

## **ITEM 555.95 07 - CORROSION INHIBITOR FOR STRUCTURAL CONCRETE**

### **DESCRIPTION**

The work shall consist of furnishing a corrosion inhibiting admixture to be mixed with Portland cement concrete producing a corrosion inhibitor modified concrete. All the provisions of Section 555 shall apply.

### **MATERIALS**

All the provisions of Section 555-2 shall apply. The corrosion inhibitor shall meet all requirements of Section 711-13, Calcium Nitrite Based Corrosion Inhibitor and be sampled in accordance to Materials Procedure 02-01. Compatible retarding admixtures may be needed to control set time to offset accelerating characteristics of the calcium nitrite based corrosion inhibitor. Use of corrosion inhibitor shall be subject to the Regional Materials Engineer's approval and the following dosage requirements.

### **CONSTRUCTION DETAILS**

All the provisions of Section 555-3 shall apply. The corrosion inhibitor shall be added to the mix immediately after air entraining and retarding admixtures have been introduced into the mixer. The corrosion inhibitor shall be added to the concrete as an aqueous solution at a dosage rate (typical dosage is between 18 and 25 liters per cubic meter) as indicated in the contract documents. The water in the solution shall be counted as part of the total mix water.

An automated corrosion inhibitor dispensing system shall be required. The dispensing system shall meet the following requirements:

- Meter accuracy of  $\pm 1\%$  (by volume)
- Programmable quantity (liters, nearest tenth)
- System interlocks
- Batching tolerance of  $\pm 3\%$  (by volume)
- Print requirements:
  - Project number and/or batch number
  - Date and time
  - Delivered quantity (liters, nearest tenth)

Calibration of the dispensing system shall be performed in accordance with Materials Method 27.

Verification of corrosion inhibitor inclusion shall be made in two (2) ways. First, the concrete batch tickets shall be checked by the Regional Materials Engineer for the appropriate dosage of corrosion inhibitor in the mix. Second, the Contractor shall provide a calcium nitrite inclusion test kit, approved by the Materials Bureau, to the Engineer. Testing for inclusion of the corrosion inhibitor shall be performed by the Engineer during each placement to ensure the presence of the corrosion inhibitor in the plastic concrete. Concrete which does not have the appropriate dosage as per the batch tickets or does not indicate presence from the inclusion testing shall be rejected.

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**METHOD OF MEASUREMENT**

Measurement will be taken as the number of liters of corrosion inhibitor actually incorporated into the project. This shall be determined by multiplying the number of cubic meters of concrete actually used by the required dosage rate, measured to the nearest liter.

**BASIS OF PAYMENT**

The unit price bid per liter shall include the cost of furnishing all labor, material and equipment necessary to include a corrosion inhibitor into the concrete. The concrete shall be paid for separately under its appropriate item.

**Payment will be made under:**

<b>Item No.</b>	<b>Item</b>	<b>Pay Unit</b>
555.95 07	Corrosion Inhibitor For Structural Concrete	Liters