

**ITEM 502.15PF—11 PRECAST CONCRETE PAVEMENT SLABS WITH INLAID GRANITE**

**DESCRIPTION.** Install precast concrete pavement slabs with inlaid granite in accordance with the contract documents. The precast slab system selected must appear on the Department’s Approved List entitled “Precast Concrete Pavement Slab Systems (704-15).”

**MATERIALS.**

Granite Block .....	704-09
Precast Concrete Pavement Slab Systems .....	704-15

In addition to meeting §704-09 requirements, use granite block having the color specified in the contract documents. Texture the block bottoms as depicted in the contract documents.

In addition to meeting §704-15 requirements, fabricate precast slabs with colors as specified in the contract documents.

Coloring Admixture for Integrally Colored Concrete (colored concrete only). Use a coloring admixture:

- Capable of producing a color conforming to Federal Standard 595B, Colors.
- Certified by the manufacturer as meeting ASTM C979, Standard Specifications for Pigments for Integrally Colored Concrete. Provide the manufacturer’s certification to the Engineer before producing any concrete.
- That produces the color specified in the contract documents, or selected by the Engineer if no color is specified.
- Packaged such that each dose is the proper dose for 1 cubic meter of concrete.

Apply coloring admixtures at the manufacturer’s recommended dosage rate. Introduce the admixture into the mixer drum in accordance with the manufacturer’s recommendations. Provide both those written recommendations to the Engineer before mixing any concrete. Keep the dosage rate consistent for all concrete batches produced such that all batches have the same color. Batch concrete in full cubic meter increments. Deliver batches that are at least one-third the mixer drum capacity. Do not add water to a batch after a portion of that batch has been placed.

Color Matched Caulking Compound (colored concrete only). Use a caulk:

- Supplied by the same manufacturer of the coloring admixture for integrally colored concrete.
- Matching the integrally colored concrete and produces the color specified in the contract documents, or selected by the Engineer if no color is specified.

Color Matched Curing Compound (colored concrete only). Use a curing compound:

- Supplied by the same manufacturer of the coloring admixture for integrally colored concrete.
- Specially formulated for use with colored concrete that meets ASTM C 309, Liquid Membrane-Forming Compounds for Curing Concrete. Provide the manufacturer’s certification to the Engineer before producing any concrete.
- Matching the integrally colored concrete and produces the color specified in the contract documents, or selected by the Engineer if no color is specified.

Scoring Tools. Use tools capable of producing the joint appearance specified in the contract documents, or selected by the Engineer if no appearance is specified.

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**CONSTRUCTION DETAILS.** Convene a preplacement meeting 7 to 14 calendar days before the planned start of slab installation with the Engineer, manufacturer, supplier, system designer, and any relevant subcontractors to review and coordinate all aspects of placement and inspection including personnel requirements. Install slabs to the line and grade depicted in the contract documents  $\pm 6$  mm.

Technical Assistance. Several processes in this specification are performed in accordance with the system designer's instructions. The system designer must supply on-site technical assistance at the beginning of the installation until the Engineer determines the assistance is no longer required. Provide approved system designer instructions to the Engineer at least 30 calendar days before starting work associated with slab installation.

Weather Limitations. Apply §502-3.01, Weather Limitations.

Subbase Course. Apply Section 304, Subbase Course, for new construction and add-on lanes. For pavement repair, prepare the subbase course in accordance with the contract documents. Fine grade the subbase to achieve maximum uniform support. Follow the system designer's instruction for any final subbase preparation prior to slab installation. Do not disturb the prepared surface before installation.

Slab Installation. Install the slabs in accordance with the system designer's instructions. Set grade-supported slabs to achieve maximum contact with the prepared subbase.

Joints. Submit a proposed joint layout with the Fabricator Working Drawings, submitted in accordance with §704-15, Precast Concrete Pavement Slab Systems. Align joints both transversely and longitudinally between abutting precast slabs, i.e., do not stagger joints, except where approved on the joint layout. When tying precast slabs to existing concrete pavement, such as an add-on lane, joint alignment is not required. However, do not drill and anchor longitudinal joint ties within 400 mm of a transverse joint in the existing pavement.

Joint Widths. For pavements remaining concrete surfaced, install slabs such that joint widths are 0 mm – 10 mm, regardless of joint orientation. For pavements receiving hot mix asphalt (HMA) overlays, install slabs such that joint widths are 0 mm – 20 mm. These dimensions apply to joints between adjacent precast slabs or joints between precast slabs and existing pavement.

Bed and Level Slabs. Bed and level slabs in accordance with the system designer's instructions such that the vertical differential across any joint is 6 mm or less.

Backfill Pavement Hardware. Backfill around pavement hardware in accordance with the system designer's instructions.

Smoothness (Pavements Remaining Concrete Surfaced). Apply §502-3.15, Hardened Surface Test, for nonprofilographed pavement or §502-3.16, Profilograph, for profilographed pavement. No Smoothness Quality Adjustment is paid for precast slab pavement construction.

Opening to Traffic (Grade-Supported Slabs). It is highly desirable to open precast slabs to traffic after the:

- Backfill material around the pavement hardware obtains 17 MPa compressive strength.
- Bedding and/or slab leveling materials obtain 2 MPa compressive strength.
- Joints are addressed in accordance with §502-3.12, Sealing Joints.

Slabs may be opened before backfill material and/or bedding grout is placed. In this case, backfill material and bedding grouts must be placed within 24 hours of the first slab's placement. Remove and reset any slabs having a vertical differential greater than 6 mm across any joint.

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The longer slabs are opened to loads before backfilling and grouting, the greater the potential for slab movement. Schedule work to minimize the amount and duration of ungrouted slabs open to traffic.

Opening to Traffic (Grout-Supported Slabs). Open precast slabs to traffic after the:

- Backfill material around the pavement hardware obtains 17 MPa compressive strength.
- Bedding and/or slab leveling materials obtains sufficient strength to support loads without deflection.
- Joints are addressed in accordance with §502-3.12, Sealing Joints.

Slabs may be opened before backfill material around the pavement hardware has been placed. In this case, backfill material must be placed within 24 hours of the first slab's placement. Remove and reset any slabs having a vertical differential greater than 6 mm across any joint.

The longer slabs are opened to loads before backfilling, the greater the potential for slab movement. Schedule work to minimize the amount and duration of ungrouted slabs open to traffic.

Damaged or Defective Concrete. Apply §502-3.14, Damaged or Defective Concrete.

**METHOD OF MEASUREMENT.** The work will be measured for payment as the number of square meters of precast concrete pavement slabs satisfactorily installed measured to the nearest 0.01 m<sup>2</sup>.

**BASIS OF PAYMENT.** Include the cost of all labor, material, and equipment necessary to satisfactorily perform the work, including technical assistance from the system designer, in the unit price bid for Precast Concrete Pavement Slabs With Inlaid Granite.

*Payment will be made under:*

Item Number	Item	Pay Unit
502.15PF—11	Precast Concrete Pavement Slabs with Granite Inlays	Square Meters
	<u>P – Profilograph</u>	
	0 – Nonprofilographed	
	1 – Level 1	
	2 – Level 2	
	<u>F – Friction Type</u>	
	1 – Type 1	
	2 – Type 2	
	3 – Type 3	
	9 – Type 9	