INDUSTRY STANDARD

Powder Coating Surface Finishing
Appearance In-Situ
1 Scope
This standard provides guidance on the in-situ inspection of the surface finish of powder coated extrusions for architectural applications. It gives an introduction and guidance on the assessment of significant surfaces with respect to surface defects in the coating system.

2 Referenced Documents
The following documents are referred to in this standard:

- AS1580.481.0 – 2003
  Paints and related materials – Methods of test
  Part 481.0: Coatings – Guide to assessing paint systems exposed to weathering conditions

- AS3715 – 2002
  Metal Finishing – Thermoset powder coatings for architectural applications of aluminium and aluminium alloys.

- Revision of 1st ed – Dec 1997
  The Aluminium Development Council of Australia – Aluminium Standards and Data – Wrought Products

  Specifications for a quality label for paint, lacquer and powder coatings on aluminium for architectural applications.
3 Definitions
As per AS3715 – 2002:

3.1 Significant surface
That part of the surface which is required to be covered by the coating, and which is essential to the appearance and serviceability of the item. The significant surface does not include edges, deep recesses and secondary surfaces.

As per The Aluminium Development Council of Australia – Aluminium Standards and Data – Wrought Products:

3.2 Architectural surface
A controlled finish of substantially uniform appearance; buffing will not produce a die line-free finish unless a preliminary grinding or sanding operation is employed.

Note: This finish is normally satisfactory for exposed surfaces of any architectural application and is applied to those surfaces of each shape nominated by the purchaser or proprietary systems supplier.

3.3 Lux
A measurement of luminous intensity from a light source. The following table represents the illumination from common sources:

<table>
<thead>
<tr>
<th>Illuminance</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 lux</td>
<td>Family living room</td>
</tr>
<tr>
<td>80 lux</td>
<td>Hallway / toilet</td>
</tr>
<tr>
<td>100 lux</td>
<td>Very dark overcast day</td>
</tr>
<tr>
<td>320–500 lux</td>
<td>Office lighting</td>
</tr>
<tr>
<td>400 lux</td>
<td>Sunrise or sunset on a clear day.</td>
</tr>
<tr>
<td>1,000 lux</td>
<td>Overcast day; typical TV studio lighting</td>
</tr>
<tr>
<td>10,000–25,000 lux</td>
<td>Full daylight (not direct sun)</td>
</tr>
<tr>
<td>32,000–130,000 lux</td>
<td>Direct sunlight</td>
</tr>
</tbody>
</table>

3.4 Significant Defect
A significant defect is a defect which is visible from 2.0m and has an outside diameter from 1.5mm.

3.5 Minor Defect
A minor defect may be visible from 2.0m and has an outside diameter of up to and including 1.5mm.

3.6 Possible Defects
Possible defects that may be seen in situ include: inclusions (foreign particles in the powder), contamination (different colour powder in the surface finish), excessive roughness, craters, dull spots, scratches or any other unacceptable flaws.
4 Viewing Conditions
For all viewing situations a minimum of 2.0 metres shall apply provided that further distance be allowed commensurate with the use of the product and its in-situ viewing distances.

![Diagram showing viewing conditions]

5 Surface Classification
All extruded aluminum profiles shall be classified according to the importance of the visibly seen surfaces.

The **Primary** or A surface shall be deemed the significant surface as defined in AS3715 – 2002.

The **Secondary** or B surface shall be defined as surfaces normally only seen when a window or door is open (e.g. inside the glazing pocket of the window frame when a sash window is open).

The **Non-Visual** or C surface shall be defined as surfaces unseen when the window or door is installed.
6 Appearance Standard

When viewed as per conditions listed in section 4:

A Surface: (Primary Surface)

From 2.0 metres the coating on the primary internal & external surfaces shall be of uniform appearance, colour, and texture, and be free from significant defects, but may contain 1 minor defect (as defined in section 3) for every 1 metre of extruded length.

B Surface: (Secondary Surface)

Secondary surfaces are checked for acceptable powder coat coverage and are free from significant defects but may contain several minor defects. The coating requirement for secondary surfaces is for a light coverage only where possible. It is not possible to specify a required powder thickness in these areas and no guarantee of powder coverage shall be provided.

C Surface: (Non-Visual Surface)

These are non-visual surfaces for which there is no standard or requirements.