

Window Association
of New Zealand Inc

**SURFACE
FINISHERS**

WANZ STANDARD

Powder Coating Surface Finishing – Appearance In Situ

CONTENTS

1	Scope.....	3
2	Referenced Documents.....	3
3	Definitions.....	4
3.1	Significant Surface.....	4
3.2	Architectural Surface.....	4
3.3	Lux.....	4
3.4	Significant Defect.....	4
3.5	Minor Defect.....	4
3.6	Possible Defects.....	4
4	Viewing Conditions.....	5
5	Surface Classification.....	5
6	Appearance Standard	6

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 1 st ed – Dec 1997 | The Aluminium Development Council of Australia – Aluminium Standards and Data – Wrought Products |
| Qualicoat – 12 TH Edition Sept 2009 | 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:

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

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

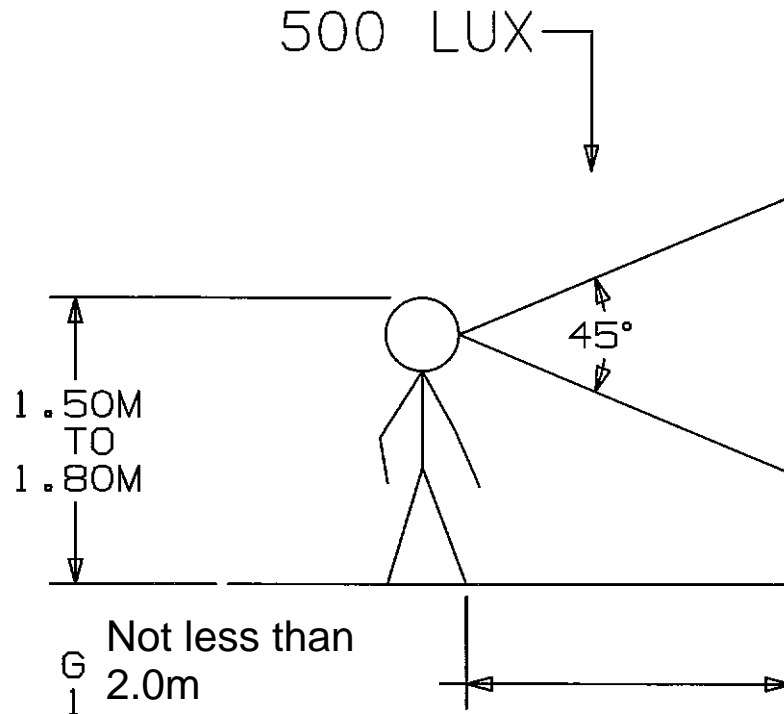
A minor defect may be visible from 2.0m and has an outside diameter of up to and including 1.5mm.

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.



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.

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