



Testing Of Supplied Powder Coated Parts to AS3715:2002

TSR 160655

Account Manager Jacky Chan

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Customer SOUTHERN POWDER COATERS

Aim To determine the corrosion resistance performance of the supplied parts in Acetic Acid Salt Spray and Humidity for approximately 1000 hours according to the requirements in AS3715:2002. Determine also other coating properties including film build, cure/solvent resistance, initial adhesion and Permeability.

Method **Refer to AS 3715:2002 & AS 1580:2004**
 AS 2331.3.2: 2001 Method 3.2: Corrosion and related property tests – Acetic Acid Salt Spray test (AASS).
 AS 1580: 2004 Method 452.1: Resistance to humidity under condensation conditions.
 AS 1580: 2004 Method 408.4: Adhesion (cross-cut)
 AS 3715: 2002 Appendix J: Water Permeability Test

Component/s 3 x green-grey powder coated aluminium extrusion pieces

| Film Properties Prior to Exposure | | | | |
|-----------------------------------|--|---|----------------------------------|------|
| Part Reference/Test | Film Build Range: 50 - 110µm Recommended: 80µm | Solvent Resistance/Cure | Adhesion (Spec. Rating 1 max) | |
| 160655/ 1 - AASS | 53 – 89 microns | Slight colour transfer & softening - Pass | Rating 0 | Pass |
| 160655/ 2 - Humidity | 86 – 100 microns | Slight colour transfer & softening - Pass | Rating 0 | Pass |
| 160655/3 - Permeability | 67 – 90 microns | Slight colour transfer & softening - Pass | Rating 0 | Pass |

Pre-treatment Chrome Chromate

Powder Duralloy Anotec Dark Grey Matt 272-51275

Results

160655 / 3 - Permeability

| Test | Description | Specification | Result | Pass/Fail |
|--------------------|-------------------------|-----------------------|----------|-----------|
| Water Permeability | Adhesion - Vapour Phase | Classification 0 max. | Rating 0 | Pass |
| | Adhesion - Water Phase | Classification 0 max. | Rating 0 | Pass |

160655 / 1 - AASS

| Test | Description | Specification | Result | Pass/Fail |
|--|--|--|--------------------------------|-----------|
| Corrosion Resistance 1023 hrs Acetic Acid Salt Spray | Adhesion | Classification 1 max. | 0 | Pass |
| | Blistering – general area | Size (S) 2, Density (D) 2 max. | 0 | Pass |
| | Blistering – scribed area | Size (S) 2, Density (D) 2 max. | 0 | Pass |
| | Corrosion – general area | No visible corrosion | No visible corrosion | Pass |
| | Corrosion - filiform Mean Creep from scribe | Note severity & distance from scribe &/or panel edge Mean Creep - 2 mm max. | No filiform corrosion 0 | Pass |

160655 / 2 - Humidity

| Test | Description | Specification | Result | Pass/Fail |
|--|---------------------------|------------------------|----------------------|-----------|
| Approx. 1000 hrs Humidity Resistance | Adhesion | Classification 1 max. | 0 | Pass |
| | Blistering – general area | No visible blisters | 0 | Pass |
| | Blistering – scribed area | No visible blisters | 0 | Pass |
| | Corrosion – general area | No visible corrosion | No visible corrosion | Pass |
| | Mean Creep from scribe | Mean Creep - 1 mm max. | 0 | Pass |

Conclusion:

The results for initial property tests show that all submitted parts tested passed solvent resistance/cure, adhesion and their film builds were within the recommend range.

Parts 160655/1 passed to the Standard after 1023 hours Acetic Acid Salt Spray, developing no surface defects over the exposure period.

Part 160655/2 passed to the Standard after 1000 hours Humidity exposure, developing no surface defects over this period.

Part 160655/3 passed adhesion in both the water and vapour phases and therefore passes to the requirements of the Standard.

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