



Designation: D 1807 – 9400

Standard Test Methods for Refractive Index and Specific Optical Dispersion of Electrical Insulating Liquids¹

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1. Scope

1.1 These test methods cover the determination of the refractive index and the specific optical dispersion of electrical insulating liquids such as are used in capacitors, transformers, circuit breakers, and oil-filled cables.

1.2 Two test methods are described, a routine method and a more precise referee method. Both methods are applicable to transparent, light-colored, insulating liquids.

1.2.1 The routine method is used to determine refractive index and specific optical dispersion as described in these test methods.

1.2.2 The referee method is used when a test of high accuracy is desired. These methods are described in Test Method D 1218. Specific optical dispersion is calculated by dividing the refractive dispersion value determined in Test Method D 1218 by the relative density (specific gravity) (see Practice D 1298) of the liquid under test.

1.3 The values stated in SI units are to be regarded as the 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:*

¹ These test methods are under the jurisdiction of ASTM Committee D-27 on Electrical Insulating Liquids and Gases and are the direct responsibility of Subcommittee D27.07 on Physical Tests.

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