

As with all materials exposed to the elements, regular maintenance is required to ensure maximum life and performance from the product. It is in the interests of architects, contractors, owners and building managers to avoid long term damage or deterioration. Powder or coil coated or anodised finishes cannot be repaired to their original properties by the in situ treatments.

### It is important to:

- Recognise the type of finished to be cleaned
- Establish a regular cleaning programme to remove dirt, grime, grit, atmospheric pollutants, and iridescence to keep the finish attractive and provide protection.

## Cleaning Procedure

### Primary Cleaning

- Is the initial cleaning which should occur after installation / completion to remove atmospheric dust, dirt, deposits, cement and mortar deposits, adhesives, protective tapes etc.

### Secondary Cleaning

- Is normally a heavy duty clean on a surface which has not been cleaned for some time. This can be done by companies that specialise in the cleaning of facades, windows, doors, curtain walling etc.
- The most important criteria of an aluminium cleaning agents is that it should not be toxic, have a pH between 4.5 and 9. It must be free of fluorides, chlorides and sulphates.

### Regular Cleaning

- Is the cleaning cycle which should be done on the finished aluminium after primary or secondary cleaning and during the service life of the aluminium. The intervals for each cleaning cycle are dependent on the atmospheric pollutants and local climatic and corrosive conditions. Regular cleaning should be approximately three months at the coast and six to twelve months inland.

## Guidelines for the Cleaning of Aluminium

### DO'S:

- Protect exposed aluminium surfaces until all trades etc. have been completed.
- Any cement or acid should be removed as soon as practical. This will prevent any chemical attack.
- When cleaning, wash down all surfaces with a mild neutral detergent and rinse thoroughly.
- Remove stubborn deposits on ANODISED aluminium with a suitable nylon abrasive cleaning pad or brush, and neutral detergent and then rinse.
- Remove stubborn deposits on POWDER COATED aluminium with a suitable soft cloth or nylon brush, and neutral detergent and then rinse.
- To clean long neglected areas, it is advisable to use proprietary cleaners specifically formulated for aluminium surfaces. These products contain residual waxes etc. and can substantially improve the appearance of worn or weathered surfaces.
- Test any proposed cleaning technique on a small area first.

### DON'TS:

- Don't use wire brushes, steel wool, blades or emery paper. These are NOT recommended under any circumstances.
- Avoid mechanical damage from scaffoldings and bad handling.
- Don't allow cleaning with pool acid on anodised finishes, as it contains chlorides.
- Don't allow cleaning with abrasive pads on powder coated surfaces.
- Don't allow mortar cleaning chemicals to come into contact with powder coated or anodised surfaces, unless the cleaning company gives a warranty for its product.
- Aluminium should not be in direct contact with brass or copper, which may be wetted.
- Don't allow strong alkalis such as caustic soda, lime etc. to come into contact with aluminium or finished aluminium.

## Surface Finishing is an aesthetically pleasing enhancement of the aluminium surface. Aluminium is naturally corrosion resistant in a pH range of 4 - 8.5

### ANODISING:

Anodising is an electrochemical process that interacts with the aluminium surface to thicken and toughen the naturally occurring protective aluminium oxide layer.

It forms a hard wearing, natural or coloured (bronze to black) film up to 25 microns thick that protects against atmospheric effects and enhances wear resistance.

Whilst other anodising colours (e.g. metallic red, blue, etc) are available for items such as picture frames, these surface finishes are not hard wearing and are not suited to external applications. They are purely decorative.

SANS 999 is the local architectural anodising standard. It recommends anodising thicknesses for internal and external applications in various geographic regions in South Africa.

#### Recommended anodising thicknesses:

##### External

- Coastal - up to 20km from shore line - 25 micron
- Inland - 15 micron
- High corrosion areas - 25 micron

##### Internal

- 15 Micron is generally suitable
- The anodising process should comply with SANS 999. Customers are advised to specify the geographic location to which the finished product will be exposed. Performance guarantees related to the application are available from the Surface Finisher (Applicator). The use of accredited Surface Finishers is recommended.

### DIY QUALITY CHECKS:

For fabricators and installers to check finish quality if necessary

- Check anodising sealing quality by marking with a Koki pen. Wash off with Acetone - there should be no residue stain if the surface is correctly sealed.
- Check anodising micron thickness with an Elcometer (available from your anodiser).
- Colour coding - the anodising thickness is shown on the protective wrapping or label.
- Check fabricator invoice to ensure that the anodising thickness is listed, appropriate and guaranteed.

### POWDER COATING:

Powder coating requires three interlinked processes:

1. A chemical pretreatment process.
2. Spraying electrostatically charged organic powder onto the aluminium profile.
3. Heating the surface in an oven to melt, cure and bond the powder to the pre-prepared surface.

A wide range of colours are available in various textures. The base colours are often easier to match when renovations are considered.

SANS 1796 is the local Powder Coating application standard. It recommends powder coating thicknesses for internal and external applications in various geographic regions in South Africa.

#### Recommended coating thicknesses:

##### External and Internal

- Up to 5 km from the shore line - 60 micron thickness
- For high corrosion areas, generally within 5km of the coast, a single powder coat layer will often not achieve a 15 year lifespan. An epoxy or 5-8 micron unsealed anodising intermediate treatment is recommended. For two coat systems the minimum combined thickness is 110 microns. The need for additional protection is assessed on a case by case basis.
- Coatings should be done in accordance with SANS 1796 using powders in accordance with SANS 1578.
- Customers are advised to specify the standard, the location and insist on a certificate and guarantee from the Surface Finisher (Applicator). It is recommended to use accredited Surface Finishers.

### DIY QUALITY CHECKS:

For fabricators and installers to check finish quality if necessary

- Check that powder coated surfaces are complete, uniformly coloured, of even gloss and smooth to the touch.
- Check that powder coated surfaces do not include bubbles or gaps.
- Check that the powder manufacturer's guarantee applies (based on approved applicator).