

HEAT RESISTANT PAINT FOR EQUIPMENT

1 SCOPE

This specification applies to aluminium or coloured paints for coating equipment subject to heat e.g., steam pipes and boiler fronts operating up to 200°C.

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 solvent based and are typically air drying, generally within 16 hours.
- They are preferably applied by brush or conventional air spray as a thin wet coat. Typical dry film thickness:
 - AP-S0043/1: 15µm
 - AP-S0043/2: 30µm
- They are applied over properly prepared substrates in accordance with manufacturer's recommendation.

3.2 Sub-Classes

- This specification incorporates the following sub-classes:
 - 0043/1:** To 200°C, aluminium finish
 - 0043/2:** To 200°C, full gloss finish, other colours

3.3 Basis of this Specification

- This specification is based on AS/NZS 3750.3 with the following modifications:
 - The inclusion of a bend test for flexibility
 - The inclusion of test for resistance to water
- Products in sub-class 0043/1 correspond to Paint Reference Number (PRN) C27 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/NZS 2312** – Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings – Paint Coatings

- AS/NZS 3750.3** – Paints for steel structures – Part 3: Heat resisting - 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

- The binder, although not restricted, will typically be comprised of a coumarone indene / oleoresinous resin (sub-class 0043/1) or a silicone acrylic resin (sub-class 0043/2).
- Of primary importance is the compliance with the technical requirements detailed in clause 7, Table 1 below.

5.2 Volatiles

- The volatile portion shall principally be comprised of chemical solvents such as hydrocarbons.
- For VOC content restrictions, refer to APAS document AP-D181.

5.3 Pigmentation

- There is no restriction placed on the type(s) of pigment used with the exception that they shall be non-toxic and anti-corrosive and shall comply with the requirements of the SUSMP.
- Of primary importance is the compliance with the technical requirements detailed in clause 7, Table 1 below.



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5.4 Colour

- a) Sub-class 0043/1 products are only available in a silver colour and sub-class 0043/2 products are available in a limited range of colours.

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) 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.



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7 TABLE 1: PERFORMANCE PROPERTIES

TEST	AS/NZS 1580 METHOD	REQUIREMENTS
General Requirements	AS/NZS 3750.3	Shall comply with all the requirements of clause 2 Materials Requirements . All results shall be reported.
Bend Test	402.1	When a film of dry film build as specified in clause 3.1 b) above, which has been allowed to cure for 7 days at routine conditions in accordance with AS/NZS 1580.101.1, is bent over a 6mm mandrel, there shall be no cracking in the film.
Resistance to Water	455.1 403.1	No blistering or change in appearance. Scratch resistance shall not be less than 600g.
Colour – Visual Comparison	601.1	Approximate match.
Specular Gloss	602.2	To be within the range: <ul style="list-style-type: none">• 0043/1: Not specified• 0043/2: > 85 at 60°
VOC Content	APAS AP-D181	Refer to APAS document AP-D181 for method and limits. <ul style="list-style-type: none">• 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: 10
Date Published: 26-08-2021

Document Version No.:	Date Published:	Summary of Changes:
10	26-08-2021	<ul style="list-style-type: none">• General format change to clause 1 and 3.1• Updated background information in clause 2• Updated SUSMP information• Updated APAS website information
9	10-11-2020	<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• Inclusion of VOC Content requirement to Table 1 Performance Properties• Addition of "People + Product = Protection" to Footer
8	12-06-2009	<ul style="list-style-type: none">• Deleted sub class 0043/3 and 0043/4 and updated to the new format
7	08-04-2003	<ul style="list-style-type: none">• Deleted reference to GPC numbering and incorporated a general format update
6	18-01-2001	<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-43)