

Dulux Powder Coatings Electro®

AU_DP01900

Product Code	906 Line Anodised Range
Approval	Architectural Aluminium Standards: Meets or exceeds AS3715, AAMA2604 Classification of fire performance for Electro® has a Group Number Classification of 1 according to the National Construction Code (NCC) Volume One Specifications C1.10 of the Building Code of Australia (BCA) and a Group Number Classification of 1-S according to the NZ Building Code Verification Method C/VM2 Appendix A: Establishing Group Numbers for lining materials.

Description

Electro® are a range of unique anodised look finishes, designed to subtly change in appearance as light conditions alter in the day, delivered with warranty grade advanced super durable polyester thermosetting powder.

Ideal for warranty grade applications over:

- Architectural aluminium including perforated and expanded aluminium
- Steel (mild), bright/semi bright steel, black steel and blue steel

Electro® can also be used on the following metals but these are not warranted:

- Galvanised steel, stainless steel and Zinalume®.

Electro® is supported by Alumi Shield™ and Steel Shield™ warranties* when applied by a Dulux Accredited Powder Coater to the warranty specification on recommended project types and conditions.

*Subject to the terms and conditions of the relevant product warranty. Please contact your local Dulux representative for further details.

IMPORTANT INFORMATION - CARE & MAINTENANCE POST INSTALLATION

A SIMPLE AND REGULAR MAINTENANCE PROGRAM MUST BE IMPLEMENTED AND RECORDED IN LINE WITH THE DULUX POWDERS CARE AND MAINTENANCE SCHEDULE TO:

1. Comply with Dulux Warranty Requirements
2. Ensure the life of your asset is maximised

It is important that architects, specifiers, powder coaters, fabricators, manufacturers and builders ensure they reinforce this message to the end asset owner.

For more information refer to the Dulux Care and Maintenance brochure available at duluxpowders.com.au/tech-advice or call 13 24 99.

Zinalume is a registered trade mark of Bluescope Steel Limited.

Features And Benefits

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| <ul style="list-style-type: none"> • Super Durable Polyester Thermosetting Powder • Alumi Shield™ Warranty 25 Year Aluminium Durability and 15 Year Aluminium Colour Warranty • Steel Shield™ Warranty - Up to 10 Year Steel Corrosion Warranty and 15 Year Steel Colour Warranty • Alternative colour range to anodising • No solvents or solvent emissions & TGIC free • Formulated to meet: AS 3715, AAMA 2603 and AAMA 2604 | <ul style="list-style-type: none"> • Guaranteed performance on appropriately pre-treated aluminium and steel* • Excellent colour retention • Super durable finish • Ideal for use on environments greater than 10m from the high tide mark • On trend anodised flat finish • Recycle via appropriate application reclaim processes • Good flow out |
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Uses

Electro® has been developed as an alternative to anodised finishes for use on a wide range of metal substrates including, most architectural aluminium applications such as window and door system, louvres, balustrades, sunshades, perforated screen, curtain walls, shop fronts, furniture and shelving.

Electro is suitable for coastal environments >10m from the high tide and is NOT suitable in strongly acidic or caustic environments so the pH must be between 5 and 9.

It is ideal for:

Exterior projects (All BCA Classes)

- All commercial buildings
- All residential buildings
- Non-habitable

Interior projects (All BCA Classes):

- All commercial buildings
- All residential buildings
- Non-habitable

*Subject to the terms and conditions of the relevant product warranty.

Precautions And Limitations

The Electro® anodised range is only available in solid and pearl colours which meet Dulux Powder Coatings pigmentation criteria. Strong, bold colours may not necessarily meet these criteria and should be referred to Dulux Powder Coatings before specifying.

Powder coatings containing pearlescent/mica and metallic pigments scatter and reflect light in a random way, therefore, exact colour uniformity should not be expected. Some subtle colour and appearance changes should also be expected when viewing in different light, at different angles and from varying distances.

It is recommended that each project is coated with the same batch of powder, by the same applicator, in the same direction, ie, all vertically or all horizontally and if possible at the same time. This is especially important when large visible areas of a project are powder coated, for example, cladding and perforated and expanded aluminium sheets.

As a result of possible wide application variations and stoving conditions, some products and colours may show variation between Dulux Powder Coatings prepared samples and production applied material. Therefore, it is the applicator and/or their customer's responsibility to ensure the product conforms to their requirements.

The Electro® anodised range is suitable for coastal environments >10m from the high tide and is NOT suitable in strongly acidic or caustic environments so the pH must be between 5 and 9.

Not recommended for components which are exposed to constant temperatures exceeding 120°C. Powder coated surfaces are not designed to be touched or mechanically abraded above 50°C.

Not recommended for post fabrication processes such as post-forming, zipping for double or triple glazing or punching. Many post fabrication processes can impede achievement of a continuous layer of pre-treatment and the minimum film build of powder coating. Consult the relevant guideline or regulation such as the building code or window association for information on mitigating any potential damage that could be caused by post fabrication processes.

Cutting and drilling must be done with very sharp saws, drills, etc as blunt tools will likely result in chipping. Cutting lubricants must be cleaned off as per the Dulux Care & Maintenance instructions. For more information refer to the Dulux Care and Maintenance brochure available at duluxpowders.com.au/tech-advice or call 13 24 99.

IMPORTANT DESIGN CONSIDERATIONS;

It is recommended that any item that is coated should be designed and fabricated using AS 2312.1 and the relevant building code as guides.

The following design elements should be avoided: narrow crevices, poor air circulation, depressions, sharp edges and corners, large flat ledges (not window ledges), intermittent welding, undrained flat surfaces, unsealed hollow sections, flat surfaces in loose contact where moisture may be drawn in between them by capillary action and contact between dissimilar metals, eg. with screws, rivets, etc.

Take care if non-metallic substrates are required to be or cannot avoid being powder coated, eg. thermal break strips in double or triple glazing. On these non-metallic surfaces powder coatings may not adequately adhere and the final visual appearance may not be acceptable.

When aluminium and steel items are exposed to interior and exterior environments it is essential that should only one side of a section of metal be coated, it must be in a sealed environment, i.e. not exposed to moisture, air and excessive heat. Should the seal fail, and a claim is made for an Alumi Shield™ or Steel Shield™ warranty project this will be void as the integrity of the seal is not the responsibility of Dulux.

Performance Guide

Exterior Durability	Excellent resistance to weathering, providing extended protection for aluminium.	Salt	Excellent salt spray corrosion resistance over pre-treated aluminium (3000 hours according to ASTM B117) and on suitably prepared mild steel (1,000 hours according to ASTM B117) with a 3-coat system.
Heat Resistance	Excellent resistance to 120°C continuous service conditions. Surfaces are not designed to be touched or mechanically abraded above 60°C.	Water	Excellent resistance to blistering at 38°C/100% humidity for 3000 hours on pre-treated aluminium and 1,000 hours on suitably prepared mild steel with a 3-coat system.
Solvent	Resistant to methylated spirits and isopropyl alcohol.	Abrasion	Very good resistance to abrasion. Abrasion Coefficient > 20 (ASTM D968 falling sand test method).
Acid	Resistant to the 15 minute spot test for Muriatic Acid, and 30 minute Nitric Acid test as per AAMA 2604.	Alkali	Resistant to spills of dilute alkali. Avoid contact

Typical Properties															
Gloss Level	Less than 10 at 60° (Black Ace) 5 -15 at 60° (Dark Bronze, Brilliance, Blueit, Basalt, Monument) 10 -20 at 60° (Fresh Gold, Poyle, Blue Gold, Green Lantern, Blue Night, Burnished Copper, Flat White, Venerable Silver, Sensational Champagne, Silver Reign, Clean Linen, Canary, Medium Bronze, Tiberius) 15 -25 at 60° (Bright Spark) 20 -30 at 60° (Fred)	Coverage	8 10m ² /kg corresponds to 80µm cured film thickness when fully reclaiming over sprayed powder in accordance with Dulux recommendations.												
Shelf Life	2 years from date of manufacture if stored at < 25 °C in dry conditions.	V.O.C Level	Not formulated with Volatile Organic Compound (VOCs).												
Colour	A limited range of stock and made to order solid & pearlescent colours. If you cannot find the colour you require Dulux offer a Custom Colour Service. Call 13 2499 for more information.														
Meets GBCA VOC Requirement?	Yes (Powder Coatings Only). This Premium Powder Coating: <ul style="list-style-type: none"> • Contains no harmful volatile organic solvents • Is free of heavy metal pigments such as lead, cadmium, arsenic & mercury • Is produced with stringent Safety, Health & Environmental policies and standards • Is manufactured in facilities where significant energy and resources employed in production, are measured with aggressive reduction targets in place • Is produced with minimal waste Consequently, this Premium Powder Coating is a prime consideration for projects where air quality standards have been set such as 4, 5 & 6 Green Star Rating Projects.														
Film Build (microns)	Recommended 80µm, range 60-120µm (NB Flat White: 90 - 120µm).	Clean Up	Dust or vacuum loose powder. Avoid use of compressed air.												
Application Method	Electrostatic Spray. When applying Electro Pearlescent finishes (as opposed to solid colour finishes) we recommend limiting the current to obtain the approved finish.	Specific Gravity	1.3 - 1.7 depending on colour.												
Flexibility	< 9 Nm (< 80 in/lb) by direct impact with a 3mm substrate deformation.	Pencil Hardness	Min H - no rupture of film per ASTM D3363.												
Cross Hatch Adhesion	No removal (ref AAMA 2604 test method).	Chemical Resistance	<table border="0"> <tr> <td>Mortar</td> <td>PASS (24 hours Pat test ref. EN 12206-1).</td> </tr> <tr> <td>Methylated Spirits</td> <td>Good resistance.</td> </tr> <tr> <td>Isopropyl Alcohol</td> <td>Good resistance.</td> </tr> <tr> <td>Acid</td> <td>Resistant to dilute acid at ambient temperatures. Avoid contact.</td> </tr> <tr> <td>Alkali</td> <td>Resistant to dilute alkali at ambient temperatures. Avoid contact.</td> </tr> <tr> <td>Stronger Solvents</td> <td>Avoid contact with, for example white spirits, mineral turpentine and kerosene etc.</td> </tr> </table>	Mortar	PASS (24 hours Pat test ref. EN 12206-1).	Methylated Spirits	Good resistance.	Isopropyl Alcohol	Good resistance.	Acid	Resistant to dilute acid at ambient temperatures. Avoid contact.	Alkali	Resistant to dilute alkali at ambient temperatures. Avoid contact.	Stronger Solvents	Avoid contact with, for example white spirits, mineral turpentine and kerosene etc.
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Application Guide	
Surface Preparation	<ul style="list-style-type: none"> • PREPARATION FOR ALUMINIUM SUBSTRATES Etch; <ul style="list-style-type: none"> • The etch process is an important stage of pre-treatment and close consultation with your pre-treatment supplier is strongly recommended to ensure optimum adhesion & corrosion resistance is obtained. • Etch rates must be a minimum of 1gm/m². Chrome Conversion Coatings; <ul style="list-style-type: none"> • Chrome conversion weights must be a minimum of 431mg/m². Chrome-free conversion coatings; <ul style="list-style-type: none"> • Chrome-free refer to your pre-treatment supplier as currently no standards address chrome-free. Final Deionised Water Rinse; <ul style="list-style-type: none"> • The conductivity of the final rinse water draining from the aluminium articles must be less than 30 micro Siemens/cm² at 20°C. Post rinse dry off temperature - consult your pre-treatment supplier but generally; <ul style="list-style-type: none"> • < 75° C for chrome pre-treatment, • < 120° C for chrome-free pre-treatment.

	<p>Pre-treated aluminium must be handled very carefully with clean lint-free gloves and powder coated within the time specified by the pre-treatment supplier - this is generally within 16 to 48 hours.</p> <p>Dulux Accredited Powder Coaters must comply with the metal pre-treatment guidelines set out in the Accredited Alumi Shield Manual.</p> <ul style="list-style-type: none"> ▪ PREPARATION FOR STEEL SUBSTRATES: <ol style="list-style-type: none"> 1. Wash and degrease all surfaces to be coated in accordance with AS1627.1 with a free-rinsing, neutral/alkaline detergent, in strict accordance with the manufacturer's written instructions and all safety warnings. 2. Wash with fresh potable water and ensure that all soluble salts are removed. Testing if required can be done in accordance with AS 3894.6 for the determination of residual contaminants. 3. Grind all sharp edges with a power tool to a minimum radius of 2mm. 4. Hand or power tool clean welds to AS1627.2 to remove roughness. Remove filings, preferably by vacuum. 5. Abrasive blast clean all steel surfaces to be powder coated in accordance with AS 1627.4 to the visual cleanliness standard of SA 2.5. Use a medium that will generate a surface profile of 35 to 65 microns. In situations where it is not possible to prepare your item on all surfaces as described above, for long term protection against corrosion it is strongly recommended whenever possible, that an alternative substrate such as aluminium be considered. Failure to suitably prepare your steel substrate may void your Steel Shield™ Warranty. 6. The steel must be coated within 4 hours of blasting and stored in an area which is clean and dry. <p>Dulux Accredited Powder Coaters must comply with the metal pre-treatment guidelines set out in the Accredited Steel Shield Manual.</p>
<p>Application Procedure And Equipment</p>	<ul style="list-style-type: none"> ▪ APPLICATION Powder must be < 2 years from date of manufacture and stored at < 25 °C in dry conditions. Application is generally by electrostatic spray. Light colours may require a higher minimum film build for optimum coverage and colour consistency. <p>Theoretical Coverage rate at recommended film thickness: A coverage rate of 8-10m²/kg corresponds to 80µm cured film thickness assuming minimal loss i.e., over sprayed powder is reclaimed or recycled, sieved and mixed with virgin (fresh) powder under controlled conditions – a general rule of thumb is < 20% of reclaim powder continuously added to the fresh (virgin) powder to maintain a consistent finish. Extra care should be taken with reclaiming blended products. Practical coverage rates will vary due to such factors as method of application, surface profile and texture.</p> <p>Apply with equipment and control systems to enable correct metal pre-treatment and control of the application and stoving. Dulux Accredited Powder Coaters must comply with recommendations as set out in the Accredited Applicator Manuals.</p> <ol style="list-style-type: none"> 1a) For fluidised bed, ensure uniform fluidisation of powder. Powder found to be compacted may require fluidising for a few minutes prior to coating, powder should resemble a rolling motion. 1b) Box feeders can be used when spraying bonded pearls and metallic powders, though it is not best practice. Box feeders are not recommended for spraying blended pearls and metallic powders. <ol style="list-style-type: none"> 2 Apply by electrostatic spray. 3 Cure as per recommendations outlined above. Air temperatures exceeding 220°C may result in irreversible colour & gloss variation in light and bold colours and excessive temperatures may result in irreversible damage to the powder coating film. 4 Test for cure of the coating by contact with a drop of PGMEA for 30 seconds. Surface should be wiped dry and left for 60 seconds and then checked for softening. Only slight softening and minimal colour transfer to test cloth should occur. <ul style="list-style-type: none"> ▪ SPECIFICATIONS Specifications for all approved substrates are available that detail full coatings systems required including where primers are required. These include; On Aluminium, Powder Primers may be necessary on appropriately pre-treated perforated and expanded aluminium for a Alumi Shield™ Warranty as detailed below; a. Interior: General Interior conditions (E-Prime™ base coat not mandatory); Moderate Interior (E-Prime™ base coat mandatory). b. Exterior: Mild (E-Prime™ base coat not mandatory); Severe: (E-Prime™ base coat mandatory). <p>On Mild Steel; Powder primers are required for all Steel Shield™ warranties on appropriately prepared mild steel substrates as detailed below; a. In Mild (Medium) exterior and Moderate Interior (medium) environments a 5 year corrosion warranty is available with a Zincshield® and the specified topcoat system. b. In Mild (Medium) exterior and Moderate Interior (medium) environments a 10 year corrosion warranty is available with a Zincshield®, E-Prime™ and the specified topcoat system.</p> <p>For more information about all specifications for aluminium and mild steel substrates call 13 2499 or visit duluxpowders.com.au.</p>

Care And Maintenance

PACKAGING PRE INSTALLATION

Attention to packing is essential for powder coaters and fabricators to ensure that all powder coated sections are received in good condition.

When packing powder coated assets, it is recommended that:

- Sections must be adequately cooled prior to packing; the metal temperature must not exceed 40°C on packing.
- Appropriate protective wrapping is recommended prior to packing to avoid damage during transport. Spiral wrapping is industry best practice for transporting over long distances, e.g. interstate. It is recommended these are tested prior to use to confirm they are suitable.
- If protective tapes are used, ensure that the tape will remain removable following transport, fabrication and installation and not irreversibly mark or damage the coating. Tapes should be used in accordance with the manufacturer's instructions and only remain in contact for the minimum amount of time. It is recommended these are tested prior to use to confirm they are suitable.
- Packed metal should be kept away from direct sunlight and moisture to avoid coating defects.

CARE & MAINTENANCE POST INSTALLATION;

When applying sealants take care to ensure the sealant doesn't come into contact with the powder coating film. If it does it must be immediately cleaned off in accordance with the Dulux Care and Maintenance procedure.

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Health And Safety

MSDS Number	DLXGHSEN001560	Safety Precautions	The SDS is an integral part of using this product as it contains information on the potential health effect of exposure, personal protective equipment needed and other relevant SH&E information. For detailed information, refer to product label and the current Safety Data Sheet available at duluxpowders.com.au or call 13 24 99.
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In the case of emergency, please call 1800 033 111

Transport And Storage

Package Weight	20 Kg.	Shipment Name	Not classified as dangerous goods in Australia or NZ according to the SDS.
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Images



For more information visit duluxpowders.com.au/accruited

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DuluxGroup (Australia) Pty Ltd 1956 Dandenong Road, Clayton, Victoria 3168 AU ABN 67 000 049 427