



Standard Test Method for Measurement of Flow Properties and Evaluation of Wear, Contaminants and Oxidative Properties of Lubricating Grease by Die Extrusion Method and Preparation¹

This standard is issued under the fixed designation D7918; 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 the determination and evaluation of flow properties, wear levels, contaminants, and oxidative condition of new and in-service lubricating grease.

1.2 This test method provides guidance on evaluating in-service grease samples, NLGI grades 00 to 3, for wear, consistency, contamination, and oxidation.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3.1 *Exception*—The exception to this will be where units of references were developed by the developers of the test equipment and necessary to report the results of the test.

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

D217 Test Methods for Cone Penetration of Lubricating Grease

D4175 Terminology Relating to Petroleum, Petroleum Products, and Lubricants

D6595 Test Method for Determination of Wear Metals and Contaminants in Used Lubricating Oils or Used Hydraulic Fluids by Rotating Disc Electrode Atomic Emission Spectrometry

D7527 Test Method for Measurement of Antioxidant Con-

tent in Lubricating Greases by Linear Sweep Voltammetry
D7718 Practice for Obtaining In-Service Samples of Lubricating Grease

D7843 Test Method for Measurement of Lubricant Generated Insoluble Color Bodies in In-Service Turbine Oils using Membrane Patch Colorimetry

E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

3. Terminology

3.1 Definitions:

3.1.1 *active grease sampling device, n*—device designed to take an active sample of a lubricating grease from a bearing, gear, or drive shaft located in a grease lubricated component.

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3.1.1.1 *Discussion*—The Grease Thief (trademarked) Type 2³ is a tool which meets this description and can be used to obtain an active grease sample from a lubricated component. A full description and dimensions of this device can be found in **Annex A2**.

3.1.2 *active sampling, v*—to use a sampling device to actively gather an in-service lubricating grease sample from a grease-lubricated component.

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3.1.3 *calibration, n*—the determination of the values of the significant parameters by comparison with values indicated by a set of reference standards.

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3.1.4 *consistency, n*—of lubricating grease, the degree of resistance to movement under stress.

D217

¹ This test method is under the jurisdiction of ASTM Committee **D02** on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee **D02.96.07** on Integrated Testers, Instrumentation Techniques for In-Service Lubricants.

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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 Grease Thief Type I and Type II is described in US Patent No. 7984661. Interested parties are invited to submit information regarding the identification of an alternative(s) to this patented item to the ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. The sole source of the Grease Thief Type I and Type II are known to the committee is York Laboratories, LLC located at 410 Kings Mill Rd., York, PA 17401. If you are aware of alternative suppliers, please provide this information to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee,¹ which you may attend.