



Designation: D1275 – 24

315/98

Standard Test Method for Corrosive Sulfur in Electrical Insulating Liquids¹

This standard is issued under the fixed designation D1275; 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 adopted for use by government agencies to replace Method 5328-2 of Federal Test Method Standard No. 791b. This standard was adopted as an ASTM-IP Standard.

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

INTRODUCTION

Prior to 2006, this test method existed as a singular method in which the main aging parameters of the test specimen were 19 h at 140 °C. In 2006, it was determined that those parameters were inadequate (not sensitive enough to detect all levels of corrosive sulfur) and Method B was instituted in which the main aging parameters were 48 h at 150 °C. The old parameters were kept as Method A to avoid any confusion. The 2015 edition of this test method for the copper corrosion procedure reverts back to a singular method in which the main aging parameters are the same as the previous Method B (2006-2014). Results from the current test method cannot be compared or correlated to the method prior to 2006 and only to Method B from 2006 to 2014.

1. Scope

1.1 This test method describes the detection of corrosive sulfur compounds (both inorganic and organic) in electrical insulating liquids.

1.2 New and in-service insulating liquids may contain elemental sulfur or sulfur compounds, or both, that cause corrosion under certain conditions of use. This test method is designed to detect the presence of, or the propensity to form, free (elemental) sulfur and corrosive sulfur compounds by subjecting copper or silver to contact with an insulating liquid under prescribed conditions.

1.3 The values stated in SI units are to be regarded as the standard. Inch-pound units are included for informational purposes.

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. Referenced Documents

2.1 ASTM Standards:²

D130 Test Method for Corrosiveness to Copper from Petroleum Products by Copper Strip Test

D923 Practices for Sampling Electrical Insulating Liquids

E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

2.2 Other Document:

ANSI B74.10 Grading of Abrasive Microgrits³

DIN 51 353 Testing of Insulating Oils; detection of corrosive sulfur, silver strip test⁴

¹ This test method is under the jurisdiction of ASTM Committee D27 on Electrical Insulating Liquids and Gases and is the direct responsibility of Subcommittee D27.06 on Chemical Test.

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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 Available from American National Standards Institute, 25 W. 43rd St., 4th Floor, New York, NY 10036, USA.

⁴ Available from Deutsches Institut für Normung e.V.(DIN), Am DIN-Platz, Burggrafenstrasse 6, 10787 Berlin, Germany, <http://www.din.de> or <http://www.bleuth.de>