

- ITEM 584.3101 18 OVERLAY CONCRETE, CLASS DP WITH INTERNAL CURING
-TYPE 1 FRICTION
- ITEM 584.3102 18 OVERLAY CONCRETE, CLASS DP WITH INTERNAL CURING
-TYPE 2 FRICTION
- ITEM 584.3103 18 OVERLAY CONCRETE, CLASS DP WITH INTERNAL CURING
-TYPE 3 FRICTION
- ITEM 584.3109 18 OVERLAY CONCRETE, CLASS DP WITH INTERNAL CURING
-TYPE 9 FRICTION

DESCRIPTION

Furnish and place Class DP concrete with internal curing (IC) as shown in the contract plans. Class DP concrete with Internal Curing (DPIC) is a modified Class DP concrete with lightweight fine aggregate substituted for a portion of the standard fine aggregate to aid the curing process internally.

MATERIALS

Use materials meeting §584-2 for Class DP concrete. Manufacture the Class DPIC concrete, with lightweight fine aggregate according to §584-2 and the following modifications:

1. Produce a homogeneous mixture of cement, pozzolan (fly ash or GGBFS), Microsilica, fine aggregate, lightweight fine aggregate, coarse aggregate, air entraining agent, water-reducing and set-retarding admixture, and water.
2. Substitute lightweight fine aggregate, meeting the requirements of AASHTO M 195, for 30% (by volume) of standard fine aggregate of a Class DP mixture.
3. Construct lightweight fine aggregate stockpile(s) at the production facility so as to maintain uniform moisture throughout the pile. Using a sprinkler system approved by the Materials Engineer, continuously and uniformly spray the stockpile(s) with water for a minimum of 24 hours. If a steady rain of comparable intensity occurs, turn off the sprinkler system at the direction of the Materials Engineer, until the rain ceases. At the end of the wetting period, or after the rain ceases, allow stockpiles to drain for 12 to 15 hours immediately prior to use, unless otherwise directed by the Materials Engineer.
4. Provide the Materials Engineer with a list of proposed ingredients, and batch proportions at least one week prior to production. After the materials have been accepted for this work, make appropriate adjustments to the specific gravity (Bulk SSD) and fineness modulus of the combined fine aggregates prior to production of the concrete mixture. The Materials Engineer, or his representative, will approve the batch weights prior to use. Periodically correct the batch weights to account for changes in the daily measured aggregate moisture contents.
5. The lightweight fine aggregate, at the time of batching must be at least saturated surface dry (SSD)**. Batch the lightweight fine aggregate first, then routinely batch the fine aggregate, coarse aggregate, admixtures, cement, pozzolan, Microsilica, and remaining mixing water and mix completely.

** The moisture content of the lightweight fine aggregate must be determined immediately prior to batching, using Materials Procedure 703-19E. If the supplied mix design is based on "oven dry" weight of lightweight fine aggregate, a

corresponding adjusted weight must be supplied to account for the actual absorbed moisture content, so that the mix design entered in to the automated batching system is based on SSD weight. After the adjusted mix design is entered into batching system, additional adjustments must be made to the fine aggregate and water quantities to account for the “surface” moisture of the fine aggregates.

CONSTRUCTION DETAILS

Apply the provisions of §584-3 and the following modifications:

The lightweight aggregate manufacturer shall supply a service representative at the site for the first day of concrete placement operations to assist in the control of DPIC concrete mixing and placement operations.

METHOD OF MEASUREMENT

Apply all the provisions of §584-4.

BASIS OF PAYMENT

Apply all the provisions of §584-5.