ITEM 557.20000008 - PRECAST CONCRETE SLEEPER SLAB

DESCRIPTION

This work shall consist of furnishing and installing precast concrete sleeper slabs in accordance with the contract documents and as directed by the Engineer.

MATERIALS

All materials shall conform to the NYSDOT Prestressed Concrete Construction Manual (PCCM).

A. Concrete

- 28 Day Compressive Strength: 5,000 psi (Minimum)
- Lifting Strength: 3,000 psi (Minimum)
- Aggregates: § 501-2.02.B.1
- Water: § 712-01

B. Bar Reinforcement

- Bar Reinforcement, Grade 60: § 709-01
- Epoxy Coated Bar Reinforcement: § 709-04

C. Polytetrafluoroethylene (PTFE) Sheet:

Polytetrafluoroethylene (PTFE) sheet shall be manufactured from pure virgin (not reprocessed) unfilled TFE resin or from TFE resin uniformly blended with either 15% glass fiber or 25% carbon (maximum filler, by percent weight). The resin shall satisfy the requirements of ASTM D4894.

Bonded PTFE sheet shall be etched on its bonding side. Unless otherwise noted on the Plans, PTFE sheet shall have a minimum thickness of 1/16” after compression. The mating sliding surface of filled PTFE sheet in contact with the stainless steel slide surface shall be polished or burnished to ensure smooth and low-friction movement of the bearing.

Finished PTFE sheet and strip shall be resistant to all acids, alkalis and petroleum products, stable at temperatures from -360° to 500°F, non-flammable, non-absorbing of water and shall conform to the following minimum physical requirements:
CONSTRUCTION DETAILS

A. Drawings

Shop drawings, installation drawings and erection drawings shall be prepared and submitted as per the requirements of the PCCM.

The submitted drawings shall include details of lifting, handling and storage of sleeper slabs in the production facility and their transportation, handling, and storage at the construction site. The proposed handling and lifting shall be such that the maximum tensile stress in concrete due to handling and erection loads shall not exceed 0.15(f'ci)1/2, where f'ci is the concrete compressive strength at the time being considered. Calculations showing actual concrete stresses based upon the proposed support locations and expected dynamic loading of the diaphragm during handling, storage and transportation shall be submitted along with the drawings. Dynamic load shall take into account inertial effects anticipated during handling and transport. These drawings and calculations shall be stamped and signed by a Professional Engineer.

B. Fabrication of Precast Sleeper Slabs

Fabrication shall meet the requirements of the PCCM and the following:

1. Fabrication Tolerances:
   b. Length (transverse direction of the bridge): +1, -1 in.
   c. Depth (overall): +9/16, -3/16 in.
   d. Reinforcement cover: +3/16, -0 in.

2. Placing Concrete, Curing, and Finishing
All requirements stipulated in the PCCM shall apply.

3. Shipping and Handling of Precast Panels

Shipping and handling shall meet the requirements in the PCCM and as stated on the approved drawings.

4. The PTFE sheet may be bonded to the top surface of the sleeper slab footing using an epoxy resin adhesive under controlled conditions in accordance with the instructions of the adhesive manufacturer.

C. Sampling and Testing

The manufacturer shall furnish the required number of samples to perform the tests as required. A minimum of thirty (30) days shall be allowed for the Department’s inspection, sampling and testing procedures.

The Department’s representative shall select, at random, the required samples of the PTFE materials for testing by the Materials Bureau. All samples shall be taken in accordance with the Department’s written instructions.

The testing of the samples shall be as follows:

<table>
<thead>
<tr>
<th>TEST</th>
<th>SAMPLES TESTED</th>
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<tr>
<td>Physical Properties of PTFE Sheet</td>
<td>One 10 x 15 inch sheet of PTFE per lot (Note 1.)</td>
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Note 1: The Materials Bureau will perform this testing. At the time of inspection, single sheets of PTFE shall be submitted by the Department’s representative. All submitted sample sheets shall be certified by the Manufacturer as having been taken from the same batch of material as was used in the actual production PTFE sheeting.

PTFE sheeting shall be considered for acceptance in project lot quantities, or portions thereof, at the manufacturing site in accordance with the procedural directives of the Materials Bureau.

D. Installation Requirements

1. Installation shall be according to the installation drawings approved by the DCES and meeting the requirements of this specification and erection drawing approved by the Engineer.
This work will be measured as the number of feet (horizontal length end to end, as shown on the plans) of sleeper slab satisfactorily furnished and installed per the Contract Documents.

**BASIS OF PAYMENT**

The unit price bid shall include the cost of furnishing all labor, materials, and equipment necessary to satisfactorily complete the work, including fabrication, storage, protection, transporting, unloading and installation of all precast sleeper slabs.