Easy Guide to Aluminium Surface Finishing

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) 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

1. 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.
2. Check anodising micron thickness with an Elcometer (available from your anodiser).
3. Colour coding - the anodising thickness is shown on the protective wrapping or label.
4. Check fabricator invoice to ensure that the anodising thickness is listed, appropriate and guaranteed.

For more information visit us online or contact us.

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Leading Aluminium
SUPPLIER | FABRICATOR | SURFACE FINISHER

Content Source: Aluminium Federation of South Africa. www.afsa.org.za

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Powder Coating

Powder coating requires three interlinked processes:

1. A chemical pre-treatment 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 & 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). The use of accredited surface finishers is recommended.

DIY Quality Checks

For fabricators and installers to check finish quality if necessary

1 Check that powder coated surfaces are complete, uniformly coloured, of even gloss and smooth to the touch.

2 Check that powder coated surfaces do not include bubbles or gaps.

3 Check that the powder manufacturer's guarantee applies (based on approved applicator).