



Designation: D6753/D6753M – 02 (Reapproved 2023)

Standard Specification for Coal Tar Adhesive¹

This standard is issued under the fixed designation D6753/D6753M; 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 coal tar adhesive with or without polymer modification suitable for brush, spray, squeegee, and trowel application to coal tar built-up and coal tar modified bitumen membrane roofings and flashings.

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

D903 Test Method for Peel or Stripping Strength of Adhesive Bonds

D6511/D6511M Test Methods for Solvent Bearing Bituminous Compounds

3. Classification

3.1 *Type I*—Brush, squeegee, or spray consistency intended for use in the application of field sheet membranes.

¹ This specification is under the jurisdiction of ASTM Committee D08 on Roofing and Waterproofing and is the direct responsibility of Subcommittee D08.05 on Solvent-Bearing Bituminous Compounds for Roofing and Waterproofing.

Current edition approved July 1, 2023. Published July 2023. Originally approved in 2002. Last previous edition approved in 2016 as D6753/D6753M – 02 (2016). DOI: 10.1520/D6753_D6753M-02R23.

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.

3.2 *Type II*—Heavy brushing or trowel consistency intended for use in the repair of coal tar roofing and flashings and installation of flashings.

4. Materials and Manufacture

4.1 Coal tar adhesive shall consist of a processed coal tar base, volatile solvents, mineral stabilizers, with or without polymer modifiers excluding asbestos, mixed to a smooth consistency.

5. Physical Requirements

5.1 The material shall conform to the requirements prescribed in [Table 1](#).

5.2 *Uniformity*—A thoroughly stirred sample shall show no separation of solvent or settling that cannot be overcome by moderate stirring after standing for 72 h at room temperature in a closed container.

6. Sampling and Test Methods

6.1 *Test Methods D6511/D6511M:*

6.2 *Strength of Lap*—Test Methods D6511/D6511M as modified below:

6.2.1 Three sets of four specimens shall be prepared, conditioned, and tested at three different temperatures for lap shear strength.

6.2.2 Temperatures are to be 10, 25, and 60 °C [50, 77, and 140 °F], for conditioning and 10, 25, and 32 °C [50, 77, and 90 °F] for testing. Preparation of specimens shall be done at a laboratory temperature of 23 ± 1.8 °C [73.4 ± 3.6 °F].

6.2.3 *Test Specimen and Sample:*

6.2.3.1 Use a sample of the actual roofing membrane intended for use with the adhesive.

6.2.3.2 For each specimen, cut a 1 by 12 in. [25 by 305 mm] transverse strip of membrane that includes the selvage; then cut this strip in half so that one piece contains the selvage and the other is plain.

6.2.3.3 Spread the amount of coal tar adhesive recommended by the manufacturer evenly over the selvage and then place the reverse side of the plain half over the adhesive-coated selvage in the same manner as a field lap would be made.

6.2.3.4 Place a 10 lb [4.5 kg] mass over the lap. The mass shall be large enough to cover the area containing adhesive.

TABLE 1 Requirements for Coal Tar Adhesive^A

| | Type I | | | | Type II | | | |
|---|--------|------|-----------------|---------|---------|------|--------|---------|
| Non-volatile matter, % min | 73 | | | | 60 | | | |
| Water, % max. | 2.0 | | | | 3 | | | |
| Ash (% of nonvolatile matter), min. | 4 | | | | 12 | | | |
| Lap shear strength, min, kN/m | 24 h | 72 h | 7 days | 28 days | 24 h | 72 h | 7 days | 28 days |
| Conditioned and tested at 10 °C [50 °F] | 25 | 60 | MF ^B | MF | 60 | 65 | MF | MF |
| Conditioned and tested at 25 °C [77 °F] | 15 | 40 | 70 | MF | 70 | 75 | MF | MF |
| Conditioned at 60 °C [140 °F] and tested at 32 °C [90 °F] | 6 | 15 | 20 | MF | 25 | 30 | MF | MF |
| Peel strength min, kN/m | 24 h | 72 h | 7 days | 28 days | 24 h | 72 h | 7 days | 28 days |
| Conditioned and tested at 10 °C [50 °F] | 0.25 | 0.45 | 0.81 | 1.75 | 0.50 | 0.70 | 2.80 | 2.90 |
| Conditioned and tested at 25 °C [77 °F] | 0.20 | 0.50 | 0.95 | 2.50 | 0.80 | 2.0 | 5.50 | 7.0 |
| Conditioned at 60 °C [140 °F] and tested at 32 °C [90 °F] | 0.40 | 1.36 | 2.0 | 2.10 | 2.40 | 2.50 | 2.80 | 3.00 |

^A Values in table developed with a coal tar modified bitumen sheet adhered to itself.

^B MF denotes substrate failure.

After 2 min, remove the mass and condition the specimens as prescribed in **Table 1**. Use care when handling or moving samples.

6.2.4 *Procedure*—Test each specimen immediately after the specified conditioning period in accordance with Test Methods **D6511/D6511M**. If any specimen fails to meet the minimum values specified in **Table 1**, report the material as failing the lap strength.

6.3 Peel Strength:

6.3.1 Test each specimen immediately after the specified conditioning period in accordance with Test Method **D903**. Specimens prepared as in **6.2.3**. If any specimen fails to meet the minimum values specified in **Table 1**, report the material as failing the peel strength.

7. Inspection

7.1 Inspection of the material shall be as agreed upon between the purchaser and the supplier as part of the purchase contract.

8. Rejection and Resubmittal

8.1 Failure to conform to any of the requirements prescribed in this specification may constitute grounds for rejection. In the case of rejection, the seller shall have the right to reinspect the rejected material and resubmit the lot after removal of those packages not conforming to the requirements.

9. Packaging and Package Marking

9.1 Unless otherwise agreed upon, all products shall be packaged and labeled in accordance with applicable regulations. Each package shall be marked to indicate the applicable type and ASTM specification.

10. Keywords

10.1 adhesive; coal tar; peel strength; shear strength

ASTM D6753/D6753M-02(2023)

ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org). Permission rights to photocopy the standard may also be secured from the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, Tel: (978) 646-2600; http://www.copyright.com/