

Date: 6/11/14
To: MAG Specifications and Details Committee
From: Brian Gallimore, Materials Working Group
Subject: Revision to Section 310 Placement of Construction of Aggregate Base Course

Case 14-16

Revised 2014-06-11

Purpose: Changed rock method correction to be consistent with Section 301.

Revisions: See the attached redlined strike-out version of the specification.

PLACEMENT AND CONSTRUCTION OF AGGREGATE BASE COURSE

310.1 DESCRIPTION:

Aggregate base course shall comply with Section [702](#) unless the use of a different type of material is specifically authorized in the special provisions.

310.2 PLACEMENT AND CONSTRUCTION:

The compacted lift thickness shall not exceed 6 inches, unless approved by the Engineer. Based on the type of material, type of equipment and compaction methods used, the Contractor may propose a greater lift thickness to the Engineer for approval.

After distributing, the aggregate base course material shall first be uniformly watered and then graded to a uniform layer that will net, after compacting, the required thickness. The grading operation shall be continued to such extent as may be necessary to minimize segregation. The quantity of water applied shall be that amount which will assure proper compaction resulting in the density required by Section [310.3](#).

After placement, the aggregate base course surface shall be true, even and uniform conforming to the grade and cross-section specified. In no case shall the aggregate base course vary by more than ½ inch above or below required grade.

310.3 COMPACTION

The contractor is responsible for providing appropriate equipment and techniques to achieve the compaction results required by this specification. The aggregate base course shall be compacted in lift thicknesses as allowed by Section [310.2](#).

The laboratory maximum dry density and optimum moisture content for the aggregate base course material shall be determined in accordance with AASHTO T-99. (Note: when testing base materials – use method “C” or “D” as required based upon the gradation of the material.) Field ‘one-point’ maximum dry density and optimum moisture procedures shall only be allowed upon approval of the Engineer.

The in-place density shall be determined in the field by nuclear density testing in accordance with AASHTO T-310 or sand cone density testing in accordance with AASHTO T-191. In the event nuclear density testing is selected, and density results are in question, a sand cone correlation will be performed by the accepting agency at the contractor’s request, not to exceed one sand cone for each ten nuclear density tests.

A rock correction, to compensate for rock content larger than the #4 or ¾ inch sieves (as required by the laboratory maximum dry density and optimum moisture procedure selected), shall be performed in accordance with AASHTO T-224. Care should be taken to account for the specific gravity of the oversize particles particularly if recycled materials are utilized for aggregate base course. The specific gravity shall be determined in accordance with ~~AASHTO T~~ ARIZ-227C, as applicable.

For roadway construction, a minimum of one field density test shall be performed per lift per 660 feet per lane. For other aggregate base course applications, a minimum of one field density test shall be performed for each 800 square yards.

Unless otherwise noted in the project plans or project specifications, the moisture content of the aggregate base course at the time of compaction shall be the optimum moisture content +/- 3%.

The following percent compaction is required:

(A) Below asphalt concrete pavement	100%
(B) Below Portland cement concrete pavement, driveways, curb & gutter, sidewalks, and roadway shoulders	95%
(C) All other areas not subject to vehicular traffic	85%