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Corinthian Cast Stone Inc. Technical Bulletin
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REPAIRING CORINTHIAN ARCHITECTURAL PRECAST CONCRETE WITH EXPOSED REBAR

Architectural precast concrete (APC), like the Corinthian Architectural Precast products, combines aesthetic appeal with durability. However, over time, exposure to environmental conditions or mechanical damage may lead to exposed rebar. This document provides practical guidance for contractors, architects, and engineers on repairing APC with exposed rebar, incorporating industry best practices and Corinthian-specific restoration techniques.

PREPARATION

1. **Assess the Damage:**
   - Inspect the affected area to document the extent of rebar exposure, deterioration of concrete, and visible cracks.
   - Remove all loose APC material around the damage to a sound substrate.
2. **Surface Cleaning:**
   - Clean the exposed rebar to near-white metal using a wire brush, sandblaster, or equivalent methods. Ensure the removal of all rust and scale.
   - Use a rust converter as per manufacturer specifications for long-term corrosion resistance.
3. **Safety Measures:**
   - Ensure all work adheres to site-specific safety protocols. Use PPE like gloves, dust masks, and safety glasses.

REPAIR METHODOLOGY

1. **Rebar Treatment:**
   - After cleaning, apply a rust converter and follow with a dual-coat application of epoxy-based rebar coating that meets ASTM A775 standards. Allow adequate drying time.
2. **Surface Preparation:**
   - Pre-wet the substrate for 2 hours before repair, achieving a saturated surface dry (SSD) condition to optimize mortar adhesion.
3. **Restoration Mortar Application:**
   - Mix Corinthian Restoration Mortar (CRM) per the manufacturer's guidelines. For a standard 50 lb. bag, combine with 3.5–4 quarts of water.
   - Apply a scrub coat of CRM to the substrate, followed by the repair material while the scrub coat is still wet.
   - For repairs exceeding 2-inch depth, build up in multiple layers, allowing each to set before adding the next.
3. **Shaping and Finishing:**
   - Trowel or shave the mortar to conform to the original APC profile. Avoid excessive finishing to prevent color or texture mismatch.

CURING PROCESS

- Cover the repaired area to prevent rapid moisture loss, particularly in the first 48 hours. Use appropriate curing blankets in colder weather or provide shading in hot conditions.
- Protect repairs from precipitation for at least four hours post-application.

CORINTHIAN ARCHITECTURAL PRECAST SUPPORT

Corinthian Cast Stone adheres to rigorous standards including ASTM C1364 for manufacturing and ASTM C1194/C1195 for strength and absorption testing.

For additional assistance with product specification, installation practices, or maintenance strategies, contact our technical services department at **631-920-2340 or info@corinthian-usa.com.**

REFERENCES

This bulletin is informed by the following standards and resources:

- ASTM C1364 (Architectural Precast Concrete Specification)
- ASTM A775 (Epoxy-Coated Reinforcing Bars)
- ASTM C157 (Shrinkage Testing)
- ASTM C666 (Freeze-Thaw Durability)
- Corinthian CRM Product Data Sheets
- Cast Stone Institute Technical Manuals and Bulletins (e.g., #32 Crazing, #35 Water Repellent Coatings)
- Precast Concrete Institute guidelines (www.pci.org)
- National Precast Concrete Association recommendations (www.precast.org)

This Technical Bulletin reflects industry-accepted best practices and is intended as a guide only. Specific project requirements should be determined by design professionals based on actual conditions and intended use.
For further information, visit www.corinthian-usa.com.

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