



Designation: D 509 – 03

Standard Test Methods of Sampling and Grading Rosin¹

This standard is issued under the fixed designation D 509; 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 These test methods cover procedures for sampling and determining the grade of rosin delivered in commercial bags, barrels, drums or in molten form.

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:

- D 465 Test Methods for Acid Number of Naval Stores Products Including Tall Oil and Other Related Products²
- D 5974 Test Methods for Fatty and Rosin Acids in Tall Oil Fractionation Products by Capillary Gas Chromatography²
- D 6090 Test Method for Softening Point of Resins (Mettler Cup and Ball Method)²
- E 28 Test Methods for Softening Point of Resins Derived from Naval Stores by Ring-and-Ball Apparatus²

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 described herein were developed many years ago for

¹ 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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² *Annual Book of ASTM Standards*, Vol 06.03.

the sampling and grading of rosin and are similar to those included in the Naval Stores Act.³

3.2 Although these test methods are still applicable, many modifications of these methods and many additional test methods are now used to grade rosin. For example, Test Methods E 28, D 465, and D 5974 are widely used to assess the quality of rosin in addition to the color grading described in those methods. Further, as rosin is often available in molten form, it is common practice to pour liquid rosin into molds in order to prepare specimens for color grading. The need for a test method describing such a technique is under discussion by Subcommittee D01.34. Thus, even though some parts of these test methods are somewhat outdated, these test methods are still important from both a practical and historical viewpoint.

4. Apparatus

4.1 *Official Rosin Standards*—The official standards for use in grading rosin, plus three standards lighter than “X” consists of assemblies of colored glass plates, cemented together, as issued on loan by the U.S. Department of Agriculture.⁴ The grades and standards are designated as follows: XC, XB, XA, X, WW, WG, N, M, K, I, H, G, F, E, and D. A special grade, FF, is used for dark wood rosins. Grades XA, XB, and XC are not available from the U.S. Department of Agriculture but may be purchased commercially.⁵ The standards issued by the Department of Agriculture (except FF), consist of combinations of plates cut, ground, and polished to specified thicknesses from selected melts of Corning and Jena colored glass. The colorimetric specifications of the standards, based on the

³ 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.

⁴ The U.S. Rosin Standards are issued only by the Agricultural Marketing Service, Tobacco Division, U.S. Department of Agriculture, P.O. Box 96456, Washington, DC 20090-6456. To obtain a set of standards, a Form N.S.A. 2 “Request for Loan of Official United States Rosin Standards” and a security deposit of \$100.00 should be sent to the above address.

If an applicant is unable to borrow a set of the U. S. Rosin Standards, because of the limited number of sets in existence, secondary sets are available. These standards are excellent duplicates of the U. S. Rosin Standards but could not be classified as identical and do not have official recognition of the U.S. Department of Agriculture.

⁵ The Standards XA, XB, and XC and secondary standards may be purchased directly from Tintometer, Ltd., Salisbury, England, or from their United States representative HF Scientific Inc. 3170 Metro Parkway Fort Myers, FL 33916.