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AMERICAN SOCIETY FOR TESTING AND MATERIALS
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Standard Practice for Paving Uses and Application Temperatures for Road Tars[1]

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1. Scope

1.1 This practice covers the selection and application temperatures of road tar grades in the construction and maintenance of pavements.

2. Referenced Documents

2.1 *ASTM Standards:*

D 8 Standard Terminology Relating to Materials for Roads and Pavements[2]

3. Terminology

3.1 The definitions of terms not included in Standard D 8 are listed below.

3.1.1 *dust palliative*—a light application of a low-viscosity bituminous material for the express purpose of laying and bonding dust or preventing a dust nuisance.

3.1.2 *sand aggregate*—non-plastic mineral aggregate, essentially all passing the 4.75-mm sieve, and containing no more than a minor percentage passing the 75-µm sieve.

3.1.3 *plant mix*—a mixture of bituminous material and mineral aggregate prepared in a central bituminous mixing plant, then spread and compacted at the job site. Plant mixes include:

3.1.3.1 *hot lay tar concrete*—a plant mix containing a high viscosity grade of tar and a densely graded mineral aggregate, designed to be laid at or near the elevated temperature of mixing.

3.1.3.2 *cold lay tar concrete*—a plant mix containing a medium viscosity grade of tar and a less densely graded aggregate, designed to be laid either shortly after mixing or when the mixture is at or near ambient temperature.

3.1.3.3 *sand mix*—a plant mix containing sand aggregate and a high-viscosity grade of tar designed to be laid immediately.

3.1.3.4 *soil mix*—a plant mix containing soil aggregate and a low-to-medium viscosity grade of bituminous material, usually designed to be stockpiled, then laid following a period of seasoning.

3.1.4 *patch mix*—a mixture of bituminous material and mineral aggregate for patching holes, depressions, and distressed areas in existing pavements. These mixes are suitable for use in relatively small areas, applied at ambient temperature, using hand-laying and hand-compaction techniques. These mixes may be designed for immediate use or for stock-piling prior to use.

4. Significance and Use

4.1 This practice provides information on the recommended uses and application temperatures for the various grades of road tar used in the construction and maintenance of pavements.

5. Recommended Uses

5.1 The recommendations shown in Table 1 are for use only as a guide when using tar for pavement construction and maintenance. Several grades of tar may be listed in the table for the same general construction procedure. Selection of a particular grade will depend upon local practice, equipment availability, traffic, and environmental conditions applicable to the specific project being considered.

6. Recommended Application Temperatures

6.1 The temperature ranges listed in Table 1 for the several road tar grades show the minimum and maximum temperatures that will provide proper viscosity for application. In general, the lower application temperatures may be used when higher temperatures of aggregate and pavement surfaces prevail. Higher application temperatures are employed when the tar is to be mixed, or where dust or moisture films are encountered. It is good practice to apply tar at the lowest temperature that will provide the required spray pattern, viscosity, adhesion, etc.

7. Keywords

7.1 road tar; application temperature

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[1] This recommended practice is under the jurisdiction of ASTM Committee D-4 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.43 on Specifications and Tests for Tar and Tar Products.

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[2] *Annual Book of ASTM Standards*, Vol 04.03.

TABLE 1 Recommended Paving Uses and Application Temperatures

Uses	Road Tar Grades													
	RT-1	RT-2	RT-3	RT-4	RT-5	RT-6	RT-7	RT-8	RT-9	RT-10	RT-11	RT-12	RTCB-5	RTCB-6
Dust palliative	×	×												
Prime coat	×	×	×											
Tack coat						×	×							
Seal coat or surface treatment						×	×	×	×	×				
Road mix (mixed in place):														
Coarse aggregate						×	×	×	×					
Graded aggregate					×	×	×	×						
Sand aggregate						×	×	×	×					
Soil aggregate			×	×	×	×								
Plant mix:														
Hot lay tar concrete										×	×	×		
Cold lay tar concrete								×	×					
Sand mix										×	×	×		
Soil mix						×	×	×						
Patch mix:														
To use immediately						×	×	×						
To stockpile				×									×	×
Penetration macadam												×		
Crack filler										×	×	×		
Application temperatures, °C	16–52°C			27–66°C				66–107°C			79–121°C		16–49°C	