



Standard Specification for Emulsified Coal-Tar Pitch (Mineral Colloid Type)¹

This standard is issued under the fixed designation D 3320; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers mineral-colloid-stabilized, emulsified coal-tar pitch suitable for use as a weather-protective and aliphatic-solvent resistant coating over bituminous pavements of airports, parking areas, and driveways.

1.2 The values stated in SI (metric) units are to be regarded as the standard.

1.3 The following precautionary caveat pertains only to the test method portion, Section 6, of this specification: *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 140 Practice for Sampling Bituminous Materials²

D 466 Test Methods for Films Deposited from Bituminous Emulsions²

D 490 Specification for Road Tar³

D 529 Test Method for Accelerated Weathering Test Conditions and Procedures for Bituminous Materials (Carbon-Arc Method)²

D 2939 Test Methods for Emulsified Bitumens Used as Protective Coatings²

2.2 Federal Specification:

VV-K-211 Kerosene⁴

3. Materials and Manufacture

3.1 The emulsion shall be made using tars having viscosities of RT-11 or higher. The tars shall conform to the requirements of Specification D 490.

3.2 Mineral filler (mineral colloids) shall consist of finely ground clay, silica, or other inert inorganic materials.

NOTE 1—**Caution:** Bentonitic or highly expansive clays may cause drying and shrinkage problems which may affect the durability of the pavement sealer.

3.3 When specified, the emulsion shall be fortified with antifreeze.

4. Physical Requirements

4.1 The emulsion shall be of suitable consistency for application by brush, squeegee, roller, or suitable spray equipment. The material shall be used as received. It shall not be diluted with water or thinned by heating. It shall bond firmly to properly prepared damp or primed surfaces.

NOTE 2—Pavement and ambient temperature should be not less than 7°C (45°F) at the time of application and for at least 12 h thereafter, with no precipitation of rain, snow, etc., until the emulsion has dried.

4.2 The product shall be of smooth, uniform consistency without settlement or segregation in storage to the extent that it cannot be readily dispersed by ordinary stirring.

4.3 The material, after stirring to homogeneity, shall be suitable for application by the selected method in single coats of approximately 0.3 to 0.4 L/m² (¾ to 1 gal/100 ft²) without appreciable drainage on inclines up to 0.8 % (0.1 in./ft).

4.4 The material shall conform to the physical properties prescribed in Table 1 prior to fortification with antifreeze.

5. Sampling

5.1 Sample in accordance with Practice D 140 and Test Methods D 2939.

6. Test Methods

6.1 *Wet Film Continuity*—Using a spatula, spread the wet emulsion to a thin film on a sheet of standard 67.7-g/m² (18-lb) mimeograph paper. As the emulsion is drawn out to a smear, it shall show a uniformly smooth nongranular consistency, free of coarse particles.

6.2 *Resistance to Freezing (when specified)*—Expose a representative specimen of the emulsion to a temperature of −18°C (0°F) for 24 h; then warm the specimen to 25°C (77°F) in an environment not exceeding 38°C (100°F) and stir thoroughly.

NOTE 3—In any test utilizing an oven, the oven to be used shall be a gravity convection type. The internal dimensions of the oven shall be not less than 305 by 305 by 305 mm (12 by 12 by 12 in.).

¹ This specification is under the jurisdiction of ASTM Committee D08 on Roofing, Waterproofing, and Bituminous Materials and is the direct responsibility of Subcommittee D08.09 on Bituminous Emulsions.

Current edition approved June 10, 2000. Published August 2000. Originally published as D 3320 – 74 T. Last previous edition D 3320 – 90(1998).

² *Annual Book of ASTM Standards*, Vol 04.04.

³ *Annual Book of ASTM Standards*, Vol 04.03.

⁴ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave. Philadelphia, PA 19111-5094, Attn: NPODS.