

**1718 – BOND-BREAKER FOR PORTLAND CEMENT  
CONCRETE PAVEMENT DOWEL BARS**

**SECTION 1718**

**BOND-BREAKER FOR PORTLAND CEMENT  
CONCRETE PAVEMENT DOWEL BARS**

**1718.1 DESCRIPTION**

Bond-breaker is applied to dowel bars to be placed in contraction joints in rigid pavement before placement of the concrete. The material serves to prevent the concrete from bonding to the dowel bars, thus preserving the joint as a working one.

**1718.2 REQUIREMENTS**

- a. Bond-breaker must have an average pull out resistance less than 3400 lbs.
- b. Bond-breaker must not have any detrimental effects on portland cement concrete or the epoxy coating on the dowel bars.
- c. Apply bond-breaker according to the manufacturer's instructions. Do not apply bond-breaker with a thickness value greater than 24 mils. The thickness value is the average of 3 measurements taken at  $\frac{1}{4}$ ,  $\frac{1}{2}$  and  $\frac{3}{4}$  bar length spaced 120 degrees apart. No measurements are permitted to exceed 24 mils.
- d. Dowels that have bond-breaker applied in the plant by the dowel supplier must be stored in such a way as to prevent dust, dirt or any other contaminant that would impair the bond-breaking action, from accumulating on the treated surface. Pre-coated dowels that have been stored in the field for any length of time will be inspected to verify that the coating is still active and will perform as required.

**1718.3 TEST METHODS**

Test pull out resistance using KDOT Test Method KTMR-16, Testing of Dowel Bars Placed in Concrete for Resistance to Removal (Pull Out).

**1718.4 PREQUALIFICATION**

- a. All bond-breakers intended for use under this specification must be prequalified before use. Submit a written request to the Bureau Chief of Construction and Materials with the following information for each type and brand name:
  - (1) Name, address and telephone number of the manufacturer. Include the name of the preferred contact person.
  - (2) Brand name of the material.
  - (3) Information regarding recommended usage and application instructions.
  - (4) Material Safety Data Sheets.
- b. Submit three smooth 1 1/8 inch diameter (No. 9) epoxy coated dowel bars and sufficient bond-breaker material to coat the bars before sample preparation and testing. Send the samples to the Engineer of Tests. The bars will be coated, then cast in concrete and the bond tested. Submit one additional No. 9 bar for the noncoated comparison test. All sample bars should be a minimum of 24 inches in length.
- c. The information and test reports will be reviewed by the Bureau Chief of Construction and Materials. The manufacturer will be advised as to whether or not the product is prequalified.
- d. The Bureau of Construction and Materials will maintain a list of prequalified bond-breakers. Products will remain prequalified as long as the formulation and manufacturing processes remain unchanged, and field experience indicates that the material functions appropriately. Changes in formulation or manufacturing processes will require new prequalification testing. Failure of the material to function appropriately in the field will be cause for removal of the product from prequalified status. Products removed from prequalified status will be again

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considered for prequalification if the manufacturer can provide evidence that the cause of failure has been positively identified, and necessary formulation changes and quality control measures have been implemented to eliminate that cause. Complete prequalification testing will be required for products which have been removed from prequalified status.

**1718.5 BASIS OF ACCEPTANCE**

Prequalification as specified in **subsection 1718.4**.

Receipt and approval of a Type C certification as specified in **DIVISION 2600**.