



Standard Test Methods for Sampling and Testing Lac Resins¹

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This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 These test methods cover procedures for sampling and testing orange shellac, button lac, garnet lac, and bleached lac.

1.2 The sampling procedures and test methods appear in the following order:

	Sections
Sampling:	
Orange Shellac, Button Lac, and Garnet Lac	3
Bleached Lac	4
Identification of Samples	5
General Requirements for Test Methods:	
Reagents	6
Source and Preparation of Portions of Sample for Tests	7
Insoluble Matter	8 to 9.5
Iodine Value	10 to 10.3
Purity	11 to 13.2
Volatile Matter (Moisture)	14 to 15.2
Wax	16 to 16.4
Matter Soluble in Water	17 to 17.2
Ash	18 to 18.2
Color	19 to 19.4.3
Color of Orange Shellac	20 to 20.4.4
Acid Value	21 to 21.4
Orpiment	22 to 22.4
Saponification Value	23 to 23.4

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. Specific hazard statements are given in Note 1.*

2. Referenced Documents

2.1 ASTM Standards:

D 304 Specification for *n*-Butyl Alcohol (Butanol)²

D 331 Specification for 2-Ethoxyethanol²

D 1193 Specification for Reagent Water³

D 1544 Test Method for Color of Transparent Liquids (Gardner Color Scale)⁴

D 1545 Test Method for Viscosity of Transparent Liquids

¹ These test methods are under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings, Materials, and Applications and are the direct responsibility of Subcommittee D 01.33 on Polymers and Resins.

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² Annual Book of ASTM Standards, Vol 06.04.

³ Annual Book of ASTM Standards, Vol 11.01.

⁴ Annual Book of ASTM Standards, Vol 06.01.

by Bubble Time Method⁵

D 1959 Test Method for Iodine Value of Drying Oils and Fatty Acids⁵

E 11 Specification for Wire-Cloth Sieves for Testing Purposes⁶

SAMPLING

3. Orange Shellac, Button Lac, and Garnet Lac

3.1 *Lot Size*—For the purpose of sampling, the quantity of a lot of any one of these types of lac resin shall not exceed 500 bags or packages. The net weight of lac resin in each bag or package shall not exceed 75 kg.

3.2 *Source and Number of Samples*—Only original unopened bags or packages shall be sampled. Ten percent of the containers in every lot of lac resin shall be taken at random, but not less than 5 nor more than 25 containers shall be taken.

3.3 *Free-Flowing Lac Resins*—In sampling free-flowing lac resins, samples shall be drawn from different places in each container in double handfuls or by means of a suitable sampler such as a grain sampler. A total of approximately 2.7 kg shall be taken.

3.4 *Blocked or Matted Lac Resin*—Pieces of blocked or matted lac resin shall be chipped with an axe, pick, or other suitable instrument from each container taken for sampling. Approximately the same amount shall be taken from each container and the total amount taken shall be about 2.7 kg. The pieces of lac resin shall then be ground to pass a No. 4 (4.75-mm) sieve. All sieves referenced must conform to the requirements of Specification E 11.

3.5 *Preparation of Samples for Observation or Analysis*—Whether free-flowing or rough ground, as in the case of blocked lac resin, the entire sample representing any lot shall be thoroughly mixed and divided into halves. The use of a mechanical mixer is recommended for mixing the resin and a riffle sampler for dividing it into quarters. When these devices are not available for use, the entire sample shall be mixed, heaped, and quartered along two diameters that intersect at right angles and the opposite quarters combined. One half the sample, thus obtained, shall then be mixed and divided into quarters as before. Each quarter shall be placed in an airtight

⁵ Annual Book of ASTM Standards, Vol 06.03.

⁶ Annual Book of ASTM Standards, Vol 14.02.