

## **ITEM 18502.3401 M - TRANSVERSE HINGE JOINTS IN PORTLAND CEMENT CONCRETE (PCC) PAVEMENT**

**DESCRIPTION.** Construct a transverse hinge joint in a PCC pavement where indicated in the contract documents.

### **MATERIALS.**

Hinge Joint Support Assembly. Obtain the assembly from a supplier appearing on the Approved List for §705-15, Transverse Joint Supports. Use 600 mm long, 19 mm, deformed, epoxy-coated, Grade 420 bar reinforcement fabricated into an assembly such that, when positioned, the:

- Longitudinal axes of adjacent bars are spaced 75 - 450 mm apart on center.
- Entire longitudinal axis of each bar is located at the middepth of the pavement slab ( $\pm 25$  mm).
- Longitudinal axes of the bars are aligned parallel with the pavement centerline and pavement surface such that the maximum misalignment of one bar end relative to the other is 50 mm.
- Midpoint of the longitudinal axis of each bar is at the center of the joint ( $\pm 25$  mm).
- Longitudinal axes of the two end bars are 100 - 250 mm from the longitudinal joints.

Use an epoxy coating appearing on the Approved List for “Epoxy Coatings for Longitudinal Joint Ties” or “Epoxy Coatings for Steel Reinforcing Bars” that is applied by an applicator appearing on the Approved List for “Applicators for Steel Reinforcing Bars”. Use 7.7 mm diameter steel wire to construct the assembly.

At least 7 days before placing the hinge joint assemblies, provide the Engineer:

- The name and address of the joint support assembly supplier.
- The name and address of the joint support assembly Manufacturer.
- Material certification from the rolling mill as to the type and grade of steel used.
- The brand of epoxy coating and the name and address of the Manufacturer.
- The name and address of the epoxy coating applicator.
- Material certification from the epoxy coating applicator that the bars have been coated, tested, and meet the requirements of §705-14, Longitudinal Joint Ties.

The Department may perform supplementary sampling and testing of the bars and assemblies to ensure conformance with §705-14.

**CONSTRUCTION DETAILS.** Submit a proposed joint layout for full-depth concrete placement that clearly identifies transverse joint locations, including hinge joints, and obtain the Engineer’s approval. Do not place any hinge joints without the Engineer’s approval.

Place hinge joint assemblies perpendicular to longitudinal joints (or free edges). Do not align hinge joints with other types of transverse joints. Locate hinge joints such that:

- They are equally spaced between other types of transverse joints.
- The maximum spacing between any type of transverse joint is 4.6 m.

Affix the assemblies to the subbase (or permeable base) in accordance with the approved Materials Details submitted with other transverse joint supports used on the contract. If there are no other transverse joint

**ITEM 18502.3401 M - TRANSVERSE HINGE JOINTS IN PORTLAND CEMENT CONCRETE (PCC) PAVEMENT**

supports used on the contract, obtain such an approved Materials Detail from the Supplier and affix the assemblies in accordance with that Materials Detail. Provide that Materials Detail to the Engineer before positioning any hinge joint.

After placing concrete, construct a joint through the assembly in accordance with §502-3.06A1, Transverse Contraction Joints.

**METHOD OF MEASUREMENT.** The work will be measured for payment as the number of meters of hinge joints satisfactorily constructed, measured to the nearest 0.1 m.

**BASIS OF PAYMENT.** Include the cost of all labor, material, and equipment necessary to satisfactorily perform the work in the unit price bid for Transverse Hinge Joints in PCC Pavement. Sealing or filling the joint is paid under separate item.