WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

CURING CONCRETE TEST SPECIMENS IN THE FIELD

1.0 PURPOSE

1.1 The purpose of this procedure is to modify the curing requirements for cylindrical and prismatic specimens that have been made in the field.

2.0 BACKGROUND

2.1 The Division's Standard Specifications (501.4 and 601.4) require that the making and curing of concrete test specimens in the field be done in accordance with AASHTO Designation T 23.

2.2 Section 9 of AASHTO Designation T 23 covers curing of the test specimens until time of test.

3.0 APPLICABLE DOCUMENT

3.1 AASHTO Designation T 23

4.0 PROCEDURE

4.1 Curing of cylindrical and prismatic specimens made in the field shall be in accordance with Section 9 of AASHTO Designation T 23 with modifications as follows.

4.1.1 Delete the section that covers initial curing (10.1.2 in T23-04) and substitute the following:

10.1.2 Initial Curing - Immediately after molding and finishing, the specimens shall be stored for a period of 24 ± 8 hours in a temperature range from 60 to 80˚F (16 to 27˚C), and in an environment preventing moisture loss from the specimens. For concrete mixtures with a specified strength of 6000 psi (40 MPa) or greater, the initial curing temperature shall be between 68 and 78˚F (20 and 26˚C). Various procedures are capable of being used during the initial curing period to maintain the specified moisture and temperature conditions. An appropriate procedure or combination of procedures shall be used (Note 6). Shield all specimens from direct sunlight and, if used, radiant heating devices. The storage temperature shall be controlled by the use of heating and cooling devices, as necessary. Record the temperature using a maximum-minimum thermometer. If cardboard molds are used, protect the outside surface of the molds from contact with wet burlap or other sources of water.

4.1.2 Delete the section that covers transportation of specimens to the laboratory (11.1 in T23-04) and substitute the following:

11.1 Prior to transporting, cure and protect specimens as required in Section 9. When standard curing is used, specimens shall be transported within 24 ± 8 hours after molding. When field curing is used, specimens shall not be transported to the laboratory until just prior to testing. During transporting, protect the specimens with suitable cushioning material to prevent damage from jarring. During cold weather, protect the specimens from freezing with suitable insulation material. Prevent moisture loss during transportation by wrapping the specimens in plastic, wet burlap, by surrounding them with wet sand or tight fitting plastic caps on plastic molds. Transportation time shall not exceed 4 hours.

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