



TECHNICAL DATA SHEET

APL / TDS / 005 / Rev.08 | Date 18.07.2026



ALUCOPANEL® A1

EUROCLASS A1 in accordance with BS EN 13501-1:2018

| Physical Properties                                              |                              |                              |                                 |
|------------------------------------------------------------------|------------------------------|------------------------------|---------------------------------|
|                                                                  | Test Standard                | Tolerance                    | Result                          |
| Panel Thickness                                                  | Calibrated Caliper           | (±) 0.2 mm                   | 4.0 mm                          |
| Weight of the Panel                                              | Calibrated weighing device   | ± 0.5 kg/m²                  | 8.0kg/m²                        |
| Standard Width                                                   | ...                          | (±) 2 mm                     | 1000, 1250, 1500, up to 2000 mm |
| Length                                                           | ...                          | (±) 4 mm                     | up to 6000 mm<br>Max. 8000 mm   |
| Skin Thickness (Top / Bottom)                                    | Caliper                      | (±) 0.05 mm                  | 0.50 mm                         |
| Fire Performance                                                 |                              |                              |                                 |
|                                                                  | Test Standard                | Requirement                  | Result / Certificate Ref. No.   |
| Reaction to Fire Classification                                  | EN 13501-1                   | Class A1                     | TBW 0300647                     |
| Assessment Parameter                                             | Requirement                  | Result                       | Status                          |
| Gross Heat of Combustion<br>(Whole Product – 4mm ACP) (ISO 1716) | ≤ 3.0 MJ/kg                  | 0.4 MJ/kg                    | PASS                            |
| Gross Heat of Combustion<br>(Core Material – 3mm) (ISO 1716)     | Non-combustible mineral core | –2.3 MJ/kg                   | PASS                            |
| Sustained Flaming<br>(ISO 1182)                                  | No sustained flaming         | 0 Seconds                    | PASS                            |
| Furnace Temperature Rise<br>(ISO 1182)                           | ≤ 30°C                       | 14°C                         | PASS                            |
| Mass Loss<br>(ISO 1182)                                          | ≤ 50%                        | 33%                          | PASS                            |
| FIGRA <sub>0.2MJ</sub><br>(EN 13823)                             | ≤ 20 W/s for A1              | 0 W/s                        | PASS                            |
| THR <sub>600s</sub><br>(EN 13823)                                | ≤ 4 MJ for A1                | 0.4 MJ                       | PASS                            |
| Smoke Production<br>(EN 13823)                                   | Very limited                 | SMOGR <sub>A</sub> ≤ 30m²/s² | PASS                            |
| Flaming Droplets<br>(EN 13823)                                   | None permitted               | None                         | PASS                            |

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| Fire Performance                                                                       |  |                                                   |                        |                                                                                                                                               |                |
|----------------------------------------------------------------------------------------|--|---------------------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|                                                                                        |  | Test Standard                                     | Requirement            | Result / Certificate Ref. No.                                                                                                                 |                |
| Self Ignition Temperature (CORE)                                                       |  | ASTM D 1929                                       | Not less than 343°C    | SIT: > 750°C<br>FIT: > 750°C                                                                                                                  |                |
| Self Ignition Temperature (ACP)                                                        |  | ASTM D 1929                                       | Not less than 343°C    | SIT: > 525°C<br>FIT: > 524°C                                                                                                                  |                |
| Full-scale fire performance assessment of external cladding systems                    |  | BS 8414<br>Test and Certification                 | ...                    | In Progress                                                                                                                                   |                |
| Exterior Wall Cladding System                                                          |  | NFPA 285                                          | Pass as per standard   | TBW                                                                                                                                           | CAVITY (mm)    |
|                                                                                        |  |                                                   |                        | TBW0300672                                                                                                                                    | 300            |
| Roof Covering Assembly with Mineral Wool Insulation (45–70° from the horizontal plane) |  | EN 13501–5                                        | B <sub>ROOF</sub> (t4) | TBW0300736<br>With thermal insulation fixed direct at rear face of ACP, on Alum structure with 300mm Void ideal for Continuous Roof Covering. |                |
| Roof Covering Assembly (0–10° from the horizontal plane)                               |  | EN 13501–5                                        | B <sub>ROOF</sub> (t4) | TBW0300737<br>without any packing material on Alum structure with 300mm Void ideal for canopies and feature.                                  |                |
| Structural Design                                                                      |  | Test Standard                                     |                        |                                                                                                                                               | Current Status |
| BS EN 1990:2002 + A1:2005                                                              |  | Eurocode Basis of Structural Design               |                        |                                                                                                                                               | In Progress    |
| BS EN 1991–1–4:2005 + A1:2010                                                          |  | Eurocode 1 Actions on Structures (Wind Actions)   |                        |                                                                                                                                               | In Progress    |
| UK National Annex to BS EN 1990                                                        |  | Structural Design National Annex (United Kingdom) |                        |                                                                                                                                               | In Progress    |
| UK National Annex to BS EN 1990                                                        |  | Wind Actions National Annex (United Kingdom)      |                        |                                                                                                                                               | In Progress    |

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| CWCT Performance                                   |                                                                                                                     |                                                                                                                               |                                             |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
|                                                    | Test Standard                                                                                                       | Result / Report No.                                                                                                           |                                             |
| Weathertightness testing for rainscreen            | CWCT                                                                                                                | N950-23-18492                                                                                                                 |                                             |
| Assessment Parameter                               | Requirement                                                                                                         | Result                                                                                                                        | Status                                      |
| Wind Resistance – Serviceability (CWCT)            | No permanent damage after testing at +1200 Pa and -1200 Pa.                                                         | No damage on the test sample was observed                                                                                     | Pass                                        |
|                                                    | Within the permissible deflection limits (L/90) when ±1200 Pa is applied<br>Measured Deflection < 9.8mm             | Measured Deflection: 7.8 and -6.0                                                                                             | Pass                                        |
| Wind Resistance – Safety (CWCT)                    | No permanent damage after testing at +1800 Pa and -1800 Pa.                                                         | No damage on the test sample was observed                                                                                     | Pass                                        |
|                                                    | Within the permissible residual deflection (L/500) when ±1800 Pa is applied<br>Measured Residual Deflection < 1.8mm | Measured Residual Deflection: 0.4 and -0.2                                                                                    | Pass                                        |
| Watertightness – Dynamic (CWCT)                    | No water penetration to the internal face of the sample at 600 Pa throughout testing.                               | No water penetration was observed throughout the test                                                                         | Pass                                        |
| Impact Resistance – Soft and Hard Body (CWCT TN76) | Serviceability: Class 1 to Class 5<br>Safety: Negligible, Low, Moderate, High Risk                                  | Serviceability: Class 2 – only slight cosmetic damage<br>Safety : Negligible Risk – no damage affecting structural integrity. | Pass                                        |
| Controlled Dismantle (CWCT)                        | No water penetration, no concealed damage, and no discrepancies from the approved drawings after dismantling        | During dismantling, no water penetration or discrepancies from the drawings were found                                        | Pass                                        |
| Coil Specification (Top And Bottom Coil)           |                                                                                                                     |                                                                                                                               |                                             |
|                                                    | Test Standard                                                                                                       | Requirement                                                                                                                   | Result                                      |
| Alloy / Temper                                     | ASTM B209                                                                                                           | ...                                                                                                                           | 3105 – H16      5005 – H16                  |
| Aluminium and aluminium alloys                     | BS EN 573-3:2019                                                                                                    | ...                                                                                                                           | In Progress                                 |
| Chemical composition and form of wrought products  |                                                                                                                     |                                                                                                                               |                                             |
| Tensile Strength                                   | ASTM E8                                                                                                             | 172 – 221 N/mm <sup>2</sup>                                                                                                   | 196 N/mm <sup>2</sup> 188 N/mm <sup>2</sup> |
| Yield Strength                                     | ASTM E8                                                                                                             | Min. 145 N/mm <sup>2</sup>                                                                                                    | 190 N/mm <sup>2</sup> 183 N/mm <sup>2</sup> |
| Elongation                                         | ASTM E8                                                                                                             | Min. 1.0 %                                                                                                                    | 4.2 %      3.3 %                            |
| Modulus of Elasticity                              | ASTM E111                                                                                                           | Measure Value                                                                                                                 |                                             |

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| Mechanical Properties                                                        |                                                                                                                                                                 |                  |                |
|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------|
|                                                                              |                                                                                                                                                                 | Requirement      | Result         |
| Peel off Strength                                                            | ASTM D 903                                                                                                                                                      | 10 kg / 25 mm    | 17.35 kg/25 mm |
| Climbing Drum Peel                                                           | ASTM D1781                                                                                                                                                      | measure value    | 130.8 N.mm/mm  |
| Shear Strength                                                               | ASTM C 273                                                                                                                                                      | 3.2 MPa          | 3.35 Mpa       |
| Tensile Strength                                                             | ASTM E 08                                                                                                                                                       | > 35 MPa for 4mm | 44.48 Mpa      |
| 0.2% Proof stress                                                            | ASTM E8                                                                                                                                                         | measure value    | 49.0 Mpa       |
| Punch Shear Test                                                             | ASTM D 732                                                                                                                                                      | 20 MPa           | 23.77 Mpa      |
| Modulus of Elasticity                                                        | ISO178-2019                                                                                                                                                     | measure value    | 26,281 Mpa     |
| Flexural Strength                                                            | ISO178-2019                                                                                                                                                     | measure value    | 163.4 Mpa      |
| CE Marking                                                                   |                                                                                                                                                                 | Test Standard    | Current Status |
| CE Certification Product                                                     | EAD 210046-01-1201 Thin metal composite sheets                                                                                                                  |                  | In Progress    |
| Test and Certification                                                       |                                                                                                                                                                 |                  |                |
| Tensile Performance<br>- Core Included                                       | Tensile strength, yield strength, elongation, tensile modulus of elasticity of the complete ACP, including the core BWR4 Cl. 2.2.3 (EN ISO 527-1 and 2)         |                  | In Progress    |
| Tensile Performance<br>- Without core                                        | Tensile strength, yield strength, elongation, and tensile modulus of elasticity of the aluminium skin material without the core BWR4 Cl. 2.2.3 (EN ISO 527-1&2) |                  | In Progress    |
| Flexural Performance<br>- Bending performance in four-point test arrangement | Bending strength and flexural behaviour of the ACP under a four-point bending load BWR4 Cl. 2.2.5 (EN ISO 527-1)                                                |                  | In Progress    |
| Shear Performance -<br>Shear strength, shear modulus of elasticity           | Shear strength and shear modulus of elasticity of the ACP core/composite structure BWR4 Cl. 2.2.6 (EN ISO 527-1)                                                |                  | In Progress    |
| Torque Peel Strength                                                         | Strength of the bond between the aluminium skin and the core by applying a rotational/peeling force BWR4 Cl. 2.2.7 (ASTM D1781-98)                              |                  | In Progress    |

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|                                                                                                              |                                                                                                                                                                           |             |
|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Hard body impact resistance                                                                                  | Resistance of the ACP to impact from a hard object<br>BWR4 Cl. 2.2.8 (ISO 7892)                                                                                           | In Progress |
| Bending Strength after Hygrothermal cycles                                                                   | Assesses the effect of hygrothermal ageing on the panel's flexural performance Aspects of durability<br>Cl. 2.2.11.1 (EOTA TR 038, ISO 554)                               | In Progress |
| Torque Peel Strength and Bending Strength after immersion for 6 hours in boiling water at 90 °C              | Resistance to moisture and elevated -temperature degradation Aspects of durability<br>Cl. 2.2.11.2 (EOTA TR 038, ISO 554)                                                 | In Progress |
| Torque Peel Strength and Bending Strength after immersion for 500 hours in water at 20 °C                    | Resistance of the ACP to long-term water exposure aspects of durability<br>Cl. 2.2.11.3 (EOTA TR 038, ISO 554)                                                            | In Progress |
| Torque Peel Strength and Bending Strength after freeze-thaw cycles                                           | Resistance to degradation caused by cyclic temperature changes and moisture Aspects of durability<br>Cl. 2.2.11.4 (EOTA TR 038, ISO 554)<br>BWR4 Cl. 2.2.5 (EN ISO 527-1) | In Progress |
| Torque Peel Strength and Bending Strength after Long-term exposure to heat (2500 hours at hot dry air 80 °C) | Resistance of the ACP to thermal ageing and heat-induced degradation Aspects of durability<br>Cl. 2.2.11.5 (EOTA TR 038, ISO 554)                                         | In Progress |
| CE Certification Scope Extension                                                                             | EAD 090062-00-0404 : 2018 Kits for external wall claddings mechanically fixed                                                                                             | In Progress |
| BBA Agrément Certification                                                                                   | British Board of Agrément product certification for ALUCOPANEL® A1                                                                                                        | In Progress |
| EAD 090062-00-0404:2018                                                                                      | European Assessment Document for mechanically fixed external wall cladding kits                                                                                           | In Progress |

Remark: All tests are currently in progress under Contract No. Z060260032.

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| Thermal Properties                                                               |                                                      |                                                                                               |                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                  | Test Standard                                        | Requirement                                                                                   | Result                                                                                                                                                                                                  |
| Temperature for Thermal deformation                                              | ASTM D 648                                           | 100°C                                                                                         | 149°C                                                                                                                                                                                                   |
| Linear Thermal Expansion per 100°C                                               | ASTM D696                                            | 2.4 mm/m/c°                                                                                   | 2.4 mm/m/c°                                                                                                                                                                                             |
| Thermal Conductivity                                                             | ASTM C 518                                           | Measure Value                                                                                 | 0.129 W/Mk                                                                                                                                                                                              |
| Coating Properties And Performance (Top Coat Systems & Choices)                  |                                                      |                                                                                               |                                                                                                                                                                                                         |
|                                                                                  | Test Standard                                        | Requirement                                                                                   | Result                                                                                                                                                                                                  |
| Coating Thickness                                                                | ASTM D 1400                                          | 25 µm                                                                                         | 25 µm                                                                                                                                                                                                   |
| Weathering Resistance                                                            | ASTM C 481                                           | A. Shear Strength<br>B. Film Adhesion<br>C. Impact Resistance                                 | A. 3.20 Mpa (after exposure)<br>B.1.Dry Adhesion – No removal of film<br>B.2. Wet Adhesion – No removal of film<br>B.3. Boiling Water – No removal of film<br>C. Impact Resistance – No removal of film |
| Corrosion Resistance                                                             | AAMA 2605<br>ASTM D 2247<br>ASTM D 714<br>ASTM B 117 | A. Humidity Resistance (@4000 hours exposure)<br>B. Salt Spray Resistance (@4000 hours, 35°C) | A. No formation of blisters<br>B.1 Scribed – rating of 9<br>B.2. Unscribed – rating of 10                                                                                                               |
| Chemical Resistance                                                              | ISO 2812 -1: 2014                                    | A. Acid Resistance<br>B. Alkali Resistance<br>C. Oil Resistance<br>D. Solvent Resistance      | A. NO CHANGE<br>B. NO CHANGE<br>C. NO CHANGE<br>D. NO CHANGE                                                                                                                                            |
| Abrasion Resistance                                                              | ASTM D 968                                           | 50 L/mil                                                                                      | 55.5 L/mil                                                                                                                                                                                              |
| Pencil Hardness                                                                  | ASTM D 3363                                          | H                                                                                             | H                                                                                                                                                                                                       |
| T-Bend Test                                                                      | ASTM D 522                                           | 2T (No Cracks)                                                                                | 2T (No Cracks)                                                                                                                                                                                          |
| Coating Properties And Performance (Top Coat Systems & Choices)                  |                                                      |                                                                                               |                                                                                                                                                                                                         |
|                                                                                  | Test Standard                                        | Requirement                                                                                   | Result                                                                                                                                                                                                  |
| Film adhesion<br>DRY (@27 °C)<br>WET (@38 °C, 24hrs)<br>BOILING (@100 °C, 20hrs) | AAMA 2605 (Clause 7.4)                               | No removal of film                                                                            | No removal of film within or outside of the cross- hatched area;<br>No blistering was observed                                                                                                          |
| Impact Resistance Test 50 kg-cm                                                  | AAMA 2605 (Clause 7.5)                               | No removal of film                                                                            | No removal of film                                                                                                                                                                                      |
| REMARK: Coating Performance results are complying with AAMA 2605-13 Requirements |                                                      |                                                                                               |                                                                                                                                                                                                         |

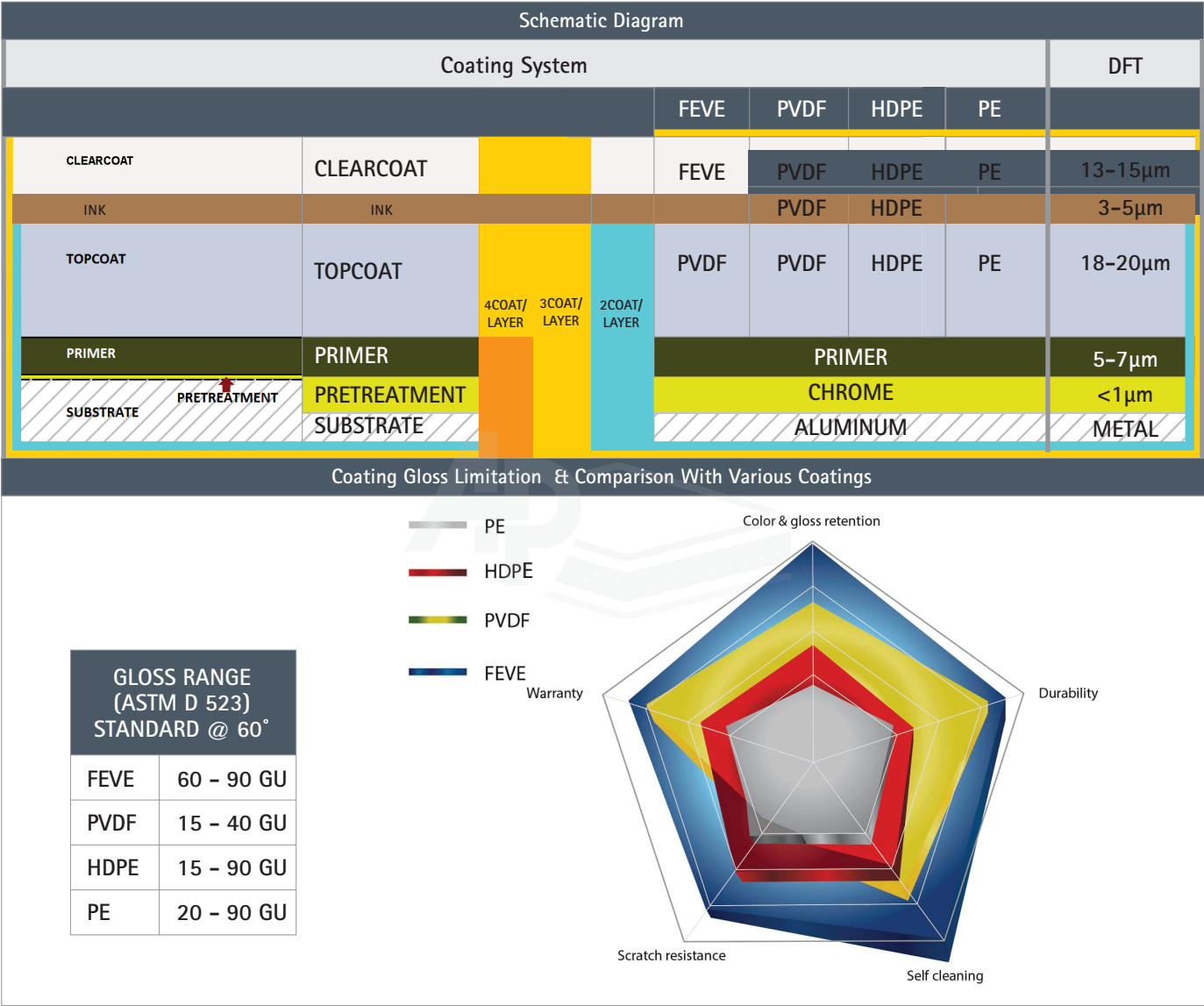
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Important Note: Backside of the panels are pre-coated and may come in different colors to embellish the surface Appearance because the back of the cladding is not meant for display purposes.

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| Coating Properties And Performance (Bottom/Service Coat)                                  |                                                                                                                                                                                                                                                                                                                             |                             |           |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------|
|                                                                                           | Test Standard                                                                                                                                                                                                                                                                                                               | Requirement                 | Result    |
| Dry Film Thickness                                                                        | ASTM D 7091                                                                                                                                                                                                                                                                                                                 | 5-7 µm                      | 6 µm      |
| Coating Flexibility T-bend Test                                                           | ASTM D 4145                                                                                                                                                                                                                                                                                                                 | 2T                          | 2T        |
| Solvent Resistance Test                                                                   | ASTM D 4752                                                                                                                                                                                                                                                                                                                 | Bearable @ 50X Rubbing      | > 50 DR   |
| Film Adhesion Test by Crosshatch                                                          | AAMA 2605; ASTM D3359-09e2                                                                                                                                                                                                                                                                                                  | No Removal of Paint         | PASSED    |
| Film Adhesion Test by Boiling Water                                                       | AAMA 2605                                                                                                                                                                                                                                                                                                                   | No Removal of Paint         | PASSED    |
| Backside Printing Information & Direction                                                 |                                                                                                                                                                                                                                                                                                                             | As per Material Description | PASSED    |
| Coating type                                                                              |                                                                                                                                                                                                                                                                                                                             |                             | Polyester |
| Anodizing Properties and Performance (Choices of Anodized systems for Top Aluminium skin) |                                                                                                                                                                                                                                                                                                                             |                             |           |
| Product Description                                                                       | This Technical Data Sheet covers anodized finishes produced on aluminium extrusions and solid aluminium sheets using a sulfuric acid anodizing process supported by Italian anodizing technology and chemicals.                                                                                                             |                             |           |
| Applicable Substrates                                                                     | Aluminium composite panel (5005 alloy)                                                                                                                                                                                                                                                                                      |                             |           |
| Anodic Layer Properties                                                                   | Coating Type: Sulfuric acid anodic oxide<br>Thickness Range: Typically 10–25 microns, depending on project requirements<br>Colouring Options: Natural, Bronze, Black, Champagne, Grey, Blue (interference)<br>Sealing: Cold sealing process                                                                                 |                             |           |
| Appearance                                                                                | Uniform metallic finish<br>Colour consistency within normal coil anodizing batch tolerances (Delta E ≤ 3.0)<br>Final appearance depends on alloy type, extrusion quality, and surface condition                                                                                                                             |                             |           |
| Applications                                                                              | <div><div>Façade / Cladding</div><div><div><ul style="list-style-type: none"><li>• Super High-rise buildings</li><li>• High-rise buildings</li><li>• Malls</li><li>• Theme Parks</li></ul></div><div><ul style="list-style-type: none"><li>• Schools</li><li>• Hospitals</li><li>• Any Building</li></ul></div></div></div> |                             |           |
| Notes                                                                                     | Minor colour variation may occur between alloys and different extrusion batches.<br>Surface imperfections in raw aluminium may become visible after anodizing.<br>Process parameters (voltage, additives, chemistry, and timings) are proprietary and based on Italtelco guidelines.                                        |                             |           |
| Disclaimer                                                                                | This Technical Data Sheet provides general information about anodized finishes on aluminium extrusions and sheets. Performance may vary based on alloy selection, fabrication methods, and installation environment.                                                                                                        |                             |           |

REPORTS ARE BASED ON THE AVERAGE ANALYSIS RESULT