

Section 02753

CONCRETE PAVEMENT CURING

PART 1 GENERAL

1.01 SUMMARY

This Section includes curing of Portland cement concrete paving.

1.02 MEASUREMENT AND PAYMENT

A. Unit Prices.

1. No separate payment will be made for concrete curing under this Section. Include payment in unit price for Concrete Paving, Concrete Sidewalks, Concrete Driveways, Curbs, and Curb and Gutters.
2. Refer to Section 01270 – “Measurement and Payment” for unit price procedures.

B. Stipulated Price (Lump Sum). If Contract is Stipulated Price Contract, payment for Work in this Section is included in the total Stipulated Price

1.03 REFERENCES

- A. ASTM C 156 – Standard Test Method for Water Loss [from a Mortar Specimen] Through Liquid membrane-Forming Curing Compounds for Concrete.
- B. ASTM C 171 - Standard Specifications for Sheet Materials for Curing Concrete.
- C. ASTM C 309 - Standard Specifications for Liquid Membrane-Forming Compounds for Curing Concrete

1.04 SUBMITTALS

- A. Submittals shall conform to requirements of Section 01330 – “Submittal Procedures”.
- B. Submit manufacturer’s product data for cover materials and liquid membrane-forming compounds.

1.05 RELATED REQUIREMENTS

- A. Section 01270 – “Measurement and Payment”
- B. Section 01330 – “Submittal Procedures”

1.06 – 1.13 NOT USED

PART 2 PRODUCTS

2.01 MANUFACTURER(S) (NOT USED)

2.02 MATERIALS AND/OR EQUIPMENT

A. Cover Materials for Curing

1. Conform curing materials to one of the following:

- a. Polyethylene Film: Opaque pigmented white film conforming to requirements of ASTM C 171.
- b. Waterproofed Paper: Paper conforming to requirements of ASTM C 171.
- c. Cotton Mats: Single layer of cotton filler completely enclosed in cover of cotton cloth. Mats shall contain not less than three-fourths of a pound of uniformly distributed cotton filler per square yard of mat. Cotton cloth used for covering materials shall weigh not less than 6 ounces per square yard. Stitched mats so that mat shall contact surface of pavement at all points when saturated with water.

B. Liquid Membrane-Forming Compounds

Conform liquid membrane-forming compounds to ASTM C 309. Membrane shall restrict loss of water to not more than  $0.55 \text{ kg/m}^2$  in 72 hours using test methods ASTM C 156.

2.03 – 2.04 NOT USED

PART 3 EXECUTION

3.01 – 3.02 NOT USED

3.03 ERECTION/INSTALLATION APPLICATION AND/OR CONSTRUCTION

A. Curing Equipment

1. Cure concrete pavement by protecting against loss of moisture for period of not less than 72 hours immediately upon completion of finishing operations. Do not use membrane curing for concrete pavement to be overlaid by asphalt concrete.
2. Failure to provide sufficient cover material shall be cause for immediate suspension of concreting operations

B. Polyethylene Film Curing

1. Immediately after finishing surface, and after concrete has taken its initial set, apply water in form of a fine spray. Cover surface with polyethylene film so film shall remain in direct contact with surface during specified curing period.
2. Cover entire surface and both edges of pavement slab. Overlap joints in film sheets minimum of 12 inches. Immediately repair tears or holes occurring during curing period by placing acceptable moisture-proof patches or by replacing.

C. Waterproofed Paper Curing

1. Immediately after finishing surface, and after concrete has taken its initial set, apply water in form of fine spray. Cover surface with waterproofed paper so paper shall remain in direct contact with surface during specified curing period.
2. Prepare waterproofed paper to form blankets of sufficient width to cover entire surface and both edges of pavement slab, and not be more than 60 feet in length. Overlap joints in blankets caused by joining paper sheets not less than 5 inches and securely sealed with asphalt cement having melting point of approximately 180°F. Place blankets to secure overlap of at least 12 inches. Immediately repair tears or holes appearing in paper during curing period by cementing patches over defects

D. Cotton Mat Curing

1. Immediately after finishing surface, and after concrete has taken its initial set, completely cover surface with cotton mats, thoroughly saturated before application, maintaining contact with surface of pavement equally at all points.
2. Keep mats on pavement for specified curing period. Keep mats saturated so that, when lightly compressed, water shall drip freely from them. Keep banked earth or cotton mat covering edges saturated

E. Liquid Membrane-Forming Compounds

1. Immediately after free surface moisture, and after concrete has dispersed, apply liquid membrane-forming compound in accordance with manufacturer's instructions.
2. Moisten concrete by water fogging prior to application of membrane when surface has become dry.
3. Seal concrete surface with single coat at rate of coverage recommended by manufacturer and directed by Project Manager, but not less than 1 gallon per 200 square feet of surface area

3.04 – 3.07 NOT USED

3.08 DEMONSTRATION / TESTING AND INSPECTION

- A. Treated areas shall be visually inspected for areas of lighter color of dry concrete as compared to dump concrete. Test suspected areas by placing few drops of water on surface. Membrane passes test when water stands in rounded beads or small pools which can be blown along surface of concrete without wetting surface.
- B. Reapply membrane compound immediately at no cost to Owner when membrane fails above test.

3.09 – 3.10 NOT USED

END OF SECTION