

## 0673P AKZONOBEL IN POWDER COATINGS

### Branded worksection

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### Worksection abstract

This worksection *Template* is applicable to the nominated INTERPON powder coating products aluminium and metal substrates for long term exposure in the exterior environment. It is applicable to the off-site application of thermoset powder coating systems for architectural applications, and to exterior and interior buildings elements. The primary referenced standards are AS 3715, AAMA 2603, AAMA 2604 and AAMA 2605 for aluminium and aluminium alloy substrates and AS 4506 for metal substrates (other than aluminium).

### Guidance text

All text within these boxes is provided as guidance for developing this worksection and should not form part of the final specification. This *Guidance* text may be hidden or deleted from the document using the NATSPEC Toolbar or the hidden text *Hide* and *Delete* functions of your word processing system. For additional information visit FAQs at [www.natspec.com.au](http://www.natspec.com.au).

### Optional style text

Text in this font (blue with a grey background) covers items specified less frequently. It is provided for incorporation into *Normal* style text where it is applicable to a project.

### Related material located elsewhere in NATSPEC

If a listed worksection is not part of your subscription package and you wish to purchase it, contact NATSPEC.

Related material may be found in other worksections. See for example:

- 0183 *Metals and prefinishes.*
- 0432 *Curtain walls.*
- 0434 *Cladding – flat sheets and panels.*
- 0451 *Windows and glazed doors.*
- 0454 *Overhead doors.*
- 0456 *Louvre windows.*
- 0457 *External screens.*
- 0524 *Partitions – glazed.*
- 0525 *Cubicle systems.*
- 0552 *Metalwork – fabricated.*
- 0702 *Mechanical design and install.*
- 0711 *Chillers – combined.*
- 0721 *Packaged air conditioning.*
- 0724 *Air handling plant – combined.*
- 0731 *Fans.*
- 0732 *Air filters.*
- 0745 *Attenuators and acoustic louvres.*
- 0746 *Air grilles.*
- 0761 *Refrigeration.*
- 0762 *Cool rooms.*
- 0781 *Mechanical electrical.*
- 0814 *Hydraulic pumps.*
- 0941 *Switchboards – proprietary.*
- 0942 *Switchboards – custom-built.*

### Documenting this and related work

You may document this and related work as follows:

- Adapt the schedules in **SELECTIONS** to a Finishes schedule to your office documentation policy.

See NATSPEC TECHnote DES 010 on atmospheric corrosivity categories for ferrous products.

The *Normal* style text of this worksection may refer to items as being documented elsewhere in the contract documentation. Make sure they are documented.

Search [acumen.architecture.com.au](http://acumen.architecture.com.au), the Australian Institute of Architects' practice advisory subscription service, for notes on the following:

- Guarantees and warranties.

### Specifying ESD

The following may be specified by including additional text:

- Coating systems where powder overspray is recovered and recycled back into the system.
- Coatings systems using energy efficient resin curing methods to reduce energy requirements, through more efficient curing ovens or thinner film coatings.
- Coatings systems incorporating bio-resins instead of petrochemical-based resins.

Refer to the NATSPEC TECHreport TR 01 on specifying ESD.

## 1 GENERAL

### 1.1 RESPONSIBILITIES

#### General

Requirement: Provide AkzoNobel (INTERPON) powder coating systems to aluminium and metal substrates in the exterior and interior environment, as documented.

*Documented* is defined in *0171 General requirements* as meaning contained in the contract documents.

### 1.2 COMPANY CONTACTS

#### Technical contacts

Website: [www.specifyinterpon.com.au](http://www.specifyinterpon.com.au)

### 1.3 CROSS REFERENCES

#### General

Requirement: Conform to the following:

- *0171 General requirements*.

*0171 General requirements* contains umbrella requirements for all building and services worksections.

List the worksections cross referenced by this worksection. *0171 General requirements* references the *018 Common requirements* subgroup of worksections. It is not necessary to repeat them here. However, you may also wish to direct the contractor to other worksections where there may be work that is closely associated with this work.

NATSPEC uses generic worksection titles, whether or not there are branded equivalents. If you use a branded worksection, change the cross reference here.

### 1.4 STANDARDS

#### General

Application to aluminium and aluminium alloy substrates for architectural applications: To AS 3715, AAMA 2603, AAMA 2604 or AAMA 2605, as appropriate.

Architectural applications include extruded sections for the following:

- Windows and doors.
- Balustrades.
- Other external elements, such as louvres and grilles.

Application to metal substrates (other than aluminium) for architectural applications: To AS 4506.

AS 4506 Table 2.1 includes extruded and sheet aluminium and cast aluminium, zinc, zinc alloys, steel, zinc coated steel, stainless steel, copper and copper alloys, and gives minimum coating thicknesses, required tests and offers examples of appropriate pre-treatment.

### 1.5 MANUFACTURER'S DOCUMENTS

#### Technical manuals

Website: [www.specifyinterpon.com.au](http://www.specifyinterpon.com.au)

Product data sheets:

- INTERPON D1000: [www.specifyinterpon.com.au/downloads](http://www.specifyinterpon.com.au/downloads)
- INTERPON D2015 Ultriva<sup>®</sup>: [www.specifyinterpon.com.au/downloads](http://www.specifyinterpon.com.au/downloads)
- INTERPON D2525: [www.specifyinterpon.com.au/downloads](http://www.specifyinterpon.com.au/downloads)
- INTERPON D3020 Fluoromax<sup>®</sup>: [www.specifyinterpon.com.au/downloads](http://www.specifyinterpon.com.au/downloads)

## 1.6 INTERPRETATION

### Definitions

General: For the purposes of this worksection the following definitions apply:

- Powder coating: The process of preparing, applying, fusing and curing a thermoset powder coating material to a substrate.
- Thermoset powder coating: A mixture of finely ground particles of pigment and resin sprayed on to a prepared substrate. Charged powder particles adhere to electrically grounded surfaces until heated and fused into a smooth coating in a curing oven.
- Polyester powder coating: Uses an enhanced polyester resin.
- Fluoropolymer powder coating: Uses PTFE (poly tetra fluoro ethylene) for aluminium substrates.
- Substrate: The surface to which a material or product is applied.

Edit the **Definitions** subclause to suit the project or delete if not required. List alphabetically.

## 1.7 SUBMISSIONS

### Products and materials

AkzoNobel: Submit the following details at least 3 weeks before fabrication:

- Recommended INTERPON coating system for the nominated service condition.
- Storage and handling recommendations.
- INTERPON product data sheets.
- Maintenance recommendations.

### Samples

Powder coating samples: Submit samples of each coating system on representative substrates, showing surface preparation, colour, gloss level, texture, and physical properties.

### INTERPON powder coated samples schedule

Substrate	Coating system	Colour/texture	Sample size/Number

### Subcontractors

Specialist applicators: Submit name and contact details of proposed specialist applicators as registered by AkzoNobel.

### Warranties

General: Submit AkzoNobel's warranties, as documented.

**Requirement: Submit the following:**

- [complete/delete]

Applicable warranties to AAMA specifications are as follows (refer to **Schedules**):

- Film integrity: 10 years for AAMA 2603, 20 years for AAMA 2604 or 30 years for AAMA 2605.
- Colour integrity: 10 years for AAMA 2603, 15 years for AAMA 2604 or 20 years for AAMA 2605.

Describe the requirements of warranties in **PRODUCTS, EXECUTION** or **SELECTIONS**, as appropriate, and list the submissions required here.

## 2 PRODUCTS

### 2.1 GENERAL

#### Product substitution

Other products: Conform to PRODUCTS, **GENERAL**, **Substitutions** in 0171 General requirements.

The 0171 General requirements clause sets out the submissions required if the contractor proposes alternative products. Refer also to NATSPEC TECHnote GEN 006 for more information on proprietary specification.

### Product identification

General: Marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Quantity.
- Product reference code and batch number.
- Material composition and characteristics such as volatility, flash point, light fastness, colour and pattern.

Edit the list to suit the project or delete if not required.

## 2.2 INTERPON D2015 ULTRIVA<sup>®</sup> AND INTERPON D2525

### General

Proprietary item: INTERPON D2015 Ultriva<sup>®</sup> AND INTERPON D2525

Description: An advanced durability powder coating for architectural aluminium components.

INTERPON D2015 Ultriva<sup>®</sup> & INTERPON D2525 can be applied by manual or automatic electrostatic spray equipment. To ensure the highest consistency of metallic coatings the powder should always be applied from a fluidised hopper. Unused or over-sprayed powder coating can be reclaimed up to a maximum of 20% using suitable equipment and recycled through the coating system. Frequent, small additions of reclaim powder to the hopper are recommended.

### Warranty

Film integrity: 20 years to AAMA 2604.

Colour integrity: 15 years to AAMA 2604.

## 2.3 INTERPON D3020 FLUOROMAX<sup>®</sup>

### General

Proprietary item: INTERPON D3020 Fluoromax<sup>®</sup>

Description: Hyper-durable powder coatings conforming to AAMA 2605.

AkzoNobel's Fluoromax<sup>®</sup> technology uses fluorocarbon polymer chemistry for maximum gloss and colour retention in service, and to provide cosmetic and functional protection. It offers a technically and environmentally benign alternative to liquid PVF2 systems, applied by manual or automatic electrostatic spray equipment.

For solid shades, unused powder can be reclaimed using suitable equipment and recycled through the coating system. For mixed colours and certain special finishes, advice must be sought from AkzoNobel on the suitability of the product for recycling.

### Warranty

Film integrity: 30 years to AAMA 2605.

Colour integrity: 20 years to AAMA 2605.

## 2.4 INTERPON D1000

### General

Proprietary item: INTERPON D1000.

Description: A triglycidylisocyanurate (TGIC) free polyester based powder coating.

INTERPON D1000 is formulated on AkzoNobel's proprietary resin technology for architectural aluminium, galvanized steel and steel components. It is designed for the exterior environment, and offers long term light and weather resistance from a single coat finish on a variety of substrates. It exhibits a tough cured film which provides damage resistance to packaging materials. It incorporates AkzoNobel's patented Particle Management Technology. INTERPON D1000 can be applied by manual or automatic electrostatic spray equipment. Unused or over-sprayed powder coating can be reclaimed and recycled through the coating system.

### Warranty

Film integrity: 10 years to AAMA 2603.

Colour integrity: 10 years to AAMA 2603.

Residential grade powder coating: Building class 1 & 10 only, at least 100 m from waterfront to AS 3715.

### 3 EXECUTION

#### 3.1 PREPARATION

##### Substrate

Substrate pre-treatment:

- Powder coating to aluminium: To AS 3715 Appendix G.
- Powder coating to metals, other than aluminium: To AS 4506 Appendix I.

These standards require that the surface of the substrate receives a pre-treatment and application of a conversion coating prior to the commencement of the powder coating process.

#### 3.2 APPLICATION

##### General

Requirement: Conform to the INTERPON product data sheets.

#### 3.3 COMPLETION

##### Cleaning

Aluminium architectural applications: Clean completed assembly to AS 3715 Appendix C, and perform maintenance during the construction and defects liability period as indicated.

Metal, other than aluminium, architectural applications: Clean completed assembly to AS 4506 Appendix D, and perform maintenance during the construction and defects liability period as indicated.

Cleaning and maintenance is commonly a condition of warranty. Contact the coating manufacturer. These standards recommend various frequency of cleaning varying from monthly to six monthly depending on the local environment. Refer to **SUBMISSIONS** for maintenance recommendations.

### 4 SELECTIONS

**Schedules** are a way of documenting a selection of proprietary or generic products or systems by their properties. Indicate their locations here and/or on the drawings. Refer to NATSPEC TECHnote GEN 024 for guidance on using and editing schedules.

#### 4.1 ALUMINIUM FOR ARCHITECTURAL APPLICATIONS

##### INTERPON product schedule

Property	A1	A2	A3
Proprietary item			
Application			
Location			
Substrate			
Service condition category to AS 3715			
Powder coating performance			
Colour			
Gloss level			

Provide a separate **Schedule** for each proprietary item.

A1, A2, A3: These designate each instance or type or location of the item scheduled. Edit to align with the project's codes or tags.

Edit codes in the **Schedule** to match those on drawings.

Proprietary item:

- INTERPON D2015 Ultriva<sup>®</sup> and INTERPON D2525.
- INTERPON D3020 Fluoromax<sup>®</sup>.

Application: Nominate the particular project item. e.g. Frame extrusions, Louvres, Balustrades, Cladding.

Location: Nominate the drawing reference or location.

Substrate: Extruded aluminium or Cast aluminium. Confirm product suitability with AkzoNobel.

Service condition category to AS 3715: Clause 1.4 describes service condition categories for powder coated aluminium architectural applications based on the severity of the environment. Select from the following atmospheric environments:

- Category 3 – Exterior mild to moderate.
- Category 4 – Tropical.
- Category 5 – Exterior severe.
- Categories 1 and 2 (applicable to interior environments) are not included in AS 3715 (Clause 1.4).

Colour: Consult AkzoNobel's colour charts.

Gloss level: Gloss level: e.g. Texture, Matt, Satin or Gloss. Not all gloss levels are available across the colour ranges.

## 4.2 MISCELLANEOUS ARCHITECTURAL APPLICATIONS

### INTERPON metal substrates product schedule

Property	M1	M2	M3
INTERPON D1000			
Application			
Location			
Substrate			
Service condition category to AS 3715 or AS 4506			
Colour			
Gloss level			

M1, M2, M3: These designate each instance or type or location of the item scheduled. Edit to align with the project's codes or tags.

Edit codes in the **Schedule** to match those on drawings.

Application: Nominate the particular project item. e.g. Frame extrusions, Louvres, Balustrades, Cladding.

Location: Nominate the drawing reference or location.

Substrate: Blasted steel, Hot dip galvanized steel, Extruded aluminium or Cast aluminium. Confirm product suitability with AkzoNobel.

Service condition category to AS 4506: Clause 1.4 specifies six atmospheric classifications based on the severity of the environment. The categories are similar to those defined in AS 4312. Select from the following:

- Category A: Mild interior (Atmospheric classification: Very low).
- Category B: Moderate interior (Atmospheric classification: Low).
- Category C: Mild exterior (1) and Moderate exterior (2) (Atmospheric classification: Medium).
- Category D: Tropical exterior (Atmospheric classification: High marine / industrial).
- Category E to E-1: Industrial, E-M Marine (Atmospheric classification: Very high marine / industrial).
- Category F: Tropical exterior (Inland tropical).

See also NATSPEC TECHnote DES 010 on atmospheric corrosivity categories for ferrous products.

Colour: Consult AkzoNobel's colour charts.

Gloss level: Gloss level: e.g. Texture, Matt, Satin or Gloss. Not all gloss levels are available across the colour ranges.

### REFERENCED DOCUMENTS

#### The following documents are incorporated into this worksection by reference:

AS 3715	2002	Metal finishing - Thermoset powder coating for architectural applications of aluminium and aluminium alloys
AS 4506	2005	Metal finishing - Thermoset powder coatings
AAMA 2603	2017	Voluntary specification, performance requirements and test procedures for pigmented organic coatings on aluminium extrusions and panels
AAMA 2604	2017	Voluntary specification, performance requirements and test procedures for high performance organic coatings on aluminium extrusions and panels
AAMA 2605	2017	Voluntary specification, performance requirements and test procedures for superior performing organic coatings on aluminum extrusions and panels

#### The following documents are mentioned only in the **Guidance** text:

AS 4312	2008	Atmospheric corrosivity zones in Australia
NATSPEC DES 010	2015	Atmospheric corrosivity categories for ferrous products
NATSPEC GEN 006	2007	Product specifying and substitution

NATSPEC GEN 024	2015	Using NATSPEC selections schedules
NATSPEC TR 01	2018	Specifying ESD