

EXTERIOR WATER BASED PAINT FOR BUILDINGS

1 SCOPE

This specification applies to products that are water based and designed for use on building exteriors.

2 BACKGROUND

- To obtain a broad overview of the Australian Paint Approval Scheme (APAS), refer to APAS document AP-D001.
- To obtain an overview of restricted ingredients in APAS certified products, refer to APAS document AP-D123.
- To obtain the current list of APAS participating manufacturers (and suppliers) and resellers, refer to APAS document AP-D152.
- To obtain an overview of how to participate in the APAS, refer to APAS document AP-D177.
- APAS approval to this specification may be gained by compliance with the requirements detailed in this specification and those in APAS document AP-D192.

3 DESCRIPTION AND GUIDE FOR USERS

3.1 General Requirements

- Products approved under this specification are finishing paints for the exterior of buildings that can be applied with or without thinning with water. They are typically available from stock in a manufacturer's colour range (MCR) as illustrated on a colour card with colours of lesser opacity marked.
- Products approved under sub-classes AP-S0280/1, AP-S0280/2 and AP-S0280/3 of this specification are designed for application by brush, roller or spray to primed or sealed surfaces in accordance with manufacturer's directions.
- Products approved under sub-classes AP-S0280/4 and AP-S0280/5 of this specification are Direct to Substrate (DTS) products designed for application by brush, roller or spray to un-primed surfaces. Check with manufacturer's directions.
- Typically, these products are applied to a dry film thickness of 25 - 50 μm per coat. Handling time is typically less than 6 hours.

3.2 Sub-Classes

- This specification incorporates the following sub-classes:
 - 0280/1:** Gloss finish
 - 0280/2:** Semi-gloss finish
 - 0280/3:** Low gloss finish
 - 0280/4:** Heavily pigmented gloss DTS finish
 - 0280/5:** Heavily pigmented low gloss DTS finish

3.3 Basis of this Specification

- This specification is based on the following respective parts of AS 3730 and the corresponding Paint Reference Numbers (PRNs) of AS/NZS 2311:

APAS Sub-class	AS 3730	AS/NZS 2311 PRN
0280/1	AS3730.10	B9
0280/2	AS3730.9	B8
0280/3	AS3730.8	B7
0280/4	AS3730.16	No Equivalent
0280/5	AS3730.16	No Equivalent

4 REFERENCED DOCUMENTS

- The following standards are referenced in this document:
 - AS/NZS 1580** – Paints and related materials: Methods of test
 - AS/NZS 2311** – Guide to the painting of buildings
 - AS 3730.8** – Guide to the properties of paints for buildings – Latex – Exterior – Low gloss
 - AS 3730.9** – Guide to the properties of paints for buildings – Latex – Exterior – Semi-gloss
 - AS 3730.10** – Guide to the properties of paints for buildings – Latex – Exterior – Gloss
 - AS 3730.16** – Guide to the properties of paints for buildings – Latex – Self-priming timber finish Exterior

These documents may be purchased through the Reference Standards Australia website:

<https://www.standards.org.au/>

- The Poisons Standard June 2021:** Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) No. 33, Part 2: Control on Medicines and Poisons, Section Seven / Appendix I Paint or Tinters

This document is available from the Australian Government Federal Register of Legislation website at:

<https://www.legislation.gov.au/Details/F2021L00650>

- The following APAS documents are referenced in this document:
 - AP-D001 Rules Governing How APAS® Operates
 - AP-D123 Restrictions on Ingredients in Product Formulations
 - AP-D152 APAS® Participating Manufacturers and Resellers
 - AP-D177 Rules Governing How Product Manufacturers participate in APAS®
 - AP-D181 Volatile Organic Compounds (VOC) Limits
 - AP-D192 Rules Governing APAS® Product Certification Scheme

All APAS documents are available for download from the APAS website: <https://vs.csiro.au/apas/documents/>

EXTERIOR WATER BASED PAINT FOR BUILDINGS

5 COMPOSITIONAL REQUIREMENTS

5.1 Binder

- a) Although the type of binder is not restricted by this specification, binder types with a history of satisfactory performance include emulsion acrylics, either full acrylics or acrylic blends. Of primary importance is the compliance with the properties listed in clause 8, Table 1 below.
- b) Other binder types may be considered depending on their compliance with the requirements established below.

5.2 Volatiles

- a) The volatile portion shall typically be comprised of water.
- b) For VOC content restrictions, refer to APAS document AP-D181.

5.3 Pigmentation

- a) Pigmentation shall be non-toxic and inert and comply with the requirements of the SUSMP.
- b) Of primary importance is that the choice of pigmentation shall result in compliance with the technical requirements detailed in clause 8, Table 1 below.

5.4 Colour

- a) Products approved under this specification are normally available in a wide range of colours known as the manufacturer's colour range or MCR. Refer to the manufacturer's product or technical data sheet for more information.

6 PRODUCT APPROVAL REQUIREMENTS

6.1 General Requirements

- a) The product and its application for approval shall comply with the relevant requirements of APAS document AP-D192 during the life of the approval.

6.2 Technical Requirements

- a) The product shall comply with **all** the requirements of clause 8, Table 1 below.
- b) Subject to compliance with all the requirements of this specification, the level of Approval appropriate to the application shall be given to the system.

6.3 Health and Safety Requirements

- a) The manufacturer's Safety Data Sheet (SDS) must be studied closely prior to using the product and complied with during use of the product.
- b) Products intended for sale in Australia shall comply with all the requirements of the SUSMP. Products intended for sale in other countries shall comply with all local WHS and environmental requirements.
- c) The product shall comply with all requirements of clause 6.3 and 6.4 of APAS document AP-D192.

7 APPENDIX A

Colourant Acceptance Test Method

7.1 Scope:

This method details the test method to be utilised to demonstrate a satisfactory level of colour development through the addition of machine colourants.

7.2 Equipment:

- i. 500 mL of each tinting base in the MCR
- ii. A machine colourant tinting system
- iii. A sealed cardboard test panel of approx. size 150 x 100 mm for each colour

7.3 Procedure:

- i. **Selection of colour:** The colour shall be selected using the same process as detailed in APAS document AP-D192 Appendix A, clause A3:
 - a. Where the colourant system is well established in the Australasian marketplace, one colour per tint base as detailed in Table A1.
 - b. Where the colourant system is new to the region, sample preparation and colourant testing as per clause A3 a) i. of the above document shall be conducted.
- ii. Test panels are then prepared as follows:
 - a. To a sealed cardboard panel apply one coat of test paint (typically by 0.032 wire wound bar coater) and allow to dry (may be forced dry or allowed to dry overnight).
 - b. Apply a further coat of test paint to the cardboard panel using the same wire wound coater.
 - c. Using a finger with gentle pressure, immediately rub an area of the film about 30 mm in diameter in a circular motion until a slight tackiness is detected. Allow the panel to dry overnight.
- iii. The difference in colour between the two sections on the panel shall not exceed a rating of 1 when assessed using test method AS/NZS 1580.481.1.12.
- iv. Test panels of dimensions 100 x 150 mm demonstrating the colour acceptance and including details of each colourant included in each panel, are to be supplied to APAS.



SPECIFICATION AP-S0280



EXTERIOR WATER BASED PAINT FOR BUILDINGS

8 TABLE 1: PERFORMANCE PROPERTIES

TEST	AS/NZS 1580 METHOD	REQUIREMENTS
Wet Paint Tests		
General Requirements	AS 3730.X	Shall comply with all the requirements of clause 5 Typical Properties and Characteristics and Table 1 of the applicable Standard as defined in clause 3.3 a) above, except as modified below. Gloss levels of AP-S0280/4 and AP-S0280/5 shall be as nominated below. All test results shall be reported.
Non-volatile Content by Volume (Volume Solids)	301.2	0280/1: Minimum 37%. 0280/2: Minimum 37%. 0280/3: Minimum 30%. 0280/4: Minimum 35%. 0280/5: Minimum 35%. • Volume solids may be determined theoretically from raw material data except where solid constituents incorporate sealed air voids.
Viscosity	214.3	0.07 – 0.20 Pa.s.
Odour		The paint shall not exhibit any offensive or irritating odour during application or drying and shall be substantially free from odour after air drying for 24 hours.
VOC Content	APAS AP-D181	Refer to APAS document AP-D181 for method and limits. If the APAS specification is not listed on AP-D181, a declaration of VOC content is still required .
Dry Film Tests		
Specular Gloss	602.2	0280/1: > 50 GU at 60°. 0280/2: > 20 ≤ 50 GU at 60°. 0280/3: > 5 ≤ 20 GU at 60° (low gloss finish) or < 10 GU at 60° (matt finish). 0280/4: > 50 GU at 60°. 0280/5: > 5 ≤ 20 GU at 60°.
Resistance to Blocking	409.3	0280/1 only: No blocking.
Colourant Acceptance	Clause 7, Appendix A	Products shall be tested in accordance with Clause 7, Appendix A. Colour difference ≤ 1.



SPECIFICATION AP-S0280



EXTERIOR WATER BASED PAINT FOR BUILDINGS

TEST	AS/NZS 1580 METHOD	REQUIREMENTS
Dry Film Tests (Cont.,)		
Resistance to Natural Weathering	457.1	Durability testing shall be performed on both timber ¹ and fibrous cement panels. There shall be no integrity failure ² after 48 months and the following additional ratings shall apply:
		<u>Colours (24 months)</u> <u>White (36 months)</u>
	481.1.2	Degree of discolouration ≤ 2 ≤ 2
	481.1.11	Degree of chalking ≤ 2 ≤ 2
	481.1.12	Degree of colour change ≤ 2 ≤ 2
481.1.5	Degree of change in gloss ≤ 3 ≤ 3	

NOTE:

¹ Timber panels shall be in accordance with AS/NZS 1580.104.1. Where the manufacturer's data sheet stipulates the use of a primer, the system for AP-S0280/1, AP-S0280/2 and AP-S0280/3 shall be one (1) coat of product to APAS specification AP-S0183 plus two (2) coats of product to APAS specification AP-S0280. For AP-S0280/4 and AP-S0280/5 products not requiring the use of a primer on timber, system shall be two (2) coats of the product.

² No integrity failure means the following ratings shall apply:

Degree of checking at 48 months	481.1.7	0
Degree of cracking at 48 months	481.1.8	0
Degree of blistering at 48 months	481.1.9	0
Degree of flaking & peeling at 48 months	481.1.10	0



SPECIFICATION AP-S0280



EXTERIOR WATER BASED PAINT FOR BUILDINGS

9 APPENDIX B

Document History

Status: Current
Version: 5
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Document Version No.:	Date Published:	Summary of Changes:
5	10-09-2021	<ul style="list-style-type: none">• General format changes• Updated background information in clause 2• Updated SUSMP information• Updated APAS website information
4	02-12-2020	<ul style="list-style-type: none">• Addition of Appendix B Document History and removal of the Editorial Note previously used in specification versions• Updated document to the current format• Updated internal and external document references• Inclusion of VOC Content requirement to Table 1 Performance Properties• Addition of "People + Product = Protection" to Footer
3	04-02-2011	<ul style="list-style-type: none">• Document in new format• Blocking test added for gloss finish.• Appendix has been simplified and aligned with AP-D192.
2	24-10-2003	<ul style="list-style-type: none">• Deleted reference to GPC and incorporated a general format update
1	18-05-2001	<ul style="list-style-type: none">• Incorporated the changes to AP-D192 and clarified the requirements of sub classes 280/4 & 5
0	14-03-2001	<ul style="list-style-type: none">• Combined several of the former GPC specifications into the one document under the new specification numbering system (old specification numbers: GPC-L-26, 28, 169, V-115)