Designation: C 471M – 01

METRIC

Standard Test Methods for Chemical Analysis of Gypsum and Gypsum Products [Metric][1]

This standard is issued under the fixed designation C 471M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope *

1.1 These test methods cover the chemical analysis of gypsum and gypsum products, including gypsum ready-mixed plaster, gypsum wood-fibered plaster and gypsum concrete.

NOTE 1—Gypsum reference standard materials, prepared by Domtar, Inc are available through Brammer Standards Company, Inc.

1.2 The test methods appear in the following order:

	Sections
Alternative Procedure for Analysis for Calcium Sulfate by Ammonium Acetate Method	17-22
Alternative Procedure for Analysis for Sodium Chloride by the Coulometric Method	23-29
Complete Procedure	5-16
Determination of Sand in Set Plaster	30-36
Optional Procedure for Analysis for Sodium by Flame Photometry	47-54
Optional Procedure for Analysis for Sodium by the Atomic Absorption Method	40-46
Preparation of Sample	4
Wood-Fiber Content in Wood-Fiber Gypsum Plaster	37-39

1.3 The text of this standard references notes and footnotes that provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard.

1.4 The values stated in SI units are to be regarded as the standard.

1.5 *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:*

C 11 Terminology Relating to Gypsum and Related Gypsum Building Materials and Systems[2]

C 22/C 22M Specification for Gypsum[2]

C 28 Specification for Gypsum Plasters[2]

C 59 Specification for Gypsum Casting and Molding Plaster[2]

C 61 Specification for Gypsum Keene's Cement[2]

C 317 Specification for Gypsum Concrete[2]

C 842 Specification for Application of Interior Gypsum Plaster[2]

D 1193 Specification for Reagent Water[3]

D 1428 Methods of Test for Sodium and Potassium in Water and Water-Formed Deposits by Flame Photometry[3]

D 2013 Method of Preparing Coal Samples for Analysis[4]

E 11 Specification for Wire-Cloth and Sieves for Testing Purposes[5]

3. Terminology

3.1 *Definitions*—Definitions shall be in accordance with Terminology C 11.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *sample as received*, *n*—a representative portion of raw gypsum or gypsum product in the state received by the testing laboratory, including aggregates, impurities and water content.

3.2.2 *dried sample*, *n*—a sample devoid of free water.

3.2.3 *riffle*, *n*—a hand feed sample divider device that divides the sample into parts of approximately the same weight. **(D 2013)**

4. Preparation of Sample

4.1 *General Procedures*—Details of sample preparation will vary according to the type of material being tested.

4.1.1 *Sample As Received*—Use a sufficient amount of sample such that, after sieving, not less than 50 g of sample will remain for testing. Weigh the entire sample immediately after opening the container in which the material was received. This will become the weight of the sample as received.

4.1.2 *Drying*—Dry the sample in accordance with Section 7. This will be the weight of the dried sample.

[1] These test methods are under the jurisdiction of ASTM Committee C11 on Gypsum and Related Building Materials and Systems and are the direct responsibility of Subcommittee C11.01 on Specifications and Test Methods for Gypsum Products.

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[2] *Annual Book of ASTM Standards*, Vol 04.01.

[3] *Annual Book of ASTM Standards*, Vol 11.01.

[4] *Annual Book of ASTM Standards*, Vol 05.05.

[5] *Annual Book of ASTM Standards*, Vol 14.02.

***A Summary of Changes section appears at the end of this standard.**

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