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# Operation and Maintenance Manual

Windows and Doors



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## ALUMINIUM AND WINDOW WARRANTY INFORMATION

### The Sub-Contractor warrants as follows: -

- A. THAT the window system including associated fixings shall remain structurally sound for five (5) years so long as the building structure does not sustain any structural movement in excess of movement considered acceptable by the Australian Standards Association **AND FURTHER PROVIDED THAT** in the event of any works, maintenance or cleaning being performed upon or carried out to any of the materials or works performed by the Sub-Contractor and the same are not performed or carried out without the approval of the Sub-Contractor or in accordance with the Sub-Contractor's specifications then this Warranty shall be void.
- B. THAT no flaking will occur in the powder coating which will inhibit the performance of the finished product **PROVIDED THAT** this Warranty shall be limited in scope and extent to the terms or warranties supplied by the manufacturers of materials used as detailed in our correspondence and **FURTHER PROVIDED THAT** in the event of any works, maintenance or cleaning being performed upon or carried out to any of the materials or works performed by the Sub-Contractor and the same are not performed or carried out without the approval of the Sub-Contractor or in accordance with the Sub-Contractor's specifications then this Warranty shall be void.
- C. THAT all window sub frames have been flood tested to test for any water leaks and any waters leaks found have been rectified during construction. Alliance Windows further notes that **SikaFlex Pro Structural silicon's** or **Soudal Multibond** were used to seal window frames and sub frames to the primary structure and that these silicones allow for building movement without cracking and can perform in hot and cold conditions. Alliance Windows notes further that connecting substrates to our frame work needs to be sealed to our system in order to "fully water proof the façade"
- D. The Alliance Window warranty is based on available access to building facade and or canopies. If reasonable access is not available and requires scaffolding, elevated working platform (EWP), and/or stage lifts or similar. It is the responsibility of the property owners and/or body corporate to provide a safe and secure access in compliance with Australian Occupational Health and Safety Act for remedial and warranty works

## **GLASS WARRANTY INFORMATION**

### **1. Warranty Period and Details**

Subject to the provisions of this warranty, Alliance Windows warrants that the product shall, for a period of 5 years from the date of manufacture:

- A. Remain free from visible or visual defects, inclusions or faults which can be seen from a distance of at least 3 metres and which are not within the acceptable limits set out in Alliance Windows' published specifications for the product as in force at the time of sale (a copy of which is available on request)
- B. Remain free from edge separation or delamination (when laminated) other than that which occurs within 6mm of the original glass edges.
- C. Will not suffer peeling or cracking of the coating under normal conditions and usage.

### **2. Warranty Coverage**

This Warranty is to be read in conjunction with and is subject to the Alliance Windows "Terms and Conditions of Sale" in force at the time of sale. In the event that the Product fails to meet the terms of the warranty set out in section 1, and such failure is caused by the direct result of a defect in the material or manufacture of the Product, Alliance Windows will at its option replace the Product or refund the original invoice value of the Product. These remedies are in addition to other rights and remedies of the consumer under a law in relation to the goods or services to which the warranty relates. This Warranty does not exclude, restrict or modify the application of any condition, warranty, guarantee, right or remedy conferred or implied under any provision of any statute including the Competition and Consumer Act 2010 (Cth). This Warranty is provided in addition to other rights and remedies available in respect of the acquisition of products by a "consumer" (as defined in the Competition and Consumer Act 2010 (Cth)).

The following applies in respect of Australian sales to a "Consumer" as set out in the Competition and Consumer Act 2010 (Cth): *Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.*

### 3. Conditions

The Warranty is further subject to the following conditions:

- A. the Warranty applies only to the Product in the size, shape and form supplied by Alliance Windows to the Buyer. Any Product undergoing subsequent cutting, edge working, processing or any further alteration shall be excluded from this Warranty.
- B. the Buyer acknowledges that the Product at the time of delivery was undamaged and free from any defects.
- C. the Product is protected from contact with wet cement, hard foreign objects, metals and materials likely to cause abrasive damage.
- D. the installation, cleaning and maintenance of the Product is entirely in accordance with Alliance Windows' recommendations and any specific correspondence pertaining to this installation, and the glass components are not damaged in any way before or during installation.
- E. the Product is installed in a manner that prevents prolonged contact with moisture at the glass edge.
- F. the Product is not exposed to chemical fumes or gases other than those present in normal clean atmospheric air nor is subject to prolonged exposure to water or moisture, nor is exposed to radiation of any type other than normal sunlight.
- G. the Product is not installed where temperatures greater than 70°C are likely to be experienced.
- H. any sealant used in glazing is compatible with the laminated glass interlayer.

This Warranty does not apply where the Product has been used in any manner not in accordance with the conditions of this Warranty or the manufacturer's instructions, and will not cover any damage to a Product, or any other loss, which may be sustained as a result of the placement of any other materials on the Product by any party other than Alliance Windows or its authorized representative. This includes, but is not limited to, adhesive or security films, hydrophobic coatings, harsh or abrasive cleaners, paints, adhesives, marker pens, signage or advertising materials, or protective materials.

#### **4. Reporting and Verification of Product Failure**

Alliance Windows has the right to establish to its satisfaction that the Product defect or failure is in accordance with the above Warranty and that all of the above conditions have been met.

Any failure of the Product shall be reported immediately to Alliance Windows. If failure of the Product is not notified to Alliance Windows within seven days of failure, the Buyer shall be deemed to have waived all rights under the Warranty (subject always to the full terms and conditions of sale).

Products must not be returned without the prior agreement of Alliance Windows. Viridian may require the Product to be examined in situ to determine the cause of the failure.

All expenses of claiming in respect of this Warranty will be borne by the person making the claim. Alliance Windows may require documentation supporting the claim to be provided.

#### **5. Exclusions**

The Warranty specifically excludes any consequence of glass breakage from any cause other than defective material or manufacture of the Product up to the specified design wind pressure as determined in accordance with Australian Standards AS 1170.2 and AS1288 and specifically excludes any consequential liabilities following installation.

#### **6. Warranty of Replacement Product**

Any replacement Product supplied pursuant to this Warranty shall be warranted only until the expiration of the Warranty period for the original Product.

## GENERAL INFORMATION

### ANODISED FINISHES

#### Description of anodising process

Anodising produces a high-quality finish which resists corrosion, abrasion and exposure to industrial, marine and other severe environments. The choice of either clear or coloured anodic films varying in thickness from 10 to 25 microns, covers a diverse range of applications. The aluminium fabricator, builder or architect can select the natural lustrous clear anodised finish or incorporate any of the wide range of coloured finishes. Anodising is an electrolytic manufacturing process that makes it possible to build a heavy inert oxide film INTO the metal surface.

Aluminium is placed in an electrolyte, (acid/water solution) and an electric current passed through the aluminium which becomes the anode (positive terminal). Under the influence of the electric current, oxygen forms on this anode and immediately produces a porous oxide film on the aluminium surface. Extending the duration of this process increases the thickness of the anodic film.

Once the required thickness of the anodic film is obtained, the aluminium is removed from the electrolyte and "sealed". Sealing is carried out using hot de-ionised water, steam or room temperature nickel fluoride solution. A reaction occurs between the water (or steam) and the porous oxide film. The resultant film is smooth hard and translucent.

The new Anodising Standard (AS1231) was released on 19 July 2000. The standard specifies requirements for anodic oxidation coatings on aluminium and its alloys for general application and for external architectural applications.

#### Clear Anodised

Clear anodised is the original process developed that enhances the surface appearance. Clear anodising is often called natural, satin or silver.

#### Kolona

Ideal for interior applications such as partitioning trim, suspended ceilings, etc. Kolona is an anodic film thickness of 10 microns and should not be used in external applications

## Anolok

A high quality tough finish developed in strict accordance with AS 1231.2000. Optimal film hardness is established to ensure extra-long life and abrasion resistance. As colour is not dependent on the anodic film thickness the most economic film can be specified for the particular application.

The colours for both Kolona and Anolok are produced by the same electrolytic deposition technique. Stable inorganic metal/oxide pigments are “locked-in” at the base of the anodic film prior to “sealing”. Hence, when surface abrasion occurs, the colour is protected by the hard-transparent anodic film above. As the colour is created by inorganic metal/oxide pigments which are permanently stable and unaffected by ultra-violet radiation, the finish is colour fast and will not fade.

As with timber, brick and other traditional building materials, no two pieces of anodised metal look exactly alike. Slight colour variations are inherent in all colour anodising processes.

## **POWDERCOAT FINISHES**

### **Description of powdercoating process**

Aluminium’s good resistance to corrosion and its ability to develop a natural protective oxide surface film, contribute to its outstanding properties as a base for organic coatings.

When the metal is properly cleaned, deoxidised where necessary to remove objectionable residual oxides, then chemically treated to convert its surface to an inert film, it provides an ideal substrate for such finishes.

Thorough cleaning of the aluminium surface and its proper chemical pre-treatment are always of critical importance.

In most cases, a five-step pre-treatment process is used. Firstly, a thorough clean and etch is used to remove such contaminants as coolants, fingerprints and general shop dirt.

After the metal is rinsed, a chromate conversion coating is applied before passing through two more rinsing processes, the last one having the total dissolved solids content adequately controlled so no residues are left on the aluminium.

The metal then passes to the spray booth where banks of electrostatic spray guns reciprocate the full height of the booth. This ensures all critical faces and edges have an even coating of powder. The electrostatic charge serves two purposes:

- A. By charging the powder, it is attracted to the nearest non-charged surface, this being the object to be coated.
- B. It forces the powder particles to repel each other, similar to the like poles of a magnet, thus aiding atomisation.

The excess powder that has not adhered to the substrate is removed from the booth by a sophisticated vacuum system. It is then cleaned and re-used.

The powdercoated metal moves out of the booth into the baking oven where the powder fuses and cures to a durable finish.

Powdercoating produces colours which are consistent, have an excellent finish and the system has superb covering characteristics even on complex shapes such as the extrusions.

The powders are available in two grades, depending upon the application.

- A. Standard polyester powders are the products most commonly used, with a service life of up to 10 years.
- B. High durability polyester powders have higher grade resins and pigments and offer a service life of up to 15 years.
- C. PVF2 fluorocarbon wet paint coatings are available in a limited range of colours and gloss levels. They are also available with a metallic appearance and have a life expectancy in excess of 25 years.

## GLAZING

It is recommended that glass be protected from contamination caused by building materials and methods during construction as this will greatly simplify the glass cleaning task at the end of the project. If the glass is not protected during construction then the glass and frames should be cleaned frequently during construction.

Construction dust, leachate from concrete and rusting from steel can contribute to the formation of mild chemicals, which may stain or otherwise damage the glass. Glass installations which are adjacent to concrete (e.g. concrete slab floors) require extra care and cleaning due to the abrasive nature of concrete dust. Temporary screens should be installed if welding, sandblasting, floor sanding, cuffing or other potentially damaging construction practices takes place near the glass.

Extra care is necessary where high performance reflective glass is installed. The coated surface can be susceptible to stains and scratches and therefore requires vigilance during the full construction process. Some tapes or adhesives can stain or damage glass surfaces. Avoid using such materials unless they are known to be easily removed.

All tradesmen should be advised to be aware of damaging glass and windows and to leave in place any materials protecting the window or glass. Do not store or place other material in contact with the glass. (This can damage the glass or create a heat trap leading to thermal breakage).

## CARE AND MAINTENANCE

### ALUMINIUM PAINTED AND ANODISED

#### GENERAL

The majority of the aluminium supplied for architectural products has its natural erosion resistance further enhanced by additional surface protection. These finishes produce a surface that is both attractive in appearance and low in maintenance. Alliance Windows extrusions and products have been designed and produced using premium grade components and materials to ensure extended product life with minimal maintenance.

#### CARE

The products made from this material being in a finished condition require suitable packing to prevent damage from abrasion during delivery. On site, they should be stored in a clean dry area away from cement, lime, paint, acid etc. During installation, they must be protected from building fall-out such as wet plaster, mortar, paint and welding splatter. Wet plaster and mortar should be removed immediately and the soiled area washed down with clean water. Acid used for cleaning brickwork must be prevented from dripping onto aluminium. Should this occur, the acid must immediately be washed off with clean water.

If strippable coatings or pressure sensitive tapes are used to protect5 exposed surfaces, care must be taken not to damage the finish during their removal. Prolonged exposure to sunlight can make them increasingly difficult to remove.

## **MAINTENANCE**

The basic requirement is to keep the system clean and free from deposits which may hinder the operation and appearance of the system.

Both painted and anodised finished surfaces should be regularly washed down with water to maintain their appearance. The aluminium frames of windows and doors should be washed whenever the glass is cleaned.

Cleaning is desirable if the fine finish of powder-coated aluminium is to be preserved. Deterioration of the coating occurs mainly as a result of grime deposition and attack by contaminated moisture, which in a coastal environment contains chlorides and sulphur compounds. Deposited grime absorbs contaminated moisture like a sponge and holds it against the powder-coated surface; this permits the attack to proceed thereby damaging the coating, which cannot be restored without removal.

The frequency of washing is determined by the desired appearance of the structure and by the local environment but should occur every 6 months. Areas close to the coast or subject to

industrial fall-out and having limited rainfall require more frequent cleaning i.e. every 3 months.

**A cleaning log of frequency and dates must be kept in order for the warranty to remain valid.**

## **CLEANING**

Where regular maintenance does not remove all the dirt which may be adhering to the surface, the following procedure should be followed:

### **Painted Finish**

Wash with warm water and a non-abrasive kitchen detergent, using a soft cloth or a soft bristle brush. To prevent shiny spots do not press too hard and to minimise streaking wash from the bottom up. Rinse with fresh clean water immediately afterwards to remove all traces of detergent.

### **Anodised Finish**

Washing as recommended for paint finish should be first tried. If this does not remove all dirt build-up, a solvent cleaner such as kerosene, turpentine or white spirit may be used. Failing this, mild oil-base abrasive car cleaner or mild soap-based abrasive bath cleaner can be used. Thoroughly rinse and dry with a soft cloth after cleaning.

A coat of liquid wax may be used to enhance the gloss finish.

Do not use highly caustic or highly abrasive cleaners on any type of finish

Do not use solvent cleaners on paint finishes.

### **PRECAUTIONS**

1. To avoid the possibility of corrosion, only aluminium, stainless steel or galvanised steel fasteners should be used for fixing aluminium.
2. In a marine environment, stainless steel fasteners must only be used.
3. Water running off copper or lead roofing or flashing materials may have a corrosive effect on aluminium. Avoid installing copper or copper alloy products if water may run from them onto aluminium.
4. Insulate and protect aluminium for unseasoned timber as the sap can cause stains which are almost impossible to remove.
5. Aluminium products should be isolated from permanent contact with mortar as corrosion can occur. Caulking gaps between frame and wall or aluminium angle trims are preferred for contact rather than the frame member.

### **FLEXIBLE PROFILES**

Flexible profiles such as PVC, Neoprene, Santoprene, EPDM etc. are used for glazing gaskets and weather seals.

Initial installation will be assisted by a smear coating of a lubricating solution such as Dow Corning Emulsion No 8 (available from Ajax Chemicals) and weather seals should be treated with the same solution in service i.e. 6 monthly.

## **HARDWARE**

Operating hardware such as pivots, locks, rollers and rotating handles should be checked for tightness of fixing screws and lubricated six monthly with a spray-on product such as silicon spray

Installation on or close to the coast should be lubricated more frequently.

The bottom rollers are produced from self-lubricating nylon and rotate on stainless steel shoulder pins. As noted previously no additional lubrication is required but it is important **not** to allow the build-up of dirt, which may impede the operation of the roller.

It is recommended that cleaning is carried out using a soft brush and/ or vacuum cleaner at regular intervals of 3 months.

It may be necessary to thoroughly rinse tracks with water after cleaning, especially where crevices are present to ensure removal of all residues.

**A cleaning log of frequency and dates must be kept in order for the warranty to remain valid.**

## **GLAZING**

Glass should be cleaned using only cleaning materials which are free of grit and debris (to avoid scratching and marking of the glass surface). Only detergents and cleaning solutions which are recommended for cleaning glass should be used. Mild detergents are preferable. Abrasive cleaners, powder based cleaners, scouring pads or other harsh materials should not be used to clean windows or other glass products. Do not use cleaners which contain Hydrofluoric or Phosphoric acid as they are corrosive to the glass surface. Do not clean the glass when the glass is hot or in direct sunlight.

Avoid causing extreme temperature changes to the glass as this may lead to thermal fracture of the glass, i.e. do not splash hot water on cold glass or freezing water on hot glass.