

NOTICE: This standard has either been superseded and replaced by a new version or discontinued.
Contact ASTM International (www.astm.org) for the latest information.



Designation: D 1741 - 86

An American National Standard

AMERICAN SOCIETY FOR TESTING AND MATERIALS

1916 Race St., Philadelphia, Pa. 19103

Reprinted from the Annual Book of ASTM Standards, Copyright ASTM
If not listed in the current combined index, will appear in the next edition.

Standard Test Method for FUNCTIONAL LIFE OF BALL BEARING GREASES¹

This standard is issued under the fixed designation D 1741; 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 two procedures for evaluating the functional life of ball bearing greases when tested under prescribed laboratory conditions. This test method is not the equivalent of long-time service tests and is limited to greases for operating temperatures up to 125°C.

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 may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety problems 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.* For specific hazard statements see Notes 1, 2, 4, and 5.

2. Referenced Document

2.1 ASTM Standard:

D235 Specification for Mineral Spirits (Petroleum Spirits) (Hydrocarbon Drycleaning Solvents)²

3. Significance and Use

3.1 This test method is intended as a screening test to aid in selecting greases which appear to have promise as ball- and roller-bearing lubricants for use under the temperature limitations described in the test method. The nature of the test is such that close discrimination between lubricants cannot be made.

4. Apparatus

4.1 The apparatus required for this test is described in detail in Appendix X1. New ball bear-

ings of the type described are required for each test.³

5. Sampling

5.1 Take the sample of grease for test with a minimum of disturbance. Do not reincorporate any free oil that may have separated or include this oil when taking the sample.

6. Test Units

6.1 Use No. 30BC03J06 ball bearings. These bearings may also be specified as 306ABEC Class 3, deep grooved radial bearings with pressed-steel retainers. The internal radial clearance shall be 0.008 to 0.018 mm (0.0003 to 0.0007 in.). The bearings shall be heat stabilized for operation up to 160°C, and they shall be cleaned ultrasonically after assembly and then packed with filtered slushing compound. See Appendix X2 for the method of measuring internal radial clearance.

7. Preparation of Bearings

7.1 This technique is intended for use in removing protective coating materials from new bearings prior to use for test purposes. It is not intended for use in removing grease from new or used bearings, unless found suitable for this application.

7.2 Carefully remove new bearings from the packages and thoroughly wash them, including

¹ This test method is under the jurisdiction of ASTM Committee D-2 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.G on Lubricating Grease.

Current edition approved Oct. 31, 1986. Published December 1986. Originally published as D 1741 - 60 T. Last previous edition D 1741 - 64 (1981) ^{ϵ 1}.

² Annual Book of ASTM Standards, Vol 05.01.

³ Available from Falex Corp., 2055 Comprehension Dr., Aurora, IL 60505.