

## SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

### PART 1 - GENERAL

#### 1.1 SYSTEM REQUIREMENTS

- A. Design Requirements:
  - 1. Concrete mixtures for concrete slabs and concrete deck fill shall be normal weight and shall have a water-cement ratio of 0.45 or less.
  - 2. Provide sheet vapor retarder directly below concrete at all slabs-on-grade.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Concrete Materials:
  - 1. Portland Cement Replacement: Fly ash to reduce portland cement up to 40 percent is acceptable for concrete mixtures for footings, foundation walls, walls, columns, and other vertical surfaces; not permitted for slabs.
- B. Sheet Vapor Retarder: ASTM E 1745, Class A, 15 mil, except with maximum perm rating of 0.01. Include manufacturer's recommended adhesive or pressure-sensitive tape. Provide at all slabs-on-grade.
- C. Penetrating Liquid Floor Treatments: Clear, chemically reactive, waterborne solution of inorganic silicate or silicate materials and proprietary components; odorless; that penetrates, hardens, and densifies concrete surfaces. Provide at loading docks, receiving areas, and other similar exposed concrete floor surfaces subject to heavy, hard-wheeled devices.
- D. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Floor and Slab Finishes:
  - 1. Trowel: Surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or thin-film-finish coating system.
  - 2. Broom: Exterior concrete platforms, steps, and ramps.

#### 3.2 FIELD QUALITY CONTROL

- A. Testing: By The University-engaged agency.
- B. Special Inspections: By The University-engaged special inspector.
- C. Cost of Testing: To be included as part of Project budget.

**END OF SECTION 03 30 00**