

Australian Standard[®]

**Guide to the properties of paints
for buildings**

**Part 6: Solvent-borne—Exterior—
Full gloss enamel**

This Australian Standard was prepared by Committee CH/3, Paints and Related Materials. It was approved on behalf of the Council of Standards Australia on 28 June 1991 and published on 16 September 1991.

The following interests are represented on Committee CH/3:

Australasian Corrosion Association
Australian Paint Manufacturers Federation
Austroads
Bureau of Steel Manufacturers of Australia
Confederation of Australian Industry
Department of Defence
Government Paint Committee
National Association of Testing Authorities, Australia
Railways of Australia Committee
Retail Traders Associations of Australia
Royal Australian Institute of Architects
Surface Coatings Association, Australia
Telecom Australia

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which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.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 90081.

Australian Standard[®]

**Guide to the properties of paints
for buildings**

**Part 6: Solvent-borne—Exterior—
Full gloss enamel**

First published as SAA TR1.6—1982.
Revised and redesignated AS 3730.6—1991.

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

ISBN 0 7262 7046 6

PREFACE

This guide was prepared by the Standards Australia Committee on Paints and Related Materials to supersede Part 6 of SAA TR1, Parts 1 to 10—1982, *Paints for buildings*.

This AS 3730 series has been prepared as guides to the range of frequently used paints for buildings which are air-dried and generally applied on site. These guides include features of each product type and typical product characteristics. Typical product characteristics are to be taken as a guide only and are not mandatory. Because a product is used as part only of an overall painting system, the AS 3730 guides should not be used as a substitute for a detailed painting specification from the manufacturer, based on AS 2311—1983, *The painting of buildings* or NATSPEC Section 570, *Painting*. Successful specifications are based on the proved performance of the total paint system, and not on the characteristics of individual paint products in isolation.

 CONTENTS

| | <i>Page</i> |
|---|-------------|
| FOREWORD | 3 |
| 1 SCOPE | 4 |
| 2 REFERENCED DOCUMENTS | 4 |
| 3 DEFINITIONS | 4 |
| 4 TYPICAL PROPERTIES AND CHARACTERISTICS | 4 |
| 5 PACKAGING | 7 |
| 6 LABELLING | 7 |
| APPENDICES | |
| A LIST OF REFERENCED DOCUMENTS | 8 |
| B PREPARATION OF TEST PANELS FOR RESISTANCE TO WEATHERING TESTS | 9 |

© 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.

FOREWORD

The solvent-borne exterior full gloss enamels covered by this guide will usually be based on alkyd resin or modified alkyd binders. These products are intended for use as finishing coats on exterior surfaces requiring a degree of toughness and serviceability (e.g. windows, doors, handrails, trim). They also provide the decorative appeal of a full gloss finish. Such finishes may be applied by brush, roller or spray, over suitably primed or undercoated surfaces. Surface preparation and application of a coating system should be in accordance with the manufacturer's instructions, based on AS 2311.

Enamel finishes, and solvent-borne systems in general, harden and become brittle with time owing to continuing oxidation of the alkyd binder. Embrittlement will lead to eventual failure of the coating by cracking, peeling and flaking on exterior timber, depending on aspect and severity of exposure. Regular maintenance painting will prolong service life.

Information supplied in this guide refers principally to white solvent-borne exterior full gloss enamel paints. Colours can be obtained by adding colorant to white or other base paints at the point of sale, in accordance with manufacturer's instructions. Performance of colours other than white may vary in durability and opacity. The user should refer to the manufacturer for advice on specific colours and to AS 3730.0 for information on the specification of colour.

STANDARDS AUSTRALIA

Australian Standard

Guide to the properties of paints for buildings

Part 6: Solvent-borne—Exterior—Full gloss enamel

1 SCOPE This document provides a guide to the features and typical characteristics that are expected of a solvent-borne exterior full gloss enamel finish when applied by brush, roller or spray, in accordance with the manufacturer's instructions. Paints covered by this guide are classified as Paint Type 5 of AS 2311.

2 REFERENCED DOCUMENTS A list of documents referred to in this guide is given in Appendix A.

3 DEFINITIONS For the purpose of this guide, the definitions of AS 2310 and those below apply.

3.1 Approximate colour match—where the colour of the test sample appears the same as a reference sample when separated by a minimum of 100 mm and viewed under specified conditions.

NOTE: See Appendix A of AS 3730.0.

3.2 Frying—undesirable wrinkling and crazing caused by the interaction of the solvent component of a topcoat which has been applied to an insufficiently-cured previous coating.

3.3 Working up—any lifting, mixing, dissolution, incorporation, or other interaction observed between two paint films during the application of the overlying film.

NOTE: Such interaction is indicative of deterioration of the underlying coating during its curing period, especially if insufficient time has been allowed between coating applications (see also Clause 4.5.2).

4 TYPICAL PROPERTIES AND CHARACTERISTICS

NOTE: Table 1 provides a summary of typical properties.

4.1 Composition The paint should consist essentially of pigments, extenders, solvents, alkyd resin, or modified alkyd binder. The product should meet the requirements of the Uniform Paint Standard issued by the National Health and Medical Research Council.

4.2 Conditions of test Unless otherwise indicated, the recommendations in this guide apply to products that are tested as follows:

- (a) The test panel material is one of the standard grade hardboards specified in AS 2458 which has been painted with one coat of undercoat characterized by AS 3730.14* and dried for at least 24 h. Where reference panels are required, they should be composed of the same material as the test panels and should be prepared, by identical methods, at the same time as the test panels.
- (b) The size of test panels is as specified in Table 1 for the appropriate test method.
- (c) The method of application is by brush.
- (d) The spreading rate of the paint should be as specified by the manufacturer, typically in the region of 16 m²/L.
- (e) Environmental conditions for testing are in accordance with AS 1580.101.5.
- (f) Environmental conditions for air-drying are in accordance with AS 1580.101.1.

NOTE: See also AS 3730.0 for information on the testing of paints for quality control purposes during manufacture.

4.3 Liquid paint

4.3.1 Condition in container When examined in accordance with AS 1580.103.1 at the time of delivery from the manufacturer or supplier, the paint should be free from gel, coarse particles, skin and foreign matter. It should readily yield a product of uniform consistency when incorporated manually in accordance with AS 1580.211.2.

4.3.2 Fineness of grind When determined in accordance with AS 1580.204.1, the fineness of grind should be less than or equal to 15 µm.

4.3.3 Volume solids Where a volume solids requirement is specified, it should be determined and expressed in accordance with AS 1580.301.2.

4.3.4 Susceptibility to formation of skin When the paint is tested in accordance with AS 1580.203.1, it should not exhibit any skin formation.

* Formerly designated AS 2302