



Designation: D 2521 – 76 (Reapproved 1997)

Standard Specification for Asphalt Used in Canal, Ditch, and Pond Lining¹

This standard is issued under the fixed designation D 2521; 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 an oxidized petroleum asphalt, which, when applied in a sufficient thickness over a suitable subgrade and covered with a suitable cover material, will provide a satisfactory waterproof membrane for use as a canal, ditch, and pond lining.

1.2 *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:

- D 5 Test Method for Penetration of Bituminous Materials²
- D 6 Test Method for Loss on Heating of Oil and Asphaltic Compounds³
- D 92 Test Method for Flash and Fire Points by Cleveland Open Cup⁴
- D 113 Test Method for Ductility of Bituminous Materials²
- D 140 Practice for Sampling Bituminous Materials²
- D 2042 Test Method for Solubility of Asphalt Materials in Trichloroethylene²
- D 2398 Test Method for Softening Point of Bitumen in Ethylene Glycol (Ring and Ball)⁵

3. Physical Requirements

3.1 The asphalt shall not foam when heated to 400°F (205°C), and shall conform to the requirements prescribed in Table 1.

3.2 At the purchaser's option, phosphorus pentoxide (P₂O₅) may be specified as a catalyst or blowing aid in the preparation

¹ This specification is under the jurisdiction of ASTM Committee D-8 on Roofing, Waterproofing, and Bituminous Materials and is the direct responsibility of Subcommittee D08.03 on Surfacing and Bituminous Materials for Membrane Waterproofing and Builtup Roofing.

Current edition approved Sept. 24, 1976. Published December 1976. Originally published as D2521 – 66 T. Last previous edition D2521 – 71.

² Annual Book of ASTM Standards, Vol 04.03.

³ Annual Book of ASTM Standards, Vol 04.04.

⁴ Annual Book of ASTM Standards, Vol 05.01.

⁵ Discontinued—See 1984 Annual Book of ASTM Standards, Vol 04.04.

TABLE 1 Requirements for Asphalt for Use in Waterproof Membrane Construction

Property	min	max
Softening point (ring and ball), °F (°C)	175 (79)	200 (93)
Penetration of original sample, 0.1 mm:		
at 77°F (25°C), 100 g, 5 s	50	60
at 32°F (0°C), 200 g, 60 s	30	...
at 115°F (46°C), 50 g, 5 s	...	120
Ductility at 77°F (25°C), mm	35	...
Flash point (Cleveland open cup), °F (°C)	425 (218)	...
Solubility in trichloroethylene, %	97.0	...
Loss on heating, %	...	1.0
Penetration after loss on heating, % of original at 77°F (25°C), 100 g, 5 s	60	...

of the membrane asphalt.

4. Sampling and Test Methods

4.1 Sample the material and determine the properties enumerated in this specification in accordance with the following methods:

- 4.1.1 *Sampling*—Practice D 140.
- 4.1.2 *Softening Point*— Test Method D 2398.
- 4.1.3 *Penetration*— Test Method D 5.
- 4.1.4 *Ductility*—Test Method D 113.
- 4.1.5 *Flash Point*— Test Method D 92.
- 4.1.6 *Solubility in Trichloroethylene*—Test Method D 2042.
- 4.1.7 *Loss on Heating*— Test Method D 6.

5. Inspection

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

6. Rejection and Resubmittal

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

7. Keywords

7.1 bituminous materials; canal lining; ditch lining; membrane asphalt

 **D 2521**

The American Society for Testing and Materials 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 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, 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).