

Laboratory Test Methods for the Evaluation of Protective Coatings and Lining Materials on Metallic Substrates in Immersion Service

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

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Foreword, Scope, Rationale.....	5
Referenced Standards and Other Consensus Documents	5
Section 1 General	6
Section 2 Description of Test Method A.....	7
Section 3 Testing Apparatus for Test Method A.....	8
3.1 Tests Conducted at Atmospheric Pressure	9
3.2 Tests Conducted at Elevated Pressure	9
3.3 Test Media.....	10
3.4 Heating of Test Medium (Three Alternatives).....	10
3.5 Bubbling or Agitation	10
3.6 Condenser.....	11
3.7 Temperature monitoring	11
3.8 Gaskets	11
3.9 Mounting Equipment (Alternatives).....	11
3.10 Use of Pressure in Test.....	11
3.11 Test Lab Conditions.....	11
Section 4 Preparation of Test Panels for Test Method A.....	12
4.1 Test Panels	12
4.2 Application of Coating Material	12
4.3 Intentional Pinhole	12
4.4 Number of Test Panels.....	12
Section 5 Test Parameters for Test Method A.....	13
5.1 Test Medium Temperature.....	13
5.2 Thermal Gradient.....	13
5.3 Test Solution.....	13
5.4 Test Duration.....	14
Section 6 Test Procedures for Test Method A.....	14
6.1 Pre-Exposure Conditioning of Test Panels.....	14
6.2 Post-Exposure.....	14
Section 7 Reporting Test Data for Test Method A.....	16
Section 8 Description of Test Method B.....	18
8.1 Procedure.....	18

Section 9	Testing Apparatus for Test Method B	18
9.1	Container for Test Solution	18
9.2	Methods of Heating (Alternatives).....	19
Section 10	Preparation of Test Panels for Test Method B.....	19
10.1	Test Panels.....	19
10.2	Application of Coating Material	19
10.3	Intentional Pinholes.....	20
10.4	Number of Test Panels.....	20
Section 11	Test Parameters for Test Method B.....	20
11.1	Test Medium Temperature.....	20
11.2	Test Solution.....	20
11.3	Test Duration.....	21
Section 12	Test Procedures for Test Method B.....	21
12.1	Pre-Exposure Conditioning of Test Panels.....	21
12.2	Post-Exposure.....	22
Section 13	Reporting Test Data for Test Method B Other Referenced Documents	23
	Other Referenced Documents.....	24
Appendix A	Examples of Laboratory Test Arrangements for Atmospheric and Elevated Pressure Tests and Immersion Testing (Nonmandatory).....	25
Figures		
Figure 1 (a)	Schematic Diagram of the Atmospheric Pressure Test Apparatus for the Evaluation of Protective Coatings and Lining Materials on Metallic Substrates in Immersion Service—With External Cooling Jacket.....	8
Figure 1 (b)	Schematic Diagram of the Atmospheric Pressure Test Apparatus for the Evaluation of Protective Coatings and Lining Materials on Metallic Substrates in Immersion Service—Without External Cooling Jacket.....	8
Figure 2	Schematic Diagram of the Elevated Pressure Test Apparatus for the Evaluation of Protective Coatings and Lining Materials on Metallic Substrates in Immersion Service.....	9
Figure 3	Schematic Diagram of the Immersion Test Apparatus for the Evaluation of Protective Coatings and Lining Materials on Metallic Substrates in Immersion Service.....	18
Figure A1	Example of a Laboratory Test Arrangement of the Atmospheric Pressure Test Apparatus for the Evaluation of Protective Coatings and Lining Materials on Metallic Substrates in Immersion Service.....	25
Figure A2	Example of a Laboratory Test Arrangement of the Elevated Pressure Test Apparatus for the Evaluation of Protective Coatings and Lining Materials on Metallic Substrates in Immersion Service.....	25
Figure A3	Example of a Laboratory Immersion Testing Arrangement Using a 3.0 L Reactor.....	26
Tables		
Table 1	Adhesion Ratings.....	16
Table 2	Example Test Data Report Table for a Test System with Two Liquid Phases	17

Foreword

This standard test method was prepared to help manufacturers and users of protective coatings and linings in their selection of materials by providing standard test methods for the evaluation of protective coatings and linings for immersion service.

Scope

This standard provides two separate test methods for evaluating protective coatings on any metallic substrate, such as steel, copper, aluminum, etc., so that the factors of both chemical resistance and permeability can be considered. The results obtained should give a good indication of what would happen on exposure to similar service conditions.

Protective coatings, as referred to in this standard, may be applied in liquid form (solution, dispersion, etc.); or dry form (powders); using spray, dip, roller, brush, trowel, or other appropriate application techniques.

Rationale

This standard, TM0174-2022, has been revised to include detailed information on test methods description, test apparatus, detailed procedures, and test parameters.

In AMPP standards, the terms *shall* and *must* are used to state requirements and are considered mandatory. The term *should* is used to state something that is recommended, but is not considered mandatory. The term *may* is used to state something considered optional.

Referenced Standards and Other Consensus Documents

The latest edition, revision, or amendment of the referenced documents in effect shall govern unless otherwise dated.

AMPP/NACE/SSPC, www.ampp.org:

NACE SP0188	Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates
NACE SP0287	Field Measurement of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using a Replica Tape
SSPC-SP 5/NACE No.1	White Metal Blast Cleaning

ASTM International, www.astm.org:

ASTM D610	Evaluating Degree of Resistance to Rusting Obtained with Paint on Iron and Steel Surfaces
ASTM D714	Evaluating Degree of Blistering of Paints
ASTM D1474	Method of Test for Indentation Hardness of Organic Coatings
ASTM D1654	Standard Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
ASTM D2240	Standard Test Method for Rubber Property—Durometer Hardness
ASTM D2583	Indentation Hardness of Rigid Plastics by Means of a Barcol
ASTM D3363	Standard Test Method for Film Hardness by Pencil Test
ASTM D4741	Test Method for Pull-Off Strength of Coatings Using Portable Adhesion-Testers
ASTM D3677	Standard Test Method for Evaluating Adhesion by Knife
ASTM E709	Standard Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nonconductive Coatings Applied to Non-Ferrous Metals

International Organization for Standardization (ISO), www.iso.org:

ISO 16773	Paints and varnishes — Electrochemical impedance spectroscopy (EIS) on high impedance coated samples"; Part 1: Terms and definitions; Part 2: Collection of data
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