

OKLAHOMA STATE UNIVERSITY - BUILDING DESIGN STANDARDS

PART 1 GENERAL

1.1 SUBMITTALS:

A. Mix Designs:

1. Submit concrete mix designs a minimum of 30 days prior to first concrete placement.
2. For "Architectural Concrete" maintain single source "plant" of cement and quarry for sand and aggregate throughout. No substitutions to avoid change in color range.
3. Data for each mix shall include the following:
 - a. Mix identification.
 - b. Intended use.
 - c. Mix proportions, including admixtures.
 - d. Manufacturer's data and certifications for mix materials.
 - e. Wet and dry unit weight.
 - f. Entrained air content.
 - g. Design slump.
 - h. Required average strength qualification data per ACI 301 3.9.1 and 3.9.2.
 - i. Average strength qualification data (trial mix data or field test data per ACI 301 3.9.3).
 - j. Field test data shall include copies of the Concrete Testing Agency's report.

LEED MR Credit 4.1: Recycled Content: 10%
(post-consumer + 1/2 pre-customer)

Provide a statement from the manufacturer outlining the use of materials with recycled content. Information must include the sum of post-consumer recycled content plus one-half of the pre-customer content constituting at least 10% (based on cost) of the total value of the materials in the project. The recycled content value of the material assembly will be determined by weight. The recycled fraction of the assembly will then be multiplied by the cost of the assembly to determine the recycled value. A main item of interest will be post-industrial fly-ash.

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LEED MR Credit 4.2: Recycled Content: 20%
(post-consumer + 1/2 pre-customer)

Provide a statement from the manufacturer outlining the use of materials with recycled content. Information must include the sum of post-consumer recycled content plus one-half of the pre-customer content constituting an additional 10% beyond MR Credit 4.1 (total 20%, based on cost) of the total value of the materials in the project. The recycled content value of the material assembly will be determined by weight. The recycled fraction of the assembly will then be multiplied by the cost of the assembly to determine the recycled value. A main item of interest will be post-industrial fly-ash.

LEED MR Credit 5.1: Regional Materials: 10%
Extracted, Processed & Manufactured Regionally.

Provide a statement from the manufacturer confirming the materials or products provided have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% (based on cost) of the total materials value. If only a fraction of a product or material is extracted/harvested/ recovered and manufactured locally, then only that percentage (by weight) will contribute to the regional value.

LEED MR Credit 5.2: Regional Materials: 20%
Extracted, Processed & Manufactured Regionally.

Provide a statement from the manufacturer confirming the materials or products provided have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for an additional 10% beyond MR Credit 5.1 (total of 20%, based on cost) of the total materials value. If only a fraction of a product or material is extracted/harvested/ recovered and manufactured locally, then only that percentage (by weight) will contribute to the regional value.

1.2 QUALITY ASSURANCE:

A. Field Constructed Samples:

1. Fabricate sample sections representative of specified finished surfaces, in locations on the site as directed by the Architect.
2. Form, reinforce, mix, cast, cure and finish sample units using selected materials and construction methods proposed for work.
3. Provide sample sections as follows:
 - a. Wall Section: "L"-shaped panels, approximately 4' high x 3' each side x 6" thick. Include not less than 2 form ties, 2 form panel intersections, each typical rustication, one vertical construction joint and one horizontal construction joint.

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- b. Column Section: 4' high and not less than 12" diameter for round sections and not less than 12" in least dimension for rectangular sections.
 - i. Chamfer exposed edges of rectangular sample columns.
- c. Pan-formed Section: At least 2 pan form units. Set units to illustrate method of blending exposed pan joints.
- 4. Coordinate special finishing, such as acid etching, abrasive blasting, scoring or bush-hammering. Conduct mechanical finishing in the presence of the Architect.
- 5. Perform revisions and corrective work required to produce finished concrete and surfaces as required by the Architect.
 - a. Construct additional sample panels as may be required if original results are not satisfactory to the Architect.
- 6. The continuity of color and texture for exposed concrete surfaces is of prime importance. Maintain such controls and procedures, in addition to those specified, as necessary to provide continuous match of concrete work with accepted samples.
- 7. Do not remove sample sections without written permission from the Architect. When directed, demolish sample sections and remove from the site.

PART 2 PRODUCTS

2.1 CURING COMPOUND (ACI 301 12.2.1.7):

- A. Interior Slabs With Resilient Flooring, Carpet or Left Exposed:
 - a. "Floor Seal VOX" by the Euclid Chemical Company.
 - b. "Dress and Seal WB" by L&M.
 - c. "Kure-N-Seal WB" by Sonneborn-Chemrex.
 - d. An approved equal.
- B. All Other Interior Slabs Including Slabs to Receive Concrete Topping, Mortar Setting Beds, Cementitious Flooring and Special Flooring:
 - a. Moisture curing methods only.

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2.2 HARDENER (ACI 301 11.7.6):

A. Metallic Hardener: Apply hardener at the rate of 1.5 lbs. per sq. ft. Hardener shall be a mixture of specially processed and graded iron aggregate, Type I Portland Cement and necessary plasticizing agents.

1. "Euco-Plate" by the Euclid Chemical Company.
2. "Masterplate 200" by Master Builders.
3. An approved equal.

B. Mineral Aggregate Hardener: Apply hardener at 1.0 lb. per sq. ft. Hardener shall be a mixture of specially processed and graded mineral aggregate, Type I cement and necessary plasticizers.

1. "Surflex" by the Euclid Chemical Company.
2. An approved equal.

END OF SECTION 03300