
Special Specification 3018

Two-Lift Concrete Pavement



1. DESCRIPTION

Construct two-lift concrete pavement.

This Specification references and incorporates current special provisions to the following Items.

- Item 360, "Concrete Pavement"
- Item 420, "Concrete Substructures"
- Item 421, "Hydraulic Cement Concrete"

The Contractor must comply with Item 360, "Concrete Pavement," unless otherwise specified herein.

2. MATERIALS

Furnish materials in accordance with Item 360, "Concrete Pavement," and Item 421, "Hydraulic Cement Concrete," unless otherwise noted in this Specification.

- 2.1. **Bottom-Lift Concrete.** Use a coarse aggregate that produces a concrete with a coefficient of thermal expansion greater than 5.5 microstrain/°F.
- 2.2. **Top-Lift Concrete.** Use a coarse aggregate that produces a concrete with a coefficient of thermal expansion of 5.5 microstrain/°F or less.
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3. EQUIPMENT

Provide equipment in accordance with Item 360, "Concrete Pavement." Provide enough concrete mixing, delivery, and paving equipment to meet the requirements of this Specification.

4. CONSTRUCTION

Construct two-lift concrete pavement by paving two (2) individual layers of concrete with thicknesses shown on the plans, such that the result is wet-on-wet placement. Construct the pavement in accordance with Item 360, "Concrete Pavement," unless otherwise noted in this Specification.

- 4.1. **Paving and Quality Control Plan.** Submit a paving and quality control plan for approval before beginning pavement construction operations. Include details of all operations in the concrete paving process, including methods to construct transverse joints, methods to consolidate concrete at joints, longitudinal construction joint layout, sequencing, curing, lighting, early opening, leave-outs, sawing, inspection, testing, construction methods, other details, and a description of all equipment. List certified personnel performing the testing. Include details of the concrete delivery plan to keep track of concrete delivery for the bottom and top-lifts. Submit revisions to the paving and quality control plan for approval.
- 4.2. **Job-Control Testing.** Perform job-control testing in accordance with Section 360.4.2, "Job-Control Testing." Perform job-control testing on the bottom and top lifts of the two-lift concrete pavement.
- 4.3. **Bottom Lift of Two-Lift Concrete Pavement.** Provide concrete for the bottom lift capable of supporting the top-lift concrete with minimal intermingling of the two (2) layers at the time of placement.

4.4. **Top Lift of Two-Lift Concrete Pavement.** Time the placement of the top lift to ensure a wet-on-wet placement. Place the top lift no more than 60 min. after placement of the bottom lift. If the bottom lift contains a set retarding chemical admixture, this time may be extended to 90 min.; however, the bottom-lift concrete should still support the top-lift concrete with minimal intermingling of the two (2) layers at the time of placement.

4.5. **Longitudinal Contraction Joint.** Saw cut and seal longitudinal contraction joints as shown on the plans, except use the following equation to determine saw cut depth:

$$\text{Saw cut depth} = T/3 + 1/2 \text{ in.}$$

where

T = pavement thickness, in.

5. MEASUREMENT

5.1. **Two-Lift Concrete Pavement.** Two-lift concrete pavement will be measured by the square yard of surface area in place. The surface area includes the portion of the pavement slab extending beneath the curb.

5.2. **Curb.** Curb on concrete pavement will be measured by the ft. in place.

6. PAYMENT

These prices are full compensation for materials, equipment, labor, tools, and incidentals.

6.1. **Two-Lift Concrete Pavement.** The work performed and materials furnished in accordance with this Specification and measured as provided under "Measurement" will be paid for at the adjusted unit price for "Two-Lift Concrete Pavement" of the type and depth specified as adjusted in accordance with Section 360.6.2., "Deficient Thickness Adjustment."

6.2. **Curb.** The work performed and materials furnished in accordance with this Specification and measured as provided under "Measurement" will be paid for at the unit price bid for "Curb" of the type specified.