

# **DUREBILD® STE**

# Surface Tolerant High Build 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
- **EXCELLENT BRUSH AND ROLLER CHARACTERISTICS**
- WIDE RANGE OF COLOURS AVAILABLE FROM THE COLORFAST TINT SYSTEM

#### **USES**

DUREBILD® STE has been developed specifically for Australian conditions using the latest epoxy technology. It is principally used as a high performance maintenance coating over hand, power tool or high-pressure water cleaned surfaces where blasting is impractical or not allowed. This coating can also be used for new work and where required 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 the 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 cold cure hardener that is bloom free

Tested in accordance with AS4548.5 Appendix C & D for use as a concrete anti-carbonation coating system when used with Weathermax® HBR.

**SPECIFICATIONS** 

Approved to APAS 2977

AS/NZS 3750.1

### **RESISTANCE GUIDE**

HEAT RESISTANCE	Up to 120°C dry heat.	AL
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**WEATHERABILITY** Epoxy coatings may yellow with time.

On exterior exposure some chalking may also occur. This will not detract from the protective properties of the coating. Use a weatherable topcoat if

required for appearance.

**SOLVENTS** Resists splash and spillage of most hydrocarbon solvents. refined

petroleum products and most common alcohols.

**ACIDS** White and colours are suitable for

splash and spillage of mild acids. Aluminium containing colours are not recommended for acidic conditions.

LKALIS

Suitable for splash and spillage of strong alkalis. Aluminium containing colours are not recommended for alkaline conditions.

**SALTS** Excellent resistance to neutral and alkali

salts. Aluminium containing colours are not recommended for alkaline conditions.

**WATER** Excellent resistance to immersion in fresh and salt water. Tinted colours and

aluminium containing colours are not recommended for immersion conditions.

**ABRASION** Good when fully cured.

## TYPICAL PROPERTIES AND APPLICATION DATA

**CLASSIFICATION FINISH** 

**COLOUR** 

Surface Tolerant Epoxy

Semi Gloss

White, N35 Light Grey, Y13 Golden Yellow, Black, Aluminium, a full range of tinted colours and MTO factory

made colours.

**COMPONENTS SOLIDS BY VOLUME VOC LEVEL** 

**FLASH POINT** POT LIFE (4L, 25°C)

MIXING RATIO (V/V)

PRODUCT CODE

**THINNER** 

Two

Refer to Page 2 Refer to Page 2 40°C

Refer to Page 2

Part B:1 Part A:4

920-08925 Dulux® Epoxy Thinner

775-38678 N35 Light Grey 775-39141 LF 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 **APPLICATION CONDITIONS** 

Refer to Page 2

Wet film per coat (microns)

Refer to Page 2 Dry film per coat (microns)

**SUITABLE SUBSTRATES** Prepared rusty steel.

Aged tightly adhering coatings. Prepared concrete, aluminium and

Max

Recom.

galvanised steel.

**APPLICATION METHODS** Brush, roller, conventional or

airless spray.

# **DUREBILD® STE**

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			APPLICATION CON	IDITIONS		
Min 120 100	Max 250 210	Recom. 150 125	Substrat Relative	e Surface Temperature Humidity	Min 10°C 10°C	Max 45°C 45°C 85% <10%
,	tinted)		POT LIFE	90 Minutes (4L, 2	25°C)	
	120 100 34% (White)	Min Max 120 250 100 210	Min Max Recom. 120 250 150 100 210 125	Min Max Recom. 120 250 150 100 210 125 Air Temp Substrat Relative Concrete  B4% (White)  APPLICATION CON  Air Temp Substrat Relative Concrete POT LIFE	Min Max Recom. 120 250 150 100 210 125 Air Temperature Substrate Surface Temperature Relative Humidity Concrete Moisture Content  POT LIFE 90 Minutes (4L, 2)	Min Max Recom. 120 250 150 100 210 125 APPLICATION CONDITIONS  Air Temperature 10°C Substrate Surface Temperature 10°C Relative Humidity Concrete Moisture Content  POT LIFE 90 Minutes (4L, 25°C)

#### Drying characteristics at 125 microns dry film thickness

					Ove	ercoat	
Temperature	Humidity	Touch	Handle	Full Cure	Min	Max	
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*	

TYPICAL SPREADING RA	TE AT RECOMMENDED
DRY FILM BUILD	

A spreading rate of 6.7 sq. metres per litre corresponds to 125 microns dry film thickness assuming no losses.

Practical spreading rates will vary depending on such factors as method and conditions of application and surface roughness.

Cold Cure Harde	ner					
COATING THICKNESS	Min	Max	Recom.	APPLICATION CONDITIONS	Min	Max
Wet film per coat (microns)		250	150	Air Temperature	5°C	45°C
Dry film per coat (microns)	100	210	125	Substrate Surface Temperature Relative Humidity		45°C 85%
				Concrete Moisture Content		<10%
SOLIDS BY VOLUME VOC LEVEL	84% (White) <210 g/L (White, unti	inted)		POT LIFE 60 Minutes (	L, 25°C)	

#### Drying characteristics at 125 microns dry film thickness

				Ove	ercoat
Humidity	Touch	Handle	Full Cure	Min	Max
50%	14 Hours	28 Hours	7 Days	28 Hours	4 Weeks*
50%	13 Hours	24 Hours	7 Days	24 Hours	4 Weeks*
50%	12 Hours	18 Hours	7 Days	18 Hours	4 Weeks*
50%	6 Hours	9 Hours	7 Days	9 Hours	4 Weeks*
	50% 50% 50%	50% 14 Hours 50% 13 Hours 50% 12 Hours	50%       14 Hours       28 Hours         50%       13 Hours       24 Hours         50%       12 Hours       18 Hours	50%       14 Hours       28 Hours       7 Days         50%       13 Hours       24 Hours       7 Days         50%       12 Hours       18 Hours       7 Days	Humidity         Touch         Handle         Full Cure         Min           50%         14 Hours         28 Hours         7 Days         28 Hours           50%         13 Hours         24 Hours         7 Days         24 Hours           50%         12 Hours         18 Hours         7 Days         18 Hours

TYPICAL	_ SPREADIN	IG RATE	AT RECC	MMENDED
<b>DRY FIL</b>	M BUILD			

A spreading rate of 6.7 sq. metres per litre corresponds to 125 microns dry film thickness assuming no losses. Practical spreading rates will vary depending on such factors as method and conditions of application and surface roughness.

These figures are given as a guide only, as ventilation, film thickness, humidity, thinning and other factors will influence the rate of drying. If the maximum overcoat interval is exceeded then the surface MUST be abraded to ensure maximum intercoat adhesion.

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

\* When used for non-immersion conditions. Refer to PRECAUTIONS section for overcoating intervals and requirements for immersion service.

#### **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	Hand or Power tool clean	Spot Prime	DUREBILD® STE	125 Microns
Maintenance	AS1627.2 St 3	1st Coat	DUREBILD® STE	125 Microns
	Abrasive blast AS1627.4 Class 1	2nd Coat	WEATHERMAX™HBR	100 Microns
STEEL	Abrasive blast to AS1627.4	1st Coat	DUREBILD® STE	125 Microns
Immersion -Salt	Class 3.0	2nd Coat	DUREBILD® STE	125 Microns
or Freshwater			(untinted colour only)	
CONCRETE	Clean surface to remove contaminants.	1st Coat	DUREBILD® STE	125 Microns
	Diamond grind, track or light-shot blast.	2nd Coat	DUREBILD® STE	125 Microns
	Remove dust.		(Thin first coat 10-15%)	
ALUMINIUM	Clean, degrease and abrade surface by whip blasting.	1st Coat	DUREBILD® STE	125 Microns

# **DUREBILD® STE**

#### **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. Rust, millscale, oxide deposits and old paint films on metal surfaces should be removed by hand or power tool (AS1627.2 St 3) cleaning as a minimum. Coating performance is proportional to the degree of surface preparation and abrasive blast cleaning to a minimum AS1627.4 Class 2 is preferred for more severe environments. Immersed steel must be prepared to AS1627.4 Class 3.

Concrete: Remove all laitance, form release, curing compounds, oil, grease and other surface contaminants. Diamond grind, track or light shot-blast to provide suitable profile. Remove all dust by vacuum cleaning. Fill any large voids exposed using Luxepoxy Filler. Cement based substrates should be at least 21 days old before coating.

#### **APPLICATION**

Stir each can thoroughly until the contents are uniform. Use of a power mixer is recommended. Ensure bases have been tinted to the correct colour before use - DULUX ASSUMES NO RESPONSIBILITY FOR THE APPLICATION OF AN 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 using.

BRUSH/ROLLER

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.

**CONVENTIONAL SPRAY** 

Thinning is not normally required, however a small amount (5% or less by volume) of Dulux® Epoxy Thinner (920-08925) can be added.

Typical Set-up

Graco Delta Gun: 1.8m (239543)

Pressure at Pot: 65-100 kPa (10-15 p.s.i.) 385-420 kPa (55-60 p.s.i.) Pressure at Gun:

AIRLESS SPRAY

Standard airless spray equipment such as a Graco 45:1 or 56:1 Xtreme 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 50ml/litre of Dulux® Epoxy Thinner (920-08925) may be added to ease application.

**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. 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 white or pastel 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 place under immersion conditions. For best results in water immersion conditions replace Dulux® Epoxy Thinner (920-08925) with Dulux® CR Reducer (965-63020). Do not use as a primer over galvanised steel when using Cold Cure hardener as delamination can occur. Use of fast or low temperature hardeners may result in increased yellowing and a reduction of gloss level. Note the Aluminium finish is not a decorative coating and colour variations will occur due to different application techniques. Aluminium containing colours are not recommended for acidic and alkaline conditions.

#### **CLEAN UP**

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

#### **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. Abrasion may be required depending on surface condition. If the maximum overcoat interval is exceeded then the surface MUST be abraded to ensure maximum intercoat adhesion.

#### **SAFETY PRECAUTIONS**

Read Data Sheet, Material 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.

**HANDLING** 

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

**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

WELDING

NOT SMOKE. Fight fire with foam, CO<sub>2</sub> or dry chemical powder. On burning will emit toxic fumes. Avoid inhalation of fumes if welding surfaces coated with this paint. Grind off coating before welding.

#### MATERIAL SAFETY DATA SHEET is available from Customer Service (132377) or www.duluxprotectivecoatings.com.au

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PACKAGING Available in 4 litre and 15 litre packs TRANSPORTATION WEIGHT 1.73 kg/litre (Average of components) DANGEROUS GOODS Part A: Class 3 UN 1263 Part B: Class 8,3 UN 2734

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