



AEROSPACE MATERIAL SPECIFICATION	AMS03™-19	REV. A
	Issued 2015-05 Stabilized 2017-10	
	Superseding AMS03-19	
Electro-Deposition of Cadmium		

RATIONALE

AMS03-19A stabilizes this document because this document contains mature technology that is not expected to change and thus no further revisions are anticipated.

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AMS Committee B recommends that the following similar (e.g., properties, fit, form, function) specifications be considered for future procurement. This listing does not constitute authority to substitute these specifications for the "STABILIZED" specification.

AMS2400	Plating, Cadmium
AMS2401	Plating, Cadmium, Low Hydrogen Content Deposit

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FOREWORD

REVISION NOTE

This Defence Standard was raised to Issue 4 to update its content and incorporate the latest MoD/DStan policy in place at the time.

HISTORICAL RECORD

This standard supersedes the following:

Def Stan 03-19 Issue 1 dated 3 July 1981

Def Stan 03-19 Issue 2 dated 31 March 1994

Def Stan 03-19 Issue 3 dated 14 October 2005

INTRODUCTION

This SAE Standard specifies the requirement for the electro-deposition of cadmium.

Cadmium has been employed as a coating for many years and is particularly useful due to its combination of inherent resistance to atmospheric and bi-metallic corrosion along with its good anti-galling and electrical conductivity.

However toxicity problems are a cause for concern and its use is being restricted by International, National and Departmental legislation. These concerns apply to potential in-service and disposal problems as well as initial processing problems.

In view of this increasing legislation against the use of cadmium the user is advised to consider possible alternative coatings – see Def Stan 03-36 – before defining the use of cadmium.

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1. SCOPE

This SAE Standard specifies the requirements for the electro-deposition of cadmium on non-corrosion resisting steel items for protection against corrosion, and on copper based alloy items and corrosion resisting steel items for the reduction of contact corrosion of less noble metallic materials.

2. WARNING

This section which appeared in DEF STAN 03-19 Issue 4 has been deliberately deleted.

3. NORMATIVE REFERENCES

3.1 The publications shown below are referred to in the text of this standard. Publications are grouped and listed in alpha-numeric order.

BS EN ISO 1463	Metallic and Oxide Coatings. Measurement of Coating Thickness. Microscopic Means
BS EN ISO 2177	Metallic Coatings. Measurement of Coating Thickness. Coulometric Method by Anodic Dissolution
BS EN ISO 2178	Non-Magnetic Coatings on Magnetic Substrates. Measurement of Coating Thickness. Magnetic Method.
BS EN ISO 3497	Metallic Coatings. Measurement of Coating Thickness. X-ray Spectrometric Method
BS EN ISO 3543	Metallic and Non-Metallic Coatings. Measurement of Thickness. Beta Backscatter Method
BS EN ISO 4516	Metallic and other Inorganic Coatings. Vickers and Knoop Microhardness Tests.
BS EN ISO 6507-1	Metallic Materials. Vickers Hardness Test. Test Method.
BS 2868	Specification for Cadmium Anodes and Cadmium Oxide for Electroplating
BS 6338	Specification for Chromate Conversion Coatings on Electroplated Zinc and Cadmium Coatings
Def Stan 03-2	Cleaning and Preparation of Metal Surfaces
AMS03-2	Cleaning and Preparation of Metal Surfaces
Def Stan 03-4	The Pre-Treatment and Protection of Steel Items of Specified Maximum Tensile Strength Exceeding 1450 MPa
AMS03-4	The Pre-Treatment and Protection of Steel Items of Specified Maximum Tensile Strength Exceeding 1450 MPa
Def Stan 03-14	Electrodeposition of Chromium for Engineering Purposes
AMS03-14	Electrodeposition of Chromium for Engineering Purposes
Def Stan 03-21	Mechanical Methods for the Inducement of Compressive Surface Residual Stresses
Def Stan 03-36	Guidance to the Use of Cadmium Alternatives in the Protective Coating of Defence Equipment

3.2 This section which appeared in DEF STAN 03-19 Issue 4 has been deliberately deleted.

3.3 This section which appeared in DEF STAN 03-19 Issue 4 has been deliberately deleted.

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