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Test Method for Evaluation of Protective Coatings for Use Under Insulation

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Foreword

This AMPP standard test method provides a comprehensive methodology to evaluate the relative performance of coatings in accelerated and simulated field conditions under insulation. This test method is intended for use by corrosion control personnel, design engineers, project managers, purchasing personnel, and construction engineers and managers. It is applicable to insulated piping and equipment in the oil and gas gathering, distribution, transmission, refining and chemical industries.

Scope

This AMPP standard provides a test methodology to establish the relative performance of a coating under accelerated and simulated field conditions under insulation.

Rationale

Corrosion Under Insulation (CUI) test methods currently available in industry do not mimic field conditions and are based on a pass-fail criterion conducted for a fixed exposure time and are unsuitable for estimating coating service life and performance. This AMPP standard provides a comprehensive test methodology to simulate field conditions under insulation in order to establish the performance of a coating in service.

Referenced Standards and Other Consensus Documents

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

AMPP/NACE/SSPC, www.ampp.org:	
NACE/ASTM G193	Standard Terminology and Acronyms Relating to Corrosion
NACE SP0198	Control of Corrosion Under Thermal Insulation and Fireproofing Materials—A Systems Approach
NACE SP0188	Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates
SSPC-Guide 15	Field Methods for Extraction and Analysis of Soluble Salts on Steel and Other Nonporous Substrates
SSPC-PA 2	Procedure for Determining Conformance to Dry Coating Thickness Requirements
SSPC-VIS 1	Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning
ASTM International, www.astm.org:	
ASTM D610	Standard Practice for Evaluating Degree of Rusting on Painted Steel Surfaces
ASTM D661	Standard Test Method for Evaluating Degree of Cracking of Exterior Paints
ASTM D714	Standard Test Method for Evaluating Degree of Blistering of Paints
ASTM D1293	Standard Test Methods for pH of Water
ASTM D4541	Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
ASTM D3359	Standard Test Methods for Rating Adhesion by Tape Test
ASTM D6677	Standard Test Method for Evaluating Adhesion by Knife
ASTM D2583	Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor
ASTM D2240	Standard Test Method for Rubber Property—Durometer Hardness
ASTM G106	Standard Practice for Verification of Algorithm and Equipment for Electrochemical Impedance Measurements