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**Technical Bulletin 110**  
Division 9 Finishes, Stucco and Plaster

Revised 3/31/15

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**NAME**

## **Poly Prep**

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**TYPE**

### **One-Component Bonding Cement and Primer For EPS Architectural Foam**

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**USAGE**

Architectural EPS foam shapes, stucco arches, columns, and as a base coat for Merlex Stucco color coat finishes.

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**APPLICATION METHOD**

Hand or machine applied

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**PRODUCT OVERVIEW**

Merlex Poly Prep is a polymer-modified portland cement base material specifically designed for use as a coating and adhesive for architectural EPS foam shapes. It is the ideal base coat for Merlex Stucco Color Coat finishes. Merlex Poly Prep is available in standard grade, premium grade, and Green grade. Standard grade is a proprietary blend of Portland cement, redispersible wet bond copolymers, graded aggregates and specific additives. Premium grade provides added polymer for higher bond strength and flexibility. Green grade makes use of 10% post-industrial recycled content for environmentally sensitive projects.

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**BENEFITS**

- Provides a high-strength, high-bond portland cement substrate when used as a coating on EPS foam shapes.
  - Ideal base coat for Merlex Stucco Color Coat finishes.
  - Poly Prep #30 is preferred for use as an adhesive to adhere EPS foam shapes to portland cement substrates, i.e., plasterers' brown coat, tilt up/pre-cast panels; concrete block, etc. Poly Prep Premium #60 is ideal for use on smooth foam shapes or other high-performance applications.
  - An economical method of achieving architectural detail to enhance building design.
  - All ingredients in one package, just add water.
  - Provides a durable, extremely hard, water-resistant surface.
  - Excellent workability, mixes easily, simple to use.
  - Adds aesthetic value to any building.
  - Available in standard grade, premium grade, Green grade, and also in white or gray or finer grit upon request.
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**TEXTURES  
AND SUBSTRATES**

Poly Prep is available with #20 and #30 aggregates. All grades may be used for bonding and coating. Fine Poly Prep #30 is often preferred for use as an adhesive to adhere EPS foam shapes to portland cement substrates, such as plasterers' brown coat, tilt up/pre-cast panels and concrete block. Finer Poly Prep Premium #60 is ideal for smooth foam shapes. Coarser Poly Prep #20 is often chosen as a base coating for under 16/20 stucco.

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**COMPONENTS  
AND STORAGE**

Merlex Poly Prep is packaged in 50 lb. (22.68 kg) moisture resistant poly-lined bags, 56 per pallet. Stretch wrapping available at additional cost. Approximate shelf life is six months if kept in dry storage.

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**COVERAGE**

One 50 lb. (22.68 kg) bag will cover approximately 50 to 60 sq. ft. (4.6 to 5.5m<sup>2</sup>) as coating or adhesive

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**MIXING**

Merlex Poly Prep should be mixed with clean water to a consistency of exterior portland cement brown coat. Normally a drill motor with mixing paddle works best. Using slow speed, initial mixing should be stiff (less water) and then gradually loosened up by adding more water (Caution should be taken not to over air entrain by using excessive mixer speed). Allow material to sit approximately 5 minutes, finish mixing (re-temper).

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**APPLICATION**

Merlex Poly Prep may be hand or machine applied.

**When used as a coating** it should be applied in two coats to a total thickness of  $\frac{3}{16}$ " to  $\frac{1}{4}$ " (5 to 7 mm). Where superior strength is necessary additional thickness may be required.

When used as an adhesive, caution should be taken to insure that the surface is structurally sound, clean, free of dust, dirt, silicones, efflorescence or other contaminants which could impair the bond. Prior to application over brown coat, moisture should be applied to the substrate to control the suction. This will prevent premature dry out. Poly Prep #30 should be evenly applied to the back of the EPS foam shape and then pressed against the surface sliding it back and forth into final position. This will eliminate air pockets between foam shape and wall.

**Caution:** During periods of hot, dry, or windy weather conditions, subsequent moist curing may be required as necessary.

**CLEAN UP**

Immediately clean all tools and mixing equipment with water after use.

**LIMITATIONS**

Merlex Poly Prep should not be used when temperature exceeds 110° F (43° C) or fall below 40° F (4° C) within 48 hours of application. The use of fiberglass fabric mesh is at the discretion of the architect/builder/contractor. Using fabric mesh will increase impact resistance and may be necessary in areas of high traffic. **Caution:** EPS foam shapes coated and installed with Merlex Poly Prep should not be used for window seats or support platforms.

**WARRANTY**

Merlex Poly Prep Bonding Cement is warranted to perform in accordance with the product specification when used according to application instructions on the label. This warranty is limited to and shall not exceed the total amount paid by the buyer for the product. In no event will Merlex Stucco, Inc. be liable for loss of profits, special or consequential damages in respect to any claim. The foregoing warranties are in lieu of all other warranties express or implied including those concerning fitness for a particular use.

**ENVIRONMENTAL AND SAFETY**

Contains portland cement and is alkaline on contact with water. May be irritating to eyes and skin. Wear appropriate skin and eye protection. In case of eye contact, flush immediately with water. If irritation persists, consult a physician. Wash hands with soap and water after use or before eating. **Keep out of reach of children.**

**MATERIAL STANDARDS**

Portland Cement: UBC 24-3  
Silica Sand: ASTM C-144

**TECHNICAL DATA**

Method	Properties	Results
ASTM C-297*	Tension bond Poly Prep/ brown coat	Stress 92.8 psi
ASTM C-297	Poly Prep/EPS foam 1 lb.	Bond strength exceeds internal strength of EPS foam
ASTM C-109	Compressive strength	3 days: 7740 psi 7 days: 8450 psi

\*Conclusion: Merlex Poly Prep bonding cement will develop the necessary tension bond strength to bond expanded polystyrene foam to brown coat plaster. The internal bond strength of EPS foam is about 15 lbs. per square inch (psi) and the Poly Prep bonding strength is much greater.