

## ENCAPSULATION SYSTEM FOR ASBESTOS CEMENT SHEETING

### 1 SCOPE

- The well documented connection between Asbestos-Containing Materials (ACM) and life-threatening illnesses, such as mesothelioma, has resulted in greater control being exercised over ACMs in the home and workplace.
- The prohibition of new uses of ACM in Australian workplaces will prevent additional exposures to airborne asbestos fibres. Exposure to airborne asbestos fibres can still occur, however, where existing or *in situ* ACM are not adequately managed and controlled.
- Control options for managing *in situ* ACM should be identified through a risk assessment that considers, among other things, the condition of the ACM and the likelihood of exposure to airborne asbestos fibres. Removal is the preferred option. In certain limited circumstances, however, state and territory authorities may permit encapsulation of stable, non-friable ACM. Where ACM is to remain *in situ*, it must be appropriately maintained to minimise the generation of airborne asbestos fibres.
- Encapsulation of ACM must only be undertaken when it is identified that this is the most suitable control option and where the hazards associated with undertaking the encapsulation e.g. working on fragile roofs and exposure to hazardous encapsulation chemicals, can be adequately controlled.
- The specification has been developed with input from the Australian Safety and Compensation Council – Department of Employment and Workplace Relations.

### 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

- Refer to clause 7, Appendix A for important information on the use of ACM Encapsulation Systems.
- ACM's (Asbestos Containing Materials) were in wide spread use as building elements and are now known to be comprised of the carcinogen asbestos. These building elements may be in the form of flat or corrugated sheet or other format such as floor tiles.
- Friable ACM which, when dry, is or may become crumbled, pulverised or reduced to powder by hand pressure. This may include ACM that have been

subjected to conditions such as weathering, physical damage, water damage etc.

- These encapsulation systems generally consist of two components, a surface stabilising coating and a finishing coating. The stabilising coating is intended for application directly to asbestos cement surfaces, to penetrate and encapsulate all the exposed layer and associated organic growths and bind the encapsulated layer to the intact unweathered substrate. The stabilised surface is then protected from the weather by the finishing coat.
- For practical purposes, the system is intended to arrest surface deterioration of ACM and block the ingress of light and water to prevent the regrowth of moss, algae and lichen.
- The specification does not restrict the composition of either layer of the system to either solvent-based or water-based. The emphasis is on temporary stabilisation of the substrate until a safe long-term solution can be found.
- Clause 7, Appendix A provides general guidance on the use of these encapsulation systems while clause 8, Appendix B provides guidance of field application of the systems.
- The intention of the coating system is to seal the layer of exposed ACM to minimise the risk of asbestos fibres entering the atmosphere. These systems may also offer some decorative advantages to aging, uncoated roofs and walls.
- To achieve the intended aim of this encapsulation system, manufacturers will need to consider the use of a chemical treatment (biocidal wash) in conjunction with the removal of existing growth.
- While primarily intended for use on exposed roofs, these encapsulation systems may also be employed on wall cladding and the underside of roofing. However, in most situations, it is expected that exterior latex paints (APAS specification AP-S0280/3 or AP-S0280/1) would be adequate as top coats.
- While these encapsulation systems are primarily intended for use on roofs that have not previously been painted, some of the encapsulation systems may also be suitable for use over roofs that have been previously painted. This would need to be confirmed, however, with trial sections before undertaking a large project.
- Although current encapsulation systems comprise at least two separate coating applications, single coat applications will be considered if and when they become available.

#### 3.2 Sub-Classes

- This specification incorporates the following sub-classes:
  - 1720/1: 2-year life
  - 1720/2: 5-year life

#### 3.3 Basis of this Specification

- This specification is based on a specification originally produced for the Building Management Authority, WA - Encapsulation Performance Specification.

## ENCAPSULATION SYSTEM FOR ASBESTOS CEMENT SHEETING

- b) Paints approved under this specification do not comply with any other known standard or specification.

### 4 REFERENCED DOCUMENTS

- a) The following standards are referenced in this document:
- AS/NZS 1580** – Paints and related materials: Methods of test
  - AS 4260** – High efficiency particulate air (HEPA) filters - Classification, construction and performance
  - AS/NZS 60335.2.69** – Household and similar electrical appliances – Safety Particular requirements for wet and dry vacuum cleaners, including power brush, for commercial use
  - ASTM D4541-17** – Standard Test Method for Pull-Off Strength of Coatings using Portable Adhesion Testers
  - AS ISO/IEC 17025** – General requirements for the competence of testing and calibration laboratories

These documents may be purchased through the Reference Standards Australia website:  
<https://www.standards.org.au/>

- vi. **How to Manage and Control Asbestos in the Workplace** – Code of Practice (February 2016)

This document is available from the WorkSafe Australia website:  
<https://www.safeworkaustralia.gov.au/system/files/documents/1705/mcop-how-to-manage-and-control-asbestos-in-the-workplace-v2.pdf>

- vii. **Compliance Code – Managing Asbestos in Workplaces** – Edition 2, December 2019

This document is available from the WorkSafe Victoria website:  
<https://content.api.worksafe.vic.gov.au/sites/default/files/2020-02/ISBN-Compliance-code-managing-asbestos-workplaces-2019-12.pdf>

- viii. **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>

- b) 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
- AP-S0156 Epoxy Mastic High Build Two-Pack Coating for Rusted Steel
- AP-S0280/1 Exterior Water Based Paints for Buildings – Gloss Finish
- AP-S0280/3 Exterior Water Based Paints for Buildings – Low Gloss Finish

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

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

### 5 COMPOSITIONAL REQUIREMENTS

#### 5.1 Binder

- a) Binder requirements are not restricted by this specification. The stabilising coating may be solvent based or water based. The topcoat is typically (but not necessarily) water based.

#### 5.2 Volatiles

- The volatile portion of the stabilising coating shall typically be comprised of hydrocarbon solvents. The volatile portion of the top coating shall typically be comprised of water.
- For VOC content restrictions, refer to APAS document AP-D181.

#### 5.3 Pigmentation

- a) The pigmentation shall be chosen to provide the properties detailed in clause 12, Table 1 below.

#### 5.4 Colour

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

### 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.
- The encapsulation system shall consist of a **Stabilising Coating** and a **Finish Coat**. They shall perform to the criteria set out in this specification.
- The **Stabilising Coating** shall:
  - Be applied directly over existing ACM surfaces without recourse to any process that would disturb or degrade the ACM surface (except that, if necessary, moss, algae or lichen should first be removed and the surface chemically treated - refer to clause 7, Appendix A), and

## ENCAPSULATION SYSTEM FOR ASBESTOS CEMENT SHEETING

- ii. Fully penetrate and encapsulate all the softened, weathered layer and moss/lichen and bind the encapsulated layer to the intact unweathered substrate to form a single solid material, and
  - iii. Prevent the regrowth of moss, algae or lichen which are likely to cause failure of the treatment, and
  - iv. Render the top surface of the ACM non-friable
  - v. Be recoatable with the same product or overcoatable with suitable finishing coatings, and
  - vi. Require no maintenance in order to retain its original integrity (for a minimum of 2 or 5 years).
- d) The **Finish Coat** shall:
- i. Be applied to, and adhere to, the stabilised surface such as to prevent any integrity failure, i.e. cracking, flaking or blistering, and
  - ii. Provide UV protection to the stabilised material, and
  - iii. Be capable of being readily patched or repaired without the need for complete repainting, and
  - iv. Maintain an effective finish which does not require repainting (for a minimum period of 2 or 5 years), and
  - v. Be recoatable without rubbing down or recourse to any other process that may disturb the stabilised surface, and
  - vi. Be trafficable to the extent that allows routine maintenance procedures to be undertaken without the need for special precautions to prevent damage to the surface, and
  - vii. Be such that the location of the roof fastenings remains clearly visible even when covered by the coating system.

### 6.2 Technical Requirements

- a) **Stabilising Coating:** Testing shall be performed in accordance with clause 12, Table 1. The test report shall show the result of each test in figures and whether or not the result conforms to the specified requirements.
- b) **Finish Coat:** Testing shall be performed in accordance with clause 12, Table 1. The test report shall show the result of each test in figures and whether or not the result conforms to the specified requirements.
- c) **CLASS I** (Full Approval) of an encapsulation system will be granted upon satisfactory completion of all tests in clause 12, Table 1.
- d) **CLASS II** (Interim Approval) of an encapsulation system may be considered providing that:
  - i. All tests in clause 12, Table 1 (except Resistance to Natural Weathering) have been completed satisfactorily, and
  - ii. APAS holds previous durability data on the product used as the finishing coating in the encapsulation system (refer to clause 11, Appendix E), or
  - iii. A verifiable independent technical case history providing satisfactory durability results after 2 or 5 years as applicable is provided.

### 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) Where the paint may contain 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) All pumping equipment should be adequately earthed. A full-face air fed respirator should be used when spraying.
- d) The product shall comply with all requirements of clause 6.3 and 6.4 of APAS document AP-D192.

## 7 APPENDIX A

### Guidance Notes on the Use of ACM Encapsulation Systems

- 7.1 A risk assessment should be undertaken to identify and control any hazards associated with the application of an encapsulation system for ACM.
- 7.2 It is important to be aware that these coating systems are not intended to provide a long-term solution for the management and control of ACM. At best, they will provide a short-term increase in the Workplace Health and Safety (WHS) aspects associated with existing ACM while a more permanent solution such as safe removal, disposal and replacement with safer alternatives is decided upon.
- 7.3 This specification also makes no claims about the effectiveness of these coatings in stopping asbestos fibres from entering the local environment. Approved systems will reduce the rate at which asbestos fibres will leave the exposed surface by better binding of the coated layer only. The effectiveness of the encapsulation as a control measure for managing exposure to airborne asbestos fibres should be subject to ongoing monitoring.
- 7.4 Well-aged ACM presents the coating manufacturer with many difficulties. The surface is often so degraded that it has lost its integrity. It may be powdery and severely contaminated with organic matter such as mosses, algae, lichens and fungi. Achieving a suitable surface for re-coating is almost impossible. Although the coating systems themselves may easily achieve 10-year durability on clean, new surfaces, the state of the surface of asbestos sheeting after cleaning usually makes such a service life unattainable. Even after thorough cleaning, organic regrowth may occur in the short-term necessitating recoating or further maintenance.
- 7.5 Surfaces with growths exceeding 0.5 mm in thickness are not suitable for encapsulating and even this thickness of growth may be excessive for most encapsulation systems.
- 7.6 Heavy growths of organic matter will need to be removed by appropriate means. The method(s) used will be influenced by the condition of the surface and

## ENCAPSULATION SYSTEM FOR ASBESTOS CEMENT SHEETING

local health regulations but may include one or a combination of the following:

- i. Gentle scraping and simultaneous **low-pressure** water wash with run-off collected and disposed of in accordance with relevant health regulations  
Note: High pressure water blasting must never be used.
- ii. Apply chemical treatment and allow 7 days to destroy the growth. Low pressure water wash with run-off collected and disposed of in accordance with relevant health, environmental and WH&S regulations, or
- iii. Vacuuming with all matter collected disposed of in accordance with relevant health, environmental and WHS regulations.

**7.7** Household vacuum cleaners must never be used where asbestos is or may be present, even if they have a HEPA filter. Asbestos vacuum cleaners should comply with the requirements of AS/NZS 60335.2.69 and AS 4260 (refer to clause 4 a) ii. and iii.).

**7.8** Tools should be selected that minimise the generation of airborne asbestos fibres. At the end of the work, all tools should be decontaminated, placed in sealed containers (and used only for asbestos work) or disposed of as asbestos waste.

**7.9** It is recommended that scrapers or other tools used in the above process should be nylon, plastic or other **soft** material in order to minimise damage to the substrate - metal scrapers are not recommended.

**7.10** Application of a suitable biocide, prior to application of the stabilising coating, is likely to be advantageous. The biocide must have algicidal and lichenicidal properties. A successful treatment must initially kill the existing growths and also must possess a long-term inhibitory action.

**7.11** Encapsulation systems employing a biocide may not be suitable for the collection of drinking water. Reference should be made to the manufacturer for specific recommendations regarding the collection of drinking water.

**7.12** If the stabilising coating is a solvent-borne product, it should not be applied to a damp substrate or if rain is imminent. At least 2 hours drying in direct sunlight may be required after an overnight dew. In some parts of Australia, it may be appropriate to restrict application to certain times of the year. A test should be performed to check whether a surface is dry, before application proceeds. Water-based stabilising coatings can usually be applied to a damp but not wet substrate. Reference should again be made to the manufacturer for specific recommendations regarding application conditions.

**7.13** Comments made in this specification regarding application conditions are of a general nature and may be over-ridden by the more specific instructions to be found in manufacturer's product literature.

**7.14** Since the degree of surface deterioration will vary from site to site, the application rate for the stabilising coating will also vary considerably. Roofing with a highly degraded surface may require two applications of stabilising coating while roofing with low degradation may only require one application.

**7.15** Finishing coating shall be applied in accordance with the manufacturer's instructions. If a low build material, it shall be applied in a minimum of 2 coats to achieve a minimum dry film thickness of 60µm. If high build finishing coatings are used, they will provide a significantly higher film build (typically 200 - 300µm) which may be applied in one coat providing a uniform continuous film is achieved. Compliance of the applied dry film thickness with the manufacturer's specification should be confirmed by use of appropriate equipment.

### 8 APPENDIX B

#### Guide to the Field Application of Encapsulation

##### Systems for ACM

**8.1** A risk assessment should be undertaken to identify and control any hazards associated with the field application of an encapsulation system for ACM.

**8.2** **Surface Preparation:** Residues from trees and other contaminants shall be removed by methods having due regard for the relevant health, environmental and WH&S regulations.

**8.3** **Application:** Application method used to apply the stabilising coating should not disturb the surface of the ACM. The most appropriate methods of application are:

- i. Low pressure airless spray (maximum 10 : 1) is the preferred method
- ii. Roller may be used where spraying is not acceptable

**8.4** High pressure spray must never be used, Conventional spray, brushing or brooming are not recommended due to their disturbance of the surface of the weathered sheets.

**8.5** Stabilising coatings will typically be of low viscosity to aid penetration. They shall be applied in accordance with the manufacturer's written instructions. Depending on the porosity of the weathered ACM, a further application of the stabilising coating may be employed, if deemed necessary. The modified application procedure, together with full details of any thinning used, shall be detailed in the test report. The final dry film build achieved shall be reported.

**8.6** The applicator should ensure that a build-up of stabilising coating by pooling does not occur in the valleys of sheet corrugations as the adhesion of subsequent coatings may be affected.

**8.7** After a minimum 24 hours drying, the adhesion shall be determined (refer clause 12, Table 1). If pull-off adhesion is tested by a contractor, the test should be

## ENCAPSULATION SYSTEM FOR ASBESTOS CEMENT SHEETING

performed in the presence of the clients representative.

- 8.8** Prior to the application of the finishing coating, metal roof fixings should be coated with a slow drying epoxy mastic, i.e., a product complying with APAS specification AP-S0156.
- 8.9** Finish coat shall be applied in accordance with the manufacturer's written instructions and dry film thickness checked using appropriate equipment.
- 8.10** Any persons involved in the preparation of asbestos cement test panels or the application of the encapsulation system to asbestos cement test panels, should take all necessary precautions to prevent the introduction of asbestos fibres into the working environment, or inhalation of asbestos fibres. Refer to the relevant WH&S regulations regarding protective clothing and personal protective equipment (PPE).

### 9 APPENDIX C

#### Procedure for the Laboratory Testing of ACM Stabilising Coatings

- 9.1** A risk assessment should be undertaken to identify safe work methods for the laboratory testing of ACM stabilising coatings.
- 9.2** Test panels of weathered (aged for 20 - > 40 years) corrugated asbestos cement sheeting shall be prepared in accordance with the manufacturer's directions or according to clause 7, Appendix A above.
- 9.3** Due to the difficulties in obtaining and handling aged asbestos panels, in-situ testing of adhesion may be carried out in place of laboratory testing.
- 9.4** Stabilising coating shall be applied to either lab panels or in-situ ACM, prepared in accordance with the manufacturer's written instructions.
- 9.5** Initial compliance testing may be performed in the manufacturer's own AS ISO/IEC 17025-accredited laboratory (NATA in Australia) or by some other AS ISO/IEC 17025-accredited independent testing laboratory such as CSIRO. The AS ISO/IEC 17025 accreditation shall cover test method AS/NZS 1580.408.5 with in its Scope of Accreditation.
- 9.6** After allowing the stabilising coating to dry for a minimum of 24 hours under ambient conditions, pull off adhesion shall be tested in accordance with clause 10, Appendix D. Details of the type of adhesive used shall be included in the test report (refer to clause 10, Appendix D below).

### 10 APPENDIX D

#### Procedure for Adhesion Testing of the Stabilising Coating

- 10.1** A risk assessment should be undertaken to identify safe work methods for adhesion testing of the stabilising coating.

#### 10.2 Apparatus:

- Pull-off adhesion tester complying with AS/NZS 1580.408.5 or ASTM D4541 and with a maximum range of not greater than 4 MPa
- Ten 20 mm dollies
- Steel base plate for pull-off adhesion testers without a firm footprint e.g. Elcometer model 106 which has 3 separate independent feet, to provide a firm foundation for the test (the Elcometer instrument is supplied with a satisfactory plate). The plate shall have a central hole of approx. 22 mm diameter to accommodate the 20 mm pull-off dolly
- Adhesive - the adhesive shall be of a paste consistency to minimise the risk of false readings as the result of penetration of the adhesive into the asbestos where it can act as a binding agent

**10.3** The following adhesives have been found to fulfil the requirements of the test method and therefore one of these should be selected for the purpose of these tests:

- BASF Concrecive 1442
- Sika Sikadur 30
- Epirez Episet Anchor

**10.4** Panels shall be prepared in accordance with clause 9, Appendix C above.

**10.5** Adhesion testing shall only be carried out on the corrugated peaks. Glue at least 10 dollies onto the peaks at a fair cross section of the test area. Ensure all dollies are glued in an orientation perpendicular to the plane of the sheet. Ensure that the extent of the epoxy bed is limited to the periphery of the dolly and does not run beyond the dolly edge. The adhesive shall be allowed to cure for at least the minimum time to reach adequate strength for testing (> 4MPa) as advised by the manufacturer for the prevailing ambient conditions.

**10.6** Do **NOT** cut the coating film around the dolly.

**10.7** If using a steel base plate, place the plate over the first dolly so that it protrudes through the central hole. Ensure the plate does not come into contact with the dolly at any stage.

**10.8** Determine the pull-off adhesion strength and record the result. Repeat for the other 9 dollies. Calculate the average result and record.

**10.9 Reporting:** The test report shall contain the following information:

- Full details of the stabilising coating identification including name(s) and batch number(s)
- Dry film build in microns
- Curing interval
- Adhesive used and curing interval
- Details of failure interface e.g., dolly/adhesive; adhesive/coating; coating/substrate etc.
- Pull-off adhesion strength results and the average adhesion



## ENCAPSULATION SYSTEM FOR ASBESTOS CEMENT SHEETING

### 11 APPENDIX E

#### Procedure for Exposure Testing of Encapsulating Systems for Asbestos Cement Sheeting

- 11.1 A risk assessment should be undertaken to identify safe work methods for exposure testing of encapsulation systems for asbestos cement sheeting.
- 11.2 Duplicate test panels of weathered (aged for 20 - > 40 years) corrugated asbestos sheet, shall be prepared in accordance with manufacturer's directions or according to clause 7, Appendix A above.
- 11.3 Apply the full encapsulation system in accordance with manufacturer's written instructions and allow to dry for 7 days.
- 11.4 The total dry film thickness shall be checked using appropriate equipment and reported.
- 11.5 Panels shall be exposed at 45° to the horizontal facing True North in accordance with AS/NZS 1580.457.1 at an approved test site for the appropriate period.
- 11.6 Acceptable sites are Darwin NT (operated by CSIRO) and Townsville QLD (operated by Allunga Exposure Laboratory).
- 11.7 CLASS II (Interim) approval may be given, refer to clause 6.2 d) above. Previous durability data on the system is acceptable if exposed on non-ACM panels. Alternatively, resin or latex manufacturer's durability data in an equivalent chemical type of product of similar PVC may be used for CLASS II approval. CLASS I (full) approval can only be given once adhesion testing on exposed panels is completed and supplied to APAS.



# SPECIFICATION AP-S1720



## ENCAPSULATION SYSTEM FOR ASBESTOS CEMENT SHEETING

**12 TABLE 1: PERFORMANCE PROPERTIES**

TEST	AS/NZS 1580 METHOD	REQUIREMENTS
<b>Stabilising Coating Tests</b>		
Preliminary Examination	103.1	To be readily reincorporated. Shall be free of coarse particles, gel and foreign matter.
Skin Formation	203.1	No skin.
Viscosity	214.X	State method and record result.
Application Properties - Brushing - Rolling - Spraying	205.1 205.3 205.2 or 205.4	When applied by the appropriate method, shall show satisfactory application properties.
Surface Dry Condition	401.1	Maximum 7 hours.
Reincorporation after Storage	211.2	To comply with all the preceding requirements after 18 months storage at ambient temperature.
Degree of Settling	211.1	Not to fall below 6.
Hard Dry Condition (Mechanical Thumb Test)	401.6	Maximum 24 hours.
Adhesion to Aged Asbestos	Clause 10, Appendix D	Average of 10 readings > 1.5 MPa and no single reading < 1.2 MPa.
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 <b>is still required</b> .
<b>Finish or Top Coating Tests</b>		
Preliminary Examination	103.1	To be readily reincorporated. Shall be free of coarse particles, gel and foreign matter.
Skin Formation	203.1	No skin.
Application Properties - Brushing - Rolling - Spraying	205.1 205.3 205.2 or 205.4	When applied by the appropriate method, shall show satisfactory application properties.
Surface Dry Condition	401.1	Maximum 4 hours.
Reincorporation after Storage	211.2	To comply with all the preceding requirements after 18 months storage at ambient temperature.



# SPECIFICATION AP-S1720



## ENCAPSULATION SYSTEM FOR ASBESTOS CEMENT SHEETING

TEST	AS/NZS 1580 METHOD	REQUIREMENTS																											
<b>Finish or Top Coating Tests (Cont.,)</b>																													
Degree of Settling	211.1	Not to fall below 6.																											
Hard Dry Condition (Mechanical Thumb Test)	401.6	Maximum 24 hours.																											
Dry Hiding Power - Contrast Ratio <b>OR</b> Relative Dry Hiding Power	213.2 213.1	Minimum 94% for products typically applied at 16m <sup>2</sup> /L. Complete coverage in 1 coat for products applied at higher film builds.																											
Colour	601.1	Close match.																											
Specular Gloss	602.2	<b>Low Gloss:</b> 5 - 20 units at 60°. <b>Semi-Gloss:</b> 20 - 50 units at 60°. <b>Gloss:</b> 50 - 85 units at 60°.																											
Finish	603.1	Shall be free of coarse particles, wrinkling or excessive orange peel and have a uniform colour and appearance. Note: High build coatings often have a degree of texture.																											
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 <b>is still required</b> .																											
Resistance to Natural Weathering	457.1  481.1.2 481.1.5 481.1.7 481.1.8 481.1.9 481.1.10 481.1.11 481.1.12	After 2 or 5 years as appropriate, the ratings shall be:  <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>2 Years</u></th> <th style="text-align: center;"><u>5 Years</u></th> </tr> </thead> <tbody> <tr> <td>Discolouration</td> <td style="text-align: center;">≤ 2</td> <td style="text-align: center;">≤ 3</td> </tr> <tr> <td>Change in Gloss</td> <td style="text-align: center;">≤ 3</td> <td style="text-align: center;">≤ 4</td> </tr> <tr> <td>Checking</td> <td style="text-align: center;">≤ 0</td> <td style="text-align: center;">≤ 0</td> </tr> <tr> <td>Cracking</td> <td style="text-align: center;">≤ 0</td> <td style="text-align: center;">≤ 0</td> </tr> <tr> <td>Blistering</td> <td style="text-align: center;">≤ 0</td> <td style="text-align: center;">≤ 0</td> </tr> <tr> <td>Flaking and Peeling</td> <td style="text-align: center;">≤ 0</td> <td style="text-align: center;">≤ 0</td> </tr> <tr> <td>Chalking</td> <td style="text-align: center;">≤ 2</td> <td style="text-align: center;">≤ 3</td> </tr> <tr> <td>Colour Change</td> <td style="text-align: center;">≤ 2</td> <td style="text-align: center;">≤ 3</td> </tr> </tbody> </table>		<u>2 Years</u>	<u>5 Years</u>	Discolouration	≤ 2	≤ 3	Change in Gloss	≤ 3	≤ 4	Checking	≤ 0	≤ 0	Cracking	≤ 0	≤ 0	Blistering	≤ 0	≤ 0	Flaking and Peeling	≤ 0	≤ 0	Chalking	≤ 2	≤ 3	Colour Change	≤ 2	≤ 3
	<u>2 Years</u>	<u>5 Years</u>																											
Discolouration	≤ 2	≤ 3																											
Change in Gloss	≤ 3	≤ 4																											
Checking	≤ 0	≤ 0																											
Cracking	≤ 0	≤ 0																											
Blistering	≤ 0	≤ 0																											
Flaking and Peeling	≤ 0	≤ 0																											
Chalking	≤ 2	≤ 3																											
Colour Change	≤ 2	≤ 3																											
<b>Additional Tests for WATER BORNE Top Coating Products ONLY</b>																													
Condition on Accelerated Storage	211.2	Uniform consistency, free from lumps, gel and other defects (14 days @ 50 ± 3°C).																											
Resistance to Mud Cracking	409.1	No cracking.																											
Low Temperature Coalescence	409.2	No cracking.																											
<b>FULL Coating System Test</b>																													
Adhesion to Aged Asbestos	Clause 10, Appendix D	Initial <b>and</b> after 2- or 5-years exposure (as appropriate), the average of 10 readings shall be > 1.2MPa <b>and</b> no single reading < 1.0 MPa.																											





# SPECIFICATION AP-S1720



## ENCAPSULATION SYSTEM FOR ASBESTOS CEMENT SHEETING

### 13 APPENDIX F

#### Document History

Status: Current  
Version: 12  
Date Published: 27-08-2021

Document Version No.:	Date Published:	Summary of Changes:
12	27-08-2021	<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>
11	14-12-2020	<ul style="list-style-type: none"><li>• Addition of Appendix F 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</li><li>• Addition of "People + Product = Protection" to Footer</li></ul>
10	22-05-2007	<ul style="list-style-type: none"><li>• Clarified several technical issues and updated some document references in 2.2</li></ul>
9	30-04-2007	<ul style="list-style-type: none"><li>• Reduced sub-classes to two (1.4)</li><li>• Introduced Interim approval (4.4)</li><li>• Updated internet links (2.2)</li><li>• Clarified test requirements for adhesion to aged asbestos (App D)</li></ul>
8	10-11-2005	<ul style="list-style-type: none"><li>• Incorporated a general update and clarified test requirements</li></ul>
7	03-11-2003	<ul style="list-style-type: none"><li>• Removed reference to GPC and incorporated a general format update</li></ul>
6	14-03-2001	<ul style="list-style-type: none"><li>• Initiated the second stage of the move to new specification numbering with prominence given to the new number (old specification number GPC-C-172)</li></ul>