

Findings from this assessment

Implementation of the BS 3987:1991

BSI has witnessed the new production facility during the commissioning process with regards to the requirements of the BS 3987:1991 and has seen no deviations. Compliance of the production facility with the requirements of the BS 3987:1991 was demonstrated.

Process control:

Witnessed batch:

Positions 50 & 10, E6 Old copper (E6-ALUOLDCOPPER 01-25) - Workorder 2304073 – Workorder F481 & F482) – client: Maple Sunscreening Ltd (Project R&D Grindley Hill).

Process conditions:

Position 4: Alkaline degreasing – 40 °C - Time performance: 958 secs (Recipe secs: 480)
Position 5: Rinse – Time performance: 8 secs (Recipe secs: 1)
Position 7: Etching – 61 °C - Time performance: 748 secs (Recipe secs: 720)
Position 8: Semi static - warm rinsing - 23 °C - Time performance: 121 secs (Recipe secs: 120)
Position 9: Rinsing - Time performance: 11 secs (Recipe secs: 1)
Position 10: Cascade rinsing - Time performance: 10 secs (Recipe secs: 1)
Position 15: Neutralization - Time performance: 15 secs (Recipe secs: 10)
Position 17: Spray cascade rinse - Time performance: 154 secs (Recipe secs: 1)
Position 18: Anodising – 16 °C - Time performance: 3,750 (Recipe secs: 3600) - 18,5 V
Position 19: Rinsing – Time performance: 128 (Recipe secs: 120)
Position 23: Electrocolor TI – 22 °C - Time performance: 275
Position 25: Electrocolor CO – 21 °C - Time performance: 212
Position 28: Demi Rinsing – Time performance: 9 (Recipe secs: 1)
Position 36: Demi rinsing – Time performance: 35 (Recipe secs: 1)
Position 37: Hot seal – 91 °C Time performance: 1831 (Recipe time: 1800)
Position 39: Rinse hot seal – 66 °C Time performance: 25 (Recipe time: 1)

Test Results:

Thickness measures:

batch 10 (12 profiles): between 28.2 µm and 29.6 µm. All measured thicknesses above 25 µm.
batch 50 (12 profiles): between 28.3 µm and 30.2 µm. All measured thicknesses above 25 µm.
Visual inspection: okay

Sanding tests

Sanding test performed on edges of profiles:

batch 10 (12 profiles): 10 times sanding: no visible degradation of surface, sanding paper not colored (OK)

batch 50 (12 profiles): 10 times sanding: no visible degradation of surface, sanding paper not colored (OK)

batch 10 (12 profiles): 50 times sanding: from 28.2 to 27.0 µm - loss of thickness 1.2 µm (OK)

batch 50 (12 profiles): 50 times sanding: from 29.1 to 27.8 µm - loss of thickness 1.2 µm (OK)

Ultrasonic measurements calibrated with Anotest reference (Calibrated by Konica Minolta 12/23)

Color samples:

Min & Plus samples project b65446/ R&D Grindley Hill: result: OK

batch 10 (12 profiles): color measurements: L: 58.30, a: 5.34, b: 13.67 (all OK)

batch 50 (12 profiles): color measurements (L: 58.30 (OK), a: 5.65 (above 5.58), b: 13.58 (OK))

Surface abrasion resistance

Performed 05/06/2023: total load 21,2 – 26,4 (charges: 2304676 – Kawneer; 2304624 – Perfox; 23034786 – Alukabond; 2304628 Hydro Business Solutions; 2304207 – Murus; 2303046046 – 3Acomposiet).

Chapter of the BS 3987:1991	Audit result
3 Visual inspection after anodizing	✓
4 Colour	✓
5 Thickness	✓
6 Sealing	✓
7 Cold impregnation	✓
8 Surface abrasion resistance	✓
Appendix A Guidance on information to be supplied	✓
Appendix B Guidance on properties affecting coating performance 5	✓
Appendix C Choice of aluminium for anodizing	✓
Appendix D Handling and temporary protection during transportation and installation	✓
Appendix E Maintenance of anodized aluminium	✓