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An American National Standard

Standard Test Method for Lubricating Qualities of Graphites[1]

This standard is issued under the fixed designation D 1367; 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 This test method covers evaluation of the abrasive properties of graphites that are used for lubricating purposes.

1.2 The values stated in SI units are to be regarded as the standard. The values stated 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. Summary of Test Method

2.1 A representative sample of the graphite is suspended in mineral oil, and the mixture containing 15 % by weight of graphite is circulated through a ball bearing by means of an impeller and duct assembly. The bearing shaft is driven at 1750 rpm for a period of 2 h. The loss in weight of the bearing is determined.

3. Significance and Use

3.1 This test method can be used to determine the relative abrasiveness of graphites under the test conditions, and if the test conditions are changed, the relative ratings may be different. No correlation has been established between this test method and field service.

4. Apparatus

4.1 *Graphite Lubricant Tester,*[2] as illustrated in Fig. 1, consisting of the following:

4.1.1 *Bearing Holder Assembly,*[2] as shown in Fig. 2. It consists of a shaft on which the bearing is mounted, a propeller at the end of the shaft to maintain the graphite in uniform suspension, and a duct to direct the flow of fluid through the bearing. The duct, in two sections, is arranged in the form of a cylinder around the bearing. The upper section of the cylinder, containing three port holes, is permanently mounted. The lower section, which is removable, widens to a bell shape around the propeller.

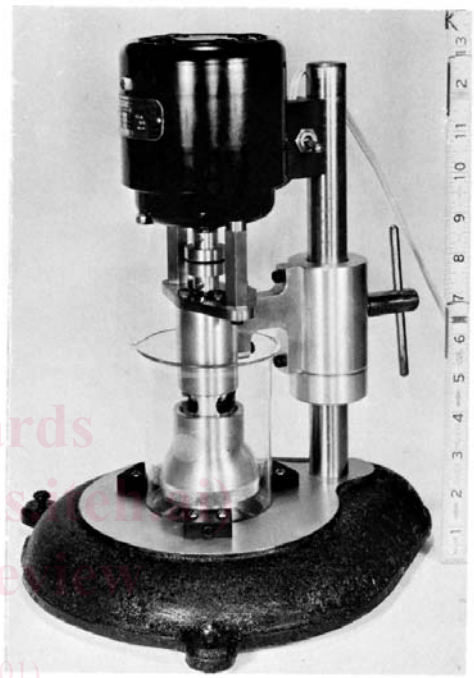

FIG. 1 Graphite Lubricant Tester

4.1.2 *Motor*, capable of driving the test bearing at 1750 ± 50 rpm, and equipped with a coupling which may readily be detached from the shaft described in 4.1.1.

4.1.3 *Griffin Beaker*, 400-mL, 75 mm in diameter, or a metal container of similar dimensions.

4.1.4 *Stand*, designed to support the equipment referred to in 4.1.1, 4.1.2, and 4.1.3 in a rigid vertical position.

4.2 *Transfer Pipet*, 50-mL, provided with a rubber bulb.

5. Reagents and Materials

5.1 *Double-Row Ball Bearing*, without closure (seal) having an internal bore of 12.00 mm (0.4724 in.), a diameter of 32.0

[1] This test method is under the jurisdiction of ASTM Committee D02 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.L on Joint ASTM-ASLE Committee on Industrial Lubricants.

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[2] Detail drawings of the apparatus are available at a nominal cost from ASTM. Request Adjunct No. ADJD1367.