



Designation: D509 – 05

## Standard Test Methods of Sampling and Grading Rosin<sup>1</sup>

This standard is issued under the fixed designation D509; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 These test methods cover procedures for sampling and determining the grade of rosin delivered in commercial bags, barrels, drums or in molten form. Although developed for rosin, these methods can also be used for the grading of modified rosins and rosin based resins.

NOTE 1—All rosin sold in interstate commerce must be described by reference to the U. S. Standards for rosin, and is therefore subject to grading prior to such sale. The grading procedure described in these test methods is used for checking grades or regrading after the rosin has moved from the primary markets to distributing or consuming points.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 *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:*<sup>2</sup>

D465 Test Methods for Acid Number of Naval Stores Products Including Tall Oil and Other Related Products

D1544 Test Method for Color of Transparent Liquids (Gardner Color Scale)

D5974 Test Methods for Fatty and Rosin Acids in Tall Oil Fractionation Products by Capillary Gas Chromatography

D6090 Test Method for Softening Point Resins (Mettler Cup and Ball Method)

D6166 Test Method for Color of Naval Stores and Related Products (Instrumental Determination of Gardner Color)

E28 Test Methods for Softening Point of Resins Derived from Naval Stores by Ring-and-Ball Apparatus

<sup>1</sup> These test methods are under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and are the direct responsibility of Subcommittee D01.34 on Naval Stores.

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

### 3. Significance and Use

3.1 Rosin is an important product of the centuries old Naval Stores industry and is produced and consumed in many countries throughout the world. Consequently, reliable methods of sampling and grading rosin are necessary. The test methods based on the use of the USDA Official Standards described herein, were developed many years ago for the sampling and grading of rosin and are similar to those included in the Naval Stores Act.<sup>3</sup>

3.2 Although these test methods based on the use of the USDA Official Standards are still applicable, many additional test methods are now used to grade rosin. In particular, the color of rosin is now more commonly reported using the Gardner color scale rather than the USDA Official Standards. In addition, Test Methods E28, D465, and D5974 are widely used to assess the quality of rosin in addition to the color grading methods described in this standard.

### 4. Sampling

4.1 *Number of Packages to Be Sampled*—A preliminary sampling of 20 % of the entire lot or shipment shall be made. If the grade of 85 % or more of the number of such preliminary samples agrees with the grade indicated on the package or invoice, with none of the samples disagreeing by more than one grade, the original grading shall be considered confirmed and the shipment accepted as a good delivery. If the grades of more than 15 % of the preliminary samples are in disagreement, or if any appreciable number are under grade by more than one grade, additional packages in the lot to make up a total equal to not less than 50 % of the entire shipment (preferably the entire shipment if accessible and not too great) shall be sampled. The findings on such larger quantity shall be accepted as the basis for settlement between the purchaser and the seller.

4.2 *Method of Sampling*—Take samples that are approximately cubical in shape and exactly 22.225 mm ( $\frac{7}{8}$  in.) thick in the direction in which they are to be viewed, by any of the following methods:

(a) by cutting or cleaving the same from a lump of rosin removed from the solid mass in the barrel or drum, the top side of which lump shall come from not less than 101.6 mm (4 in.) below the surface of the rosin.

<sup>3</sup> Naval Stores Act of 1923 (42 Stat 1435.7 USC-91-99) as amended in 1951 and regulations promulgated thereunder by the United States Department of Agriculture.