ZINCANODE® 304

Solvent Borne Inorganic Zinc Silicate **PC 142**

FEATURES

- APAS APPROVALS FOR IMMERSION AND AGGRESSIVE ENVIRONMENTS
- APPROVED AS A PRIMER FOR POTABLE WATER TANK SYSTEM
- SUPERIOR TO GALVANISING IN CHEMICAL AND MARINE ENVIRONMENTS

USES

ZINCANODE® 304 is a two pack self curing inorganic zinc silicate with an extensive service record both as a permanent primer and as a prime coating underneath specified topcoats in the most aggressive industrial and marine environments. When cured, it gives an exceptionally hard coating that resists damage during transport. The ZINCANODE® 304 cured film exhibits a matt grey appearance.
ZINCANODE® 304 provides outstanding cathodic protection to steel surfaces, without overcoating, under industrial and marine service. The service life may be extended or a decorative finish can be provided by overcoating with an epoxy, chlorinated rubber, acrylic or polyurethane protective coating.
ZINCANODE® 304 is used on bridge structures, interiors and exteriors of petroleum storage tanks, bulk handling terminals and chemical and industrial plant. It has been used extensively on shipping facilities and offshore platforms. It is approved for use under LUXEPOXY® 4 White primer as a lining system for potable water tanks.
Zincanode® 304 is suitable for application to the faying surfaces of friction grip joints.

SPECIFICATIONS AS/NZS 3750.15 Type 4.

RESISTANCE GUIDE

HEAT RESISTANCE	-50°C to 400°C dry heat.
WEATHERABILITY	Withstands the most severe weathering conditions.
SOLVENTS	Insoluble in chlorinated hydrocarbons (dry), aromatics, ketones & esters, most petroleum solvents and oil crudes.
ACIDS	Not recommended for acid conditions.
ALKALIS	Resists alkali environments with epoxy topcoats.
SALTS	Requires topcoating for immersed conditions.
WATER	Requires topcoating for immersion.
ABRASION	Excellent.

TYPICAL PROPERTIES AND APPLICATION DATA

CLASSIFICATION	Solvent based inorganic zinc silicate	
FINISH	Matt	
COLOUR	Grey	
COMPONENTS	Two	
SOLIDS BY VOLUME	Not Applicable	
VOC LEVEL	<550 g/L	
FLASH POINT	16°C	
POT LIFE	8 hours (25°C, 50% RH)	
ZINC IN DRY FILM	83% minimum by hydrogen evolution	
MIXING RATIO (W/W)	Liquid : 1.00	Powder : 2.22
THINNER	920-08925	Dulux® Epoxy Thinner
PRODUCT CODE	730-63030	Liquid
	812-33225	Powder

APPLICATION CONDITIONS	Min	Max
Air Temperature	5°C	30°C
Substrate Surface Temperature	5°C	35°C
Relative Humidity	50%*	85%

	Min	Max	Recom.
Wet film per coat (microns)	90	135	110
Dry film per coat (microns)	60	90	75

SUITABLE SUBSTRATES Abrasive blast cleaned steel.

TOPCOATS Most single and two pack products except for alkyd based coatings.

APPLICATION METHODS Conventional or airless spray.

Drying characteristics at 75 microns dry film thickness

					Overcoat	
Temperature	**Humidity**	**Touch**	**Handle**	**Full Cure**	**Min**	**Max**
25° C	50%	10 Minutes	2 Hours	4 Days	24 Hours	Indefinite

These figures are given as a guide only, as ventilation, film thickness, humidity, thinning and other factors will influence the rate of drying.

***** Application when relative humidity is below 50% will severely reduce or may prevent curing. Refer to PRECAUTIONS section over.

TYPICAL SPREADING RATE AT RECOMMENDED DRY FILM BUILD

A spreading rate of 7.0 sq. metres per litre corresponds to 75 microns dry film thickness assuming no losses. Due to the porous nature of zinc silicate coatings it is not possible to directly relate practical spreading rate with theoretical volume solids as is common with conventional coatings.

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TYPICAL SYSTEMS

(The typical systems are offered as a guide only and are not to be used as a specification. It is recommended that the specific needs of a project be discussed with a Dulux Protective Coatings Consultant.)

SURFACE	PREPARATION GUIDE	SYSTEM		DRY FILM THICKNESS
STEEL	Abrasive blast to AS1627.4 Class 2.5	1st Coat 2nd Coat 3rd Coat	ZINCANODE® 304 FERREKO® No. 3 FERREKO® No. 3	75 Microns 100 Microns 100 Microns
		1st Coat 2nd Coat 3rd Coat	ZINCANODE® 304 DUREMAX® GPE LUXATHANE® R	75 Microns 125 Microns 50 Microns
		1st Coat	ZINCANODE® 304	75 Microns

SURFACE PREPARATION

Round off all rough welds, sharp edges and remove weld spatter. Remove grease, oil and other contaminants in accordance with AS1627.1. Rinse surface thoroughly to remove acid or alkali contamination. Abrasive blast clean to a minimum of AS1627.4 Class 2.5 with a blast profile of 20-50 microns. Immersed steel must be prepared to AS1627.4 Class 3. Remove all dust by brushing or vacuum cleaning. Apply product before any surface deterioration occurs.

APPLICATION

Remove the zinc from its container by lifting out the plastic bag. Mix the liquid component thoroughly by shaking the container to ensure it is uniform and pour it into the empty zinc container. Ensure all contents are transferred. Slowly add the zinc in the supplied ratio under continuous stirring until all of the zinc powder is fully incorporated and a smooth mix is obtained. Strain the mix through a 30-60 mesh metal screen into a clean container ensuring no zinc is left on the screen. Remix and repeat the straining process, discarding any large zinc particles caught on the mesh. Mix only enough product that may be used within the pot life period. An air powered automatic agitation stirrer should be used for the entire time the product is being applied. All incoming air for pressure pots; spray guns and airless pump motors should be free of moisture, oil vapour, or any other contamination. Compressors should be fitted with moisture and oil separators. Inorganic Zinc coatings are very heavy liquids and spray techniques need to be adapted accordingly.

BRUSH/ROLLER

Not Recommended. Use ZINCANODE® 402 or 202 for touch up procedures.

CONVENTIONAL SPRAY

Thinning is not normally required. The atomising pressure at the gun should be adjusted between 2.7 - 4 bar (40-60 p.s.i.) so that the fan is uniform across the width of the spray pattern. The material flow rate through the gun should be adjusted so that a solid stream of zinc flows from the material nozzle for approximately 200mm (8") to 254mm (10") before dropping. Adjust the width of the fan so that an even thickness of coating is deposited to the substrate. Having the fan too wide or the atomising air pressure too high will result in uneven film thickness, dry spray at edges and the possibility of mud cracking in the middle sections of the spray pattern. Apply even, wet coats in a multiple pass method (wet on wet) to achieve the wet film thickness required for the specified dry film thickness. Fluid hoses should be as short as possible and 12mm minimum bore.

Ensure paint is regularly agitated during application to prevent separation.

Typical Set-up

Graco Delta Gun:	1.8mm (239543)
Pressure at Pot:	70-105 kPa (10-15 p.s.i.)
Pressure at Gun:	380-415 kPa (55-60 p.s.i.)

AIRLESS SPRAY

Thinning is not normally required but up to 50 ml/litre of Dulux® Epoxy Thinner (92008925) may be added to ease application. Select a spray tip that has a spray width suitable for the item being coated. Adjust the inbound air pressure to the airless pump so that the atomising pressure at the tip is sufficient to evenly atomise the coating. Using excessive atomising pressure and standing too far from the work will result in a dry spray finish and can lead to mud cracking. Use a multiple pass spray technique to achieve the wet film thickness required for the specified dry film thickness.

Standard airless spray equipment such as a Graco 33:1 Bulldog with a fluid tip of 15-19 thou (0.38-0.48mm) and an air supply capable of delivering 550-690 kPa (80-100 p.s.i.) at the pump would generally be suitable.

Ensure paint is regularly agitated during application to prevent separation.

PRECAUTIONS

This is an industrial product designed for use by experienced Protective Coating applicators. Where conditions may require variation from the recommendations on this Product Data Sheet contact your nearest Dulux® representative for advice prior to painting. Do not apply in conditions outside the parameters stated in this document without the express written consent of Dulux® Australia. Freshly mixed material must not be added to material that has been mixed for some time. The rate of cure is dependent upon temperature. Do not apply at temperatures below 5°C. Do not apply at relative humidity above 85%, below 50% or when the surface is less than 3°C above the dewpoint. Do not exceed 90 microns DFT in one application. If higher builds are required these must be built up in multiple coats after reference to the manufacturer. Topcoats of a saponifiable nature such as alkyds must never be applied directly to ZINCANODE®304. If applied below 50% relative humidity or onto a very hot surface, curing will be retarded and hardness should be checked before topcoating. In such cases, misting down with a low - pressure water spray can accelerate hardness development.

CLEAN UP

Clean all equipment with Dulux® Epoxy Thinner (92008925) immediately after use.

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OVERCOATING	Aged coating should be tested for lifting by a method appropriate for the coating thickness, for example 'X' cut or cross-hatch methods. If it lifts, remove it. The surface must be free of oil, grease and other contaminants. High-pressure water wash at 8.3 to 10.3 MPa (1,200 - 1,500 p.s.i.) to remove loosely adhering chalk and dust. It is not recommended to recoat aged ZINCANODE® 304 with itself. Use ZINCANODE® 402 or 202.
SAFETY PRECAUTIONS	**Read Data Sheet, Safety Data Sheet and any precautionary labels on containers.**
STORAGE	Store as required for a flammable liquid Class 3 in a bunded area under cover. Store in well-ventilated area away from sources of heat or ignition. Keep containers closed at all times. Avoid moisture contamination of both components.
HANDLING	Avoid moisture contamination of the product as gassing may occur. As with any chemical, ingestion, inhalation and prolonged or repeated skin contact should be avoided by good occupational work practice. Eye protection approved to AS1337 should be worn where there is a risk of splashes entering the eyes. Always wash hands before smoking, eating, drinking or using the toilet.
USING	Use with good ventilation and avoid inhalation of spray mists and fumes. If risk of inhalation of spray mists exists, wear combined organic vapour/particulate respirator. When spray painting, users should comply with the provisions of the respective State Spray Painting Regulations.
FLAMMABILITY	This product is flammable. All sources of ignition must be eliminated in, or near the working area. DO NOT SMOKE. Fight fire with foam, CO_2 or dry chemical powder. On burning will emit toxic fumes.
WELDING	Avoid inhalation of fumes if welding surfaces coated with this paint. Grind off coating before welding.

SAFETY DATA SHEET is available from Dulux Customer Service (Australia 132 377 or New Zealand 0800 800 424)
www.duluxprotectivecoatings.com.au

Dulux Protective Coatings a division of

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PACKAGING	Available in 10 litre pack
TRANSPORTATION WEIGHT	6.7 kg/litre (Average of components)
DANGEROUS GOODS	Liquid: Class 3 UN 1263 Powder: Non Dangerous Goods

Any advice, recommendation, information, assistance or service provided by DULUX Australia in relation to goods manufactured by it or their use and application is given in good faith and is believed by Dulux to be appropriate and reliable. However, any advice, recommendation, information, assistance or service provided by Dulux is provided without liability or responsibility PROVIDED THAT the foregoing shall not exclude, limit, restrict or modify the right entitlements and remedies conferred upon any person or the liabilities imposed upon Dulux by any condition or warranty implied by Commonwealth, State or Territory Act or ordinance void or prohibiting such exclusion limitation or modification. Products can be expected to perform as indicated in this sheet so long as applications and application procedures are as recommended. Specific advice should be sought from Dulux for application in coastal areas and for large projects to ensure proper performance.