

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Transportation Laboratory

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**METHOD OF TEST FOR SOILS, CONCRETE PATCHING MATERIALS AND WATERS FOR CHLORIDE CONTENT****A. SCOPE**

This test method describes the procedure for determination of the soluble chloride content of soils, concrete patching materials, and waters. Concrete patching materials can be rapid setting concrete, mortar, bonding agent or material, fast setting grout, filler material, or shotcrete. These results are used in determining the corrosive nature of the environment for concrete structures, as well as for other purposes. This test method is divided into the following parts:

1. Chloride content of soils
2. Chloride content of concrete patching materials

B. REFERENCES

ASTM C 109	Compressive Strength of Hydraulic Cement Mortars
ASTM E 11	Woven Wire Test Sieve Cloth and Test Sieves
CT 201	Soil and Aggregate Sample Preparation
EPA Method 300.0	Determination of Inorganic Anions by Ion Chromatography

C. APPARATUS

1. Sieve – No. 8 and No. 50
2. Balance – capable of weighing 100g, with precision of at least 0.1g
3. Erlenmeyer flask – 500 mL

D. PROCEDURE

1. Conduct the test of water and extract samples in accordance with Environmental Protection Agency Test Method 300.0

PART 1. CHLORIDE CONTENT OF SOILS

1A. SCOPE

This test method describes the extraction procedure to determine the soluble chloride content of soils.

1B. PROCEDURE

1. Prepare the soil sample in accordance with California Test 201. Split a sample from material passing a No. 8 sieve.
2. Weigh 100g of sample and place it in a 500 mL Erlenmeyer flask. Add 300 mL of deionized water, place a stopper on the flask, and shake vigorously for 15 min. Centrifuge the sample, then filter the sample or let the sample settle overnight.
3. Test extract for soluble chlorides.

PART 2. CHLORIDE CONTENT OF CONCRETE PATCHING MATERIALS

2A. SCOPE

This test method describes the extraction procedure for determination of the water-soluble chloride content of concrete patching materials.

2B. PROCEDURE

1. Prepare and cast a 2 in. cube of patching material as recommended by the manufacturer's data sheet. Let cure 7 days at ambient conditions. Crush and pulverize the cured block, split a 100g sample from the pulverized material passing a No. 50 sieve.
2. Proceed with testing as in Part 1, Section 1B, parts 2 and 3

E. REPORTING OF RESULTS

Report as either percent soluble chlorides or as parts per million soluble chlorides.

F. 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.

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(California Test 422 contains 3 pages)