

Dulux Powder Coatings Zincshield®2

AU_DP01832

Product Code	990 line
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Description

Zincshield®2 is a zinc rich epoxy based thermosetting powder coating designed to inhibit rust and adhesion loss on ferrous metals. Zincshield® has been designed as an undercoat for powder topcoats such as the Alphatec® range, Duralloy®FPG and Duralloy®. It can also be used as a functional topcoat where appropriate.

Features And Benefits

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| <ul style="list-style-type: none"> ▪ Excellent corrosion resistance ▪ Film integrity ▪ Very good surface hardness ▪ Very good flow ▪ Good chemical resistance ▪ No solvents or emissions | <ul style="list-style-type: none"> ▪ Sacrificial layer increasing service life ▪ Long intact life of coating ▪ Hard wearing/serviceable finish ▪ Less waste and pollution to the environment ▪ Excellent filler for topcoats ▪ Excellent corrosion protection |
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Uses

Zincshield®2 has been specifically designed for coatings over ferrous metals as a sacrificial coating. Suggestions for use include ironwork, street and garden furniture, gas cylinders and tanks, agricultural machinery, transport (trailers), valves, and transformers.

Precautions And Limitations

As a result of possible wide application variations and stoving conditions, Zincshield®2 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.

For optimum corrosion performances ensure recommended dry film thickness be obtained.

Should not be used in acidic environments.

Not recommended for components which are exposed to constant temperatures exceeding 120°C.

Severe over baking may result in intercoat adhesion problems. For optimal intercoat adhesion refer the cure details in the application section of this data sheet.


Please refer to all Notes as they are important to the overall finish of Zincshield®2.

Performance Guide

Exterior Durability	Zincshield®2 is not recommended for exterior use without a topcoat. It contains an epoxy component which will chalk on exterior exposure.	Salt	Shot blasted mild steel to Class 2.5 (2000 hours ASTM B117).
Heat Resistance	Excellent resistance @ 120°C continuous service conditions.	Water	Excellent resistance to 38°C/100% humidity for 1000 hours on blasted steel.
Abrasion	Excellent resistance to abrasion.	Acid	Resistant to spills of dilute acid.
Alkali	Resistant to spills of dilute alkali.		

Typical Properties			
Gloss Level	40% at 60°	Coverage	4 - 5 m2/kg corresponds to 80 micron cured film thickness assuming no loss. Practical spreading rates will vary due to such factors as method and conditions of application and surface profile and texture.
Shelf Life	12 months when stored below 25°C/dry conditions	V.O.C Level	N/A
Colour	Grey		
Meets GBCA VOC Requirement?	Yes. Dulux Powder Coatings: <ul style="list-style-type: none"> ▪ Contain no harmful volatile organic solvents ▪ Free of heavy metal pigments such as lead, cadmium, arsenic & mercury ▪ Proven low temperature curing technology ▪ Produced with stringent Safety, Health & Environmental policies and standards ▪ Developed with consideration of life cycle analysis, to guide our suppliers and the materials we use ▪ Manufactured in facilities where significant energy and resources employed in production, are measured with aggressive reduction targets in place ▪ Produced and used with minimal waste Consequently, Dulux ® Powder Coatings are a prime consideration for projects where air quality standards have been set, such as 4, 5 & 6 Green Star Rating Projects.		
Sanding Properties	Sandable	Film Build (microns)	Minimum 50 microns, Maximum 110 microns
Clean Up	Dust or vacuum loose powder. Avoid use of compressed air.	Application Method	Electrostatic Spray
Specific Gravity	2.39	Flexibility	Pass 80 inch/lb
Pencil Hardness	Min 3H	Knoop Hardness	Min 18
Cross Hatch Adhesion	No removal	Chemical Resistance	White Spirits Resistant Ethanol Resistant Xylene Slight softening/limit contact Ethyl Acetate Softens after prolonged contact Methyl Ethyl Ketone Softens after prolonged contact Pine Oil Slight softening (360hrs) Liquid Detergent Dilute solution no effect (400hrs) Diesel No effect (400hrs) 96 Octane Petrol No effect (400hrs)
Cure Schedule	Metal Temperature (°C) Time (minutes) Comments 200 10 Mins When applying subsequent coats partially cure for 3 - 5 minutes at 120-150°C metal temperature. This partial cure is referred to as a green cure.		

Application Guide	
Surface Preparation	<ul style="list-style-type: none"> MILD STEEL Mild steel contains less than 0.25% carbon. New mild steel surfaces should be inspected for millscale, rust, sharp edges, burr marks and welding flux, forming or machine oils, salts, chemical contamination or mortar splashes on them, all of which must be removed. <p>Sa 2½ Very thorough blast cleaning. When viewed without magnification, the surface shall be free from visible oil, grease and dirt, and shall be free from mill scale, rust, paint coatings and foreign matter. Any remaining contamination shall show only as slight stains in the form of spots or stripes and correspond to the prints designated Sa 2½ in AS 1627.9.</p>
Application Procedure And Equipment	<ul style="list-style-type: none"> Electrostatic spray. Testing <p>Cure testing is only relevant if the primer is expected to be used as a single coat; or if a fully cured top coat has been applied. Test for cure of the coating by contact with a drop of Corsol PGMA (available from Dulux Powder Coatings) for 30 seconds. Surface should be wiped dry. Only slight surface softening should occur.</p> <p>Check adhesion with a cross cut method as described in AS4506.</p> <p>Zincshield®2 has a very high specific density. Additional care should be taken when handling the powder to ensure correct lifting techniques are followed.</p> <p>Typical coverage rate: A coverage rate of 4 - 5 m²/kg corresponds to 80 micron cured film thickness assuming no loss. Practical spreading rates will vary due to such factors as method and conditions of application and surface profile and texture.</p> <ul style="list-style-type: none"> Zincshield®2 Application Aged or compacted powder may require pre-conditioning for several minutes to fluidise evenly. Zincshield® 2 will require the fluidising air pressure to be increased from that of standard powder. <p>For box feeders, ensure probe is fully inserted in powder and operated as per manufacturer's recommendations. As Zincshield®2 has a higher than average specific gravity, box feeders will need to be tested to make sure an adequate transfer of powder can be achieved.</p> <p>Apply one coat of Zincshield®2 by electrostatic spray at an average film build of 80 microns.</p> <p>*Curing</p> <p>It is recommended that Zincshield®2 be top coated within 12 hours due to a possible moisture uptake of the coating.</p> <p>Assuming top coat applied within 12 hours: Partially cure for 3 - 5 minutes at 120-150°C metal temperature. This partial cure is referred to as a green cure.</p> <p>Green cured metal is prone to chipping/cracking if not handled with care. Ensure green cured metal is protected from mechanical damage caused by unloading/stacking.</p> <p>Use top coat cure schedule to complete cure of Zincshield® 2.</p> <p>Assuming top coat applied after 12 hours: Provide full cure for 10 minutes at 200°C metal temperature. Avoid over cure as this will inhibit intercoat adhesion with top coat. Refer note below for further details.</p> <p>Store in clean, dry environment until the next stage. The condition of storage between coats has direct effect on adhesion and a consequence on the degree of cleaning before top coating. Avoid UV exposure of primed metal.</p> <p>Assuming no top coat to be applied: Provide full cure for 10 minutes at 200°C metal temperature.</p> <p>Top Coating: Depending on the interval between priming and re-coating, and the extent of cure, the Zincshield®2 surface may need a light sand and solvent clean to remove build up of deposits. Suitable solvents include: methylated spirits or Prepsol.</p> <p>Apply an exterior durable top coat at the recommended film build and cure as normal ie. 10 minutes at 200°C metal temperature.</p> <p>Green cured metal should not be over coated with ripple, textured or other surface effect finishes as continued flow of the Zincshield®2 will impair pattern creation or formation.</p>

Spray Application Guide	
Thinner 	Not applicable

Care And Maintenance

As a general rule, cleaning of externally located powder coating surfaces must take place every six months. Where salts/pollutants are more prevalent such as seaside and industrial areas, a cleaning program should be carried out more frequently.

THREE STEPS TO CLEANING POWDER COATED SURFACES

1. Remove loose deposits with a wet sponge (avoid scratching the surface by dry dusting).
2. Using a soft clean cloth and a mild detergent in warm water, clean the powder coating to remove dust, salt or other deposits.
3. Always rinse after cleaning with fresh water to remove any remaining detergent.

WARNING:

In some cases, strong solvents recommended for thinning various types of paints and also for cleaning up mastics/sealants are harmful to the extended life of the powder coated surface. These solvents should not be used for cleaning purposes. If paint splashes or sealants/mastics need to be removed then the following solvents can be used safely: Methylated Spirits, White Spirits, Ethyl Alcohol, Isopropanol.

Health And Safety

MSDS Number	4622, 0	Health Effects	The MSDS 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 Chemical Data Sheet (No. 4622) available through Sales and Customer Service Offices. Phone: Australia:- 13 24 99 New Zealand:- 0800 800 975.
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In the case of emergency, please call 1800 033 111

Transport And Storage

Package Weight	20 Kg	Shipment Name	Not dangerous goods. No special transport requirements.
Flash Point	N/A	UN Number	N/A
Dangerous Goods Class	N/A	Package Group	N/A

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