

Continuous Measurements for Determination of Aerospace Coating Protective Properties

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Document History

2021-09-02: Developed by AMPP Standards Committee (SC) 07, Defense & Aerospace.

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AMPP TM21449-2021

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Scope

This standard describes three Test Methods for conducting a coating evaluation for comparative performance testing, coating specification, and coating quality acceptance testing. The standard is organized to provide a general description of the Test Method (Sections 1 – 6) with three mandatory appendices that are arranged by coating protective properties and failure progression.

Appendix A (Mandatory), Barrier Properties of a Coating

Appendix B (Mandatory), Protective Corrosion Properties of a Coating at a Defect

Appendix C (Mandatory), Protective Properties of a Coating for Environmental Cracking Resistance

The Test Method describes the equipment required to conduct each type of performance test including the atmospheric corrosion test chamber, environmental monitoring, and coating performance property measurements. Materials, sensors, and test samples are detailed and guidance for materials preparation and coating application is given. The electrochemical measurements and sensors are applicable to liquid, polymer coatings applied by spray, brush, or dip processes. Atmospheric corrosion test cycles for protective property measurements are described. The method includes reporting requirements for documenting environment, materials, and sample conditions. Data collection for test records and data analysis to establish coating performance metrics are defined. The values stated in International System of Units (SI) are to be regarded as standard, although some U.S. customary units are used in this standard.

Rationale

This Test Method addresses the need for coating performance measurements that are relevant to the protection of aerospace structures.

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.