

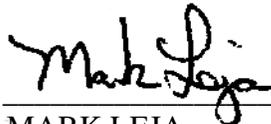


Construction Policy Bulletin

CPB 09-7 Hot Mix Asphalt Construction Details

References:	<i>Standard Specifications</i>	Section 39, "Hot Mix Asphalt" (revision of Section 39, "Asphalt Concrete")
	<i>Construction Manual</i>	Section 4-39, "Hot Mix Asphalt" (revision of Section 4-39, "Asphalt Concrete")
Forms		CEM-3501, "Hot Mix Asphalt Production Report" (revision of CEM-3501, "AC Production/Placement Checklist") CEM-3502, "Hot Mix Asphalt Placement Report" CEM-3511, "Contractor Job Mix Formula Proposal" CEM-3512, "Contractor Hot Mix Asphalt Design Data" CEM-3513, "Caltrans Hot Mix Asphalt Verification" CEM-3514, "Job Mix Formula Renewal" CEM-3703, "Caltrans Production Startup Evaluation"

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Approved: 
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Background

Caltrans recently initiated major changes to its *Standard Specifications*, Section 39, "Asphalt Concrete," including renaming it "Hot Mix Asphalt." The updated Section 39 is an amendment to the special provisions of all contracts currently awarded by Caltrans.

Over the years, as a result of changes to asphalt concrete pavement design, materials qualities, production, placement, and quality evaluation, Caltrans has added special provisions to address necessary changes to its *Standard Specifications*. The updated Section 39 reduced the number of asphalt concrete-related special provisions from 35 to 12 by incorporating them in the *Standard Specifications*.

The updated Section 39, "Hot Mix Asphalt," includes ten major changes:

1. Designating three types of hot mix asphalt construction processes—standard, method, and QCQA.
2. Requiring that lift thickness for hot mix asphalt be greater than three times the nominal aggregate size of the mix.

3. Having tight controls for temperatures and rollers in the method construction process.
4. Using method compaction if the total hot mix asphalt layer thickness is less than 0.15 foot.
5. Requiring that hot mix asphalt must now comply with all specification requirements throughout production and placement.
6. Allowing removal or deduction for out-of-specification material to be determined on a case-by-case basis.
7. Basing aggregate gradation compliance on a contractor's target value with a plus or minus tolerance, versus existing operating range and contract compliance.
8. Allowing the contractor to develop the mix design, except for open graded friction course, which Caltrans designs.
9. Basing the Caltrans-measured hot mix asphalt pavement density on one core for every 250 tons placed, if total paved thickness is at least 0.15 foot.
10. Placing hot mix asphalt plant certification under the Caltrans Materials Plant Quality Program.

Existing Procedure

Section 4-39, "Asphalt Concrete," of the *Construction Manual* provides guidelines for action to ensure compliance with the specifications and measurement and payment for asphalt concrete.

Resident engineers and assistant resident engineers use Form CEM-3501, "AC Production/Placement Checklist," to identify asphalt concrete paving problems.

New Procedure

The *Construction Manual* has been updated to implement the changes in the revised and renamed Section 39, "Hot Mix Asphalt," of the Standard Specifications. Section 4-39, "Hot Mix Asphalt," of the manual contains new subsections of references, resources, job mix formula submittal and acceptance, contract administration, and moisture sensitivity treatment of aggregates and hot mix asphalt. In support of these new procedures, five new Construction Engineering Management (CEM) forms have been created and are attached to this document. Form CEM-3501 has also been revised and renamed.

New Section 4-39, "Hot Mix Asphalt," of the *Construction Manual* replaces Section 4-39, "Asphalt Concrete." The new Sections 4-3902B, "Job Mix Formula Submittal"; 4-3902C, "Job Mix Formula Acceptance"; and 4-3904, "Contract Administration," serve as guidance for resident engineers to administer contracts with hot mix asphalt contract items. Assistant resident engineers should use the information in Section 4-39 as guidance for appropriate actions to ensure quality hot mix asphalt pavement and for performing the duties of plant inspectors, hot mix asphalt paving inspectors, and materials testers.

Contractors complete CEM-3512, "Contractor Hot Mix Asphalt Design Data," to present the mix design test results for determining the job mix formula and CEM-3511, "Contractor Job Mix Formula Proposal," for proposing the job mix formula they intend to use. Contractors use CEM-3514, "Contractor Job Mix Formula Renewal," to submit to the resident engineer their test results for renewal of hot mix asphalt job mix formula. Caltrans verifies the job mix formula before the start of

production by sampling and testing hot mix asphalt produced by the plant and recording the test results on CEM-3513, "Caltrans Hot Mix Asphalt Verification."

Caltrans provides a copy of CEM-3703, "Caltrans Production Startup Evaluation," to the contractor when the production startup evaluation testing is completed and recorded. During the production and placement of hot mix asphalt, assistant resident engineers complete CEM-3501, "Hot Mix Asphalt (HMA) Production Report," and CEM-3502, "Hot Mix Asphalt (HMA) Placement Report," each day to document compliance with the specifications.

For questions regarding hot mix asphalt, please contact Terrie Bressette at terri.bressette@dot.ca.gov or Chuck Suszko at chuck.suszko@dot.ca.gov or (916) 227-7314.

Attachments: Section 4-39, "Hot Mix Asphalt," of the *Construction Manual*

The following online forms, no longer in the *Construction Manual*, are available only online at <http://www.dot.ca.gov/hq/construc/forms.htm>

- CEM-3501, "Hot Mix Asphalt Production Report"
- CEM-3502, "Hot Mix Asphalt Placement Report"
- CEM-3511, "Contractor Job Mix Formula Proposal"
- CEM-3512, "Contractor Hot Mix Asphalt Design Data"
- CEM-3513, "Caltrans Hot Mix Asphalt Verification"
- CEM-3514, "Job Mix Formula Renewal"
- CEM-3703, "Caltrans Production Startup Evaluation"