

<b>Product Code</b>	953 Line
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### Description

E-Prime™ powder primer is an epoxy based thermosetting powder primer designed to provide excellent adhesion to appropriately prepared aluminum substrates and provide excellent intercoat adhesion with Zincshield® base coat on ferrous (steel) substrates.

It is a key component of the DGL Alumi Shield™ warranty system suitable for use with top coats from the Fluoroset®, Duratec®, Electro®, Duralloy®, and Precious® ranges.

Ideal for warranty grade applications under specified powder topcoats on interior and exterior projects over appropriately prepared,

- Architectural aluminium including perforated and expanded aluminium,

E-Prime™ is supported by Alumi Shield™ warranties\* when applied by DGL Accredited Powder Coaters 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 DGL representative for further details.

**IMPORTANT INFORMATION - CARE & MAINTENANCE of the topcoat POST INSTALLATION.**

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

1. Comply with DGL 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 DGL Care and Maintenance brochure available at [dglpowders.com/tech-advice](http://dglpowders.com/tech-advice).

### Features And Benefits

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| <ul style="list-style-type: none"> <li>• Alumi Shield™ warranties on perforated and expanded aluminium available with E-Prime™ powder primer.</li> <li>• Excellent film integrity.</li> <li>• No solvents or solvent emissions &amp; TGIC free.</li> </ul> | <ul style="list-style-type: none"> <li>• Excellent adhesion to appropriately prepared aluminium substrate.</li> <li>• Excellent intercoat adhesion with Zincshield™ and specified powder topcoats.</li> <li>• Recycle via appropriate application reclaim processes.</li> </ul> |
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### Uses

E-Prime™ has been specifically designed for coating pre-treated aluminium substrates and over appropriately prepared ferrous (steel) substrates as part of a Zincshield® base coat and suitable powder topcoat system.

Suggestions for use include ironwork, street and garden furniture, gas cylinders and tanks, agricultural machinery, transport (trailers), valves, and transformers.

It is ideal as a primer with an appropriately specified topcoat for;

Exterior projects;

- All commercial buildings,
- All residential buildings,
- Non-habitable or Ancillary.

Interior projects;

- All commercial buildings,
- All residential buildings,
- Non-habitable or Ancillary.

\*Subject to the terms and conditions of the relevant Alumi Shield™ product warranty.

## Precautions And Limitations

E-Prime™ is only available in a grey colour.

As a result of possible wide application variations and stoving conditions E-Prime™ may show variation between DGL 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.

E-Prime™ 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 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 DGL Care & Maintenance instructions. For more information refer to the DGL Care and Maintenance brochure available at [dglowers.com/techadvice](http://dglowers.com/techadvice).

### 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, e.g., with screws, rivets, etc.

Take care if non-metallic substrates are required to be or cannot avoid being powder coated. On these non-metallic surfaces powder coatings may not adequately adhere and the final visual appearance may not be acceptable.

When 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 a Alumi Shield™ warranty project this will be void as the integrity of the seal is not the responsibility of DGL.

## Performance Guide

<b>Exterior Durability</b>	E-Prime™ is not recommended for exterior use without a topcoat. It contains an epoxy component which will chalk on exterior exposure.	<b>Salt</b>	Excellent salt spray corrosion resistance over suitably prepared aluminium (up to 1,500 hours according to ASTM B117) with an approved DGL 2-coat system.
<b>Heat Resistance</b>	Excellent resistance to 120°C continuous service conditions. Surfaces are not designed to be touched or mechanically abraded above approximately 50°C.	<b>Water</b>	Excellent resistance to blistering at 38°C/100% humidity for 1,000 hours on suitably prepared aluminium with an approved DGL 2-coat system.
<b>Solvent</b>	Resistant to methylated spirits and isopropyl alcohol. Avoid contact with, for example white spirits, mineral turpentine and kerosene, etc.	<b>Acid</b>	Resistant to spills of dilute acid at room temperature. Avoid contact.
<b>Alkali</b>	Resistant to spills of dilute alkali at room temperature. Avoid contact.		

Typical Properties															
<b>Gloss Level</b>	40-50 @ 60°.	<b>Coverage</b>	8-10 m <sup>2</sup> /kg corresponds to 80µm cured film thickness when fully reclaiming over sprayed powder in accordance with DGL recommendations.												
<b>Shelf Life</b>	2 years from date of manufacture if stored at < 25 °C.	<b>V.O.C Level</b>	Not formulated with volatile organic compounds (VOCs).												
<b>Colour</b>	Light Grey														
<b>Meets GBCA VOC Requirement?</b>	N/A														
<b>Film Build (microns)</b>	Recommended 80µm, range 60-100µm.	<b>Clean Up</b>	Dust or vacuum up loose powder. Avoid use of compressed air.												
<b>Application Method</b>	Electrostatic Spray	<b>Specific Gravity</b>	1.5 - 1.6												
<b>Flexibility</b>	< 9 Nm (< 80 in/lb) by direct impact with a 3mm substrate deformation.	<b>Pencil Hardness</b>	Min H - no rupture of film per ASTM D3363.												
<b>Cross Hatch Adhesion</b>	No removal (ref ASTM D 3359).	<b>Chemical Resistance</b>	<p><b>Methylated Spirits</b> Good resistance.</p> <p><b>Isopropyl Alcohol</b> Good resistance.</p> <p><b>Acid</b> Resistant to spills of dilute acid at room temperature. Avoid contact.</p> <p><b>Alkali</b> Resistant to spills of dilute alkali at room temperature. Avoid contact.</p> <p><b>Stronger Solvents</b> Avoid contact with, for example white spirits, mineral turpentine and kerosene, etc.</p>												
<b>Cure Schedule</b>	<p><b>Metal Temperature (°C) Time (minutes) Comments</b></p> <table border="0"> <tr> <td>210</td> <td>8 mins minimum</td> <td>Metal temperature.</td> </tr> <tr> <td>200</td> <td>10 mins minimum</td> <td>Metal temperature.</td> </tr> <tr> <td>190</td> <td>15 mins minimum</td> <td>Metal temperature.</td> </tr> <tr> <td>150</td> <td>5 mins minimum</td> <td>Metal temperature - GREEN or PARTIAL CURE.</td> </tr> </table> <p>When applying subsequent coats of solid and pearlescent solid colours you can partially cure for 5 minutes at 150°C metal temperature. (often referred to as a green cure). You must then fully cure the combined coating system for a minimum of 200°C for 10 minutes metal temperature or the topcoat curing schedule if longer than 10 minutes.</p> <p><b>IMPORTANT NOTE:</b> When applying texture, ripple, or hammer topcoats you must fully cure E-Prime™ at 200°C for 10 minutes metal temperature prior to applying the topcoat. Failure to do so may result in a poorly defined pattern.</p>			210	8 mins minimum	Metal temperature.	200	10 mins minimum	Metal temperature.	190	15 mins minimum	Metal temperature.	150	5 mins minimum	Metal temperature - GREEN or PARTIAL CURE.
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## Application Guide

<p><b>Surface Preparation</b></p>	<ul style="list-style-type: none"> <li>• PREPARATION FOR ALUMINIUM SUBSTRATES</li> </ul> <p>Etch;</p> <ul style="list-style-type: none"> <li>• 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 &amp; corrosion resistance is obtained.</li> <li>• Etch rates must be a minimum of 1gm/m<sup>2</sup>.</li> </ul> <p>Chrome Conversion Coatings;</p> <ul style="list-style-type: none"> <li>• Chrome conversion weights must be a minimum of 431mg/m<sup>2</sup>.</li> </ul> <p>Chrome-free conversion coatings;</p> <ul style="list-style-type: none"> <li>• Chrome-free - refer to your pre-treatment supplier as currently no standards address chrome-free.</li> </ul> <p>Final Deionised Water Rinse;</p> <ul style="list-style-type: none"> <li>• The conductivity of the final rinse water draining from the aluminium articles must be less than 30 micro Siemens/cm<sup>2</sup> at 20°C.</li> </ul> <p>Post rinse dry off temperature - consult your pre-treatment supplier but generally;</p> <ul style="list-style-type: none"> <li>• &lt; 75° C for chrome pre-treatment,</li> <li>• &lt; 120° C for chrome-free pre-treatment.</li> </ul> <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> <p>PREPARATION FOR STEEL SUBSTRATES.</p> <ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>3. Grind all sharp edges with a power tool to a minimum radius of 2mm.</li> <li>4. Hand or power tool clean welds to AS1627.2 to remove roughness. Remove filings, preferably by vacuum.</li> <li>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.</li> <li>6. The steel must be coated within 4 hours of blasting and stored in an area which is clean and dry.</li> </ol>
<p><b>Application Procedure And Equipment</b></p>	<ul style="list-style-type: none"> <li>• APPLICATION</li> </ul> <p>Powder must be &lt; 2 years from date of manufacture and stored at &lt; 25 °C in dry conditions.</p> <p>Application is generally by electrostatic spray.</p> <p>Theoretical Coverage rate at recommended film thickness: A coverage rate of 8-10m<sup>2</sup>/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 &lt; 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 preparation and control of the application and curing conditions. DGL Accredited Powder Coaters must comply with recommendations as set out in the Accredited Applicator Manuals.</p> <ol style="list-style-type: none"> <li>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.</li> <li>1b) Box feeders can be used.</li> <li>2 Apply by electrostatic spray.</li> <li>3 Cure as per recommendations outlined above. Air temperatures exceeding 220°C may result in irreversible colour &amp; gloss variation in light and bold colours and excessive temperatures may result in irreversible damage to the powder coating film.</li> <li>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.</li> </ol> <p>SPECIFICATIONS</p> <p>Specifications for all approved substrates are available that detail full coatings systems required including where primers are required. These include;</p> <p>On Aluminium;</p> <p>Powder Primers may be necessary on appropriately pre-treated perforated and expanded aluminium for a Alumi Shield™ Warranty as detailed below;</p> <ol style="list-style-type: none"> <li>a. Interior: General Interior conditions (E-Prime™ base coat not mandatory); Moderate Interior (E-Prime™ basecoat mandatory).</li> <li>b. Exterior: Mild (E-Prime™ base coat not mandatory); Severe: (E-Prime™ base coat mandatory).</li> </ol> <p>For more information about all specifications for aluminium (and mild steel substrates) visit <a href="http://dglpowders.com.au">dglpowders.com.au</a></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. 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 DGL Care and Maintenance procedure

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## Health And Safety

<b>MSDS Number</b>	E-Prime 953 Line (Hazardous) - DLXGLEN001475	<b>Safety Precautions</b>	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 <a href="http://dglpowders.com/datasheets-safety-data-sheets">dglpowders.com/datasheets-safety-data-sheets</a>
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**In the case of emergency, please call 1800 033 111**

## Transport And Storage

<b>Package Weight</b>	20 Kg	<b>Shipment Name</b>	Not dangerous goods. No special transport requirements.
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### Disclaimer

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