

WARRANTY SOLUTIONS



Protection
for Steel

Dulux®

**POWDER
COATINGS**

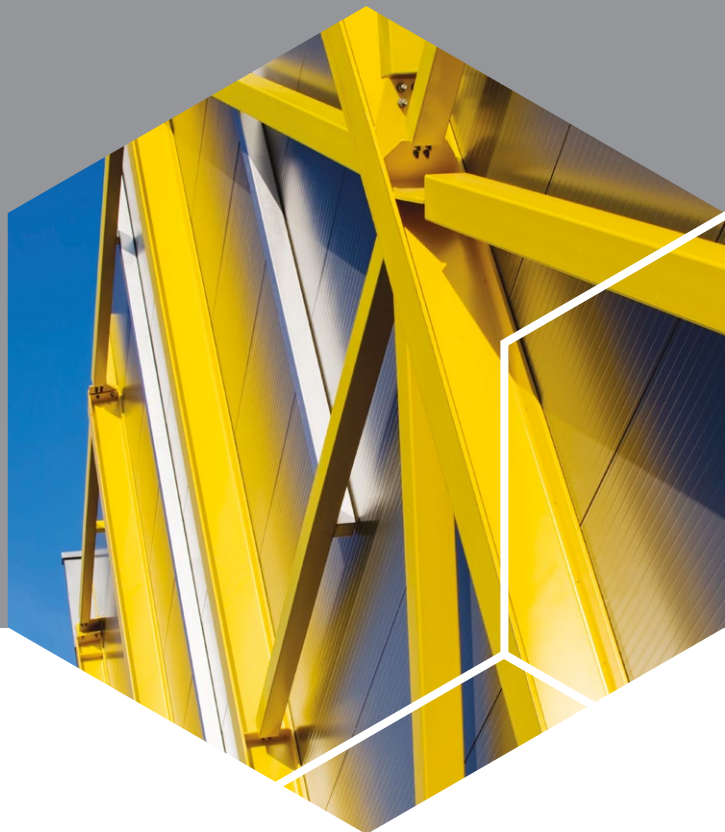


New Zealand

Worth doing, worth Dulux.®

Worth doing, Worth Dulux.®



Dulux Powder Coatings are an ideal choice for the long term protection of mild steel items for your next project, and provide assurance through the issue of Steel Shield™ Warranties.



Suitable substrates

The Steel Shield™ warranty will only be issued on the following substrates: mild steel, bright/semi bright steel, black/blue steel. All other steel types including galvanised coated steel are not warranted under the Steel Shield™ Warranty Program.

Dulux Steel Shield™ warranties are available when applied by a Dulux Accredited to the warranty specification for the following project types:

	 NON-HABITABLE	 RESIDENTIAL <4 LEVELS	 RESIDENTIAL >3 LEVELS	 LIGHT COMMERCIAL <4 LEVELS	 COMMERCIAL >3 LEVELS	 PRESTIGIOUS COMMERCIAL	 MONUMENTAL
INTERIOR	•	•	•	•	•	•	•
EXTERIOR	•	•	•	•	•	•	•

- Non-habitable projects are those that are not dwelling types. Examples can be furniture, bus shelters, signage etc.
- Residential properties < 4 levels are typically easy to maintain, given their height and access.
- Light commercial projects <4 levels are sheltered from neighbouring buildings, but require greater durability due to higher usage and wear.
- High-rise residential and commercial projects are less sheltered from neighbouring buildings, raising their exposure and reducing their ease of maintenance.
- Prestigious commercial projects attract attention and require high quality finishes to uphold the longevity and design requirements.
- Monumental projects attract the most attention and have the highest standards required to uphold the reputation and protection expected from landmark sites.

Warranty benefits

A Dulux Steel Shield™ warranty is made up of two key components, a colour warranty (for fade and chalking) and a corrosion warranty.

Corrosion Warranty	Colour Warranty
 <p>The Steel Shield™ Corrosion warranty is your assurance that the substrate will not corrode[#] for the warranty period from the date the product is applied to the metal.</p>	 <p>The Steel Shield™ Colour warranty is your assurance that the colour integrity will be maintained.</p> <p>It is made up of two components:</p> <ul style="list-style-type: none">• Fade¹• Chalk²

Terms and conditions apply

Dulux Steel Shield™ warranties are your assurance that the coating will not:

1. **Fade** – Colour fade testing will give a delta E (Hunter) laboratory reading less than five units from the original colour. In accordance with ASTM D2244.
2. **Chalk** – Not exceed a rating of 2 for whites & pastels and a rating of 3 for deep colours as assessed in accordance with AS1580.481.1.11 test method.

Colour warranties are achievable as long as the substrate is not corroded. Should corrosion occur the colour warranty is void.

[#] The Steel Shield™ corrosion warranty is your assurance that the steel substrate will not corrode more than 5% in accordance with the degree of corrosion as a percentage contained in AS 2312.1.

All Dulux premium powder coat products are backed by product specific Steel Shield™ warranties. Below is an overview of the warranty periods by product available from Dulux.

	Warranty	Fluoraset	Electro	Duratec	Duralloy
Steel Shield™ Warranty	Steel Corrosion	Up to 10 Years	Up to 10 Years	Up to 10 Years	Up to 10 Years
	Steel Colour	30 Years	15 Years	20 Years*	10 Years

*Excludes Intensity – 15 Years.

Important design considerations

Dulux Steel Shield™ warranties are available on a wide range of mild steel items, but those items must be designed, prepared (pre-treated), coated, fabricated and installed to standard ensuring that the item is fully protected.

It is essential that any item that is coated must be designed and fabricated to ensure:

- **It meets key standards** – Refer to AS 2312.1 and the relevant building code.
- **Protection is a key consideration at the early stages of design** – The design should allow the item to be prepared for coating correctly and that the minimum thickness of the specified coating can be achieved.
- **Sealed areas are appropriately sealed to last the duration of the warranty** – It is essential that the choice of other materials that contribute to protection such as sealants should be made to ensure that a Steel Shield™ warranty is not void due to the sealants failure. This is important if only one side of a section of metal is to 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 this warranty will be void as the integrity of the seal is not the responsibility of Dulux.
- **The following design elements are avoided** – Narrow crevices, poor air circulation, depressions, sharp edges and corners, large flat 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 or where water and foreign matter will lodge, as these areas may result in premature failure of the coating system.
- **Failure caused by post formed or post fabrication processes are avoided** – Please be aware warranties shall not apply to areas where a failure is caused from post formed or post fabrication processes, such as metal perforation, welding, cutting, drilling or any other circumstances beyond the reasonable control of Dulux. Many post fabrication processes can impede achievement of a continuous layer of pre-treatment and the minimum film build of powder coating. Where there is doubt please consult the relevant guideline or regulation such as the building code or AS 2312.1 for information on mitigating any potential damage that could be caused by post fabrication processes.

Please refer to our warranty examples where you can review all terms and conditions. These are available by calling 0800 800 975 or visiting duluxpowders.co.nz

Project suitability

It is important to define your project correctly to ensure the correct standard of product is specified and the performance and warranty is able to be gained for your project.

Product suitability by project

Use the following table to help identify the product choice you have to gain an Steel Shield™ warranty on your project. Refer to the conditions information to determine the environment that your project will be exposed to.

Project Details		Environment and Conditions		Primer System	
Project Type		Environment	Conditions	Zincshield	E-Prime™/ Grey Primer
Monumental		Exterior	Severe (High to very high)	✓	✓
Monumental		Exterior	Mild (Medium)	✓	Optional*
Monumental		Exterior	Mild (Low)	✓	-
All Commercial (>3 levels)		Exterior	Severe (High to very high)	✓	✓
All Commercial (>3 levels)		Exterior	Mild (Medium)	✓	Optional*
All Commercial (>3 levels)		Exterior	Mild (Low)	✓	-
Light Commercial Developments (<4 levels)		Exterior	Severe (High to very high)	✓	✓
Light Commercial Developments (<4 levels)		Exterior	Mild (Medium)	✓	Optional*
Light Commercial Developments (<4 levels)		Exterior	Mild (Low)	✓	-
Residential (>3 levels)		Exterior	Severe (High to very high)	✓	✓
Residential (>3 levels)		Exterior	Mild (Medium)	✓	Optional*
Residential (>3 levels)		Exterior	Mild (Low)	✓	-
Residential (<4 levels)		Exterior	Severe (High to very high)	✓	✓
Residential (<4 levels)		Exterior	Mild (Medium)	✓	Optional*
Residential (<4 levels)		Exterior	Mild (Low)	✓	-
Non Habitable		Exterior	Severe (High to very high)	✓	✓
Non Habitable		Exterior	Mild (Medium)	✓	Optional*
Non Habitable		Exterior	Mild (Low)	✓	-
All Projects		Interior	Moderate Interior (High)	✓	✓
All Projects		Interior	Moderate Interior (Medium)	✓	Optional*
All Projects		Interior	General Interior (Very low to low)	✓	-

** Duratec Intensity – Colour Warranty 15 Years

Steel Shield™ warranties

Steel Shield™ warranties are available, in line with the following stipulations:

- Steel Shield™ warranties are available when applied by a Dulux Accredited Powder Coater to the warranty specification on recommended project types and conditions
- All Dulux powder products are NOT suitable in strongly acidic or caustic environments, so the pH must be between 5 and 9.

Impact of distance to the sea

1. Fluoraset may be suitable in locations <10m from the high tide line e.g. harbours (contact Dulux for advice).
2. Electro and Duratec are only suitable for environments >10m from the high tide line.
3. Duralloy is only suitable for environments >100m from the high tide line.

Conditions

Use the following table which references AS 2312.1, SNZ TS 3404 and ISO 9223 to identify the environment, conditions and atmospheric corrosivity categories. To pinpoint your projects corrosivity zone this table should be used together with the Dulux Macroclimate Corrosivity Zone Maps of New Zealand Guide available at duluxpowders.co.nz

Environment	Conditions	Corrosivity Zone	Carbon (Mild) Steel Corrosion Rate (g/m ²) ⁴	Example Environments
Exterior Environment	Mild	C2 Low	10–200	Arid, dry, urban, inland, city
		C3 Medium	200–400	Light Industrial, geothermal (>500m from source) ¹ and inland coastal (mild sea spray zone)
	Severe	C4 High	400–650	Sea shore (medium sea spray zone), offshore Islands ³ and or geothermal (<500m from source) ²
		C5 Very High Marine & Industrial	650–1500	Sea shore (high sea spray zone e.g. surf), offshore Islands ³ and heavy industrial



Top Coat Choice							
Fluoraset ¹		Electro ²		Duratec ²		Duralloy ³	
Corrosion Warranty	Colour Warranty	Corrosion Warranty	Colour Warranty	Corrosion Warranty	Colour Warranty	Corrosion Warranty	Colour Warranty
5 Years	30 Years	-	-	-	-	-	-
5 or 10 Years*	30 Years	-	-	-	-	-	-
10 Years	30 Years	-	-	-	-	-	-
5 Years	30 Years	5 Years	15 years	5 Years	20 Years**	-	-
5 or 10 Years*	30 Years	5 or 10 Years*	15 years	5 or 10 Years*	20 Years**	-	-
10 Years	30 Years	10 Years	15 years	10 Years	20 Years**	-	-
5 Years	30 Years	5 Years	15 years	5 Years	20 Years**	-	-
5 or 10 Years*	30 Years	5 or 10 Years*	15 years	5 or 10 Years*	20 Years**	-	-
10 Years	30 Years	10 Years	15 years	10 Years	20 Years**	-	-
5 Years	30 Years	5 Years	15 years	5 Years	20 Years**	-	-
5 or 10 Years*	30 Years	5 or 10 Years*	15 years	5 or 10 Years*	20 Years**	-	-
10 Years	30 Years	10 Years	15 years	10 Years	20 Years**	-	-
5 Years	30 Years	5 Years	15 years	5 Years	20 Years**	-	-
5 or 10 Years*	30 Years	5 or 10 Years*	15 years	5 or 10 Years*	20 Years**	5 or 10 Years*	10 Years
10 Years	30 Years	10 Years	15 years	10 Years	20 Years**	10 Years	10 Years
5 Years	30 Years	5 Years	15 years	5 Years	20 Years**	-	-
5 or 10 Years*	30 Years	5 or 10 Years*	15 years	5 or 10 Years*	20 Years**	5 or 10 Years*	10 Years
10 Years	30 Years	10 Years	15 years	10 Years	20 Years**	10 Years	10 Years
5 Years	30 Years	5 Years	15 years	5 Years	20 Years**	-	-
5 or 10 Years*	30 Years	5 or 10 Years*	15 years	5 or 10 Years*	20 Years**	-	-
10 Years	30 Years	10 Years	15 years	10 Years	20 Years**	10 Years	10 Years

* Important Primer Advice

Powder Primers are required for all Steel Shield™ Warranties on appropriately prepared mild steel substrates as detailed below:

- In Mild (medium) exterior and Moderate Interior (medium) environments a 5 year corrosion warranty is available with a Zincshield® and the specified topcoat system.
- In Mild (medium) exterior and Moderate Interior (medium) environments a 10 year corrosion warranty is available with a Zincshield®, E-Prime™/Grey Primer and the specified topcoat system.

Other considerations

All Dulux powder products are NOT suitable in strongly acidic or caustic environments so the pH must be between 5 and 9.

Please refer to interior and exterior environments close to liquids considerations on page 6 for warranty implications where powder coatings may be in close proximity to liquids other than the sea.

Please refer to geothermal considerations on page 6 for warranty implications.

Environment	Conditions	Corrosivity Zone	Carbon (Mild) Steel Corrosion Rate (g/m2) ⁴	Example Environments
Interior Environment	General Interior	C1 Very Low	<10	Dry interiors (homes, offices, shops)
		C2 Low	10–200	Minor condensation (warehouses, sports halls)
	Moderate Interior	C3 Medium	200–400	High moisture (dairy and food processing plants, breweries, and commercial laundries)
		C4 High	400–650	Significant contamination (swimming pools)

- Geothermal environments greater than 500m of a bore, mud pool, steam vent, or other source with a pH between 5 and 9. For a pH outside this consult Dulux.
- Geothermal hot spots within 500m of a bore, mud pool, steam vent, or other source.
- All offshore islands including Waiheke Island, Stewart Island, Fraser Island and Pacific islands e.g. PNG, Fiji, Samoa, Tonga, Tahiti, Noumea
- The corrosion rates for the first year of exposure for the different corrosivity categories of carbon (mild) steel are determined by the following standards:

- SNZTS 3404 – Standards NZ Technical Specification – Durability requirements for steel structures & components.
- AS 2312.1 – Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings. Part 1: Paint coatings.
- ISO 9223 – Corrosion of metals and alloys – Corrosivity of atmospheres – Classification, determination and estimation.

For more information about specifications call our Advice line on 0800 800 975 or visit duluxpowders.co.nz

Important warranty considerations

Your warranty can also be impacted by its proximity to liquids other than the sea and geothermal environments whilst a regular care and maintenance program must be implemented for warranty compliance.

Interior and exterior environments close to liquids other than the sea

For powder coated assets close to liquids other than the sea, e.g. fences near swimming pools, fountains, bathrooms or furniture etc. Please refer to the guidance below for your product choice and to understand the warranty limitations in these environments.

	Chemically Treated ¹	Clean Tap, Fresh or Potable Water	Salt Water ¹	Other
Fluoraset	◆	●	◆	Seek advice from Dulux Call 0800 800 975
Electro	◆	●	◆	
Duratec	◆	●	◆	
Duralloy	○	●	✓	

1. Aggressive liquids such as chemically treated liquids and salt water must be cleaned off immediately as per the Dulux Care and Maintenance guide. Please note chemically treated water includes antimicrobial treatments, e.g. in pools, anti-corrosive chemicals, and soapy water in bathrooms and showers.

- ◆ Where indicated Steel Shield™ warranties are available on areas >than 1m from the liquid.
- ✓ Where indicated Steel Shield™ warranties are available on areas >than 2m from the liquid (i.e. outside the splash zone).
- Where indicated Steel Shield™ warranties are available on areas >1m from the liquid on interior applications and >2m on exterior applications.
- Where indicated Steel Shield™ warranties are available any distance from the liquid.

All Dulux powder products are NOT suitable in strongly acidic or caustic environments so the pH must be between 5 and 9.

Steel Shield™ warranties are not available if the powder coating is immersed in any liquid.

Geothermal considerations

For powder coated assets close to geothermal zones, the choice of product is dependent on the level of geothermal activity and specifically the distance from the geothermal source. For those close to geothermal activity (within 500m of the source) powder coating products that are super durable or ultra-durable can be considered. For areas that are more than 500 metres beyond the geothermal source (such as Sulphur Bay, Rotorua), and have been assessed using the smell test as having minimal or non-existent geothermal influence, the standard corrosion zones or categories apply based on distance from the sea apply and other factors.

*Distance to Geothermal Environment	Fluoraset	Duratec	Electro	Duralloy
Less than 500m from source	✓	✓	✓	✗
Greater than 500m from source	✓	✓	✓	✓

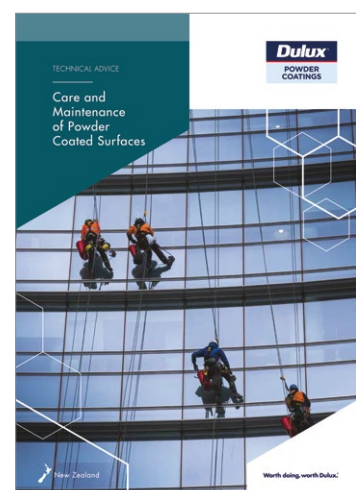
* Distance from bore, mud pool, steam vent, or other source with a pH between 5 and 9. For a pH outside this consult Dulux.

Care and maintenance

Care and maintenance is essential for warranty compliance

To ensure the life of your asset is maximised and to comply with Dulux Steel Shield™ warranty requirements, a simple and regular maintenance program must be implemented and recorded in line with the Dulux Care and Maintenance of Powder Coated Surfaces brochure.

For more information refer to the Dulux Care and Maintenance of Powder Coated Surfaces brochure visit duluxpowders.co.nz/tech-advice



Technical requirements for Steel Shield™ warranties

The primary cause of corrosion of steel is poor surface preparation. The integrity of the coating is directly affected by the surface it is applied to. If surface preparation is poorly done, the coating will not adhere properly to the steel substrate thereby reducing the lifespan and effectiveness of the coating. That's why Dulux Steel Shield™ warranties are only available from Dulux Accredited Powder Coaters, who are certified and tested to ensure they are able to prepare the substrate and apply the coating system to standard.

Preparation imperatives for Steel Shield™ warranties

Corrosion protection of mild steel is based on a combination of surface preparation and the application of a primer and topcoat system suitable for the required corrosivity category. The following key steps are essential to comply with the requirements of the Steel Shield™ warranty.

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 AS 1627.2 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.

Note: A blast medium should be used 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 that an alternative substrate such as aluminium be considered. Failure to suitably prepare a steel substrate may void a Steel Shield™ warranty.

The steel must be coated within 4 hours of blasting and stored in an area which is clean and dry.

Dulux Accredited Powder Coaters must comply with the metal pre-treatment guidelines set out in the Accredited Steel Shield™ Manual for a Steel Shield™ warranty to be issued.

Dulux Accredited Powder Coaters

Only Dulux Accredited Powder Coaters are able to issue our Dulux Steel Shield™ warranties after demonstrating their capability to meet stringent quality conditions and international standards. Warranties are only valid when applied by a Dulux Accredited Powder Coater to the warranty specification on recommended projects, and subject to specified warranty terms and conditions.



For more information visit duluxpowders.co.nz/accredited



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 a Steel Shield™ warranty
- Design, coating system and colour advice

Call 0800 800 975 or visit **duluxpowders.co.nz**

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