

Montgomery County Public Schools Facilities Guide

DIVISION 3 – CONCRETE

SECTION 03450

ARCHITECTURAL PRECAST CONCRETE

**PART 1 GENERAL**

1.01 GUIDE INCLUDES

- A. Precast concrete sills, wall panels and medallions.

1.02 QUALITY ASSURANCE

- A. Fabricator shall be a member of Precast Concrete Institute (PCI) and participate in Plant Certification Program.

1.03 REFERENCE STANDARDS

- A. ASTM C 595, "Standard Specification for Blended Hydraulic Cements."
- B. ASTM C 618, "Standard Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete."
- C. ASTM C 150, "Standard Specification for Portland Cement."
- D. ASTM C 311, "Standard Methods of Sampling and Testing Fly Ash and Natural Pozzolans for Use as a Mineral Admixture in Portland Cement Concrete."
- E. AASHTO M 240, "Blended Hydraulic Cements."
- F. ASTM C 989, "Ground Granulated Blast-Furnace Slag for Use in Concrete Mortars."
- G. AASHTO M 302, "Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars."
- H. American Concrete Institute Standard Practice ACI 226.R1, "Ground Granulated Blast-Furnace Slag as a Cementitious Constituent in Concrete."

1.04 SUBMITTALS

- A. Submit location of manufacture and of extraction/ recovery of concrete and steel materials.
- B. Submit recycled-content information, designating percentages of post-consumer and post-industrial waste material.
- C. Submit MSDS for any applicable products used.

**PART 2 PRODUCTS**

2.01 MATERIALS, GENERAL

- A. Regional Materials: Provide products manufactured and of primary materials extracted/ recovered within a 500-mile radius of the project site.
- B. Recycled Content:
  - 1. Reinforcing bars shall contain minimum 95 percent total recycled-content including at least 60 percent post-consumer material.
  - 2. Concrete Materials: [Obtain structural engineer approval, and use if color consistency can be achieved and cost premium, if any, is acceptable]: Cement mixture shall contain no less than 35 percent ground granulated blast furnace slag replacement for Portland cement if color consistency can be maintained.

2.02 REINFORCING

- A. All reinforcing shall be epoxy coated. Field cutting of precast which passes through reinforcing shall be minimized. Field cuts shall be field coated with epoxy coating. Stainless steel pins shall be used at connections as required.

2.03 PANEL AND SILL LENGTHS SHALL BE MAXIMIZED TO REDUCE NUMBER OF JOINTS.

### **PART 3 EXECUTION**

#### **3.01 INSTALLATION**

- A. Do not install precast units until concrete has attained its design compressive strength.
- B. Install precast concrete members plumb, level, and in alignment within PCI MNL-117 specified limits of erection tolerances.
- C. Maintain horizontal and vertical joint alignment and uniform joint width as erection progresses.

#### **3.02 INSPECTIONS**

- A. Conduct inspections, perform testing, and make repairs or replace unsatisfactory precast units as required. Limitations on amount of patching which will be permitted is subject to acceptance of Architect.
- B. In-place precast units may be rejected for any one of the following:
  - 1. Exceeding specified installation tolerances.
  - 2. Damaged during construction operations or delivery.
  - 3. Exposed-to-view surfaces which develop surface finish deficiencies.
  - 4. Other defects as listed in PCI MNL-117

#### **3.03 WASTE MANAGEMENT**

- A. Recycle or salvage waste concrete and steel materials in accordance with Division 1 "Construction Waste Management" requirements.

**END OF SECTION**