



W. R. MEADOWS.

SEALTIGHT

## DATA SHEET NO. 3300-397

# POLY-GRIP™ Doweling Adhesive

### DESCRIPTION

POLY-GRIP is a two-component, polyester, styrene-free system used for anchoring and doweling applications and may be used in temperatures from -12° - 35° C.

### USES

POLY-GRIP is used for adhering dowel bars and tie bars for full-depth concrete pavement repairs. The product can also be used for short-term tensile anchoring and shear loading conditions in accordance with allowable stress design (ASD). It features a wide service temperature range of -40° - 80° C. POLY-GRIP is moisture insensitive, allowing installation and curing in damp wet environments.

### FEATURES/BENEFITS

- Easily dispensable.
- Very rapid curing.
- Quick bolt-up time; in as little as 30 minutes.
- Low VOC content.
- Styrene-free.
- Non-sag

### PACKAGING

0.83 Litre (28 U.S. Fluid Oz.) Cartridge (10/Cartron)

### SHELF LIFE

One year from date of manufacture when stored indoors on pallets in a dry, cool area. Do not store product outside.

### TECHNICAL DATA

| Property                   | Cure Time           | ASTM Standard | Units   | Sample Conditioning Temperature |
|----------------------------|---------------------|---------------|---------|---------------------------------|
|                            |                     |               |         | 24° C                           |
| Gel Time – 60 Gram Mass    | N/A                 | C881          | Minutes | 5                               |
| Compressive Yield Strength | 1 Hr. <sup>2</sup>  | D695          | MPa     | 33                              |
| Compressive Yield Strength | 24 Hr. <sup>2</sup> |               | MPa     | 39                              |
| Tensile Strength           | 7 Day               | D638          | MPa     | 16.5                            |
| Tensile Elongation         |                     |               | %       | 2.9                             |
| Consistency or Viscosity   | N/A                 | C881          | N/A     | Non-Sag                         |
| VOC Content <sup>3</sup>   | N/A                 | N/A           | g/L     | 12                              |

1. Results based on testing conducted on a representative lot of product. Average results will vary according to the tolerances of the given property.

2. Cure time shorter than required by ASTM D695.

3. VOC content is outside of the scope of ASTM C881.

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### APPLICATION

**Surface Preparation ...** Using a rotary hammer drill and a bit which conforms to ANSI B212.15 and is the appropriate size for the anchor diameter to be installed, drill the hole to the specified embedment depth.

Remove standing water from hole prior to beginning the cleaning process. Using oil-free compressed air with a minimum pressure of .55 MPa, insert the air wand to the bottom of the drilled hole and blow out the debris with an up/down motion for a minimum of four seconds/cycles (4X).

Use a brush that is long enough to reach the bottom of the drilled hole. Reaching the bottom of the hole, brush in an up/down and twisting motion for four cycles (4X). The brush should contact the walls of the hole. If it does not, the brush is either too worn or small and should be replaced with a new brush of the correct diameter.

Blow the hole out once more to remove brush debris using oil-free compressed air with a minimum pressure of .55 MPa. Insert the air wand to the bottom of the drilled hole and blow out debris with an up/down motion for a minimum of four seconds/cycles (4X). Visually inspect the hole to confirm it is clean. NOTE: If installation will be delayed for any reason, cover cleaned holes to prevent contamination.

**Mixing ...** Remove the protective cap from the adhesive cartridge and insert the cartridge into the dispensing tool. Before attaching mixing nozzle, balance the cartridge by dispensing a small amount of material until both components are flowing evenly. For a cleaner environment, hand mix the two components and let cure prior to disposal in accordance with local regulations.

After the cartridge has been balanced, screw on the proper mixing nozzle to the cartridge. Do not modify mixing nozzle and confirm that internal mixing element is in place prior to dispensing adhesive. Take note of the air and base material temperatures and review the working/full cure time prior to starting the injection process.

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Dispense the initial amount of material from the mixing nozzle onto a disposable surface until the product is a uniform gray color with no streaks, as adhesive must be properly mixed in order to perform as published. Dispose of the initial amount of adhesive according to local regulations prior to injection into the drill hole. CAUTION: When changing cartridges, never reuse nozzles. A new nozzle should be used with each new cartridge.

**Application Method** ... Insert the mixing nozzle to the bottom of the hole and fill from the bottom to the top approximately two-thirds full, being careful not to withdraw the nozzle too quickly as this may trap air in the adhesive. NOTE: When using a pneumatic dispensing tool, ensure that pressure is set at .62 MPa maximum.

Prior to inserting the threaded rod or rebar into the hole, make sure it is clean and free of oil and dirt and that the necessary embedment depth is marked on the anchor element. Insert the anchor element into the hole while turning 1 - 2 rotations prior to the anchor reaching the bottom of the hole. Excess adhesive should be visible on all sides of the fully installed anchor. CAUTION: Use extra care with deep embedment or high temperature installations to ensure that the working time has not elapsed prior to the anchor being fully installed.

Do not disturb, torque, or apply any load to the installed anchor until the specified full cure time has passed. The amount of time needed to reach full cure is base material temperature dependent.

**PRECAUTIONS**

Do not thin with solvents, as this will prevent cure. For anchoring applications, concrete should be a minimum of 21 days old prior to anchor installation. Not recommended for any application where there may be a sustained tensile load, including overhead applications.

**MASTERFORMAT NUMBER AND TITLE**  
03 01 00 - Maintenance of Concrete

**LEED INFORMATION**

May help contribute to LEED credits:

- IEQ Credit 4.1: Low-Emitting Materials – Adhesives and Sealants
- MR Credit 2: Construction Waste Management
- MR Credit 5: Regional Materials



For most recent data sheet, further LEED information, and SDS, visit [www.wrmeadows.com](http://www.wrmeadows.com)

2015-11-09

**TABLE 1: POLY-GRIP CURE SCHEDULE** <sup>1,2</sup>

| Base Material Temperature Range | Working Time | Full Cure Time - Dry Concrete | Full Cure Time - Damp Concrete <sup>3</sup> |
|---------------------------------|--------------|-------------------------------|---|
|                                 |              |                               |   |
| 0                               | 25 mins      | 180 mins                      | ----  |
| 5                               | 15 mins      | 120 mins                      | 180 mins                                    |
| 10                              | 12 mins      | 90 mins                       | 135 mins                                    |
| 15                              | 8 mins       | 60 mins                       | 90 mins                                     |
| 20                              | 6 mins       | 50 mins                       | 68 mins                                     |
| 25                              | 4 mins       | 30 mins                       | 45 mins                                     |
| 30                              | 3 mins       | 20 mins                       | 30 mins                                     |
| 35                              | 2 mins       | 15 mins                       | 23 mins                                     |

1. Working and full cure times are approximate, may be linearly interpolated between listed temperatures and are based on cartridge/nozzle system performance.
2. Application Temperature: Substrate temperature should be from 0° - 35° C.
3. Adhesive should not be injected into damp concrete at temperatures below 5° F.

**TABLE 2: POLY-GRIP ultimate and allowable TENSION loads for THREADED ROD in normal-weight concrete** <sup>1,2</sup>

| Threaded Rod Diameter in. | Nominal Drill Bit Diameter in. | Embedment Depth in. (mm) | Tension Load Based on Bond Strength/Concrete Capacity |                     | Allowable Tension Load Based on Steel Strength <sup>3</sup> |                              |                                |
|---------------------------|--------------------------------|--------------------------|---|---------------------|---|------------------------------|--------------------------------|
|                           |                                |                          | f <sub>c</sub> ≥ 2,500 psi (17.4 MPa)                 |                     | ASTM F1554 Grade 36 lbs. (kN)                               | ASTM A193 Grade B7 lbs. (kN) | ASTM F593 304/316 SS lbs. (kN) |
|                           |                                |                          | Ultimate lbs. (kN)                                    | Allowable lbs. (kN) |   |                              |                                |
| 3/8                       | 7/16                           | 3 3/8 (86)               | 5,799 (25.8)  | 1,450 (6.4)         | 2,114 (9.4)   | 4,556 (20.3)                 | 3,645 (16.2)                   |
| 1/2                       | 9/16                           | 4 1/2 (114)              | 9,385 (41.7)  | 2,346 (10.4)        | 3,758 (16.7)  | 8,099 (36.0)                 | 6,480 (28.8)                   |
| 5/8                       | 3/4                            | 5 5/8 (143)              | 13,201 (58.7)   | 3,300 (14.7)        | 5,872 (26.1)  | 12,655 (56.3)                | 10,124 (45.0)                  |
| 3/4                       | 7/8                            | 6 3/4 (171)              | 16,241 (72.2)   | 4,060 (18.1)        | 8,456 (37.6)  | 18,224 (81.1)                | 12,392 (55.1)                  |

1. Allowable bond strength/concrete capacity was calculated using a safety factor of 4.0.
2. The lower value of either the allowable bond strength/concrete capacity or steel strength should be used as the allowable tension value for design.
3. Allowable steel strengths calculated in accordance with AISC Manual of Steel Construction: Tensile = 0.33\*F<sub>u</sub>\*A<sub>nom</sub>.

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