

## - Powder coating - Quality & inspection

- Inspection of sections as per SANS 1796 Section 4.5.1
  - For inspection of already installed powder-coated sections, a viewing distance of 3 metres is recommended.
  - Products that have not been installed should be viewed under diffused light at an oblique angle of 60° from a distance of 1 metre. The following surface imperfections are allowed. (Table 1 Section 4.5.1 in SANS 1796:2010 Edition 3)
  - Significant surface - That area of the coated article on which the coating is essential for serviceability or appearance
  - Critical surface - That area of the coated article to which flush glazing may be applied as specified by the purchaser

<b>Table 1 - Typical acceptable surface imperfections</b>		
<b>Defects</b>	<b>Requirements</b>	<b>Requirements for critical surfaces</b>
Blisters	None	None
Embedded foreign matter	Very slight, tolerated on unseen areas	None
Fish eyes	None	None
Pinholes	None	None
Incomplete hiding	Not allowed on significant surfaces	Shall not affect structural adhesion of silicones
Orange peel	Very slight, tolerated on unseen areas	None
Sagging/run	None	None
Dull spots	None	None
Scratches	None through to base metal	Shall not affect structural adhesion of silicones

- When the thickness of the coating as required is measured in accordance with Section 6.2 in SANS1796:2010 Edition 3, the average measurement value shall be at least as given in table 3 within a set of five readings. **A single reading only** may be less than 100% but shall be more than 80% of the specified typical film thickness value.

<b>Table 3 - Coating thickness requirements</b>	
<b>1</b>	<b>2</b>
<b>Powder</b>	<b>Film thickness</b> typical $\mu\text{m}^a$
Single - coat powder	60
Two-coat powder system (primer & top coat)	110
<sup>a</sup> See Annex F.	

- Examples (2)
  - Measured values  $\mu\text{m}$  : 82, 68, 75, 93, 86
  - Average : 81
  - Sample : Ok
  
  - Measured values  $\mu\text{m}$ : 75, 68, 63, 66, 56
  - Average : 66
  - Sample : Sample ok because the average coating thickness is more than 60 $\mu\text{m}$  and because no value measured is less than 48 $\mu\text{m}$  (80% of 60 $\mu\text{m}$ )

## - Anodising coating - Quality & inspection

- Inspection of Sections as per SANS 999 Annex C.2
  - When viewed from a distance of at least 3 metres, semi-finished products in this category will have a substantially uniform appearance after anodising.  
Some variation in appearance and colour can be expected after anodising, between different batches of the same material and between different forms of the same material. These need not in any way affect the quality of the coating. (For more information, please see Annex A2(i) SANS 999)
- Thickness of coatings
  - The average coating thickness and local coating thickness on each significant surface, determined in accordance with 5.2.1(b) shall conform to Table 1 Section 4.3 SANS 999:2007 appropriate to the grade of coating required.

<b>1</b>	<b>2</b>	<b>3</b>
<b>Grade of coating</b>	<b>Average thickness, min, <math>\mu\text{m}</math></b>	<b>Local thickness, min, <math>\mu\text{m}</math></b>
AA15	15	13
AA20	20	18
AA25	25	23