

SPECIFICATION SOLUTIONS

Powder Coating compliance for low-voltage switchgear and controlgear assemblies – Resistance to UV radiation

**Dulux**

**POWDER  
COATINGS**



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## Powder Coating compliance for low-voltage switchgear and controlgear assemblies - Resistance to UV radiation

The industry standard to test resistance to UV radiation has been carried out for a selection of applicable Dulux powder technologies in accordance with the Australian and New Zealand low-voltage switchgear and control gear assemblies standard. This is to determine their resistance to UV radiation on powder-coated components intended to be installed outdoors.

## What is the standard for main switchboards?

AS/NZS 61439.1 is a series of standards for low voltage switchgear and control gear assemblies that replaced AS/NZS 3439 series from May 2021. It is a copy of the IEC 61439-1 series with 'in-country notes' specific to Australia and New Zealand.

The IEC 61439-1 series is the current IEC series for low voltage switchgear and control gear assemblies and has been fully adopted in Europe since 2014.

## Why is the standard changing?

The old standard AS/NZS 3439 was first introduced in 1998. There have since been many changes and improvements to electrical switchgear, design, manufacture and safety processes. Due to some areas of common misunderstanding in the old standard the new standard aims to clarify legal and financial responsibilities in specification, testing, design and build between user and the assembly manufacturer.

## Requirements for coatings suppliers

The standard sets out a test method for the assessment of synthetic materials/coatings used to coat low-voltage switchgear and controlgear metal components intended to be installed outdoors.

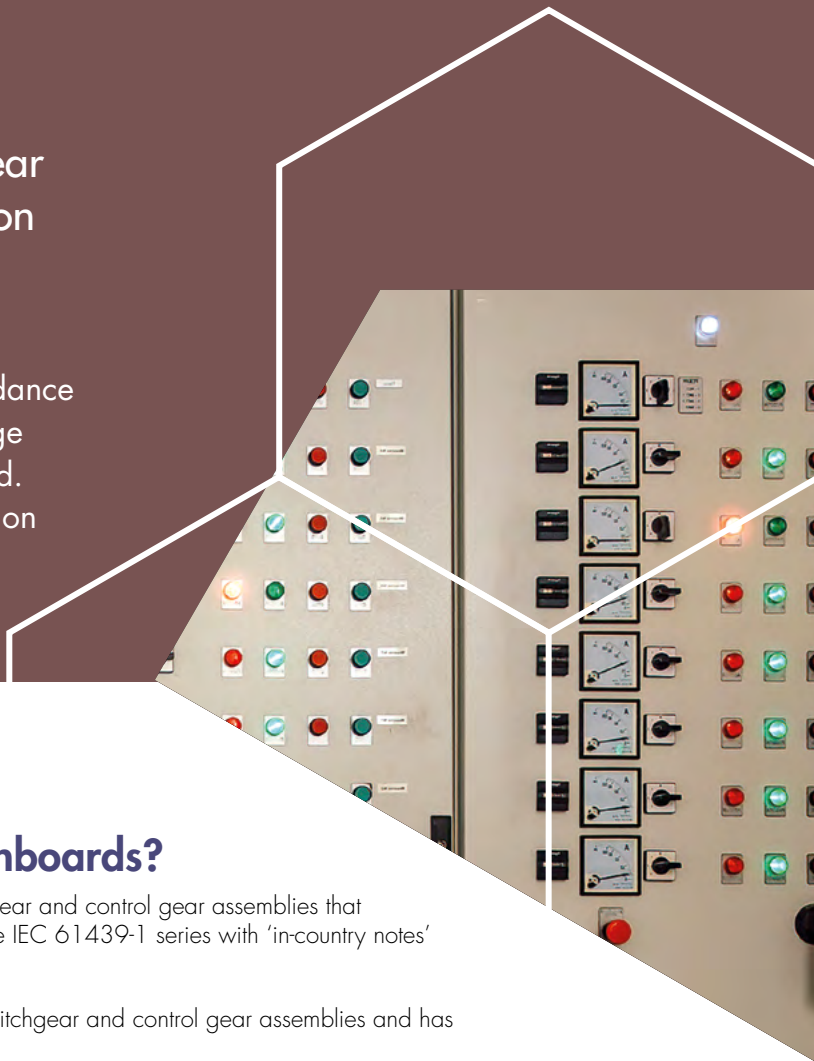
It measures their behaviour to the UV radiation to ensure they do not show cracks or deterioration visible to normal or corrected vision without additional magnification.

Suppliers of switchboards are required to have a valid certificate demonstrating the coatings meet the requirements.

## Product ranges

The following Dulux powder coating product ranges have been tested and approved in accordance with the requirements for usage on low-voltage switchgear and control gear assemblies:

- Alphatec Powder Coat Range
- Duralloy Powder Coat Range
- Duralloy Powder Coat Range with Rapid Cure Technology
- PG288 Powder Coat Range
- Surreal Effects Scylla Powder Coat Range\*  
\*901 Line only



## Test results

Industry Standard: AS/NZS 61439.1:2016 Low-voltage switchgear and controlgear assemblies																			
Clause 10.2.4. Resistance to ultra-violet (UV) radiation according to ISO 4892-2 Method A Cycle 1 for 500 hours																			
Standard	<p>This clause sets out a test method for the assessment of synthetic materials/coatings used to coat low-voltage switchgear and controlgear metal components intended to be installed outdoors.</p> <p>It measures their behaviour to the UV radiation to ensure they do not show cracks or deterioration visible to normal or corrected vision without additional magnification.</p>																		
Purpose	<p>Dulux Powder Coatings has undertaken independent testing in accordance with clause 10.2.4. Resistance to ultra-violet (UV) radiation according to ISO 4892-2 Method A Cycle 1 for 500 hours.</p> <p>This is to allow consumers and/or regulatory bodies to determine the suitability of Dulux powder coating systems for external enclosures or parts intended to be installed outdoors to meet the minimum cross-cut adhesion specification of category 3 according to ISO 2409 and that the samples will not show cracks or deterioration visible to normal or corrected vision without additional magnification.</p> <p>The test results outlined below are specific to the Dulux Powder Coating technologies listed below.</p>																		
Regulatory Indices	<table border="1"> <thead> <tr> <th>Dulux powder ranges</th> <th>Designation code</th> <th>Pass/Fail</th> </tr> </thead> <tbody> <tr> <td>Alphatec</td> <td>ISO 2409 – 2a - 0 (no detachment) No visible cracks or deterioration</td> <td>Pass</td> </tr> <tr> <td>Duralloy</td> <td>ISO 2409 – 2a - 0 (no detachment) No visible cracks or deterioration</td> <td>Pass</td> </tr> <tr> <td>Duralloy with Rapid Cure Technology</td> <td>ISO 2409 – 2a - 0 (no detachment) No visible cracks or deterioration</td> <td>Pass</td> </tr> <tr> <td>PG288</td> <td>ISO 2409 – 2a - 0 (no detachment) No visible cracks or deterioration</td> <td>Pass</td> </tr> <tr> <td>Surreal Effects Scylla</td> <td>ISO 2409 – 2a - 0 (no detachment) No visible cracks or deterioration</td> <td>Pass</td> </tr> </tbody> </table>	Dulux powder ranges	Designation code	Pass/Fail	Alphatec	ISO 2409 – 2a - 0 (no detachment) No visible cracks or deterioration	Pass	Duralloy	ISO 2409 – 2a - 0 (no detachment) No visible cracks or deterioration	Pass	Duralloy with Rapid Cure Technology	ISO 2409 – 2a - 0 (no detachment) No visible cracks or deterioration	Pass	PG288	ISO 2409 – 2a - 0 (no detachment) No visible cracks or deterioration	Pass	Surreal Effects Scylla	ISO 2409 – 2a - 0 (no detachment) No visible cracks or deterioration	Pass
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Standard	<p>The test results for the Alphatec, Duralloy, Duralloy with Rapidcure Technology, PG288 and Surreal Effects Scylla samples tested as representatives of each range have met the resistance to UV radiation requirements of the standard which are that they will:</p> <ol style="list-style-type: none"> <li>Not exceed the minimum cross-cut adhesion specification of category 3. Note: category 0 = no coating detachment, category 3 = 15-35% coating detachment and category 5 greater than 65% coating detachment.</li> <li>Not show cracks or deterioration visible to normal or corrected vision without additional magnification.</li> </ol>																		

## Further information

### Detailed reports

For a copy of the detailed independent test results for Dulux Powder Coat ranges referred to in this document please contact your Dulux representative or call our Advice Line referring to the reports below.

AS/NZS 61439.1:2016 Part 1: General rules Clause 10.2.4: Resistance to ultra-violet (UV) radiation	
Report Reference	AUSTEST Laboratories Product testing – File Number: DUL 210322 (June 2021)

### Standards

For copies of the standard referenced in this document please refer to:

AS/NZS 61439.1:2016 Part 1: General rules	
Standards Reference	To access AS/NZS 61439.1:2016 Part 1: General rules visit Australian or New Zealand Standards websites

### Further specification advice

If you require any further information contact your Dulux representative, visit our web sites or call our Advice line.

Australia: [duluxpowders.com.au/specifications](http://duluxpowders.com.au/specifications) or call 13 24 99

New Zealand: [duluxpowders.co.nz/specifications](http://duluxpowders.co.nz/specifications) or call 0800 800 975

## Advice line

Our dedicated consultants can help simplify the specification process, saving you time and money by providing the right coating advice for your project. They can provide:

- Documented project specific specifications
- Written confirmation of your project's eligibility for an Alumi Shield™ or Steel Shield™ warranty
- Design, coating system and colour advice

For Australia call 13 24 99 or visit [duluxpowders.com.au](http://duluxpowders.com.au)

For New Zealand call 0800 800 975 or visit [duluxpowders.co.nz](http://duluxpowders.co.nz)

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