DUREMAX® GPE

General Purpose Epoxy Coating **PC 255**

FEATURES

- EXCELLENT RESISTANCE TO HOT WATER IMMERSION (80°C)
- COMPATIBLE OVER MOST TYPES OF PROPERLY APPLIED & TIGHTLY ADHERING COATINGS
- EASE OF APPLICATION – SPRAY, BRUSH, ROLLER
- CHOICE OF HARDENERS FOR VARYING CLIMATIC CONDITIONS
- POTABLE WATER APPROVAL
- GOOD ABRASION RESISTANCE
- WIDE RANGE OF COLOURS AVAILABLE FROM THE COLORFAST TINT SYSTEM
- AVAILABLE IN MICACEOUS IRON OXIDE FINISH

USES

DUREMAX® GPE has been locally developed specially for Australasian conditions using the latest epoxy technology. It is a general-purpose epoxy coating used on steel, galvanising and concrete. DUREMAX® GPE is a high performance coating for the protection of structures exposed to severe environments such as chemical plants, offshore platforms, refineries, shiploaders, coal wash plants etc. Untinted DUREMAX® GPE is suitable for fresh and salt-water immersion except when cured with Quickturn™ hardener. It is compatible over inorganic zinc and epoxy primers and can be topcoated with a wide range of coating types.

SPECIFICATIONS AS4020 for use with potable water when using White with Fast Cure only.
AS/NZS 3750.14

RESISTANCE GUIDE

HEAT RESISTANCE	Up to 120°C dry heat.
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.
ALKALIS	Suitable for splash and spillage of strong alkali.
SALTS	Excellent resistance to neutral and alkali salts.
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	General purpose epoxy coating	
FINISH	Semi Gloss (Eggshell)	
COLOUR	White, Black, Light Grey, MIO Mid Grey, a full range of tinted colours and MTO factory made colours.	
COMPONENTS	Two	
SOLIDS BY VOLUME	**Refer to Page 2**	
VOC LEVEL	**Refer to Page 2**	
FLASH POINT	4°C	
POT LIFE (4L, 25°C)	**Refer to Page 2**	
MIXING RATIO (V/V)	Part A : 4	Part B : 1
THINNER	920-08925	Dulux® Epoxy Thinner
	920-81942	DUTHIN® 450 *
PRODUCT CODE	780-63001	White/Light Base
	780-63002	Deep Base
	780-63003	Clear Base
	780-63006	MIO Mid Grey
	780-38678	Light Grey
	780-50585	Black
	976-84577	Standard Hardener
	976-84741	Fast Cure Hardener
	976-84892	Quickturn™ Hardener

APPLICATION CONDITIONS

Refer to Page 2

	Min	Max	Recom.
Wet film per coat (microns)			
Dry film per coat (microns)		**Refer to Page 2**	

SUITABLE SUBSTRATES Blast cleaned steel. Prepared concrete, aluminium and galvanised steel.

APPLICATION METHODS Brush, roller, conventional or airless spray.

* DUTHIN® 450 is the preferred thinner for application in cold conditions.

DUREMAX® GPE

Standard Hardener

COATING THICKNESS

	Min	Max	Recom.
Wet film per coat (microns)	140	280	175
Dry film per coat (microns)	100	200	125

SOLIDS BY VOLUME 71% (White)
VOC LEVEL <330 g/L (White, untinted)

APPLICATION CONDITIONS

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

POT LIFE 3-4 Hours (4L, 25°C)

Drying characteristics at 125 microns dry film thickness

Temperature	Humidity	Touch	Handle	Full Cure	Overcoat Min	Overcoat Max
10° C	50%	16 Hours	28 Hours	7 Days	28 Hours	4 Weeks*
15° C	50%	12 Hours	20 Hours	7 Days	20 Hours	4 Weeks*
25° C	50%	4 Hours	10 Hours	7 Days	8 Hours	4 Weeks*

TYPICAL SPREADING RATE AT RECOMMENDED DRY FILM BUILD

A spreading rate of 5.7 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.

Fast Cure Hardener

COATING THICKNESS

	Min	Max	Recom.
Wet film per coat (microns)	135	270	170
Dry film per coat (microns)	100	200	125

SOLIDS BY VOLUME 75% (White)
VOC LEVEL <300 g/L (White, untinted)

APPLICATION CONDITIONS

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

POT LIFE 2 Hours (4L, 25°C)

Drying characteristics at 125 microns dry film thickness

Temperature	Humidity	Touch	Handle	Full Cure	Overcoat Min	Overcoat Max
5° C	50%	9 Hours	18 Hours	7 Days	18 Hours	4 Weeks*
10° C	50%	6 Hours	14 Hours	7 Days	14 Hours	4 Weeks*
15° C	50%	5 Hours	10 Hours	7 Days	10 Hours	4 Weeks*
25° C	50%	2.5 Hours	6 Hours	7 Days	6 Hours	4 Weeks*

TYPICAL SPREADING RATE AT RECOMMENDED DRY FILM BUILD

A spreading rate of 6.0 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.

Quickturn™ Hardener

COATING THICKNESS

	Min	Max	Recom.
Wet film per coat (microns)	140	280	175
Dry film per coat (microns)	100	200	125

SOLIDS BY VOLUME 72% (White)
VOC LEVEL <310 g/L (White, untinted)

APPLICATION CONDITIONS

	Min	Max
Air Temperature	5°C	35°C
Substrate Surface Temperature	5°C	35°C
Relative Humidity		85%
Concrete Moisture Content		<10%

POT LIFE 90 Minutes (4L, 25°C)

Drying characteristics at 125 microns dry film thickness

Temperature	Humidity	Touch	Handle	Full Cure	Overcoat Min	Overcoat Max
5° C	50%	7 Hours	14 Hours	7 Days	14 Hours	4 Weeks*
10° C	50%	5 Hours	9 Hours	7 Days	9 Hours	4 Weeks*
15° C	50%	3 Hours	5 Hours	7 Days	5 Hours	4 Weeks*
25° C	50%	90 Minutes	3 Hours	7 Days	3 Hours	4 Weeks*

TYPICAL SPREADING RATE AT RECOMMENDED DRY FILM BUILD

A spreading rate of 5.8 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.

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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 New Construction	Abrasive blast AS1627.4 Class 2.5	1st Coat 2nd Coat 3rd Coat	ZINCANODE® 402 DUREMAX® GPE WEATHERMAX® HBR	75 Microns 125 Microns 100 Microns
		1st Coat 2nd Coat	DUREMAX® GPE ZP DUREMAX® GPE	125 Microns 125 Microns
		1st Coat	DUREMAX® GPE	125 - 200 Microns
STEEL Immersion -Salt or Freshwater	Abrasive blast to AS1627.4 Class 3.0	1st Coat 2nd Coat	DUREMAX® GPE DUREMAX® GPE (untinted colour only)	125 Microns 125 Microns
CONCRETE	Clean surface to remove contaminants. Diamond grind, track or light-shot blast. Remove dust.	1st Coat 2nd Coat	DUREMAX® GPE DUREMAX® GPE (Thin first coat 10-15%)	125 Microns 125 Microns
GALVANISED, ALUMINIUM	Clean, degrease and abrade surface by whip blasting.	1st Coat 2nd Coat	DUREMAX® GPE WEATHERMAX® HBR	150 Microns 100 Microns

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. For steel substrates, abrasive blast clean to a minimum of AS1627.4 Class 2.5 with a blast profile of 40-70 microns. For non-ferrous substrates whip blast. Immersed steel must be prepared to AS1627.4 Class 3. Remove all dust by brushing or vacuum cleaning.
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) or DUTHIN® 450 * (920-81942).

Typical Set-up

Graco Delta Gun:	1.8mm (239543)
Pressure at Pot:	65-100 kPa (10-15 p.s.i.)
Pressure at Gun:	380-415 kPa (55-60 p.s.i.)

AIRLESS SPRAY

Standard airless spray equipment such as a Graco 45:1 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) or DUTHIN® 450 * (920-81942) 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 5°C when using Fast Cure or Quickturn™ hardener. In cold conditions where a fast thinner is required DUTHIN® 450 * (920-81942). Do not apply at relative humidity above 85% or when the surface is less than 3°C above the dewpoint. Do not use Quickturn™ hardener for immersion conditions. When used for immersion conditions the maximum overcoat interval is 3 days. 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 as a primer over galvanised steel when using Fast 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) or DUTHIN® 450 (920-81942) 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.

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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.
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 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.

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

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PACKAGING	Available in 4 litre and 15 litre packs
TRANSPORTATION WEIGHT	1.6 kg/litre (Average of components)
DANGEROUS GOODS	Part A: Class 3 UN 1263 Part B: Class 8,3 UN 2734 (Standard)