

DOT DOWELING ADHESIVE

PRODUCT No. 9902-17

DIVISION 3

Concrete Anchoring
03 31 51

PRODUCT DESCRIPTION

QUIKRETE® DOT Doweling Adhesive is a two-component, high modulus, polyester blend adhesive with a working time of approximately 7 min at 75°F (24°C). Load can be applied at 1 hour (75°F [24°C]).

PRODUCT USE

QUIKRETE® DOT Doweling Adhesive is a gray, solvent-free, high strength, non-sag, two-component (10:1 ratio) adhesive system. QUIKRETE® DOT Doweling Adhesive is typically used for rebar dowel installations in concrete. Suitable for non-overhead vertical and horizontal applications, including dowel, rebar, and anchor installations into concrete and masonry substrates where dynamic, vibratory, and intermittent loads exist. Typical applications also include grouting dowel bars and tie bars for full depth concrete repairs.

QUIKRETE® DOT Doweling Adhesive has been successfully tested for damp hole pull-out (tension) and may be used in this type of application. However, for optimum performance (typical properties listed below) QUIKRETE® DOT Doweling Adhesive should be installed into cleaned and prepared, dry holes.

SIZES

• QUIKRETE® DOT Doweling Adhesive is available in 28 oz. (828 ml, 50 cu. in.) cartridges. The resin and hardener are uniformly dispensed from a dual cartridge system and mixed simultaneously through a mixing nozzle, providing contractors with a self-mix delivery system.

TECHNICAL DATA

Meets ASTM C 881, Type I, II, IV & V, Grade 3, Class A, B & C.

Table 1: Typical Physical Properties

| Properties | | ASTM | 38°F | 50°F | 75°F |
|----------------------------------|-------------|-------|------------------|---------|---------|
| Gel time 60 gram sample | minutes | C881 | 44 | 18 | 10 |
| Working Time | minutes | | 90 | 37 | 7 |
| Load Time | hours | | 4 | 1.5 | 1 |
| Compressive Yield Strength | psi, 7 day | D695 | 13,300 | 12,000 | 13,000 |
| Compressive Modulus | psi | D695 | 259,000 | 238,000 | 261,000 |
| Tensile Strength | psi | D638 | 2,050 | 2,700 | 2,200 |
| Tensile Elongation - | % | D638 | 3.8 | 2.7 | 3.0 |
| Bond Strength | psi, 2 day | C882 | 3,400 | 3,000 | 2,850 |
| Bond Strength | psi, 14 day | C882 | 3,300 | 3,350 | 3,450 |
| Consistency or Viscosity | | C881 | Non-sag | | |
| Heat Deflection Temp | | D648 | 152 | | |
| Water Absorption | % | D570 | 0.9 | | |
| Linear Coefficient of Shrinkage | % | D2566 | 0.008 | | |
| Volatile Organic Compounds (VOC) | | | mixed 2.84 g / l | | |



INSTALLATION

SURFACE PREPARATION

Always prepare holes in advance before starting a new cartridge. Recommended minimum anchor hole depth is nine times the rod diameter. Typical hole diameter is 1/8" (3 mm) greater than rod diameter. To maximize nozzle usage and achieve best results, schedule dispensing to consume an entire cartridge at one time with no interruption of adhesive flow. To achieve maximum flow and reduce fatigue, break off the nozzle to the largest diameter that will fit into the hole or screen. If the hole is 5/8" diameter or larger, snap off the smaller diameter section of the nozzle before using.

Hole Preparation and Cartridge Set up

1) Fill hole to proper diameter and depth. Blow out dust from the bottom of the hole. Brush the hole with a nylon brush. Blow out dust again. The hole should be clean of dust and debris.

2) WEAR GLOVES

3) Use only a heavy-duty professional caulking gun. Insert cartridge into caulking gun making sure it is properly positioned with shoulder of cartridge flush with top bracket of the caulking gun.

4) Remove plastic cap and end plug from the tip of the cartridge. Dispense a small amount of adhesive into a disposable container until you get an even flow of white and gray material.

NOTE: Warm the cartridge to between 75°F-90°F (24°C-32°C) before use.

5) Thread nozzle onto the cartridge and secure. Make sure the nozzle/cartridge assembly is secure. Dispense enough adhesive into a disposable container until the color becomes a consistent gray with no streaks. If a pneumatic dispenser is used, an inline air pressure regulator is required limiting air pressure to a maximum of 90 psi (or lower).

APPLICATION

- Dispense the material at the bottom of the hole. Fill approximately 1/2 – 5/8 of the hole depth while slowly withdrawing the nozzle (enough to completely fill the hole when a dowel is inserted). Fill completely full for holes totally submerged in water.
- Insert the threaded rod or rebar to the bottom of the hole while turning clockwise. The threaded rod or rebar should be free of dirt, grease, oil, or other foreign materials. Do not disturb or bolt-up until minimum bolt-up time of 1 hour @ 75°F has passed (longer at colder temperatures). Promptly remove any excess material.
- Nozzle will be effective for the typical working time up to 7 minutes at 75°F (24°C) before hardening if application is halted. Placed material will begin to gel and harden by 6 minutes at 75°F (24°C). The quantity of the material applied affects gel time (more material gels quicker).

CURING

QUIKRETE® DOT Doweling Adhesive Typical Cure Schedule:

| Temperature | | Working | Cure |
|-------------|----|------------|-------------|
| °F | °C | Time | Time |
| 35 | 2 | 90 minutes | 240 minutes |
| 45 | 7 | 36 minutes | 90 minutes |
| 75 | 24 | 7 minutes | 60 minutes |
| 85 | 29 | 6 minutes | 30 minutes |

PRECAUTIONS

- WEAR GLOVES
- CAUTION: Do not attempt to force adhesive out of a hardened mixer nozzle. Use a new mixer nozzle to avoid rupturing the container. If a leak should develop, discontinue use immediately and use a new cartridge.
- Application temperature: 25°F to 120°F (-4°C to 49°C). Warm the

cartridge to between 75°F-90°F (24°C-32°C) before use.

- For long term doweling, short-term loads on threaded rod anchoring and engineering use – not for sustained long-term loads.
- Not for overhead anchoring.
- Storage temperature: 40°F to 90°F (4°C to 32°C)
- Service temperature: -30°F to 140°F (-34°C to 60°C)
- Uncured material can be removed with solvents such as: WD40, citrus adhesive removers, xylene, toluene, or nail polish remover. Cured material can only be removed mechanically. Employ solvents cautiously; follow with soap and water.
- Wear chemical resistant gloves and protect eyes and skin during use. May cause allergic reaction.
- Avoid contact with strong acids.
- Do not thin with solvents; this would prevent cure.
- Read MSDS at www.quikrete.com
- IRRITANT, SENSITIZER, CORROSIVE

WARRANTY

The QUIKRETE® Companies warrant this product to be of merchantable quality when used or applied in accordance with the instructions herein. The product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is limited to the replacement of its product (as purchased) found to be defective, or at the shipping companies' option, to refund the purchase price. In the event of a claim under this warranty, notice must be given to The QUIKRETE® Companies in writing. This limited warranty is issued and accepted in lieu of all other express warranties and expressly excludes liability for consequential damages.

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Rd., NE, Suite 1300, Atlanta, GA 30305
(404) 634-9100 • Fax: (404) 842-1425

* Refer to www.quikrete.com for the most current technical data, MSDS, and guide specifications

