



Designation: D1918/D1918M – 95 (Reapproved 2017)

Standard Test Method for Asbestos Content of Asbestos Textiles¹

This standard is issued under the fixed designation D1918/D1918M; 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 This test method covers the determination of the asbestos content of untreated chrysotile asbestos textile materials which are usually blends of asbestos and organic fibers. This test method is also applicable to treated asbestos textile materials provided the treatment can be completely removed prior to testing.

1.2 This test method is limited to those asbestos textile materials in which asbestos is the only inorganic fiber present, or in which any other inorganic fiber or wire used as reinforcement can be removed prior to testing.

1.3 If carbonates are present, a correction is made for the loss on ignition in the calculation for asbestos content.

1.4 The values stated in either 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.

1.5 **Warning**—Breathing of asbestos dust is hazardous. Asbestos and asbestos products present demonstrated health risks for users and for those with whom they come into contact. In addition to other precautions, when working with asbestos-cement products, minimize the dust that results. For information on the safe use of chrysotile asbestos, refer to “Safe Use of Chrysotile Asbestos: A Manual on Preventive and Control Measures.”²

1.6 *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. For specific safety hazard, see 1.5.*

¹ This test method is under the jurisdiction of ASTM Committee C17 on Fiber-Reinforced Cement Products and is the direct responsibility of Subcommittee C17.03 on Asbestos - Cement Sheet Products and Accessories.

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² Available from The Asbestos Institute, Online, http://www.chrysotile.com/en/sr_use/manual.htm.

1.7 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:³

D123 Terminology Relating to Textiles

D1193 Specification for Reagent Water

D2946 Terminology for Asbestos and Asbestos-Cement Products

3. Terminology

3.1 For definitions of other textile terms used in this test method, refer to Terminology D123. For asbestos terms, refer to Terminology D2946.

3.2 Definitions:

3.2.1 *asbestos, n*—1. *general*—a group of impure silicate minerals occurring in fibrous form. 2. *textile*—the hydrous magnesium silicate serpentine mineral designated as chrysotile and having the general empirical formula $\text{Mg}_3\text{Si}_2\cdot\text{O}_5(\text{OH})_4$.

3.2.2 Small amounts of carbonates, which may be present, are calculated as asbestos.

4. Summary of Test Method

4.1 When carbonates are not present in the fibers, a specimen is dried to constant mass, heated to 800 to 840°C [1470 to 1540°F] for 1 h and the loss in mass determined. The mass of the ignited specimen divided by 0.86 (see 5.2) is assumed to equal the mass of asbestos fiber originally present. This corrected mass is calculated as a percentage of the weight of the original specimen.

4.2 When carbonates are present they are included in the amount of asbestos reported. While carbonates are not determined and reported separately, the amount of carbon dioxide included in the carbonates is measured and used to determine

³ 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.