



ZINC PHOSPHATE METAL PRIMER

1 SCOPE

A zinc phosphate pigmented primer for use on well cleaned (prepared to AS1627.2 class 2, AS1627.4 class 2 or AS1627.7 class 2) steel, phosphated steel or aluminium surfaces.

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 zinc phosphate pigmented primer for use on well cleaned (prepared to AS1627.2 class 2, AS1627.4 class 2 or AS1627.7 class 2) steel, phosphated steel or aluminium surfaces.
- Products approved under this specification may be available in a limited range of colours but will typically be either red oxide or grey.
- In a temperate environment, APAS specification AP-S0162 products are normally overcoated with one coat of undercoat and one coat of enamel to APAS specification AP-S0024/1 (although other topcoat systems may be suitable). In more aggressive atmospheric environments, a second coat of primer may be appropriate.
- Approved products may be applied by brush, roller, conventional spray or airless spray. They will be surface dry in 2 hours and may be overcoated after 24 hours.
- Where APAS specification AP-S0162 primer approval is sought as part of a system not requiring the use of an undercoat e.g., APAS specification AP-S0165, a coat of undercoat is not required to be part of the system.

3.2 Sub-Classes

- This specification does not incorporate any sub-class.

3.3 Basis of this Specification

- This specification is based on AS 4025.4 (superseded by AS/NZS 3750.20) with the following additional or increased requirements:
 - 28-day salt droplet test instead of 14 days as specified in AS/NZS 1580.452.2
 - Addition of a 24-month durability requirement for untop coated two coats of primer system

- Inclusion of a bend test
- Products covered by this specification correspond to Paint Reference Number (PRN) C4 of 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 1627** – Metal finishing – Preparation and pre-treatment of surfaces
 - AS/NZS 2312** – Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings
 - AS/NZS 3750.20** – Paints for steel structures – Part 20: Anticorrosive metal primer – Solvent-borne – Lead and chromate free

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 requirements are not restricted by this specification but are chosen to impart the requirements detailed in clause 7, Table 1 below.

5.2 Volatiles

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



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5.3 Pigmentation

- a) The pigmentation shall typically contain zinc phosphate dihydrate (and/or modified zinc phosphate) and other pigments necessary to achieve the required properties.

5.4 Colour

- a) Normally available in red oxide or grey but other colours may also be available.

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 7, 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) Since the paint contains a hydrocarbon solvent, the paint is flammable and should be stored away from all sources of heat or ignition. Containers should be resealed immediately after use and good ventilation provided during use to minimise the risk of fire or explosion and the long-term toxic effects of absorption of the vapour into the lungs.
- c) Care should be taken to avoid contact with the skin by the use of protective clothing and barrier cream. All pumping equipment should be adequately earthed. A full-face air fed respirator should be used when spraying.
- d) 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.
- e) The product shall comply with all requirements of clause 6.3 and 6.4 of APAS document AP-D192.



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7 TABLE 1: PERFORMANCE PROPERTIES

TEST	AS/NZS 1580 METHOD	REQUIREMENTS
General Requirements	AS/NZS 3750.20	Shall comply with all the requirements of clause 4.3 Liquid Paint , 4.4 Application Properties and 4.5 Applied Film . All results shall be reported.
Recoating Properties	404.1	To comply with AS/NZS 3750.20 except that primer shall be overcoated with an oil and petrol resistant enamel or other appropriate topcoat for the final coating system.
Salt Droplet Test	452.2 481.3	To comply with AS/NZS 3750.20 clause 4.5.7 with the exception that the exposure period is 672 hours (28 days).
Bend Test	402.1	There shall be no cracking or adhesion failures when a panel is bent around a 6 mm mandrel.
Specular Gloss	602.2	Maximum 50 units at 60°.
Resistance to Natural Weathering	457.1	In addition to the requirements of AS/NZS 3750.20 clause 4.5.6, a system of 2 coats of primer (untopcoated) shall comply with AS/NZS 3750.20 Table 2 after 24 months exposure in a severe marine environment (category Very High [E-M marine] of AS/NZS 2312).
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 .



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8 APPENDIX A

Document History

Status: Current
Version: 11
Date Published: 30-08-2021

Document Version No.:	Date Published:	Summary of Changes:
11	30-08-2021	<ul style="list-style-type: none">• General format changes• Updated background information in clause 2• Updated SUSMP information• Updated APAS website information
10	24-11-2020	<ul style="list-style-type: none">• Addition of Appendix A 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• Removed references to APAS specification no longer in use• Inclusion of VOC Content requirement to Table 1 Performance Properties• Addition of "People + Product = Protection" to Footer
9	23-07-2008	<ul style="list-style-type: none">• Deleted sub-classes 0162/1 and 0162/2 due to there no longer being a requirement to differentiate colours
8	07-10-2003	<ul style="list-style-type: none">• Removed references to GPC and incorporated a general format update
7	08-05-2001	<ul style="list-style-type: none">• Amended clause 1.4 to clarify requirements when 0162 products are used in order to gain other system approvals• Clauses 3 and 4 were reduced by incorporation into APAS document D192• Table 1 requirement for flash point test also removed
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-P-162)