AS 2453—2004
Reconfirmed 2017

Australian Standard™

Electroplated coatings—Chromium for engineering applications

STANDARDS AUSTRALIA

This Australian Standard was prepared by Committee MT-009, Metal Finishing. It was approved on behalf of the Council of Standards Australia on 23 February 2004 and published on 2 April 2004.

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Australasian Institute of Metal Finishing
Australian Aluminium Council
Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Paint Manufacturer's Federation
Department of Defence
Galvanizers Association of Australia
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STANDARDS AUSTRALIA

RECONFIRMATION
OF
AS 2453—2004
Electroplated coatings—Chromium for engineering applications

RECONFIRMATION NOTICE

Technical Committee MT-009 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

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Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 20 March 2017.

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NOTES

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Electroplated coatings—Chromium for engineering applications

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PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee MT-009, Metal Finishing, to supersede AS 2453—1981, *Electroplated coatings of chromium for engineering applications.* After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian rather than an Australian/New Zealand standard.

The objective of this Standard is to specify the requirements for electroplating hard chromium for engineering applications.

The objective of this revision is to introduce the requirements for pre-treatment and post treatment for iron and steel to reduce hydrogen embrittlement and the service condition numbers, which relate to the corrosion categories that are specified in AS/NZS 2312.

During the preparation of this Standard, cognizance was taken of the following ISO Standards:

ISO

9587 Metallic and other inorganic coatings—Pretreatment of iron or steel to reduce the risk of hydrogen embrittlement

9588 Metallic and other inorganic coatings—Post-coating treatments of iron or steel to reduce the risk of hydrogen embrittlement

No international (ISO) Standards have been published on this subject which were acceptable to the Committee for adoption as Australian Standards.

The terms ‘normative’ and ‘informative’ has been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for electroplated coatings of hard chromium on ferrous and non-ferrous metals for engineering applications.

The minimum purchasing requirements are specified in Appendix A.

NOTES:

1 The means for demonstrating compliance with this Standard are shown in Appendix B.

2 The thickness of coating and undercoat applications are shown in Appendix G.

3 The categories for atmospheric corrosivity are shown in Appendix H.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

1199 Sampling procedures for inspection by attributes

1199.0 Part 0: Introduction to the ISO 2859 attribute sampling system

1199.1 Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

1247 Metallic coatings—Rating of test specimens and manufacturers articles subject to corrosion tests

2331 Method of test for metallic and related coatings

2331.1.1 Method 1.1: Local thickness tests—Micrographic examinations of cross-sections

2331.1.2 Method 1.2: Local thickness tests—Coulometric method

2331.1.3 Method 1.3: Local thickness tests—Magnetic method

2331.3.1 Method 3.1: Corrosion and related property tests—Neutral salt spray (NSS) test

2331.3.9 Method 3.9: Corrosion and related property tests—Metallic coatings—Porosity tests—Ferroxyl test

2331.3.10 Method 3.10: Corrosion and related property tests—Cracks and pores in chromium

2331.4.1 Method 4.1: Physical tests—Qualitative adhesion tests

2331.4.4 Method 4.4: Physical tests—Assessment of intensity of shot-peening

2483 Metal finishing—Recommended sampling plans for the inspection and testing of coatings (ISO 4519:1980, MOD)

4108 Metal finishing—Glossary of terms used in electroplating and related processes

4291 Mechanical properties of fasteners made of carbon steel and alloy steel

4291.1 Part 1: Bolts, screws and studs

