

400 FLEXIBLE PAVEMENT

ITEM 405 - BITUMINOUS COLD MIX

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405.01 Description. This work shall consist of constructing 1 or more courses of aggregate and bituminous material mixed in a central or traveling plant, spread and compacted on a prepared surface in accordance with these specifications and in reasonably close conformity with the line, grades, quantity per square yard (square meter) and typical sections specified or established by the Engineer.

The general plant mix specifications, 401, shall apply; deviations from these are as follows.

405.02 Composition. Aggregate for the mixture shall be Nos. 57, 67 or 8 size as specified. Aggregate for choke shall be Nos. 8 or 9 as specified.

For material mixed by travel plant, the quantity of bituminous material to be added to the aggregate is estimated and will be adjusted by the Engineer to produce a satisfactory mixture.

The estimated quantity of aggregate to be applied as choke on the surface of the compacted mixture may be adjusted by the Engineer to adequately fill the surface voids without excess.

Acceptance of the mixture will be based on observed uniformity of mixing and coating of the aggregate particles satisfactory to the Engineer.

405.03 Materials. Bituminous material of the type and grade specified shall meet the applicable requirements of 702. When 2 or more grades of one type of bituminous material are specified, the grade to be used shall be determined by the Engineer.

Pavement samples may be taken as provided in 106.02.

Coating agents used at the option of the Contractor shall have the prior approval of the Engineer and shall conform to 712.08.

405.04 Mixing Plants. Plants used in the preparation of the bituminous mixture may be either the stationary batch or continuous type or the traveling continuous type. Plants shall be approved by the Engineer prior to preparation of the mixtures. General requirements for bituminous concrete mixing plants are on file in the office of the Director of Public Service.

405.05 Weather Limitations. Bituminous cold mix shall not be placed under any of the following conditions: (a) when the surface is wet, (b) when the air temperature is below 40° F (4° C), or (c) when weather conditions otherwise prevent proper handling, finishing, or curing of the mixture.

405.06 Bituminous Material Preparation. Bituminous material shall be delivered to the mixer at a uniform temperature within the range specified in 702.

405.07 Aggregate Preparation. Aggregate shall be delivered to the mixer at a temperature of not less than 40° F (4° C) and in a surface dry condition, except as follows.

When asphalt emulsions are used in the mixture, aggregate surface moisture may be present and shall be maintained uniformly within such limits that an acceptable coating of bituminous material may be obtained.

The Contractor may elect to treat specified liquid grades of asphalt with a coating agent. When use of such an agent is approved by the Engineer, aggregate surface moisture may be present only to the extent that the treated bituminous material will form an acceptable coating during the mixing process.

405.08 Mixing. Aggregate and bituminous material shall be proportioned and the mixing time shall be as directed to produce a mixture in which uniform distribution of the bituminous material and coating of the aggregate is obtained.

405.09 Hauling. Trucks used for hauling the bituminous mixture shall conform to 401.10.

405.10 Bituminous Pavers. Bituminous pavers for placing central mixed material shall conform to 401.11. The spreading, leveling and strike off equipment for the traveling plant shall conform to 405.04.

405.11 Rollers. Rollers shall conform to 401.12. A minimum of 2 rollers of the types listed shall be used except in small areas a single tandem roller may be used. The capacity of each roller shall be considered to be 30 tons (27 metric tons) of aggregate placed per hour for steel wheel rollers and 60 tons (54 metric tons) per hour for pneumatic tire rollers. For this work, pneumatic tire rollers shall have an average tire contact pressure of not less than 55 psi (380 kPa) and the tire contact area requirement does not apply.

405.12 Conditioning Existing Surface. The conditioning of the existing surface shall be as specified in 401.13 except that painting or coating of contact surfaces shall not be required.

405.13 Spreading and Finishing. The mixture shall be spread and finished in accordance with 401.14, except that the aggregate shall be placed at the weight per square yard (square meter) specified.

Immediately following the initial rolling, the choke aggregate shall be applied uniformly with adjustable, hopper equipped, revolving drum type spreaders at the specified rate or as directed by the Engineer.

Should a delay in choke application occur that would prevent adequate bonding, the Engineer may require a light application of the bituminous material used in the mix prior to the application of the choke aggregate.

405.14 Compaction. Compaction of the mixture shall be in accordance with 401.15. Rolling may be delayed to avoid lateral displacement as directed by the Engineer. Final rolling shall be continued until the choke aggregate is thoroughly embedded and roller marks are eliminated.

405.15 Joints. Joints shall be made as specified in 401.16.

405.16 Spreading and Surface Tolerances. The spreading and surface tolerances shall be as specified in 401.17. The variation of the surface from the testing edge of the 10 foot (3.0 m) straightedge shall not exceed 3/8 inch (9.5m).

405.17 Method of Measurement. Aggregate and bituminous material shall be measured in accordance with 109. Aggregate shall be measured by weight.

When the mixture is prepared in a stationary plant, batch or truck weights of the mixture shall be used to compute the aggregate weight by deducting the weight of bituminous material in the mixture.

405.18 Basis of Payment. The accepted quantities of bituminous cold mix, complete in place, will be paid for at the contract price for:

Item	Unit	Description
405	Ton (Metric Ton)	Mix Aggregate
405	Ton (Metric Ton)	Choke Aggregate
405	Gallon (Liter)	Mix Bituminous Material

