

Australian Standard[®]

**PREPAINTED METAL PRODUCTS
FOR HOUSEHOLD
APPLIANCES—
PERFORMANCE REQUIREMENTS**

This Australian standard was prepared by Committee MT/9, Metal Finishing. It was approved on behalf of the Council of the Standards Association of Australia on 16 February 1987 and published on 4 May 1987.

The following interests are represented on Committee MT/9:

Aluminium Development Council
Australasian Institute of Metal Finishing
Australian Zinc Development Association
Bureau of Steel Manufacturers of Australia
Confederation of Australian Industry
Department of Defence
Electricity Supply Association of Australia
Metal Finishing Supply Houses
Metal Trades Industry Association of Australia
Royal Australian Chemical Institute
Society of Automotive Engineers—Australasia
Telecom Australia
University of Queensland

Review of Australian Standards. *To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.*

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This standard was issued in draft form for comment as DR 85019.

Australian Standard[®]

**PREPAINTED METAL PRODUCTS
FOR HOUSEHOLD
APPLIANCES—
PERFORMANCE REQUIREMENTS**

First published 1987

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 4582 8

PREFACE

This standard was prepared under the direction of the Association's Committee on Metal Finishing, by its subcommittee on prepainted metallic products, at the request of industry to provide performance requirements for prepainted metal products for household appliances. In particular, it provides a means whereby different types of metal sheet and strip with different generic types of paint finishes can be assessed for suitability for subsequent forming and service performance when used in the manufacture of refrigerators, washing machines, stoves, clothes dryers, dishwashers, freezers and range hoods.

During preparation of the standard, cognizance was taken of the following specifications issued by the National Coil Coaters Association (U.S.A.):

NCCA Technical Bulletin No.

II-4 Test Method for Measurement of Dry Film Thickness of Paint, Varnish, Lacquers and Related Products Film Thicknesses of 0.3 mil or greater.

II-6 Test Method for Evaluation of Impact Resistance of Painted Metal Substrates

II-19 Standard 'T' Bend Test Method

III-1 Standard Test Method for Water Immersion of Organic Coatings on Metallic Surfaces.

Assistance from this source is acknowledged.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

	<i>Page</i>
SECTION 1. SCOPE AND GENERAL	
1.1 SCOPE	4
1.2 PRODUCT CLASSIFICATION AND APPLICATION	4
1.3 REFERENCED DOCUMENTS	4
1.4 DEFINITIONS	4
SECTION 2. PERFORMANCE REQUIREMENTS	
2.1 GENERAL	5
2.2 APPEARANCE	5
2.3 SPECULAR GLOSS	5
2.4 DRY COATING FILM THICKNESS	5
2.5 REVERSE IMPACT RESISTANCE	5
2.6 ADHESION	5
2.7 T-BEND FLEXIBILITY	5
2.8 ABRASION RESISTANCE	5
2.9 PENCIL HARDNESS	5
2.10 HUMIDITY RESISTANCE (CATEGORIES 2 AND 3)	6
2.11 DETERGENT RESISTANCE (CATEGORY 3)	6
2.12 CONTACT AND STAIN RESISTANCE (CATEGORIES 2 AND 3)	6
2.13 HEAT RESISTANCE (CATEGORY 2)	6
APPENDICES	
A PURCHASING GUIDELINES	7
B PERFORMANCE OF PREPAINTED METAL PRODUCTS	8
C SELECTION AND PREPARATION OF TEST PANELS	9
D METHOD FOR DETERMINATION OF RESISTANCE TO REVERSE IMPACT	10
E METHOD FOR DETERMINATION OF T-BEND ADHESION AND FLEXIBILITY	11
F METHOD FOR DETERMINATION OF RESISTANCE TO ABRASION	12
G METHOD FOR DETERMINATION OF RESISTANCE TO DETERGENT	13
H METHOD FOR DETERMINATION OF RESISTANCE TO STAINING	14

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
PREPAINTED METAL PRODUCTS FOR HOUSEHOLD APPLIANCES—
PERFORMANCE REQUIREMENTS

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard specifies performance requirements for prepainted metal products intended to be fabricated for use in the manufacture of household appliances such as refrigerators, washing machines, stoves, clothes dryers, dishwashers, freezers and range hoods.

NOTE: Information which must be supplied at the time of ordering is given in Appendix A.

1.2 PRODUCT CLASSIFICATION AND APPLICATION. Performance requirements specified in this standard apply to any type of organic coating. However, the type of base metal, its thickness and degree of fabrication, the thickness of any metal coating and the surface condition, together with the type and thickness of organic coating applied, all affect the choice of product; accordingly, this standard makes provision for three categories of prefinished metal product as follows:

Category 1 — Prepainted metal product intended only for further painting after fabrication.

Category 2 — Prepainted metal product suitable for applications where the appliance is required to withstand high humidity, food stains, food colourings and cooking oils and possess mild resistance to clothes washing compounds and moderate resistance to abrasion and heat.

Category 3 — Prepainted metal product suitable for applications where the appliance is required to withstand strong laundry and dishwashing compounds and possess high resistance to water and high humidity.

In the selection of an appropriate category it must be borne in mind that, while recommendations are given for each category, no restriction is placed on the use of a higher performance product for a lower performance category.

1.3 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

- AS 1397 Steel Sheet and Strip—Hot-dipped Zinc-coated or Aluminium Zinc-coated
 AS 1580 Methods of Test for Paints and Related Materials

Method 101.4 Conditions of Test, Temperature Controlled

Method 101.5 Conditions of Test, Temperature and Humidity Controlled

Method 405.1 Determination of Pencil Hardness of Paint Film

Method 408.4 Adhesion (Cross-cut)

Method 481.2 Assessment of Blistering of Paint Films

Method 481.3 Assessment of Visible Rusting

Method 481.4 Assessment of Corrosion of an Underlying Iron or Steel Surface

Method 601.1 Colour—Visual Comparison

Method 602.2 Specular Gloss

AS 1635 Methods of Testing Pressure Sensitive Adhesive Tapes

Method 3.1 Adhesion Strength

AS 2310 Glossary of Paint and Painting Terms

AS 2331 Methods of Test for Metallic and Related Coatings

Part 3 — Corrosion and Related Property Tests—Humidity Test—24 h Cycle, Damp Heat

AS 2551 Steel Sheet and Strip—Cold-rolled, Electrolytic Zinc-coated

BS 3900 Methods of Test for Paints

Part C5—Determination of Film Thickness.

1.4 DEFINITIONS. For the purpose of this standard, paint terms given in AS 2310 and the following definitions apply:

1.4.1 Prepainted metal product (Prepaint)—a zinc or aluminium/zinc-coated steel product which is painted before fabrication into products for use in the manufacture of household appliances.

NOTE: Prepainting includes any pretreatment of the base metal, the application of any primer and any finishing coats.

1.4.2 Organic coating—the paint film of the prepainted metal product.