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**SECTION 02835  
CONCRETE PAVEMENT CURING**

**PART I: GENERAL**

**1.1 GENERAL REQUIREMENTS**

- A. Curing of Portland cement concrete paving.

**1.2 MEASUREMENT AND PAYMENT**

A. Unit Prices:

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

B. Stipulated Price (Lump Sum):

1. If Contract is Stipulated Price Contract, payment for work in this Section is included in Total Stipulated Price.

**1.3 REFERENCES**

A. ASTM – American Society for Testing and Materials.

1. ASTM C156 – Standard Test Method for Water Retention by Concrete Curing Materials.
2. ASTM C171 – Standard Specifications for Sheet Materials for Curing Concrete.
3. ASTM C309 – Standard Specifications for Liquid Membrane-Forming Compounds for Curing Concrete.

B. CFTS – City of Friendswood Technical Specifications.

**1.4 SUBMITTALS**

- A. Conform to requirements of Section 01330 – Submittal Procedures.
- B. Submit manufacturer's product data for cover materials and liquid membrane-forming compounds.

**PART II: PRODUCTS**

**2.1 COVER MATERIALS FOR CURING**

A. Conform curing materials to one of the following:

1. Polyethylene Film: Opaque pigmented white film conforming to requirements of ASTM C171.
2. Waterproofed Paper: Paper conforming to requirements of ASTM C171.
3. Cotton Mats: Single layer of cotton filler completely enclosed in cover of cotton cloth. Mats shall contain not less than three-

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quarters pound (3/4 Lb) of uniformly distributed cotton filler per square yard of mat. Cotton cloth used for covering materials shall weigh not less than six ounces per square yard (6 Oz/Sy). Stitch mats so that mat shall contact surface of pavement at all points when saturated with water.

**2.2 LIQUID MEMBRANE-FORMING COMPOUNDS**

- A. Conform liquid membrane-forming compounds to ASTM C309. Membrane shall restrict loss of water to not more than 0.55 kg/m<sup>2</sup> in seventy-two hours (72 Hrs) using test method ASTM C156.

**PART III: EXECUTION**

**3.1 CURING REQUIREMENT**

- A. Cure concrete pavement by protecting against loss of moisture for period of at least seventy-two hours (72 Hrs) immediately upon completion of finishing operations. Do not use membrane curing for concrete pavement to be overlaid by asphalt concrete.
- B. Failure to provide sufficient cover material shall be cause for immediate suspension of concreting operations.

**3.2 POLYETHYLENE FILM CURING**

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

**3.3 WATERPROOFED PAPER CURING**

- A. Immediately after finishing surface and after concrete has taken its initial set, apply water in form of fine spray. Cover entire surface and all edges of pavement slab with waterproofed paper so paper shall remain in direct contact with surface and edges during specified curing period.
- B. Prepare waterproofed paper to form blankets of sufficient width to cover entire surface and all edges of pavement slab. Blankets shall not be more than sixty feet (60 Ft) in length. Overlap joints in blankets caused by joining paper sheets by at least five inches (5 In) and securely seal with asphalt cement having melting point of approximately one hundred eighty degrees Fahrenheit (180° F). Place blankets with overlaps of at least twelve inches (12 In). Immediately repair tears or holes appearing in paper during curing period by cementing patches over defects or replacing blankets.

**3.4 COTTON MAT CURING**

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

**3.5 LIQUID MEMBRANE-FORMING COMPOUNDS**

- A. Immediately after free surface moisture and after concrete has dispersed, apply liquid membrane-forming compound in accordance with manufacturer's instructions.
- B. Moisten concrete by water fogging prior to application of film, paper or mat when surface has become dry.
- C. Seal concrete surface with single coat at rate of coverage recommended by manufacturer or as directed by the Project Manager, but not less than one gallon (1 Gal) per two hundred square feet (200 Sf) of surface area.
- D. Concrete surface shall be completely and evenly covered. Any portion that has streaking, splattering or spurting shall be redone at no additional cost to the City.

**3.6 TESTING MEMBRANE**

- 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 a 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 the City when membrane fails test noted above.

**END OF SECTION**