

# DUREBILD® STE

## Surface Tolerant High Solids Epoxy Coating

PC 237

- FEATURES**
- SUPERIOR SURFACE WETTING PROPERTIES AND CORROSION RESISTANCE
  - HIGH PERFORMANCE SURFACE TOLERANT MAINTENANCE COATING
  - CAN BE APPLIED OVER A WIDE RANGE OF WELL ADHERED AGED COATINGS
  - SELF PRIMING FINISH AVAILABLE IN A WIDE RANGE OF COLOURS
  - EXCELLENT BRUSH AND ROLLER CHARACTERISTICS

**USES** DUREBILD® STE has been developed specifically for Australasian conditions using advanced epoxy technology. It is principally used as a high performance maintenance coating over hand, power tool or high-pressure water cleaned steel where blasting is impractical or not allowed. The high surface tolerance of DUREBILD® STE makes it suitable for a wide range of substrates. It can also be used for new work and as an intermediate coat. Untinted DUREBILD® STE is ideal for fresh and salt-water immersion over abrasive blast cleaned steel. It provides excellent protection against splash and spillage of a wide range of chemicals. DUREBILD® STE can be topcoated with a wide range of coating types and is available with a bloom-free cold cure hardener.

**SPECIFICATIONS** Approved to APAS 2977 AS/NZS 3750.1 Tested in accordance with AS4548.5 Appendix C & D for use as a concrete anti-carbonation coating system when used with Weathermax® HBR.

### RESISTANCE GUIDE

<b>WEATHERABILITY</b>	Will yellow with time and chalk on exterior exposure. Neither yellowing nor chalking detracts from the protective properties of the coating. Use a weatherable topcoat if required for appearance.	<b>SOLVENTS</b>	Resists splash and spillage of most hydrocarbon solvents, refined petroleum products & most alcohols.
<b>HEAT RESISTANCE</b>	Up to 120°C dry heat.	<b>WATER</b>	Excellent resistance to fresh and salt water. Tinted colours and aluminium not recommended for immersion.
<b>SALTS</b>	Excellent resistance to neutral and alkali salts. Aluminium version not recommended for alkaline conditions.	<b>ALKALIS</b>	Suitable for splash and spillage of strong alkalis. Aluminium version not recommended for alkaline conditions.
<b>ACIDS</b>	Suitable for splash and spillage of mild acids. Aluminium version not recommended for acidic conditions.	<b>ABRASION</b>	Good when fully cured.

### TYPICAL PROPERTIES AND APPLICATION DATA (STANDARD HARDENER)

<b>CLASSIFICATION</b>	Surface Tolerant Epoxy	<b>APPLICATION CONDITIONS</b>			
<b>FINISH</b>	Semi Gloss		Min	Max	
<b>COLOUR</b>	White, N35 Light Grey, Golden Yellow, Black, Aluminium, a full range of tinted colours and MTO factory made colours.	<b>Air Temp.</b>	10°C	45°C	
<b>COMPONENTS</b>	Two	<b>Substrate Temp.</b>	10°C	45°C	
<b>VOLUME SOLIDS</b>	84% (White)	<b>Relative Humidity</b>		85%	
<b>VOC LEVEL</b>	<230 g/L (White, untinted)	<b>Concrete Moisture</b>		<10%	
<b>FLASH POINT</b>	41°C	<b>COATING THICKNESS (MICRONS)</b>			
<b>POT LIFE</b>	90 Minutes (4 litre kit, 25°C)		Min	Max	Recommended
<b>MIXING RATIO V/V</b>	Part A : 4 Part B : 1	<b>Wet film per coat (µm)</b>	120	250	150
<b>THINNER</b>	920-08925 Dulux® Epoxy Thinner	<b>Dry film per coat (µm)</b>	100	210	125
<b>PRODUCT CODE</b>	775-38678 N35 Light Grey 775-39141 Golden Yellow 775-50585 Black 775-50570 Aluminium 775-63001 White/Light Base 775-63002 Deep Base 775-63003 Clear Base 976-84539 Standard Hardener 976-84685 Cold Cure Hardener	<b>SUITABLE SUBSTRATES</b>	Prepared rusty steel, aged tightly adhering coatings, prepared concrete, CFC, aluminium and galvanised steel.		
		<b>PRIMERS</b>	Zincanode® 402 (steel only)		
		<b>TOPCOATS</b>	Dulux two pack topcoats		
		<b>APPLICATION METHODS</b>	Brush, roller, conventional or airless spray. Aluminium version – spray.		

### DRYING CHARACTERISTICS AT 125 µm DRY FILM THICKNESS\* (STANDARD HARDENER)

Temperature	Humidity	Touch	Handle	Full Cure	OVERCOAT	
					Min	Max <sup>1</sup>
10° C	50%	14 Hours	36 Hours	7 Days	36 Hours	4 Weeks
15° C	50%	10 Hours	24 Hours	7 Days	24 Hours	4 Weeks
25° C	50%	6 Hours	14 Hours	7 Days	14 Hours	4 Weeks

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

<sup>1</sup>If the maximum overcoat interval is exceeded then the surface **MUST** be abraded to ensure maximum intercoat adhesion.

### SPREADING RATE 6.7 square metres per litre equals 125 µm dry film thickness

WITH STANDARD HARDENER ASSUMING NO LOSSES NOTE: Practical spreading rates will vary depending on such factors as application method, ambient conditions and surface porosity and roughness.

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## COLD CURE HARDENER

### COATING THICKNESS (MICRONS)

	Min	Max	Recommended
Wet film per coat (µm)	120	250	150
Dry film per coat (µm)	100	210	125

### APPLICATION CONDITIONS

	Min	Max
Air Temperature	5°C	45°C
Substrate Surface Temperature	5°C	45°C
Relative Humidity		85%
Concrete Moisture Content		<10%

SOLIDS BY VOLUME	84% (White/Light Base)
VOC LEVEL	<210 g/L (White, untinted)
FLASH POINT	>23°C
POT LIFE	60 Minutes (4 litre kit, 25°C)

## DRYING CHARACTERISTICS AT 125 µm DRY FILM THICKNESS\* (COLD CURE HARDENER)

### OVERCOAT

Temperature	Humidity	Touch	Handle	Full Cure	Min	Max <sup>1</sup>
5° C	50%	14 Hours	28 Hours	7 Days	28 Hours	4 Weeks
10° C	50%	13 Hours	24 Hours	7 Days	24 Hours	4 Weeks
15° C	50%	12 Hours	18 Hours	7 Days	18 Hours	4 Weeks
25° C	50%	6 Hours	9 Hours	7 Days	9 Hours	4 Weeks

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

**1If the maximum overcoat interval is exceeded then the surface MUST be abraded to ensure maximum intercoat adhesion.**

**1NOTE:** Figures shown are for non-immersion conditions. **When used for immersion conditions the maximum overcoat interval is 3 days.** The coating MUST be fully cured and completely solvent free prior to being placed under immersion conditions. Refer to PRECAUTIONS section.

Use of fast or low temperature hardeners may result in increased yellowing and a reduction of gloss level.

### SPREADING RATE

WITH COLD CURE  
HARDENER ASSUMING NO  
LOSSES

**6.7 square metres per litre equals 125 µm dry film thickness**

NOTE: Practical spreading rates will vary depending on such factors as application method, ambient conditions and surface porosity and roughness.

## 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.

SURFACE	ENVIRONMENT	PREPARATION GUIDE	SYSTEM	DFT (µm)
STEEL NEW	Very high corrosivity (AS2312.1 Cat C5) System PUR 5	Abrasive blast clean AS1627.4 Class 2.5	1 <sup>st</sup> Coat Zincanode® 402 2 <sup>nd</sup> Coat Durebild® STE 3 <sup>rd</sup> Coat Weathermax® HBR	75 µm 200 µm 100 µm
STEEL NEW	Medium Corrosivity (AS2312.1 Cat C3) System ACC1	Abrasive blast clean AS1627.4 Class 2.5	1 <sup>st</sup> Coat Durebild® STE 2 <sup>nd</sup> Coat Acrathane® IF	125 µm 50 µm
STEEL NEW OR MAINTENANCE	Medium Corrosivity (AS2312.1 Cat C3) System PUR1	Power tool clean AS1627.2 St 3 or Abrasive blast AS1627.4 Class 2	Spot Prime Durebild® STE 1 <sup>st</sup> Coat Durebild® STE 2 <sup>nd</sup> Coat Weathermax® HBR	125 µm 125 µm 100 µm
STEEL NEW OR MAINTENANCE	Immersion	Abrasive blast clean AS1627.4 Class 3.0	1 <sup>st</sup> Coat Durebild® STE 2 <sup>nd</sup> Coat Durebild® STE	125 µm 125 µm
ALUMINIUM	Exterior/Interior	Clean, degrease and abrade surface	1 <sup>st</sup> Coat Durebild® STE 2 <sup>nd</sup> Coat Luxathane® HPX	125 µm 70 µm
GALVANISED STEEL	Exterior	Degrease and whip blast	1 <sup>st</sup> Coat Durebild® STE 2 <sup>nd</sup> Coat Durebild® STE 3 <sup>rd</sup> Coat Weathermax® HBR	125 µm 125 µm 100 µm
GALVANISED STEEL	Exterior	Degrease and whip blast	1 <sup>st</sup> Coat Durebild® STE 2 <sup>nd</sup> Coat Ferreko® No. 3 3 <sup>rd</sup> Coat Ferreko® No. 3	125 µm 100 µm 100 µm
CONCRETE	Exterior	Remove release agents and other surface contaminants	1 <sup>st</sup> Coat Durebild® STE 2 <sup>nd</sup> Coat Weathermax® HBR	125 µm 100 µm

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

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<b>SURFACE PREPARATION</b>	<p><b>Steel:</b> 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. <b>Immersed steel:</b> Abrasive blast cleaned to AS1627.4 Class 3. Remove all dust by brushing or vacuum cleaning. <b>Steel where abrasive blast cleaning is not viable:</b> Rust, mill scale, oxide deposits and old paint films on metal surfaces must be removed by power tool cleaning according to AS1627.2. Coating performance is proportional to the degree of surface preparation.</p> <p><b>Galvanised steel:</b> Round off all rough welds, sharp edges and zinc dags and remove weld spatter. Clean surface in accordance with AS1627.1. Whip blast, taking care not to damage the galvanising layer. Remove all dust by vacuum cleaning.</p> <p><b>Concrete:</b> Concrete should be at least 28 days old before coating. Remove all laitance, form release, curing compounds, oil, grease and other surface contaminants. Fill any large cracks or voids using Luxepoxy® Filler.</p>									
<b>APPLICATION</b>	Mix each can thoroughly using a power mixer until the contents are uniform. Ensure bases have been tinted to the correct colour before use. DULUX ASSUMES NO RESPONSIBILITY FOR THE APPLICATION OF INCORRECT COLOUR. Mix the contents of both packs together thoroughly using a power mixer and allow to stand for 10 minutes. Box all containers before use to ensure colour consistency. Remix thoroughly before use.									
<b>BRUSH/ROLLER</b>	Apply even coats of the mixed material to the prepared surface. When brushing and rolling additional coats may be required to attain the specified thickness.									
<b>CONVENTIONAL SPRAY</b>	Thinning is not normally required, however a small amount (5% or less by volume) of Dulux® Epoxy Thinner (920-08925) can be added.									
	<table border="0"> <tr> <td>Typical Set-up</td> <td>Graco AirPro:</td> <td>1.8mm (239542)</td> </tr> <tr> <td></td> <td>Pressure at Triton 308:</td> <td>70-100 kPa (10-15 p.s.i.)</td> </tr> <tr> <td></td> <td>Pressure at Gun:</td> <td>380-410 kPa (55-60 p.s.i.)</td> </tr> </table>	Typical Set-up	Graco AirPro:	1.8mm (239542)		Pressure at Triton 308:	70-100 kPa (10-15 p.s.i.)		Pressure at Gun:	380-410 kPa (55-60 p.s.i.)
Typical Set-up	Graco AirPro:	1.8mm (239542)								
	Pressure at Triton 308:	70-100 kPa (10-15 p.s.i.)								
	Pressure at Gun:	380-410 kPa (55-60 p.s.i.)								
<b>AIRLESS SPRAY</b>	Standard airless spray equipment such as a Graco Xtreme 45:1 or 56:1 with a fluid tip of 17–21 thou (0.43-0.53mm) and an air supply capable of delivering 550-690 kPa (80 -100 psi) at the pump. Thinning is not normally required but up to 50m/litre of Dulux® Epoxy Thinner (920-08925) may be added to aid application.									
<b>PRECAUTIONS</b>	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. Do not apply at temperatures below 10°C when using Standard hardener or below 5°C when using Cold Cure hardener. Do not apply at relative humidity above 85% or when the surface is less than 3°C above the dewpoint. When used with a light colour the Cold Cure hardener will impart a yellow tone that will darken with time. When used for immersion conditions the maximum overcoat interval is 3 days at 25°C. The coating MUST be fully cured and solvent free prior to being placed under immersion conditions. When intended for immersion, or for faster drying, replace Dulux® Epoxy Thinner with Dulux® CR Reducer (965-63020). Do not use Cold Cure Hardener when priming galvanised steel as delamination can occur. The use of fast or low temperature hardeners may result in increased yellowing and a reduction of gloss level. Note that Durebild® STE Aluminium is not a decorative coating and colour variations can occur with different application techniques; for best results, apply by spray. Durebild® STE Aluminium is not recommended for acidic and alkaline conditions.									
<b>CLEAN UP</b>	Clean all equipment with Dulux® Epoxy Thinner (920-08925) immediately after use.									
<b>OVERCOATING</b>	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.									
<b>SAFETY PRECAUTIONS</b>	<b>Read Data Sheet, SAFETY DATA SHEET and any precautions on container labels. SAFETY DATA SHEET is available from Customer Service (13 23 77) or <a href="http://www.duluxprotectivecoatings.com.au">www.duluxprotectivecoatings.com.au</a></b>									
<b>STORAGE</b>	Store as required for a flammable liquid Class 3 in a bonded area under cover. Store in well-ventilated area away from sources of heat or ignition. Keep containers closed at all times.									
<b>HANDLING</b>	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.									
<b>USING</b>	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.									
<b>FLAMMABILITY</b>	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 <sub>2</sub> or dry chemical powder. On burning will emit toxic fumes.									
<b>WELDING</b>	Avoid inhalation of fumes if welding surfaces coated with this paint. Grind off coating before welding.									
<b>COMPANY INFORMATION</b>										
Dulux Protective Coatings a division of										
DuluxGroup (Australia) Pty Ltd 1956 Dandenong Road, Clayton 3168 A.B.N. 67 000 049 427	DuluxGroup (New Zealand) Pty Ltd 150 Hutt Park Road, Lower Hutt, NZ A.B.N. 55 133 404 118									
<b>PACKAGING, TRANSPORT AND STORAGE</b>										
<b>PACKAGING</b>	Available in 4 litre and 15 litre packs									
<b>TRANSPORTATION WEIGHT</b>	1.73 kg/litre (Average of components)									
<b>DANGEROUS GOODS</b>	Part A: Class 3 UN 1263 Part B: Class 8,3 UN 2734									

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