

SECTION 280 ASPHALT BASE COURSES

280-1 Description.

Construct asphalt base courses, and meet the specific requirements for base widening construction.

The Engineer will accept work on a LOT to LOT basis in accordance with the applicable requirements of Sections 5 and 6. The Engineer will determine the size of the LOT as specified in 331-5 for the bituminous mixture accepted at the plant and as specified in 330-11 for the material accepted on the roadway.

Use mixes designated as Asphalt Base Course Type 1 (ABC-1), Asphalt Base Course Type 2 (ABC-2) and Asphalt Base Course Type 3 (ABC-3).

280-2 Materials.

280-2.1 Bituminous Material: Use Asphalt Cement, Viscosity Grade AC-20 or AC-30, meeting the requirements of 916-1.

280-2.2 Course Aggregates: Meet the requirements of Section 901.

280-2.3 Fine Aggregates: Meet the requirements of 335-2.2.

280-3 General Composition of the Mixes.

280-3.1 General: Meet the requirements of 332-3.1.

280-3.2 Grading Requirements: The mix design, as established by the Contractor and approved by the Department, shall be within the design ranges as specified in Table 331-1, for ABC-1, ABC-2, and ABC-3.

280-3.3 Stability: Meet the requirements of 332-3.3.2.

280-4 Job Mix Formula.

Meet the requirements of 332-3.3.1.

280-5 Contractor's Quality Control.

Meet the requirements of 332-3.4.

280-6 Acceptance of Mixture.

280-6.1 Acceptance at the Plant: The Engineer will accept the bituminous mixture at the plant with respect to gradation and asphalt content in accordance with the requirements of 331-4.

280-6.2 Acceptance on the Roadway: The Engineer will accept the bituminous mixture on the roadway with respect to compacted density in accordance with the applicable provisions of 330-11. Use the permissible variations from longitudinal and transverse grades as specified in 200-7.

280-6.3 Additional Tests: Meet the requirements of 331-5.5 for ABC-1, ABC-2, and ABC-3.

280-7 Plant, Methods, and Equipment.

Meet the plant, methods, and equipment requirements for asphalt base course construction as specified in Section 320, with the following modifications:

(a) Paving Equipment: The Engineer will not require mechanical spreading and finishing equipment for the construction of base widening strips less than 6 feet [1.8 m] in width.

(b) Compacting Equipment: For compaction in areas too restricted to accommodate the standard rollers, the Contractor may use vibratory rollers supplemented with trucks, motor graders, or other compaction equipment approved by the Engineer.

280-8 Construction Requirements.

280-8.1 General: Meet the construction requirements for asphalt base course construction as specified in Section 330, with the following modifications and specific requirements.

280-8.2 Limitations for Spreading: The Contractor may place the base mix on the subgrade when the air temperature is at least 40°F [4°C] and rising, provided the subgrade upon which the base mix is to be placed is not frozen or noticeably affected by frost. The Contractor may place the base mix where he removed all such frozen or frost-affected material during excavation for the subgrade.

280-8.3 Preparation of Subgrade: Before placing the initial layer of base material, prepare and compact the subgrade as specified in 160-8. Do not apply this requirement to base widening strips that are not to be stabilized and where the underlying native material has not been disturbed.

280-8.4 Tacking Between Layers: Place a tack coat between each successive layer of base material. As an exception, the Engineer may authorize the elimination of the tack coat between successive layers when the Contractor has laid them on the same day and the initial layer has not become contaminated by sand, dust, etc.

280-8.5 Placing the Mixture:

280-8.5.1 Spreading and Finishing: Place the base course material with a mechanical spreading and finishing machine meeting the requirements as specified in 320-6. Prior to the placing of the surface course, the Engineer may require motor grader leveling to bring the base into conformance with the plan grades and cross-section. The Contractor may spread the first course of multiple course bases with a motor grader where the subgrade will not support the use of a mechanical spreader.

280-8.5.2 Automatic Screed Control: For all machine-laid courses, use a paver that is equipped with automatic screed control of the ski or traveling string line type. Use the automatic joint matcher on the top course of the base after the first pass with the paving machine.

280-8.5.3 Thickness of Layers: Ensure that the maximum compacted thickness of any layer of asphalt base course is 3 inches [75 mm].

280-8.6 Compacting the Mixture: Apply the requirements for compaction as specified in 330-11 to the compaction of asphalt base courses with these two exceptions:

1. For widening strips 3 feet [1 m] or less in width, the Engineer will require specified target densities but will not require nuclear determinations. The Contractor may apply the compactive efforts using a trench roller, motor grader tires, or any other heavy equipment that will effectively exert a compactive effort. Specify what equipment will be used and what compactive effort (coverage) will be furnished. Obtain the Engineer's approval before starting the operation.

2. For the initial layer of an asphalt base course placed on a soil subgrade, the Engineer will not perform any density determinations. Propose a rolling train and pattern for the approval of the Engineer. The Engineer will perform density determinations on all subsequent layers, and apply the provisions of 330-11.

280-9 Thickness Requirements.

Meet the requirements of 330-15.

280-10 Calculations for Average Thickness of Base.

Meet the requirements of 330-16.

280-11 Method of Measurement.

The quantity to be paid for will be the area, in square yards [square meters], of asphalt base course after adjustment to the equivalent area of specified thickness.

280-12 Basis of Payment.

Prices and payments will be full compensation for all work specified in this Section, including the applicable requirements of Sections 320 and 330.

Payment will be made under:

Item No. 285- 7- Optional Base - per square yard.
Item No. 2285- 7- Optional Base - per square meter.