



AEROSPACE MATERIAL SPECIFICATION

AMS03™-18**REV. A**Issued 2015-04
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Superseding AMS03-18

Chromate Conversion Coatings (Chromate Filming Treatments) Grades:
Standard and Brushing for Aluminum and Aluminum Alloys

RATIONALE

AMS03-18A 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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NOTE: In many cases the purchaser may be a sub tier supplier and not the cognizant engineering organization.

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.

AMS2473 Chemical Film Treatment for Aluminum Alloys General Purpose Coating

AMS2477 Conversion Coating for Aluminum Alloys Low Electrical Resistance Coating

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FOREWORD

REVISION NOTE

This Defence Standard was raised to Issue 5 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 03-18 Issue 1 dated 28 December 1979

Def Stan 03-18 Issue 2 dated 13 September 1997

Def Stan 03-18 Issue 3 dated 30 June 2003

Def Stan 03-18 Issue 4 dated 7 March 2008

INTRODUCTION

Chromate conversion coatings give a measure of protection against corrosion, in particular under humid conditions. They can be used as paint bases because they markedly improve the adhesion and performance of paint schemes in Service environments. The process may also be used where the coating is required to be electrically conductive or for local repair of damaged anodic coatings where it may slightly degrade the abrasion resistance of the surrounding anodic film.

The majority of chromate conversion coatings are applied by immersion or spraying techniques with provision for limited swab or brush application to small areas. There is, however, a requirement for a Brushing Grade of chromate conversion coating which can be applied by brush or swab to large areas.

Chromate conversion coatings have been used for over 50 years as treatment to coated or as-fabricated surfaces to boost corrosion resistance and provide a good basis for the subsequent application (where required) of paint. However such treatments are based on the use of hexavalent chromium chemicals which are extremely toxic. This has led to progressively greater restrictions, imposed by national and international legislation, related to concerns over health and safety and environmental protection, on the use of these treatments. Attention is drawn to Def Stan 03-38 which gives guidance on possible alternative processes.

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