

## LOW VOC SEALER FOR POROUS SUBSTRATES

### 1 SCOPE

A low VOC (volatile organic compounds), low odour, water-based sealer for preparing unpainted building surfaces prior to the application of a range of finishing coats.

### 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

- A low VOC (volatile organic compounds), low odour, water-based sealer for preparing unpainted building surfaces prior to the application of a range of finishing coats.
- Apply as the initial coat to porous or powdery surfaces and finish with interior or exterior undercoats and/or topcoats as appropriate. Products approved under this specification are recommended for use on both porous masonry and/or timber surfaces and clear recommendations are made by the manufacturer.

#### 3.2 Sub-Classes

- This specification does not incorporate any sub-class.

#### 3.3 Basis of this Specification

- This specification is not based on any known standard or specification.
- Products approved under this specification do not correspond to any Paint Reference Numbers (PRNs) of AS/NZS 2311.

### 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 3730.18** – Guide to the properties of paints for buildings – Undercoat/sealer – Latex – Interior/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 web site 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/>

### 5 COMPOSITIONAL REQUIREMENTS

#### 5.1 Binder

- Binder composition is not restricted by this specification but shall be water miscible.

#### 5.2 Volatiles

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

#### 5.3 Pigmentation

- The product is typically unpigmented but can be lightly off-cast using standard tinters.

### 6 PRODUCT APPROVAL REQUIREMENTS

#### 6.1 General Requirements

- 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

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

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### 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

### Adhesion to Porous Substrates

#### 7.1 Scope:

This Appendix outlines the method to be used to assess the level of adhesion to porous substrates.

#### 7.2 Principle:

The test paint is applied to commercially available set plaster, allowed to dry before assessing adhesion using standard test methods.

#### 7.3 Equipment:

- i. Approximately 500 mm of commercially available set plaster cornice preferably with at least a portion of flat section profile
- ii. Block applicator approximately 75 mm width capable of delivering  $175 \pm 15 \mu\text{m}$  wet paint film
- iii. Scalpel or another sharp cutting implement

#### 7.4 Procedure:

Care shall be taken that the proposed test surface of the set plaster is not **prepared** in any way by dusting, wiping, abrading or any other means that may remove any loose surface layer.

Due to varying degrees of absorption into the substrate, the  $175 \mu\text{m}$  wet film build is largely nominal and selected to ensure there is sufficient to penetrate as well as leaving a suitable film to receive the next coat.

- i. Apply  $160 - 180 \mu\text{m}$  wet film build of the test paint.
- ii. Allow the test paint to dry 7 days at routine laboratory conditions.
- iii. Using method AS/NZS 1580.408.4 and a series of incisions spaced 2mm apart, assess the adhesion.

#### 7.5 Reporting:

Report the rating.



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8 TABLE 1: PERFORMANCE PROPERTIES

TEST	AS/NZS 1580 METHOD	REQUIREMENTS
<b>Wet Paint Tests</b>		
Condition in Container	103.1	Free of gel, skin, foreign and coarse particles. Using manual stirring, capable of being returned to a smooth, uniform consistency with minimal effort.
Fineness of Grind	204.1	≤ 50 µm.
Viscosity	214.3	0.05 - 0.2 Pa.s.
Storage Stability - 18 months at ambient lab conditions	211.1 211.2	Settlement ≥ 6. Uniform consistency.
Storage Stability - 14 days at 50 ± 3°C	211.2	Uniform consistency.
Application Properties	205.1 205.2 205.3 205.4	No runs, sags, streaks or excessive roughness or grittiness using all test methods listed.
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.
Equipment Clean-up		At the completion of the application tests, the equipment shall be readily cleaned with water and detergent.
Recoating Properties	603.1	After 4 hours drying time under routine lab conditions, AS1580.101.5, a freshly applied coat of the product shall not show any working up of the surface. The surface shall be free of wrinkling, frying and visible defects and shall be of uniform colour, gloss and general appearance.
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.
<b>Dry Film Tests</b>		
Hard Dry Time	401.6	≤ 6 h.
Coalescence	409.2	No visible cracking shall be evident.
Mudcracking	409.1	No visible cracking shall be evident.
Sealing Properties	AS3730.18, Clause 5.5.6	Gloss difference not greater than 10 units @ 60°.



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### 9 APPENDIX B

#### Document History

Status: Current  
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Document Version No.:	Date Published:	Summary of Changes:
2	10-09-2021	<ul style="list-style-type: none"><li>• General format changes</li><li>• Updated background information in clause 2</li><li>• Updated SUSMP information</li><li>• Updated APAS website information</li></ul>
1	01-12-2020	<ul style="list-style-type: none"><li>• Addition of Appendix B Document History and removal of the Editorial Note previously used in specification versions</li><li>• Updated document to the current format</li><li>• Updated internal and external document references</li><li>• Inclusion of VOC Content requirement to Table 1 Performance Properties, removal of set limit</li><li>• Addition of "People + Product = Protection" to Footer</li></ul>
0	21-10-2008	<ul style="list-style-type: none"><li>• Original document</li></ul>