Designation: D803 – 12

StandardTest Methods for Testing Tall Oil[1]

This standard is issued under the fixed designation D803; 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 the test procedures to be applied to whole tall oils or refined tall oils. Previous editions of these test methods have described test procedures that are used to test tall oil fatty acid, rosin, and other tall oil-derived products as well as test crude and refined tall oil. Consequently, these test methods are widely cited in reference books and industry literature for the testing of tall oil-derived products.

1.1.1 In this current revision, procedural details of some of the often-cited test methods have been removed and the test methods consolidated with other existing test methods. In such cases the consolidated methods, applicable to all tall oil-derived products.

1.2 The procedures appear in the following order:

Physical Tests	Sections
Viscosity:	
Brookfield Method (Preferred Method)	7
Bubble Time Method	8
Flash Point	9
Color	10
Moisture:	11
Insoluble Matter	12
Ash	13
Chemical Analysis	
Acid Number	16
Saponification Number	17
Rosin Acids	18
Unsaponifiable Matter	19
Fatty Acids	20

1.3 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.4 *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:*[2]

D92 Test Method for Flash and Fire Points by Cleveland Open Cup Tester

D93 Test Methods for Flash Point by Pensky-Martens Closed Cup Tester

D269 Test Method for Insoluble Matter in Rosin and Rosin Derivatives

D464 Test Methods for Saponification Number of Naval Store Products Including Tall Oil and Other Related Products

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

D890 Test Method for Water in Liquid Naval Stores

D1065 Test Method for Unsaponifiable Matter in Naval Stores, Including Rosin, Tall Oil, and Related Products

D1240 Test Methods for Rosin Acids Content of Naval Stores, Including Rosin, Tall Oil, and Related Products

D1466 Test Method for Sampling Liquid Oils and Fatty Acids Commonly Used in Paints, Varnishes, and Related Materials (Withdrawn 2003)[3]

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

D1545 Test Method for Viscosity of Transparent Liquids by Bubble Time Method

D1585 Test Methods for Fatty Acids Content of Naval Stores, Including Rosin, Tall Oil, and Related Products

D2196 Test Methods for Rheological Properties of Non-Newtonian Materials by Rotational (Brookfield type) Viscometer

D3278 Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus

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

D6166 Test Method for Color of Pine Chemicals and Related Products (Instrumental Determination of Gardner Color)

[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 Pine Chemicals and Hydrocarbon Resins.

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[2] 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] The last approved version of this historical standard is referenced on www.astm.org.