

Low Flame Spread Coatings

Editorial Note - This version of this specification initiates the second stage of the move to new specification numbering with prominence given to the new number.

APAS documents D177, D178 & D180 provide guidance on the general operation of the Australian Paint Approval Scheme. This specification should be read in conjunction with document D192 "The APAS Approved Product System". APAS approval to this specification may be gained by compliance with the requirements detailed in this specification and those in document D192.

1. Scope

1.1 Description A coating system producing a surface of low flame spread for use in areas where components are to meet the regulatory requirements of AS 1530.3. The coatings are graded into five classes according to their low flame spread characteristics:

Class A Used for example in areas vital for the safety of life, eg. fire escape exits. AS1530.3 maximum allowable indexes: spread of flame "0", smoke developed "2".

Class B Used for example on ceilings in buildings of less critical areas. AS1530.3 maximum allowable indexes: spread of flame "0", smoke developed "3".

Class C Used for example on walls and floors in buildings of less critical areas. AS1530.3 maximum allowable indexes: spread of flame "0", smoke developed "5".

Class D Used for example on walls and floors in still less critical areas.

AS1530.3 maximum allowable indexes: spread of flame "2", smoke developed "5".

Class E Used for example in ships. AS1530.3 maximum allowable indexes: spread of flame "3", smoke developed "3", the sum of ignitability and heat evolved "7".

This specification covers sub-groups:

0064/1 For steel (general purpose)

0064/2 For galvanised steel (general purpose)

0064/3 For concrete & wallboards

0064/4 For timber

1.2 Related Specifications

Specifications that set requirements or provide guidelines for selection of materials, including coated surfaces, on the basis of AS1530.3 include:

- Building Code of Australia
- Specification C1.10 "Early Fire Hazard Indices" [(1990) Amendment No.3]
- Commonwealth Fire Board
- Fire Safety Circular No.73 "Linings for Buildings" [(1982)]
- Department of Transport and Communications, Marine Orders

1.3 Composition Shall not be a Schedule 1 or Schedule 2 paint. (Uniform Paint Standard).

1.4 Uses The products are listed as a system applied to the specified substrate. The system is listed against the most

stringent classification with which it complies.

1.5 Health & Safety Since the paint may contain a flammable solvent, the paint 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.

Painting should not be carried out whilst the building is occupied and exterior doors should be propped open as the vapours are heavier than air. 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.

Read the Material Safety Data Sheet for the product before use and comply with the relevant state regulations.

2. Applicable Documents

Reference is made to:

AS 1530 Methods for fire tests on building materials and structures, Part 3 - Tests for early fire hazard properties of materials.

AS/NZS 1580 Paints and related materials

- Methods of test

available from Standards Australia in all capital cities.

Uniform Paint Standard (Appendix P of the Standard for the Uniform Scheduling of Drugs & Poisons),

available from Government Info Bookstores in all capital cities.

3. Requirements for Product Approval

3.1 Formulation

The batch of the product submitted for the test on which APAS approval was based, shall be known as the approved formulation. It shall be the responsibility of the manufacturer to notify the Executive Officer, APAS, of any changes made to this approved formula and supply evidence to demonstrate why the changes will not degrade the performance of the product.

In all cases involving changes in composition of the binder or significant changes in the pigment composition or other constituents, a further sample shall be submitted for test and the approval will be considered tentative until the results of this latter test become available.

An audit of the formulation may be carried out at any time and is likely to be carried out in cases of user complaints where the cause of the complaint has not been determined. In such cases where a significant formula change has been made without notification, APAS approval shall be cancelled.

3.2 Requirements for Colour Range Approval

The manufacturer shall test, or have tested, against this specification a representative selection of colours from the range they wish to submit for approval. This shall include a colour on each of the tint bases available in the product range. Only if these selected samples conform to the requirements of the specification shall the range be approved.

Generally, the other colours in the range will conform to the specification. However, the manufacturer may notify the Executive Officer, APAS of any colours which may not conform to the detailed requirements of the specification in all respects, and

APAS may then approve the range with or without provisos or exclusions.

3.3 Submission Procedure

The manufacturer shall provide to the Executive Officer, APAS:

3.3.1 An "application for approval" form (D139) showing the formulation, ie. the percent by mass of pigment and the pigment composition, the percent by mass and type of the binder and the percent by mass and type of the volatile portion for each product submitted, and any associated primers/intermediate coats.

3.3.2 Two 500 mL samples and one 150 x 75 mm prepared panel (illustrating the colour, gloss and finish of the product) for each of the products submitted.

3.3.3 A NATA endorsed test report for each product submitted confirming compliance with clause 4.0 of this specification.

3.3.4 A Material Safety Data Sheet for the product prepared in accordance with the "Guidance Note on the Completion of a Material Safety Data Sheet" published by Worksafe Australia.

3.3.5 A data sheet or can label detailing the correct usage of the product.

3.3.6 A colour card demonstrating the colour range available.

3.3.7 The manufacturer's quality control test schedule and limits for the product range.

3.4 Resubmission Procedure

The approval is valid only for the formulation submitted for a period of five years. Following any significant changes to the formulation or at the end of the five year period, a resubmission shall be made in accordance with clause 4 of D192.

4. Tests for Product Approval

Testing shall be performed in accordance with Table 1.

The NATA endorsed test report shall show the result of each test in figures and whether or not the result conforms with the specified requirements.

5. Requirements for the Quality Control of Production

The manufacturers own quality control schedule of tests and limits shall be allowed subject to the approval of the Executive Officer, APAS.

6. Ordering

Orders shall specify "Low Flame Spread Coating to APAS 0064, /1, /2, /3 or /4" or the name of the manufacturer's approved product and the colour required.

Table 1

| TEST | AS/NZS 1580 METHOD | REQUIREMENTS |
|---|----------------------------------|---|
| Preliminary examination | 103.1 | To be readily reincorporated. Shall be free of coarse particles, gel and foreign matter. |
| Density | 202.1 | To be within $\pm 3\%$ of stated value |
| Non volatile content | 301.1 | To be within $\pm 3\%$ of stated value |
| Skin formation | 203.1 (Method B) | No skin |
| Viscosity | 214.1-214.3 (as appropriate) | Within 5% of manufacturer's product specification. |
| Application properties - brushing - rolling - spraying | 205.1 205.3 205.2 or 205.4 | Using the appropriate method, shall show satisfactory application properties and the dry film shall be free of defects. |
| Surface dry condition | 401.1 | Record |
| Hard dry condition (mechanical thumb test) | 401.6 | Maximum 24 hours |
| Finish | 603.1 | Shall be free of coarse particles, wrinkling or orange peel and have a uniform colour and appearance. |
| Reincorporation after storage | 211.2 | To comply with all the preceding requirements after 18 months storage at ambient temperature. |
| Spread of flame, smoke developed, ignitability and heat evolved | AS 1530.3 | In accordance with clause 1.1 of this specification. |