Holiday Detection of Internal Tubular Coatings of Less Than 330 µm (13 mils) Dry Film Thickness

Holiday Detection of Internal Tubular Coatings of Less Than 330 µm (13 mils) Dry Film Thickness

This AMPP standard represents a consensus of those individual members who have reviewed this document, its scope, and provisions. Its acceptance does not in any respect preclude anyone, whether he or she has adopted the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not in conformance with this standard. Nothing contained in this AMPP standard is to be construed as granting any right, by implication or otherwise, to manufacture, sell, or use in connection with any method, apparatus, or product covered by Letters Patent, or as indemnifying or protection anyone against liability for infringement of Letters Patent. This standard represents minimum requirements and should in no way be interpreted as a restriction on the use of better procedures or materials. Neither is this standard intended to apply in all cases relating to the subject. Unpredictable circumstances may negate the usefulness of this standard in specific instances. AMPP assumes no responsibility for the interpretation or use of this standard by other parties and accepts responsibility for only those official AMPP interpretations issued by AMPP in accordance with its governing procedures and policies which preclude the issuance of interpretations by individual volunteers.

Users of this AMPP standard are responsible for reviewing appropriate health, safety, environmental, and regulatory documents and for determining their applicability in relation to this standard prior to its use. This AMPP standard may not necessarily address all potential health and safety problems, or environmental hazards associated with the use of materials, equipment, and/or operations detailed or referred to within this standard. Users of this AMPP standard are also responsible for establishing appropriate health, safety, and environmental protection practices, in consultation with appropriate regulatory authorities, if necessary, to achieve compliance with any existing applicable regulatory requirements prior to the use of this standard.

CAUTIONARY NOTICE: AMPP standards are subject to periodic review and may be revised or withdrawn at any time in accordance with AMPP technical committee procedures. AMPP requires that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of initial publication and subsequently from the date of each reaffirmation or revision. The user is cautioned to obtain the latest edition. Purchasers of AMPP standards may receive current information on all standards and other AMPP/NACE/SSPC publications by contacting AMPP Customer Support, 15835 Park Ten Place, Houston, Texas 77084-5145 (Tel: +1-281-228-6200, email: customersupport@ampp.org).

Document History:

2023-09-27: Revised by AMPP Standards Committee (SC) 04, Linings & Internal Coatings

2016-02-12: Revised by NACE International Specific Technology Group (STG) 33, “Oil and Gas Production—Nonmetallics and Wear Coatings (Metallics)”

2002-09: Reaffirmed by NACE STG 33, “Oil and Gas Production—Nonmetallics and Wear Coatings (Metallics)”

1994-03: Reaffirmed by NACE Unit Committee T-1G, “Protective Coatings, Elastomers, and Other Nonmetallic Materials for Oilfield Use”

1989-09: Reaffirmed by NACE Unit Committee T-1G, “Protective Coatings, Elastomers, and Other Nonmetallic Materials for Oilfield Use”

1984: Approved as RP0384 by NACE Task Group (TG) T-1G-9 on Holiday Testing of Plastic Linings

AMPP values your input. To provide feedback on this standard, please contact: standards@ampp.org

Holiday Detection of Internal Tubular Coatings of Less Than 330 µm (13 mils) Dry Film Thickness

Foreword

This test method is intended for use by end users, manufacturers, applicators, corrosion engineers, and quality inspectors of internally plastic-coated (IPC) tubular goods.

Scope

This nondestructive test method describes a procedure to detect discontinuities ("holidays") in thin-film polymeric coatings of less than 330 µm (13 mils) dry film thickness (DFT) applied to the internal surfaces of metallic tubular goods used in the oil and gas industry. The apparatus and the recommended procedure for performing the test are described, as are methods of reporting the test data.

A separate test method, NACE TM0186, addresses holiday detection of internal tubular good coatings of 330 to 760 µm (13 to 30 mils) dry-film thickness.

Rationale

TM0384 was created to identify coating film discontinuities on the internal surfaces of tubular goods to maximize the mitigation of corrosion in these areas. The updates in this revision include updates to the calibration process and grounding guidance.

Referenced Standards and Other Consensus Documents

Unless specifically dated, the latest edition, revision, or amendment of the documents listed in the table below shall apply.

AMPP/NACE/SSPC, www.ampp.org:	
NACE TM0186	Holiday Detection of Internal Tubular Coatings of 330 to 760 µm (13 to 30 mils) Dry Film Thickness

Section 1: General

1.1 This test method is based on the current technology and experience of the petroleum production industry.

1.2 When holiday testing is performed on coatings that have been in service or that have been previously tested for holidays with a salt solution, there is a possibility of misleading results arising from surface contamination or salt bridging. The coating surface shall be free of materials that give added electrical insulation or that may mechanically damage the coating during the test.

1.3 This test method is not intended to provide a means of predicting the service life or service performance of these coatings.

1.4 A "holiday" is defined as a discontinuity in a protective coating that exposes unprotected surface to the environment. For the purposes of this test method, it means an area in an applied nonconductive coating that exhibits electrical conductivity when exposed to a known impressed voltage.

1.5 The specified resistance for holiday detection is 80,000 Ω ± 10% when measured between the wet probe sponge and the metallic tubular good.