DUREZINC™ i90
High Performance Solvent Borne Inorganic Zinc Silicate

FEATURES
• HEAVY DUTY CATHODIC PROTECTION FOR STEEL IN CORROSIVE MARINE ENVIRONMENTS
• HIGH ZINC CONTENT – MEETS AS/NZS 3750.15 TYPE 4 & SSPC-PAINT 20 LEVEL 1
• COMPATIBLE WITH A RANGE OF PROTECTIVE COATINGS FOR EXTENDED SERVICE LIFE
• GOOD IMPACT AND ABRASION RESISTANCE WHEN FULLY CURED

USES
DUREZINC™ i90 is a two part self curing inorganic zinc silicate formulated for heavy duty corrosion protection in the most aggressive industrial and marine environments. DUREZINC™ i90 cures to hard, tough coating that resists damage during transport. DUREZINC™ i90 provides outstanding cathodic protection to steel surfaces, without the need for 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.

DUREZINC™ i90 is used on bridge structures, interiors and exteriors of petroleum storage tanks, bulk handling terminals and chemical and industrial plant. It can also be used on shipping facilities and offshore platforms.

SPECIFICATIONS
AS/NZS 3750.15 Type 4
SSPC-PAINT 20 Level 1

RESISTANCE GUIDE
WEATHERABILITY
Withstands the most severe weathering conditions

SOLVENTS
Insoluble in chlorinated hydrocarbons (dry), aromatics, ketones & esters, most petroleum solvents and oil crudes

WATER
Requires topcoating for immersion

ALKALIS
Requires topcoating for immersion

ABRASION
Resists alkali environments with epoxy topcoats

EXCELLENT when fully cured

TYPICAL PROPERTIES AND APPLICATION DATA
CLASSIFICATION
Solvent based inorganic zinc silicate

APPLICATION CONDITIONS
Min  Max
Air Temp. 5°C 30°C
Substrate Temp. 5°C 35°C
Relative Humidity 50%¹ 85%

COATING THICKNESS (MICRONS)
Min  Max  Recommended
Wet film per coat (μm) 90 135 110
Dry film per coat (μm) 60 90 75

SUITABLE SUBSTRATES
Abrasive blast cleaned steel

PRIMERS
Not applicable

TOPCOATS
Most Dulux® two pack products

APPLICATION METHODS
Conventional or airless spray

DURING CHARACTERISTICS AT 75 μm DRY FILM THICKNESS*

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Humidity</th>
<th>Touch</th>
<th>Handle</th>
<th>Full Cure</th>
<th>Min²</th>
<th>Max³</th>
</tr>
</thead>
<tbody>
<tr>
<td>25°C</td>
<td>50%</td>
<td>10 Minutes</td>
<td>2 Hours</td>
<td>4 Days</td>
<td>24 Hours</td>
<td>Extended</td>
</tr>
</tbody>
</table>

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

¹ Application when relative humidity is below 50% will severely reduce or may prevent curing. Refer to PRECAUTIONS section.

² Durezinc™ i90 requires humidity to cure. Ensure coating is adequately cured before overcoating.

³ Once Durezinc™ i90 has been exposed to the environment and the surface exhibits contamination or signs of sacrificial corrosion products (chalkiness), then special preparation techniques will be required prior to overcoating.

SPREADING RATE

7.0 square metres per litre equals 75 μm dry film thickness

NOTE: Practical spreading rates will vary depending on application method, ambient conditions, surface porosity and roughness. 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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DUREZINC™ i90

TYPICAL SYSTEMS

This is a guide only and not to be used as a specification. Your specific project needs must be discussed with a Dulux Protective Coatings Consultant.

<table>
<thead>
<tr>
<th>SURFACE</th>
<th>ENVIRONMENT</th>
<th>PREPARATION GUIDE</th>
<th>SYSTEM</th>
<th>DFT (μm)</th>
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</thead>
<tbody>
<tr>
<td>STEEL – NEW</td>
<td>High corrosivity (AS2312.1 Cat C4) System IZS1</td>
<td>Abrasive blast clean AS1627.4 Class 2.5</td>
<td>1st Coat Durezinc™ i90</td>
<td>75 μm</td>
</tr>
<tr>
<td>STEEL – NEW</td>
<td>Very high corrosivity (AS2312.1 Cat C5) Exceeds System PUR5</td>
<td>Abrasive blast clean AS1627.4 Class 2.5</td>
<td>1st Coat Durezinc™ i90 2nd Coat Duremax® GPE MIO 3rd Coat Weathermax® HBR</td>
<td>75 μm 200 μm 100 μm</td>
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<tr>
<td>STEEL – NEW</td>
<td>Very high corrosivity (AS2312.1 Cat C5) System PUR5</td>
<td>Abrasive blast clean AS1627.4 Class 2.5</td>
<td>1st Coat Durezinc™ i90 2nd Coat Duremax® GPE 3rd Coat Luxathane® HPX</td>
<td>75 μm 200 μm 50 μm</td>
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<tr>
<td>STEEL – NEW</td>
<td>Very high corrosivity (AS2312.1 Cat C5) System EHB6</td>
<td>Abrasive blast clean AS1627.4 Class 2.5</td>
<td>1st Coat Durezinc™ i90 2nd Coat Ferreko® No.3 3rd Coat Ferreko® No.3</td>
<td>75 μm 125 μm 125 μm</td>
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<tr>
<td>STEEL – NEW</td>
<td>Very high corrosivity (AS2312.1 Cat C5) System ACC5</td>
<td>Abrasive blast clean AS1627.4 Class 2.5</td>
<td>1st Coat Durezinc™ i90 2nd Coat Duremax® GPE 3rd Coat Acrathane® IF</td>
<td>75 μm 125 μm 50 μm</td>
</tr>
</tbody>
</table>

NOTE: If application is by brush or roller, additional coats will be necessary to achieve the minimum DFT and full opacity.

SURFACE PREPARATION

Steel: Round off all rough welds, sharp edges and remove weld spatter. Remove grease, oil and other contaminants in accordance with AS1627.1. Degrease with Gamlen CA 1 (a free-rinsing, alkaline detergent) according to the manufacturer’s written instructions and all safety warnings. Abrasive blast clean to a minimum of AS1627.4 Class 2.5 with a blast profile of 40 – 60 microns.

Immersed steel: Abrasive blast cleaned to AS1627.4 Class 3. Remove all dust by brushing or vacuum cleaning.

APPLICATION

Mix the liquid component thoroughly with power mixer.

Remove the zinc from its container by lifting out the plastic bag. Slowly add the zinc into the liquid at the supplied ratio under continuous stirring until all of the zinc powder is fully incorporated and a smooth mix is obtained. Ensure the entire contents are transferred. 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 application time.

All incoming air for pressure pots, spray guns and airless pump motors must 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 Zincanode® 202 for touch up.

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.

Typical Set-up

| Graco AirPro: | 1.8mm (239543) |
| Pressure at Triton 308: | 70-105 kPa (10-15 p.s.i.) |
| Pressure at Gun: | 380-415 kPa (55-60 p.s.i.) |
# DUREZINC™ i90

## 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® Consultant 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. Do not apply any topcoats of a saponifiable nature such as alkyds directly to Durezinc™ i90. If applied below 50% relative humidity or onto a very hot surface, curing may be permanently compromised and hardness should be checked before topcoating. In such cases, misting down with a low – pressure water spray can assist hardness development.

## CLEAN UP

Clean all equipment with Dulux® Epoxy Thinner (920-08925) immediately after use.

## OVERCOATING

Degrease with Gamlen CA 1 according to the data sheet. Test adhesion of existing coating by standard cross hatch adhesion test. If the coating fails, remove it. High-pressure water wash at 8.3 to 10.3 MPa (1,200-1,500 p.s.i.) to remove chalk and dust. Abrade surface to provide a good key for the new coating. Epoxies must be abraded if recoated outside the recoat window.

Do not recoat aged Durezinc™ i90 with itself. Dulux® recommends Zincanode® 402 or Zincanode® 202.

## SAFETY PRECAUTIONS

Read Data Sheet, SAFETY DATA SHEET and any precautions on container labels. SAFETY DATA SHEET is available from Customer Service (13 23 77) or www.duluxprotectivecoatings.com.au

## 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.

## HANDLING

As with any chemical, ingestion, inhalation and prolonged or repeated skin contact should be avoided by good occupational 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 spraying, users must comply with their 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, CO₂ 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.

## COMPANY INFORMATION

<table>
<thead>
<tr>
<th>Dulux Protective Coatings a division of</th>
<th>PACKAGING</th>
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<tbody>
<tr>
<td>DuluxGroup (Australia) Pty Ltd</td>
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<tr>
<td>1966 Dandenong Road, Clayton 3168</td>
<td>TRANSPORTATION WEIGHT</td>
</tr>
<tr>
<td>A.B.N. 67 000 049 427</td>
<td>2.14 kg/litre (Average of components)</td>
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<td>DANGEROUS GOODS</td>
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<tr>
<td>DuluxGroup (New Zealand) Pty Ltd</td>
<td>Liquid: Class 3 UN 1263</td>
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<tr>
<td>150 Hutt Park Road, Lower Hutt, NZ</td>
<td>Powder: Class 9 UN 3077</td>
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<td>A.B.N. 55 133 404 118</td>
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<td>Rail” and the “New Zealand NZS:5433:</td>
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<td>Dangerous Goods on Land”</td>
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<td>meeting the descriptions of UN 3077 or</td>
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<td>UN3082 are not subject to this code when</td>
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<td>Association (IATA Dangerous Goods</td>
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<td>Regulations for transport by air.</td>
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