



Designation: D6945 – 03

# Standard Specification for Emulsified Refined Coal-Tar (Ready to Use, Commercial Grade)<sup>1</sup>

This standard is issued under the fixed designation D6945; 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 mineral-colloid-stabilized, emulsified refined coal tar suitable for use as a weather-protective and petroleum (aliphatic) solvent resistant coating. This product is typically applied to commercial lots and other low speed bituminous concrete pavements suitable for protection.

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 requirements prior to use.*

## 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

[C136 Test Method for Sieve Analysis of Fine and Coarse Aggregates](#)

[C142 Test Method for Clay Lumps and Friable Particles in Aggregates](#)

[D140 Practice for Sampling Bituminous Materials](#)

[D490 Specification for Road Tar](#)

[D2939 Test Methods for Emulsified Bitumens Used as Protective Coatings](#)

[D3423 Practice for Application of Emulsified Coal-Tar Pitch \(Mineral Colloid Type\)](#)

[D5727 Specification for Emulsified Refined Coal Tar \(Mineral Colloid Type\)](#)

## 3. Terminology

3.1 The refined coal tar emulsion mixed at the contractor's yard or at the job site shall meet the requirements of Specification [D5727](#). Mixture Types I and II (see Appendix A of Practice [D3423](#) for standard definition of terms) are described below:

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee [D08](#) on Roofing and Waterproofing and is the direct responsibility of Subcommittee [D08.09](#) on Bituminous Emulsions.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

3.1.1 *Type I material*—a mixture of refined coal tar emulsion meeting Specification [D5727](#), water, and aggregate.

3.1.2 *Type II material*—a mixture of refined coal tar emulsion meeting Specification [D5727](#), water, aggregate, and additive.

## 4. Classification

4.1 This specification is designed to give specifying authorities the information necessary to ensure that the appropriate base refined coal tar emulsion mixtures are specified for protecting bituminous concrete pavements where fuel resistance is required.

4.2 Normal aggregate loadings for Type I materials should range from 0.360 to 0.600 kg/L (3 to 5 lb/gal). Type II materials can have slightly higher loadings of aggregate; however, aggregate loadings in excess of 0.720 kg/L (6 lb/gal) are strongly discouraged.

NOTE 1—Several researchers have shown that high aggregate loadings result in a lack of fuel resistance as determined by the Resistance to Kerosene test according to Test Methods [D2939](#). Poor adhesion may also occur with high sand loadings.

## 5. Materials and Manufacture

5.1 *Base Refined Coal Tar Emulsion*—This emulsion shall be made using binders prepared from a high temperature refined coal tar conforming to the requirements of Specification [D490](#) for RT11 or higher. The use of oil and water gas tar is not allowed. The base refined coal tar emulsion shall be in accordance with all requirements of Specification [D5727](#).

5.2 *Aggregate*—The aggregate shall be either a natural or manufactured (boiler slag has been used successfully) angular aggregate composed of clean, hard, durable particles free of clay and other objectionable material when tested in accordance with Test Method [C142](#). (Boiler slag has been used successfully.)

NOTE 2—It is recommended that this aggregate meet the gradation given in [Table 1](#), when tested in accordance with Test Method [C136](#).

5.3 *Additive*—In the case of Type II material, the additive shall be approved by the base refined coal tar emulsion manufacturer.