



Designation: D 856 - 49 (Reapproved 1987)

Standard Test Methods for Sampling and Testing Pine Tars and Pine-Tar Oils¹

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1. Scope

1.1 These test methods cover procedures for sampling and testing pine tars, both kiln and retort, and pine-tar oils, together with compounded tar products of naval stores origin.

1.2 *This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety problems 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 20 Test Method for Distillation of Road Tars²
- D 70 Test Method for Specific Gravity of Semi-Solid Bituminous Materials³
- D 88 Test Method for Saybolt Viscosity⁴
- D 140 Methods of Sampling Bituminous Materials²
- D 270 Method of Sampling Petroleum and Petroleum Products⁵
- D 368 Test Method for Specific Gravity of Creosote and Oil-Type Preservatives⁶
- E 1 Specification for ASTM Thermometers⁷

3. Sampling

3.1 *General Sampling Procedure*—The material shall be sampled in accordance with the applicable portions of Methods D 140 and D 270.

3.2 *Kiln Pine Tar in Barrels or Drums*—This type of tar may contain more than the small permissible quantity of water usually present under good producing practice. The water may be separated at the top, but it is not unusual to find it settled out at the bottom of the container, due to a high concentration of dissolved tar acids. (In good practice most of this water should be removed at the point of production or preparation for shipment.) By means of a "thief" or a rod at least 1 ft (0.3 m) longer than the length or diameter of the container, so as to permit it to extend to the bottom of the barrel or drum (the usual type of container)

probe the tar at top and bottom, without too much agitation, to ascertain whether there is any appreciable quantity of water present. Remove as much of the water as possible. Then insert the thief or probe rod to the bottom and stir the tar up as much as possible. Rapidly raise then lower the rod eight or ten times, taking care to avoid pulling it out of the drum. In this way a layer of the tar and any accompanying water is brought onto the surface of the rod. Finally, quickly withdraw the rod and allow the adhering tar to flow into a bucket or other container in which a composite sample may be collected. Repeat the procedure, taking two portions from each drum sampled.

3.3 *Number of Drums Sampled*—In order to ascertain the average condition of a lot, at least 20 %, and if possible all of the drums, shall be opened and examined. Take samples for further tests from at least 10 % of the drums, selecting those drums which appear to be most representative of the general condition of the lot as indicated by the visual examination made as described in 3.2.

4. Preparation of Sample

4.1 Thoroughly stir and agitate the entire sample, preferably pouring it out into a large beaker and stirring after first stirring in the container. This is necessary to ensure complete mixing of any separated water or light oil and to obtain complete uniformity of sample. Strain through cheesecloth to remove any particles. All subsequent tests shall be made on portions taken after further thorough stirring of the sample.

PHYSICAL TESTS

CONDITION AND APPEARANCE

5. Procedure

5.1 Flow a thin layer of the pine tar or pine-tar oil on a clear glass surface (as in a partly filled glass container). Examine the film for suspended droplets of water and other foreign matter.

COLOR

6. Procedure

6.1 Rub out one drop of the pine tar or pine-tar oil between two sheets of white writing paper. Observe the color of the resultant spot, along with that of the film of tar examined in accordance with Section 5.

NOTE 1—Clean tar has a bright golden or reddish brown color when examined in accordance with Section 6.

¹ These test methods are under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings and Materials and are the direct responsibility of Subcommittee D01.34 on Naval Stores.

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

³ *Annual Book of ASTM Standards*, Vols 04.03 and 04.08.

⁴ *Annual Book of ASTM Standards*, Vol 04.04.

⁵ Discontinued, see 1983 *Annual Book of ASTM Standards*, Vol 05.01.

⁶ *Annual Book of ASTM Standards*, Vol 04.09.

⁷ *Annual Book of ASTM Standards*, Vols 14.01 and 05.03.