Designation: D5078/D5078M – 11 (Reapproved 2021)

Standard Specification for Crack Filler, Hot-Applied, for Asphalt Concrete and Portland Cement Concrete Pavements[1]

This standard is issued under the fixed designation D5078/D5078M; 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 specification covers hot-applied crack filler for use in filling cracks in asphalt concrete and portland cement concrete pavements.

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 nonconformance with the standard.

1.3 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *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:*[2]

D5/D5M Test Method for Penetration of Bituminous Materials

D36/D36M Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)

D217 Test Methods for Cone Penetration of Lubricating Grease

D5167 Practice for Melting of Hot-Applied Joint and Crack Sealant and Filler for Evaluation

D5329 Test Methods for Sealants and Fillers, Hot-Applied, for Joints and Cracks in Asphalt Pavements and Portland Cement Concrete Pavements

3. General Requirements

3.1 The hot-applied crack filler shall be a compound that will effectively fill cracks in both asphalt concrete and portland cement concrete pavements. The crack filler shall resist softening and pickup by vehicle tires at ambient summer temperatures when used in an appropriate manner. The material shall be capable of being heated to the specified safe heating temperature (see 4.1) in appropriate melting units, shall be capable of being effectively applied to pavement cracks through pressure-fed melter-applicator equipment, and shall be suitable for filling cracks that are a minimum of 9.5 mm [⅜ in.] in width (see Appendix X1).

4. Physical Requirements

4.1 *Safe Heating Temperature*—The safe heating temperature is the highest temperature to which the crack filler can be heated and still conform to all requirements of this specification. The safe heating temperature shall be a minimum of 11 °C [20 °F] higher than the manufacturer's minimum recommended application temperature. For testing purposes, the pouring temperature for specimen preparation shall be the safe heating temperature recommended by the manufacturer. The safe heating temperature shall be shown on all containers and shall be provided to the testing agency before any laboratory tests are begun.

4.2 *Softening Point*—The softening point of the crack filler shall be a minimum of 65.5 °C [150 °F].

4.3 *Cone Penetration, Non-Immersed*—At 25 ± 0.1 °C [77 ± 0.2 °F], 150 g, for 5 s, shall not exceed 70 units.

4.4 *Cone Penetration at 4 °C [39.2 °F]*—At 4 ± 0.1 °C [39.2 ± 0.2 °F], 200 g, for 60 s, shall be a minimum of 15 units.

4.5 *Resilience*—At 25 ± 0.1 °C [77 ± 0.2 °F], shall be a minimum of 30 % recovery.

4.6 *Asphalt Compatibility*—There shall be no failure in adhesion, formation of an oily exudate at the interface between the crack filler and the asphalt concrete specimen, or softening

[1] This specification is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.33 on Formed In-Place Sealants for Joints and Cracks in Pavements.

Current edition approved May 1, 2021. Published May 2021. Originally approved in 1990. Last previous edition approved in 2016 as D5078/D5078M – 11 (2016). DOI: 10.1520/D5078_D5078M-11R21.

[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.