



Standard Test Method for Penetration Index of Asbestos¹

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1. Scope

1.1 To determine the efficiency with which asbestos fibers increase the consistency when mixed into a liquid asphaltic vehicle, relative to fibers chosen as standard.

1.2 This test method is applicable to Quebec Standard Group 7 asbestos fibers as determined by Test Method [D3639/D3639M](#).

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 **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

1.5 *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.* For a specific hazard warning, see [1.4](#).

2. Referenced Documents

2.1 ASTM Standards:³

[D217](#) Test Methods for Cone Penetration of Lubricating Grease

[D396](#) Specification for Fuel Oils

[D2026/D2026M](#) Specification for Cutback Asphalt (Slow-Curing Type)

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.

[D2027/D2027M](#) Specification for Cutback Asphalt (Medium-Curing Type)

[D2590/D2590M](#) Test Method for Sampling Chrysotile Asbestos

[D2946](#) Terminology for Asbestos and Asbestos-Cement Products

[D3639/D3639M](#) Test Method for Classification of Asbestos by Quebec Standard Test

[D3879](#) Test Method for Sampling Amphibole Asbestos (Withdrawn 2009)⁴

[E177](#) Practice for Use of the Terms Precision and Bias in ASTM Test Methods

2.2 Other Standard:

Québec Standard Designation of Chrysotile Asbestos Fiber Grades⁵

3. Terminology

3.1 *Definitions*—Refer to Terminology [D2946](#).

4. Significance and Use

4.1 The objective of the test is to determine what quantity of the fiber under evaluation must be mixed with 100 g of cutback asphalt to give the same penetration as a target penetration.

4.2 The target penetration is determined with the same cutback asphalt as used for the test using standard calibrated asbestos fiber.

4.3 This test method determines the efficiency with which the asbestos tested will increase the consistency when mixed with a liquid asphalt.

5. Apparatus

5.1 *Penetrometer*—Calibrated in 0.1 mm divisions and fitted with a 102.5 ± 0.05 g grease penetration cone conforming to requirements (see [Note 1](#)) stated in Test Method [D217](#).

NOTE 1—An automatic clutch is a permissible optional accessory.

5.2 *Asphalt Sample Cups*—55 mm in diameter and 35 mm in height, made of seamless tin plate as described in Test Method [D217](#).

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

⁵ Available from the Asbestos Institute, 1130 Sherbrooke St. West, Suite 410, Montreal, QC Canada H3A 2M8.