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## DESCRIPTION

E-Bond 516 is a two component, moisture insensitive, Low Modulus, 100% solids polymer mixed with an aggregate to produce a fast setting impact resistance polymer mortar that produces monolithic bonds in construction or repair of expansion joint headers for expansion joints on bridge and parking decks.

E-Bond 516 can be used in both exterior and interior application, creating an almost zero permeable mortar. The distinctive properties of E-Bond 516 allow the system to flex with deck loads and absorb traffic impact loads, evenly distributing them into the deck.

## FEATURES AND BENEFITS

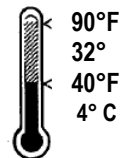
- Solvent Free, fast tack-free time, open to vehicular traffic in approximately 2 ½ hours at 75°F
- Low Modulus that has excellent flexibility properties
- High Bond Strength
- Self Priming
- Low viscosity for easy placement.
- ZERO VOC - Fully Reactive, No low boiling constituents

## WHERE TO USE

- Reconstruction of joints in existing structures
- High impact and repetitive loading conditions
- New construction or repair and maintenance of existing joints.
- Excellent as a patching mortar for spalled areas

## FOR BEST PERFORMANCE

- Precondition the components to 75°F (23°C) for 24 hours before use.
- Minimum ambient, surface, aggregate and epoxy temperatures should be 50°F (10°C) and rising at the time of application\*.
- Install when concrete substrate is clean, sound, dry, and cured (14 day minimum). Material is a vapor barrier after cure, test for moisture vapor transmission prior to application. Do not alter or change the recommended proportions when blending the components\*
- Do not apply over wet, shimmering surface, or concrete subject to hydrostatic pressure.



\*Contact E-Bond for written recommendations for cool weather applications or any necessitated increases or decreases of aggregate loadings



## TYPICAL DATA

All components conditioned cured and tested at 75°F ( 23°C) unless specified otherwise.

**Type:** Moisture Insensitive, Low Modulus

**Mixing Ratio:** 1 A & 1 B by Volume & C (Premeasured Aggregate)

**PROPERTIES:**

PHYSICAL PROPERTY	ASTM TEST METHOD	REQUIREMENTS
<b>NEAT</b>		
Tensile Strength	D 638	1,000 psi min.
Elongation	D 638	55% min.
Hardness (Shore D)	D 2240	50-80
Gel time minutes	C 881 (70 ml)	15-30
Viscosity ps	D2393	15-30
Oven Aging (@ 158F, 72 hrs)		
Tensile Strength	D 638	1,000 psi min.
Elongation		45% min.
<b>GROUT</b>		
Compressive Strength	C579 method B	2,800 psi min.
Resilience (@ 5% deflection)	OK/OHD L6	70% min.
Compressive Stress	OK/OHD L6	500 psi min.
Slant Sheer Bond Strength	C 882	1,000 psi min

Aggregate: Well graded supplied by manufacturer natural or med gray

**Shelf Life:** 1 year in original unopened container.

**Storage:** Store Dry at 40°F (4.4°C)-95°F(35°C) .Condition to 65°F (18°C)-75°F(24°C) before using. Protect from inclement weather and freezing.

### HOW TO USE 516 POLYMER NOSING

**APPLICATION:**

The block out shall be constructed to the dimensions on the drawings.

**Surface Preparation-**

**Concrete-** All surfaces must be prepared to a structurally dense surface to exposed coarse aggregate to reveal an open texture. Remove weak, contaminated deteriorated concrete, asphalt materials, oils, dirt, rubber, curing compounds, paint, carbonation, laitance, and other potentially detrimental materials

Suitable preparation methods include sandblasting, chipping and scarification etc., surface preparation by bush hammering, grinding, and milling can create minute fractures or micro cracking in the substrate, which may require additional sandblasting to a structurally dense surface. The concrete should meet the minimum requirements of ACI 503 Appendix A or ASTM C 1583-04 Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method).

**Cracks** – Repair cracks with appropriate crack sealer prior to placement of the E-Bond 516 Polymer Nosing Grout

**Steel** - Steel surfaces should be cleaned and prepared by sandblasting to conform to SSPC-SP10 Specification with a 4 mil (0.1mm) minimum anchor profile. If flash rust appears, the surface must be re-blasted to obtain minimum anchor profile.

**Mixing Liquid-Mortar**

Thoroughly premix 1 gal unit Part A and 1 gal unit of Part B for 1 minute. Pour Part A and Part B into a drum/mortar mixer (minimum 1 cubic foot volume) and slowly add Part C (Aggregate) into the drum.

Alternatively the combined Part A and Part B mixture can be split into two clean 5 gal buckets mix with a heavy – duty  $\frac{3}{4}$ " low speed drill motor with a mortar mixing paddle (see photo) . Pour one gallon of the mixed liquids into one bucket and pour the other gallon of mixed liquids into the other bucket. One 60 lb bag of the supplied aggregate should be added to each bucket of mixed liquids.

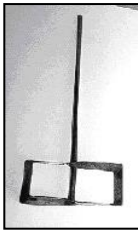
Mix the combined liquid and aggregate mixture for a minimum of three minutes or until all aggregate is evenly coated with liquids.

Keep the paddle below the surface of the material to avoid entrapment of air. Thorough mixing of both components is important to obtain optimum results. Carefully scrape the sides and bottom to ensure thorough mixing.

When mixing mortar in buckets after 3 minutes of mixing, pour the mixture into a 2<sup>nd</sup> bucket and mix an additional 2 minutes to ensure that the liquid–aggregate mix is uniform.

Small batches

Add 3  $\frac{1}{4}$  volumes blended aggregate to 1 volume of mixed E-Bond 516 polymer resin and thoroughly mix as required above.



Recommended Mortar Mixing Paddle

**Placement of Polymer:** The blended must be dumped from the mixer within 10-15 minutes after mixing. Pour the mixed grout into the properly prepared blockout. The material MUST be thoroughly compacted into the blockout with a margin trowel and with good compaction against the vertical faces. Smoothing the top with a steel float will **NOT** adequately compact the mixture.

If the material is to be applied more than 4" thick it must be poured in lifts and thoroughly compacted after each lift. Successive lifts must be placed while the previous lift is still tacky. An acceptable procedure is to pour the 1<sup>st</sup> lift the entire length of the header, then proceed where started with the previous lift. Do not allow a previous lift to harden before placement of the next lift.

**Non Skid Surface.**

After finish troweling there should be some resin float on the surface. Broadcast to rejection with a 20/30 dry aggregate.

**Special Note:** In cooler weather it is highly recommended that the liquids and aggregate be stored and conditioned to a minimum of 75°F just prior to use. Cooler weather thickens the liquids making it difficult to evenly coat all aggregates with liquid. A mix using cooler materials will be drier and difficult to compact, and trowel.

**LIMITATIONS**

- Do not apply when substrate surface temperature is 120°F (49°C) or higher, high daily temperature cycles may cause out gassing and resist penetration of Sealer.
- Material is a vapor barrier after cure, test on-grade substrates for moisture-vapor transmission prior to application (Ref. ASTM F-1869; ASTM D-4263).
- Use only bagged oven-dry aggregate of required size and shape.
- Proper application is the responsibility of the user. Field visits by E-Bond personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

**PACKAGING:** Part A – 1 gallon white plastic bucket with tear-strip lid  
 Part B – 1 gallon white plastic bucket with tear-strip lid  
 Part C – 110 lbs of aggregate, packaged in 2 - 55lb. bags

**COVERAGE:** A+B+C = One Unit of E-Bond 516 Polymer Nosing  
 One Unit = 1555 cubic inches or .9 cubic foot

**CAUTION**

- MISUSE BY DELIBERATELY INHALING OR INGESTING THE CONTENTS MAY BE HARMFUL OR FATAL.
- CONSULT MATERIAL SAFETY DATA SHEET FOR MORE INFORMATION.

**CLEAN-UP:** Ventilate area. Confine spill. Collect with absorbent material. Dispose of in accordance with current, applicable local, state, and federal regulations. Uncured material can be removed with approved solvent. Cured material can only be removed mechanically.

**FIRST AID:** In case of skin contact, wash immediately and thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes; contact physician immediately. For respiratory problems, remove person to fresh air. Wash clothing before re-use.

**CAUTION - For professional use only; not for sale to or use by the general public.** E-Bond's epoxies contain alkaline amines. Strong sensitizer; MAY CAUSE SKIN SENSITIZATION or allergic response ranging from a mild wheezing to a severe asthmatic type attack. Avoid contact with skin or eyes. IN CASE OF CONTACT immediately wash skin with soap and water. Flush eyes with water and obtain medical attention. Wear protective clothing, goggles, and barrier cream on all exposed skin

**LIMITED WARRANTY NOTICE:** E-BOND EPOXIES, INC warrants this product to be free from manufacturing defects and to meet the technical properties on the current Technical Data Guide, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. The purchaser must examine the product when received and promptly notify E-BOND EPOXIES, INC in writing of any nonconformity before the product is used and no later than 30 days after such non-conformity is first discovered. If E-BOND, in its sole discretion, determines that the product breached the above warranty, it will, in its sole discretion, replace the non-conforming product, refund the purchase price or issue a credit in the amount of the purchase price. This is the sole and exclusive remedy for breach of this warranty.

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