



Designation: D 128 – 98 (Reapproved 2003)^{ε1}

An American National Standard

Standard Test Methods for Analysis of Lubricating Grease¹

This standard is issued under the fixed designation D 128; 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.

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

^{ε1} NOTE—Warning notes were editorially moved into the standard text in July 2003.

1. Scope

1.1 These test methods for analysis cover greases of the conventional type, which consist essentially of petroleum oil and soap. The constituents that can be determined are soap, unsaponifiable matter (petroleum oil, and so forth), water, free alkalinity, free fatty acid, fat, glycerin, and insolubles.

NOTE 1—Any of the test methods described herein are best used by an experienced grease analyst who may also be able to make appropriate adaptations of the techniques as occasion requires.

1.2 A supplementary test method is provided in Appendix X1. This test method is intended primarily for application to greases containing thickeners that are essentially insoluble in *n*-hexane, and to greases that cannot be analyzed by conventional methods because of the presence of such constituents as nonpetroleum fluids or nonsoap-type thickeners, or both. In some cases, these constituents can react with strong acid or alkaline solutions.

1.3 These test methods appear in the following order:

Ash Determination	Sections 7-11
Insolubles, Soap, Fat, Petroleum Oil, and Unsaponifiable Matter	12-20
Free Alkali and Free Acid	21-23
Water	24
Glycerin (Quantitative)	25-29

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. For hazard statements, see Notes 3-22.*

1.5 The values stated in SI units are to be ~~considered~~ regarded as the standard.

2. Referenced Documents

2.1 *ASTM Standards:*

¹ These test methods are under the jurisdiction of ASTM Committee ~~D-2~~ D02 on Petroleum Products and Lubricants and are the direct responsibility of Subcommittee ~~D02-G-0.01~~ D02.G0 on ~~Chemical and General Laboratory Tests—Lubricating Grease.~~

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