



Standard Test Method for Free Moisture in Ceramic Whiteware Clays¹

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1. Scope

1.1 This test method covers the determination of free moisture in ceramic whiteware clays. Whiteware clays may be shipped as a bulk shipment in lumps, a bulk shipment of shredded or coarsely ground clay, or in bagged lots of ground or airfloated clay. Directions are given in this test method for obtaining representative samples of the clay shipment to be used in subsequent tests for the properties of the clay in the shipment.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

C 332 Specification for Lightweight Aggregates for Insulating Concrete

¹ This test method is under the jurisdiction of ASTM Committee C21 on Ceramic Whitewares and Related Products and is the direct responsibility of Subcommittee C21.04 on Raw Materials.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

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3. Sampling

3.1 The sample shall be obtained in accordance with Specification C 322. The sample submitted for testing shall weigh not less than 1000 g and shall be kept in an airtight container to prevent loss of water before testing.

4. Procedure

4.1 Remove the sample of clay from its container. Weigh about 500 g of the sample to the nearest 0.1 g. Spread out the weighed portion of the sample in a weighed shallow metal or porcelain container, and dry at 100 to 110°C for 24 h in a drying oven. Reweigh the dried clay, as quickly as possible, to the nearest 0.1 g.

5. Calculation

5.1 Calculate the percentage of free moisture to the nearest 0.1 % as follows:

$$\text{Free moisture, dry weight basis, \%} = [(A - B)/B] \times 100 \quad (1)$$

$$\text{Free moisture, wet weight basis, \%} = [(A - B)/A] \times 100 \quad (2)$$

where:

A = "as-received" weight of the portion of the sample used and

B = weight of sample after drying.

6. Keywords

6.1 ceramic whiteware clays; free moisture