

DUREBILD® STE

Surface Tolerant High Solids Epoxy Coating

PC 237

- FEATURES**
- HIGH PERFORMANCE SURFACE TOLERANT MAINTENANCE COATING
 - CAN BE APPLIED OVER A WIDE RANGE OF WELL ADHERING AGED COATINGS
 - SELF PRIMING FINISH AVAILABLE IN A WIDE RANGE OF COLOURS
 - DESIGNED FOR EASY BRUSH, ROLL, AND SPRAY APPLICATION

USES DUREBILD® STE has been developed specifically for Australian and New Zealand conditions. Suitable for new work, it is principally used as a maintenance coating with excellent surface tolerance capability for power tool prepared steel and/or tightly adhering coatings. DUREBILD® STE is suitable for use on a wide range of substrates from prepared steel and non-ferrous metals to concrete. Untinted DUREBILD® STE is suitable for fresh and salt-water immersion when used over suitably prepared abrasive blast cleaned steel. It provides protection against splash and spillage of a wide range of chemicals. Quickturn® and Cold Cure hardeners are available to promote faster dry times in standard and cooler application conditions.

SPECIFICATIONS Suitable for use as an anti-carbonation coating system when used with Weathermax® HBR in accordance with AS 4548.5 Appendix C & D.
Conforms to AS/NZS 3750.1.

RESISTANCE GUIDE

WEATHERABILITY	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 and UV resistance.	SOLVENTS	Resists splash and spillage of most hydrocarbon solvents, refined petroleum products & most alcohols.
HEAT RESISTANCE	Up to 120°C dry heat.	WATER	Excellent resistance to fresh and salt water. Tinted colours and aluminium are not recommended for immersion. Contact PC consultant for immersion use with Quickturn®.
SALTS	Excellent resistance to neutral and alkali salts. Aluminium version is not recommended for alkaline conditions.	ALKALIS	Suitable for splash and spillage of strong alkalis. Aluminium version is not recommended for alkaline conditions.
ACIDS	Suitable for splash and spillage of mild acids. Aluminium version is not recommended for acidic conditions.	ABRASION	Good when fully cured.

TYPICAL PROPERTIES AND APPLICATION DATA (STANDARD HARDENER)

CLASSIFICATION	Surface Tolerant Epoxy	APPLICATION CONDITIONS			
FINISH	Semi Gloss		Min	Max	
COLOUR	White, N35 Light Grey, Golden Yellow, Black, Aluminium, a full range of tinted colours and MTO factory made colours.	Air Temp.	10°C	40°C	
COMPONENTS	Two	Substrate Temp.	10°C	40°C	
VOLUME SOLIDS	84% (White)	Relative Humidity		85%	
VOC LEVEL	<230 g/L (White, untinted)	Concrete Moisture		<6%	
FLASH POINT	41°C	COATING THICKNESS (MICRONS)			
POT LIFE	90 Minutes (4 litre kit, 25°C)	Wet film per coat (µm)	Min	Max	Recommended
MIXING RATIO V/V	Part A : 4 Part B : 1	Dry film per coat (µm)	120	250	150
THINNER	920-08925 Dulux® Epoxy Thinner		100	210	125
THINNER (IMMERSION)	965-63030 Dulux® CR Reducer	SUITABLE SUBSTRATES	Prepared rusty steel, aged tightly adhering coatings, prepared concrete, CFC, aluminium and galvanised steel.		
PRODUCT CODE	775-63001 White/Light Base	PRIMERS	Not required		
	775-63002 Deep Base	TOPCOATS	Not required		
	775-63003 Clear Base	APPLICATION METHODS	Brush, roller, conventional or airless spray. Aluminium version – spray only.		
	775-50570 Aluminium				
	976-84539 Standard Hardener				
	976-84685 Cold Cure Hardener				
	976-H0248 Quickturn® Hardener				

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

Temperature	Humidity	Touch	Handle	Full Cure	OVERCOAT	
					Min	Max ^{1,2}
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.

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

²NOTE: 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.

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.

DUREBILD® STE

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	30°C
Substrate Surface Temperature	5°C	30°C
Relative Humidity		85%
Concrete Moisture Content		<6%

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 ^{1, 2}
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.

²NOTE: 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.

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.

QUICKTURN® 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	30°C
Substrate Surface Temperature	5°C	30°C
Relative Humidity		85%
Concrete Moisture Content		<6%

SOLIDS BY VOLUME	84% (White/Light Base)
VOC LEVEL	<210 g/L (White, untinted)
FLASH POINT	>23°C
POT LIFE	45 Minutes (4 litre kit, 25°C)

DRYING CHARACTERISTICS AT 125 µm DRY FILM THICKNESS* (QUICKTURN® HARDENER)

OVERCOAT

Temperature	Humidity	Touch	Handle	Full Cure	Min	Max ¹
5° C	50%	10 Hours	18 Hours	7 Days	18 Hours	7 Days
10° C	50%	7.5 Hours	13 Hours	7 Days	13 Hours	7 Days
15° C	50%	5 Hours	9 Hours	7 Days	9 Hours	7 Days
25° C	50%	2.5 Hours	4.5 Hours	7 Days	4.5 Hours	7 Days

*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.

#NOTE: Refer to Dulux Protective Coatings Consultant for use of Quickturn® hardener in immersion services.

SPREADING RATE

WITH QUICKTURN®
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.

DUREBILD® STE

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 st Coat Zincanode® 402 2 nd Coat Durebild® STE 3 rd 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 st Coat Durebild® STE 2 nd 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 1 st Coat Durebild® STE 2 nd Coat Durebild® STE Weathermax® HBR	125 µm 125 µm 100 µm
STEEL NEW OR MAINTENANCE	Immersion	Abrasive blast clean AS1627.4 Class 3.0	1 st Coat Durebild® STE 2 nd Coat Durebild® STE	200 µm 200 µm
ALUMINIUM	Exterior/Interior	Clean, degrease and abrade surface	1 st Coat Durebild® STE 2 nd Coat Luxathane® HPX	125 µm 70 µm
GALVANISED STEEL	Exterior	Degrease and whip blast	1 st Coat Durebild® STE 2 nd Coat Durebild® STE 3 rd Coat Weathermax® HBR	125 µm 125 µm 100 µm
GALVANISED STEEL	Exterior	Degrease and whip blast	1 st Coat Durebild® STE 2 nd Coat Ferreko® No. 3 3 rd Coat Ferreko® No. 3	125 µm 100 µm 100 µm
CONCRETE	Exterior	Remove release agents and other surface contaminants	1 st Coat Durebild® STE 2 nd 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

SURFACE PREPARATION	<p>Steel: Round off all rough welds, sharp edges to a 2mm radius, and remove weld spatter. Degrease in accordance with AS1627.1. Abrasive blast clean to a minimum of AS1627.4 Class 2 ½, using ISO 8501-1 as a pictorial guide for acceptance depending upon rust grade present at start of works</p> <p>Immersed steel: Abrasive blast clean to AS1627.4 Class 3, using ISO 8501-1 as a pictorial guide for acceptance depending upon rust grade present at start of works. Remove all dust by brushing or vacuum cleaning</p> <p>Steel where abrasive blast cleaning is not viable: Rust, mill scale, oxide deposits and *loose aged paint films on metal surfaces must be removed by power tool cleaning according to AS1627.2, using ISO 8501-1 as a pictorial guide for acceptance to St3 depending upon rust grade present at start of works. Coating performance is proportional to the degree of surface preparation.</p> <p>* Material is considered adherent if it cannot be removed by lifting with a dull flexible putty knife. See SSPC SP 3, "Power Tool Cleaning" Section 2.3 if a definition is required for what constitutes a dull putty knife.</p> <p>Galvanised steel: Round off all rough welds, sharp edges and zinc dags and remove weld spatter. Clean surface in accordance with AS1627.1. Whip blast the substrate following the procedures laid out in AS 2312.2, Section 7.5.3, "Preparation for Painting", taking care not to damage the galvanising layer. Remove all dust by vacuum cleaning.</p> <p>Concrete: Diamond grind, track or light shot-blast, and/or whip blast the concrete to remove laitance and to provide a suitable profile for the system being installed. ICRI Guideline 310.2R CSP 2-3 for floors, ICRI CSP 5-6 for concrete tanks. Remove all dust by vacuum cleaning. Check moisture content of the floor prior to painting*. Fill any large cracks or voids with Luxepoxy® Filler.</p> <p>*Allow new concrete to cure a minimum of 28 days at 24°C. To minimise the risk of moisture interference, Dulux recommends the following two tests be performed prior to coating – ASTM F2659 – 10 "Standard Guide for Preliminary Evaluation of Comparative Moisture Condition of Concrete, Gypsum Cement and Other Floor Slabs and Screeds Using a Non-Destructive Electronic Moisture Meter"(moisture content not to exceed 6%) and ASTM D 4263 "Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method" (no visible moisture present).</p> <p>If there is any concern about moisture problems with the concrete slab, or for projects greater than 500m2, at least one of the following more accurate quantitative test methods should be used - ASTM F 1869 "Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride" (moisture vapor transmission should not exceed 1.4 kilograms (3 pounds) per 93 square metres (1,000 square feet) in a 24 hour period), ASTM F 2170 "Standard Test Method for Determining Relative Humidity in Concrete using in situ Probes" (as referred to in AS 1884-2012, relative humidity should be less than 75%) Note: The testing listed above cannot guarantee avoidance of future moisture related problems particularly with existing concrete slabs. This is especially true if the use of an under-slab moisture vapor barrier cannot be confirmed or concrete contamination from oils, chemical spills, unreacted silicates, chlorides or Alkali Silica Reaction (ASR) is suspected.</p>
APPLICATION	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. Box all containers before use to ensure colour consistency. Remix thoroughly before use.
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 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.)
AIRLESS SPRAY	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 50ml/litre of Dulux® Epoxy Thinner (920-08925) may be added to aid 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® 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 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. For best results in water immersion conditions replace Dulux® Epoxy Thinner (920-08925) with Dulux® CR Reducer (965-63020). DO NOT use Aluminium containing colours (ie Mid Grey and St Enoch Grey) for immersion or for exposure to acidic or alkaline conditions. DO NOT use Cold Cure hardener in immersion conditions. This product is not a decorative coating, and colour variations will occur due to different application techniques. Coatings containing micaceous iron oxide are prone to marring but this will not affect the protective properties. 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.
CLEAN UP	Clean all equipment with Dulux® Epoxy Thinner (920-08925) immediately after use.
OVERCOATING	For atmospheric service: Assess the condition of aged coatings and the viability of an overcoat system in accordance with the latest versions of SSPC TU No.3, ASTM D 5064, and ASTM D 5065. Consult your local Dulux® Protective Coatings Consultant for specific surface preparation and coating system recommendations. For tidal and immersion service: Full removal of existing coating will be required.
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 bonded 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 AS 1337 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, 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 back coating 100 to 152 mm from the area to be welded before welding.

COMPANY INFORMATION		PACKAGING, TRANSPORT AND STORAGE	
Dulux Protective Coatings a division of		PACKAGING	Available in 4 litre and 15 litre packs
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	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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