



Standard Test Method for McNett Wet Classification of Dual Asbestos Fiber¹

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^{ε1} NOTE—Units information was editorially corrected in February 2012.

1. Scope

1.1 This test method covers the determination of the length distribution and fines content of milled asbestos fiber by wet classification employing the McNett fiber classifier.

1.2 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.

1.3 **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: A Manual on Preventive and Control Measures.”²

1.4 *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:³

- D2590 Test Method for Sampling Chrysotile Asbestos
- D2946 Terminology for Asbestos and Asbestos-Cement Products
- D3639 Test Method for Classification of Asbestos by Quebec Standard Test

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, http://www.chrysotile.com/en/sr_use/manual.htm.

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.

D3879 Test Method for Sampling Amphibole Asbestos (Withdrawn 2009)⁴

E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods

2.2 *ASTM Adjunct:*

Screen Clearing Device Drawings⁵

3. Terminology

3.1 *Definitions*—Terms relating to asbestos are defined in Terminology D2946.

4. Significance and Use

4.1 Normally, results obtained by this test method are reproducible under comparable laboratory conditions. However, it must not be expected that results obtained by different operators at various laboratories and times will be in exact agreement due to some seemingly minor procedural change. Moreover, results for longer fiber grades are influenced to a greater extent by differences in fiber length distribution and characteristics than those of shorter grades.

5. Apparatus

5.1 *McNett Fiber Classifier (such as 203-A or 203-CA)*,⁶ preferably equipped with vacuum suction cups for drainage, similar in design to that shown in Fig. 1, or on page 7 of the Service Manual 203-CA (see service manuals for identification of classifiers' parts).

NOTE 1—Drainage through muslin filter cloths or 200-mesh sieve (325-mesh for float products) is acceptable.

5.2 *Accessories:*

5.2.1 *Filter paper*, to fit suction cups on classifier. This shall be thin, rapid filtering, ashless paper hardened to provide

⁴ The last approved version of this historical standard is referenced on www.astm.org.

⁵ Available from ASTM International Headquarters. Order Adjunct No. ADJD2589. Original adjunct produced in 1967.

⁶ Currently supplied classifier Model 203-CA and service manuals for the installation, operation and maintenance of Models 203-A and 203-CA are available from the Bauer Bros. Co. Ltd., Brantford, ON, Canada, or Springfield, OH.

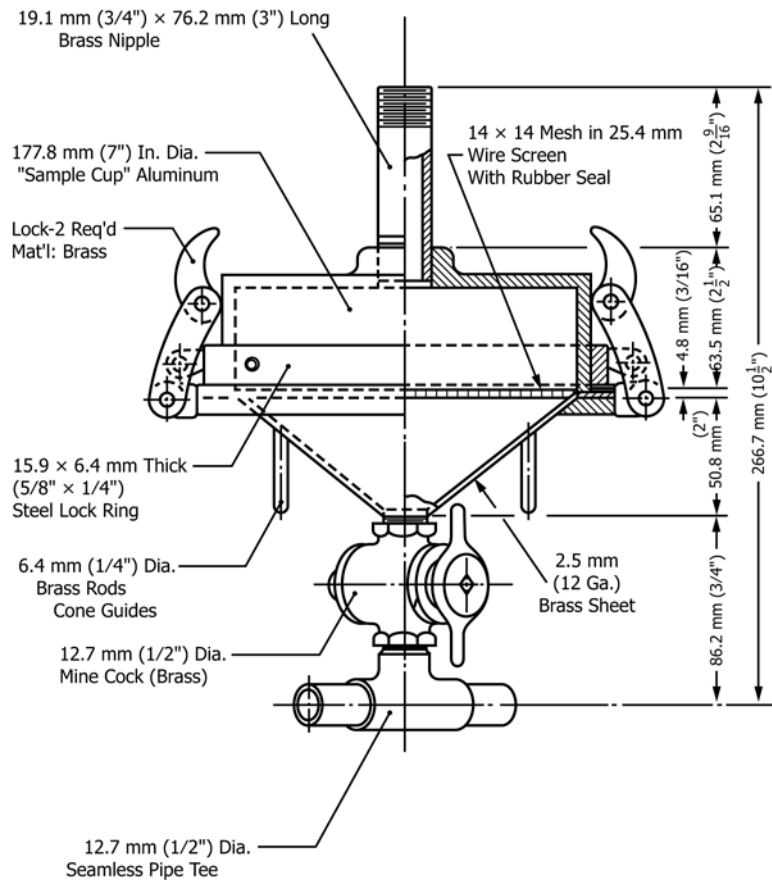


FIG. 1 Suction Cup

adequate wet strength and resistance to washing. Alternatively, 325-mesh screen cloths mounted in suitable metal rings may replace filter papers (see Note 5 in 11.5.4).

5.2.2 *T-Shaped Soft Rubber Scraper*, for cleaning screens, made from a 10-cm [4-in.] length of automobile windshield wiper, or equivalent, held in a suitable handle, similar to a hoe.

5.2.3 *Rubber Hose*, 6-mm [1/4-in.] bore with control valve nozzle for rinsing classifier screens and tanks with filtered water.

5.2.4 *Drying Oven*, (convection type, or mechanical draft), or infrared drying unit.

5.2.5 *Automatic Overflow Alarm*, as shown in Appendix X1.

5.2.6 *Optional Accessory*, Automatic clearing device on the fourth tank, as shown in Appendix X1 (see Note 3 in 11.5.4).

5.3 *Water Supply*—Provide a suitable filtering device on the water supply to ensure a constant flow of clean water to the classifier and rinsing hose.

6. Sampling

6.1 Select samples in accordance with Test Method D2590 for chrysotile or Test Method D3879 for amphibole fibers as defined in Terminology D2946. Duplicate specimens shall be tested. (**Warning**—See 1.3.)

7. Test Specimen, Screen Sizes, and Test Duration

7.1 Relationships between the type of specimen, screen sizes, masses, and duration of test may be found in Table 1.

TABLE 1 Screen Size, Test Specimen and Duration Relationships

Test Specimen, QAMA ^A Fiber Group	Screen Sizes, SI openings [Tyler mesh/in.]	Specimen Mass, g	Duration of Test, min
3, 4, 5, 6 and 7D	476, 119, 420 μm, 74 μm [4, 14, 35, 200]	10 ± 0.05	20
Other Group 7 fibers	119, 420 μm, 199 μm, 74 μm [14, 35, 100, 200]	20 ± 0.05	20
"Floats"	177 μm, 44 μm [80, 325]	20 ± 0.05	30

^A Quebec Asbestos Mining Association (QAMA) standard designation of chrysotile asbestos grades.