesthetics, but strict instructions must be followed. (See Performance Tips section)

- Used to fill interior control joints or new construction saw joints on horizontal concrete surfaces
- Used to fill static and moving cracks
- For industrial floor applications receiving heavy duty vehicle traffic, the joint width should be a minimum of 1/4" (0.6 cm) and the maximum joint width is 3/4" (1.9 cm) and joint depth should be a minimum of 1" (2.54 cm) or 3 times the width
- For foot traffic, the joint width should be a minimum of 1/4" (0.6 cm) and a maximum joint width is 3/4" (1.9 cm) and minimum depth of 1" (2.54 cm)
- Exterior applications when minimal joint movement from thermal cycling will occur
- Not for use in expansion joints

### Polyurea Joint Filler / Clean and Dry - Chemical Resistant Chart\*:

• Acetic Acid (10%)	Recommended
• Acetone	Limited Recommendation**
• Bleach	Limited Recommendation**
• Bleach (10%)	Recommended
• Citric Acid (5%)	Recommended
• Crude Oil	Recommended
• Motor Oil	Limited Recommendation**
• Gasoline	Limited Recommendation**
• Diesel Fuel	Recommended
• Skydrol	Limited Recommendation**
• Hydraulic Oil	Recommended
• Ethylene Glycol	Limited Recommendation**
• Fatty Acids	Recommended
• Water (room temp)	Recommended
• NaCl (10%)	Recommended
• Hydrochloric Acid (10%)	Recommended
• Lactic Acid (5%)	Recommended
• Methyl Ethyl Ketone	Limited Recommendation**
• Nitric Acid (1%)	Recommended
• Phosphoric Acid (10%)	Recommended
• Sodium Hydroxide (20%)	Recommended
• Sulfuric Acid (20%)	Recommended
• Toluene	Limited Recommendation**
• Urea (50%)	Recommended
• Vinegar	Recommended
• Xylene	Limited Recommendation**

\*This chart is intended as an aid in evaluating the performance of the Polyurea Joint Filler / Clean and Dry in various chemical exposures at 75°F (24°C). The data is intended as a guide only. In severe or combination exposures, a sample should be tested under actual or simulated use conditions to determine suitability.

## Polyurea Joint Characteristics

**Colors:** Concrete Gray or Off-White

**VOC:** 0 g/l, 0.00 lb/gal, mixed

**Mix Ratio:** 1:1 by Volume

**Viscosity:** 500 cp (500 mpa)

**Coverage:** See Application Bulletin

## System Performance Characteristics

Test Name	Test Method	Results @ 75°F/24°C
<b>Adhesion to Concrete</b>	ASTM D7234 (modified)	275 psi (1,9 MPa)
<b>Bond Strength</b>	ASTM C882	400 psi (2,8 MPa)
<b>Elongation</b>	ASTM D412	82%
<b>Shore A Hardness</b>	ASTM D2240	75-80
<b>Tensile Strength</b>	ASTM D412	1,200 psi (8,3 MPa)

### Drying Schedule:

@ 75°F/24°C  
50% RH

<b>To cure:</b>	90 minutes
<b>Pot Life:</b>	3 minutes
<b>Shelf Life:</b>	18 months Store indoors at 40°F (4.5°C) to 100°F (38°C).
<b>Reducer:</b>	Not recommended
<b>Clean Up:</b>	Xylene, Toluene, MEK, WD40

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## ***Application Equipment***

Clean and Dry  
• Low Pressure Sprayer

Polyurea Joint Filler  
• Polyurea Pump  
AST GMP Series  
Graco E-8p with 2 K Manual Dispensing Gun

## ***Application Conditions***

Temperature:  
Application: 0°F (-17°C) minimum, 120°F (48°C) maximum

In-Service: -40°F (-40°C) minimum, 140°F (60°C) maximum

Relative humidity: 85% maximum

Refer to product Application Bulletin for detailed application information.

## ***Surface Preparations***

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, and other foreign material to ensure adequate adhesion.

### **JOINT PREPARATION:**

Low shrinkage concrete can be treated when the joints are cut. For Interior Control Joints: Standard concrete must be at least 28 days old and environmentally conditioned to use temperature and humidity.

1. For Heavy Duty Traffic areas: the joint width should be a minimum of 1/4" (0.6 cm) and the maximum joint width is 3/4" (1.9 cm) and joint depth should be a minimum of 1" or 3 times the width.

2. For Light Foot Traffic: the joint width should be a minimum of 1/4" (0.6 cm) and a maximum joint width is 3/4" (1.9 cm) and minimum depth of 1" (2.54 cm).

Polyurea Joint Filler/Clean and Dry is intended for cracks and joints subject to movement up to 25% of installed joint width when placing backer rod or dry sand at the bottom of the joint to avoid adhesive bonding to the bottom. This will allow for movement of bonding agent from side to side during joint expansion and contraction.

Do Not use in Expansion Joints.

1. Avoid application in wet environments. Remove all standing water. Substrate must be kept dry after application of Clean and Dry.

2. For crack repairs use a saw or grinder with a dry diamond or concrete abrasive blade to cut along the crack making the opening (1/4" - 1/2" wide). The edges must be a 90° angle to the surface to avoid a feathered edge.

3. For best results when repairing existing control joints, re-cut joints with a dry diamond blade. All dust must be removed using oil-free pressurized air or vacuum.

## ***Application Conditions***

Temperature:  
Application: 0°F (-17°C) minimum, 120°F (48°C) maximum

In-Service: -40°F (-40°C) minimum, 140°F (60°C) maximum

Relative humidity: 85% maximum

## ***Application***

Surface preparation must be completed as indicated.

### **Clean and Dry Mixing and Application:**

1. Ensure the crack or joint is dust, debris and ice free. Remove standing water.

2. Mask the joint edges or use a bond inhibitor on the top surface where the polyurea is not intended to bond. (This procedure will help to eliminate staining of the concrete as when overfilled and shaved)

3. Shake the one gallon Clean and Dry container thoroughly and pour into to a low pressure sprayer.

4. Spray a thin film of the Clean and Dry to the debris free crack or joint in a manner that wets the surface of the concrete to receive the polyurea. DO NOT OVER APPLY! One gallon should cover about 750 LF.

5. Allow Clean and Dry to dry a minimum of 15 minutes at 75°F (24°C). Once the Clean and Dry is applied, the surface must remain dry. Apply Polyurea Joint Filler immediately following application and drying of the Clean and Dry.

### **Cartridge - Set Up and Application:**

1. Shake the cartridge vigorously for 60 seconds, then stand cartridge upright for 5 minutes allowing any bubbles to rise to the top.

2. Insert cartridge into dispenser and point upward at about a 45° angle. Make sure it is properly positioned with shoulder of cartridge flush with front/top bracket of the dispenser. Remove the plastic cap and plug from the top of the cartridge.

**IMPORTANT:** Before attaching nozzle, balance the cartridge by slowly dispensing a small amount of material into a disposable container until both materials flow evenly from cartridge. Place nozzle onto cartridge and secure by threading in a clock-wise direction.

3. Continuing to point the nozzle upward at about a 45° angle, slowly apply pressure to dispenser moving product up through the nozzle until it reaches the tip. Dispense 1 stroke of material into a disposable container (1-2 quick bursts if using an air tool). Ensure that air tool is set not to exceed 60 PSI. The cartridge is now balanced and ready for use.

4. Place the mixing nozzle directly over the joint or repair area. Dispense material using full smooth trigger pulls (no short choppy strokes) and allow material to gravity feed into the crack/joint. For joints to be shaved, over-fill the crack/joint so that material is slightly higher than the face of the concrete slab you are repairing.

5. Allow the GU4890 Polyurea Joint Filler to cure for approximately 45 minutes at 75°F (24°C) then use a sharp floor scraper to shave excess material from top surface.

6 Allow material to cure for 90 minutes at 75°F (24°C) before subjecting repaired area to any type of traffic.

7. Follow explicit instructions in Performance Tips section for application of any topcoat.

### **Nozzle Usage:**

- If you have any difficulty in dispensing product, replace the nozzle with a new one. The product may have started curing in the nozzle which will affect the mix ratio.
- Never transfer a used nozzle to a new cartridge. Instead use a new nozzle with each cartridge.



***Application Procedures***

**BULK MIXING INSTRUCTIONS:** (for use with bulk dispensing equipment)

1. Prior to dispensing with bulk dispensing equipment, make sure the contents of both Part A and B are uniformly mixed.
2. Attach mixing nozzle to the dispensing equipment.
3. Follow equipment manufacturers instructions to ensure that GU4890 Polyurea Joint Fillers being dispensed at the correct 1:1 ratio.
4. Allow the GU4890 Polyurea Joint Filler to cure for approximately 45 minutes at 75°F (24°C) then use a sharp floor scraper to shave excess material from top surface.
5. Allow material to cure for 90 minutes at 75°F (24°C) before subjecting repaired area to any type of traffic.

***Performance Tips***

Low shrinkage concrete can be treated when the joints are cut. Standard concrete must be at least 28 days old and environmentally conditioned to use temperature and humidity.

The repaired crack or control joint can be shaved or sanded in approximately 45 minutes at 75°F (24°C) but you must wait a minimum of 2 hours before coating, with a water-based primer. A premium water-based primer that is compatible with xylene or other solvent-based coatings **MUST** be used prior to the application of any topcoat. Follow the primer instructions for cure schedule. A small test area of the topcoat should be conducted and observed for at least 7 days prior to full application, to prove coating compatibility.

The user assumes all risks when applying a topcoat without first applying a primer as described above. It is recommended to first try a small test area to confirm compatibility and performance. Refer to Product Information sheet for additional performance characteristics and properties.

***Disclaimer***

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of Green Umbrella Systems. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Green Umbrella Systems representative to obtain the most recent Product Data Information and Application Bulletin.

***Safety Precautions***

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Green Umbrella Systems representative for additional technical data and instructions.

***Warranty***

Green Umbrella Systems warrants our products to be free of manufacturing defects in accord with applicable Green Umbrella Systems quality control procedures.

Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Green Umbrella Systems. **NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY Green Umbrella Systems, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

***Application Information***

<u>Joint Size</u>	<u>Approximate Lineal Feet per 22 oz. Cartridge</u>	<u>Lineal Feet Per Gallon</u>
1/4" x 1"	13.3	77.0
1/4" x 1 1/4"	10.7	61.6
1/4" x 1 1/2"	8.9	51.3
1/4" x 1 3/4"	7.6	44.0
1/4" x 2"	6.7	38.5
3/16" x 3/4"	23.7	136.9
3/16" x 1"	17.8	102.7
3/16" x 1 1/4"	14.2	82.1
3/16" x 1 1/2"	11.9	68.4
3/16" x 1 3/4"	10.2	58.7
3/16" x 2"	8.9	51.3
1/2" x 1"	6.7	38.5
1/2" x 1 1/4"	5.3	30.8
1/2" x 1 1/2"	4.4	25.7
1/2" x 1 3/4"	3.8	22.0
1/2" x 2"	3.3	19.3

Clean spills and spatters immediately with Xylene, Toluene, MEK or WD-40. Clean tools immediately after use with Xylene, Toluene, MEK or WD-40. Follow manufacturer's safety recommendations when using any solvent.