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Corinthian Cast Stone Inc. Technical Bulletin
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UNDERSTANDING CRAZING IN ARCHITECTURAL PRECAST CONCRETE (APC)

As a premier manufacturer of architectural precast concrete (APC), **Corinthian Cast Stone Inc.** prioritizes educating design professionals and building owners on the nuances of APC materials. A frequently observed phenomenon is crazing—defined under ASTM C1364 as fine, random surface cracking extending less than one millimeter in depth. These cracks often manifest as linear patterns, polygonal shapes, or random "map cracking" on APC surfaces.

CHARACTERISTICS OF CRAZING

Crazing becomes particularly noticeable when the APC surface is wet or accumulates dirt, sometimes leading to unwarranted concerns. However, extensive studies and industry practices, supported by organizations such as the Portland Cement Association and PCI (Precast Concrete Institute), confirm that crazing is a natural characteristic of cementitious products. Importantly, it does not affect the structural integrity or durability of the material. According to PCI guidelines and industry consensus, crazing alone is not a valid basis for rejecting APC products.

MINIMIZING CRAZING

At Corinthian Cast Stone, stringent quality assurance protocols are implemented to minimize crazing:

- **Mix Design:** Engineered for optimal performance under ASTM standards.
- **Curing Techniques:** Controlled curing environments prevent rapid drying that can lead to surface tension.
- **Compaction:** Advanced methods ensure a dense, uniform surface texture.

These practices align with ASTM C1364, ASTM C1194, and ASTM C1195 requirements for compressive strength and absorption, as well as ASTM C666 for freeze-thaw durability.

PROPER DESIGN AND INSTALLATION

Preventative measures during design and installation play a critical role in mitigating crazing and enhancing APC performance. We recommend the following:

- **Ventilation:** Ensure adequate airflow within wall assemblies.
- **Flashing and Weep Holes:** Install per ASTM and PCI specifications to manage moisture.
- **Control Joints:** Strategically placed to accommodate material movement.
- **Mortar Selection:** Use ASTM C270-compliant Type N mortar and maintain proper joint spacing.

MAINTENANCE OF EXISTING CRAZING

For addressing crazing in existing structures:

- **Cleaning:** Use mild, approved cleaning solutions to remove dirt.
- **Sealing:** Apply ASTM C1384-compliant penetrating sealers to protect the surface.
- **Drainage:** Maintain proper drainage to prevent water infiltration, addressing issues per ASTM C1601.

CORINTHIAN ARCHITECTURAL PRECAST SUPPORT

Corinthian Cast Stone Inc. adheres to the highest quality standards, including ASTM C1364 for APC manufacturing, ASTM C1194 for strength testing, and ASTM C1195 for absorption testing. Our team provides technical support tailored to IBC Chapter 21 Masonry requirements and ACI 530.1 guidelines.

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

• ASTM Standards: ASTM C1364, C1194, C1195, C1384, C1601, C666, C270
• Technical Guidelines: PCI Technical Resources (www.pci.org),
Precast Concrete Institute Manual, TMS 404-504-604 Standards
• Corinthian-Specific Resources: Corinthian APC product specifications and repair guides

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.
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