

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Transportation Laboratory

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Method of Test for Mixture Design and Testing of Cold Central Plant Recycling (CCPR) of Asphalt Pavements Using Bituminous Recycling Agents and Additives

A. SCOPE

This test method describes the procedures for mixture design and testing for cold central plant recycling (CCPR) of asphalt pavements using bituminous recycling agents and additives.

CCPR consists of recycled asphalt concrete produced in a central plant from stockpiled HMA millings, reclaimed asphalt pavement surfacing, and supplemental aggregates.

The values stated in either International System of Units (SI units) or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

B. REFERENCES:

AASHTO R 76	Standard Practice for Reducing Samples of Aggregate to Testing Size
AASHTO T 11	Standard Method of Test for Materials Finer Than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing
AASHTO T 27	Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregates
AASHTO T 59	Standard Method of Test for Emulsified Asphalts
AASHTO T 166	Standard Method of Test for Bulk Specific Gravity (G_{mb}) of Compacted Asphalt Mixture Using Saturated Surface-Dry Specimens

AASHTO T 269	Percent Air Voids in Compacted Dense and Open Asphalt Mixtures
AASHTO T 312	Standard Method of Test for Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyratory Compactor
AASHTO T 329	Standard Method of Test for Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
ASTM D7196	Standard Test Method for Raveling Test of Cold-Mixed Emulsified Asphalt Samples
California Test 125	Method of Test for Sampling Highway Materials and Products Used in the Roadway Structural Sections
California Test 226	Method of Test for Determination of Moisture Content of Soils and Aggregates by Oven Drying
California Test 372	Method of Test for Resistance of Cold Recycled Pavement Materials to Moisture-Induced Damage
MS-2	Asphalt Mix Design Methods

C. PROCEDURE

Conduct the test in accordance with CT 315 except for the following modifications:

1. Replace "PDR" in section C with "CCPR"
2. Replace Section E.1 with:
Existing asphalt pavement samples for CCPR projects, stockpile millings or reclaimed asphalt pavement.
3. Replace Section F title with:
(SAMPLING PROCEDURE)
4. Add this paragraph under Section F title:

Samples may be obtained from existing pavements to be recycled, stockpiles of cold milled pavements, reclaimed asphalt concrete pavements, and supplemental aggregates.

5. Add sub-section F.1:
EXISTING PAVEMENT TO BE RECYCLED
6. Replace the first paragraph under section F.1 with:
Obtain materials from existing pavement for each mix design as required in the specifications. Samples shall be collected from a minimum of three locations. Samples shall be obtained in accordance with the specification requirements or, where not specified, shall be equally spaced along the length of the pavement to be recycled.
7. Replace "PDR" in section F with "CCPR":

8. Add sub-section F.2:
EXISTING STOCKPILES OF COLD MILLED ASPHALT CONCRETE

Examine existing stockpiles of cold-milled asphalt concrete to ensure the absence of any materials other than asphalt concrete. Other materials include, but are not limited to concrete, base rock, native soils, organic material, and refuse. Any materials other than asphalt concrete shall be completely removed from the stockpile prior to sampling and processing.

When paving fabric is present, no fabric piece incorporated into the recycled sample shall have any dimension greater than 2-inches.

Sample stockpile in accordance with CT 125, Appendix A, at a minimum of six locations representing approximately equal portions of the stockpile.

9. Add sub-section F.3:
RECLAIMED ASPHALT CONCRETE PAVEMENT

Examine stockpiles of reclaimed asphalt concrete pavement to ensure the absence of any materials other than asphalt concrete. Other materials include, but are not limited to concrete, base rock, native soils, organic material, and refuse. Any materials other than asphalt concrete shall be completely removed from the stockpile prior to sampling and processing.

Carefully select representative samples.

Sample stockpiles in accordance with CT 125, Appendix A, at a minimum of six locations representing approximately equal portions of the stockpile.

10. Replace "PDR" in section I with "CCPR"

D. REPORTING OF RESULTS

When required, submit test results electronically in accordance with the guidance documents found at the following link:

<https://dime.dot.ca.gov/index.php?r=help/submittestresult>

E. HEALTH AND SAFETY

It is the responsibility of the user of this test method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Prior to handling, testing, or disposing of any materials, testers must be knowledgeable about safe laboratory practices, hazards and exposure, chemical procurement and storage, and personal protective apparel and equipment.

Refer to the Safety Manual for your Laboratory.

End of Text
(California Test 316 contains 4 pages)