

WATER BORNE TWO-PACK EPOXY GLOSS (BUILDINGS)

1 SCOPE

A water borne two-pack epoxy gloss for use on interior hard wearing areas of buildings. The coating forms a hard, glossy film resistant to cleaning agents and a wide range of foods and chemicals.

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 water borne two-pack epoxy gloss for use on interior hard wearing areas of buildings. The coating forms a hard, glossy film resistant to cleaning agents and a wide range of foods and chemicals.
- For application to timber primed with primer to APAS specification AP-S0183, wallboards and cement render sealed with sealer to APAS specification AP-S0172 or metal primed with a primer to APAS specification AP-S0162 or APAS specification AP-S0032.
- Apply in 2 coats over previously painted but well cured surfaces at a spreading rate of 9-10 m²/L to obtain a dry film thickness of 35µm per coat.
- Suitable for application by airless spray or roller as supplied or for application by conventional spray or brush when suitably thinned with water. Available in white and a range of colours.

3.2 Sub-Classes

- This specification does not incorporate any sub-classes.

3.3 Basis of this Specification

- This specification is not based on any known standard or specification.
- Paints approved under this specification are not described in either AS/NZS 2311 or AS/NZS 2312.

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/NZS 2312** – Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings
- AS/NZS 3750.13** – Paints for steel structures – Epoxy primer (two pack)

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

- The binder shall typically comprise an aqueous dispersion of epoxy resin and an aminated acrylic resin.

5.2 Volatiles

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

5.3 Pigmentation

- The pigmentation shall be chosen to impact the properties detailed in clause 8, Table 1 below.

5.4 Colour

- Products approved under this specification are normally available in a wide range of colours.



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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

Procedure for Chemical Resistance

- 7.1 Prepare a tinplate panel, 150mm x 75mm, by abrading in accordance with AS/NZS 1580.105.2 (Sanding).
- 7.2 Apply one coat of epoxy primer complying with AS/NZS 3750.13 to a dry film thickness of 50µm and finish with two coats of test paint, each at a dry film thickness of 35µm, and allow to cure for 7 days at 23 ± 3°C.
- 7.3 Apply each of the following chemicals separately, five drops in a single spot, cover with a watch glass, seal the edges and expose for 24 hours at 23 ± 3°C:
 - i. 5% Acetic Acid
 - ii. 10% Hydrochloric Acid
 - iii. 10% Sulphuric Acid
 - iv. 20% Sodium Hydroxide
 - v. Distilled Water



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8 TABLE 1: PERFORMANCE PROPERTIES

TEST	AS/NZS 1580 METHOD	REQUIREMENTS
Individual Component Testing – To be carried out on <u>both</u> Part A and Part B components		
Preliminary Examination	103.1	To be readily reincorporated. Shall be free of coarse particles, gel and foreign matter.
Fineness of Grind	204.1	Maximum 25µm.
Condition on Accelerated Storage	211.2	After storage for 14 days at 50 ± 3°C and cooling to ambient temperature, both components shall be readily reincorporated.
Ease of Manual Reincorporation		After storage for 12 months in full unopened containers, both components shall be readily reincorporated and shall have satisfactory application properties upon mixing of the components.
Corrosion of Container		After storage for 12 months in full unopened containers, there shall be no corrosion of the container.
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 .
Mixed Product Testing - Unless otherwise stated, the spreading rate of the paint shall be 8 - 11 m²/L		
Consistency	214.x	To be within ± 5% of the stated value.
Application Properties - Brushing - Conventional Spray - Roller Coating - Airless Spray	205.1 205.2 205.3 205.4	After thinning with no more than 5% water, to be readily applied and shall produce a uniform film free of defects.
Recoating Properties	404.1	Using methods 205.1, 205.2, 205.3 or 205.4, apply the paint in successive coats allowing 16 hours between coats. There shall be no working up of the previous coat or development of other film defects during application or drying.
Non-volatile Content by Volume (Volume Solids)	301.2	Minimum 30%.
Equipment Clean-up		At the completion of the application tests, the equipment shall be readily cleaned with water. Application equipment may require a final solvent rinse.
Hard Dry Condition (Mechanical Thumb Test)	401.6	After 16 hours, the film shall not mark.
Dry Hiding Power – Contrast Ratio	213.2	Not less than 94% @ 9.5m ² /L



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TEST	AS/NZS 1580 METHOD	REQUIREMENTS
Mixed Product Testing - Unless otherwise stated, the spreading rate of the paint shall be 8 - 11 m²/L (Cont.,)		
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.
Colour	601.1	To be an approximate match to the colour card.
Gloss	602.2	Minimum 80 units at 60°C.
Finish	603.1	One coat applied by brush to a sealed card shall give a smooth film of uniform appearance with only slight brush marks.
Resistance to Washing	459.1	Two coats of paint shall be applied to dull black plastic test panels and aged for 7 days. After 500 cycles the change in gloss shall not exceed 4 gloss units.
Fastness to Light	482.1	One coat of white paint on sealed card exposed for 28 days shall show no sign of yellowing.
Chemical Resistance	Clause 7, Appendix A	No softening. Only slight discolouration of the coating.



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9 APPENDIX B

Document History

Status: Current
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Document Version No.:	Date Published:	Summary of Changes:
10	02-09-2021	<ul style="list-style-type: none">• General format changes• Updated background information in clause 2• Updated SUSMP information• Updated APAS website information
9	24-11-2020	<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 (AS 2674 superseded by AS/NZS 3750.13)• Inclusion of VOC Content requirement to Table 1 Performance Properties• Addition of "People + Product = Protection" to Footer
8	07-10-2003	<ul style="list-style-type: none">• Removed references to GPC and incorporated a general format update
7	13-09-2001	<ul style="list-style-type: none">• Aligned naming conventions with Australian Standards
6	06-03-2001	<ul style="list-style-type: none">• Initiated the second stage of the move to new specification numbering with prominence given to the new number (previously GPC-E-167)