DUREMAX® GPE

General Purpose Epoxy Coating — PC 255

FEATURES
- EXCELLENT RESISTANCE TO HOT WATER IMMERSION (80°C)
- EASE OF APPLICATION – SPRAY, BRUSH, ROLLER
- RANGE OF HARDENERS FOR VARYING CLIMATIC CONDITIONS
- POTABLE WATER APPROVAL
- GOOD ABRASION RESISTANCE
- WIDE RANGE OF COLOURS AVAILABLE FROM THE COLORFAST TINT SYSTEM

USES DUREMAX® GPE is a high performance protective coating locally developed specially for Australasian conditions using the latest epoxy technology. DUREMAX® GPE is formulated 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 when cured with Fast Cure Hardener. DUREMAX® GPE is suitable for use on steel, galvanising and concrete, is compatible over inorganic zinc and epoxy primers, and can be topcoated with a wide range of coating types.

SPECIFICATIONS AS/NZ 4020:2005 - suitable for use with potable water when using untinted White Base cured with Fast Cure Hardener only. Refer to your Dulux Consultant for details. AS/NZS 3750.14

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.	**SOLVENTS**	Resists splash and spillage of most hydrocarbon solvents, refined petroleum products and most common alcohols
HEAT RESISTANCE	Up to 120°C dry heat. Up to 80°C in immersion (White with Fast Cure Hardener)	**WATER**	Excellent resistance to immersion in fresh and salt water
SALTS	Excellent resistance to neutral and alkali salts	**ALKALIS**	Suitable for splash and spillage of strong alkali
ACIDS	Suitable for splash and spillage of mild acids	**ABRASION**	Good when fully cured

TYPICAL PROPERTIES AND APPLICATION DATA (STANDARD HARDENER)

CLASSIFICATION	General purpose epoxy coating
FINISH	Semi Gloss
COLOUR	White, Black, Light Grey, a full range of tinted colours and MTO factory made colours.
COMPONENTS	Two
VOLUME SOLIDS	71% (White)
VOC LEVEL	<330 g/L (White, untinted)
FLASH POINT	4°C
POT LIFE	3-4 Hours (4L, 25°C)
MIXING RATIO V/V	Part A : 4 Part B : 1
THINNER –BRUSH	920-08925 Dulux® Epoxy Thinner
THINNER –SPRAY	920-81942 Duthin® 450
PRODUCT CODE	780-63001 White/Light Base 780-63002 Deep Base 780-63003 Clear Base 780-38678 Light Grey 780-50585 Black 976-84577 Standard Hardener 976-84741 Fast Cure Hardener 976-84892 Quickturn™ Hardener

APPLICATION CONDITIONS

	Min	Max
Air Temp.	10°C	45°C
Substrate Temp.	10°C	45°C
Relative Humidity		85%
Concrete Moisture		<10%

COATING THICKNESS (MICRONS)

	Min	Max	Recommended
Wet film per coat (µm)	140	280	175
Dry film per coat (µm)	100	200	125

SUITABLE SUBSTRATES	Blast cleaned steel, prepared concrete, aluminium and galvanised steel
PRIMERS	Dulux® two pack zinc rich primers
TOPCOATS	Dulux® two pack topcoats
APPLICATION METHODS	Conventional, airless spray or air assisted spray.

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

					OVERCOAT	
Temperature	**Humidity**	**Touch**	**Handle**	**Full Cure**	**Min**	**Max[1]**
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

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

SPREADING RATE
with Standard Hardener
assuming no losses

5.7 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.

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FAST CURE HARDENER

COATING THICKNESS (MICRONS)

	Min	Max	Recommended
Wet film per coat (µm)	135	270	170
Dry film per coat (µm)	100	200	125

SOLIDS BY VOLUME	75% (White/Light Base)
VOC LEVEL	<300 g/L (White/Light Base, untinted)
FLASH POINT	>23°C
POT LIFE	2 Hours (4 litre kit, 25°C)

APPLICATION CONDITIONS

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

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

					OVERCOAT	
Temperature	Humidity	Touch	Handle	Full Cure	Min	Max[1]
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

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

[1]**NOTE:** 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.

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

SPREADING RATE
with Fast Cure Hardener
assuming no losses

6.0 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, surface porosity and roughness.

QUICKTURN™ HARDENER

COATING THICKNESS (MICRONS)

	Min	Max	Recommended
Wet film per coat (µm)	140	280	175
Dry film per coat (µm)	100	200	125

SOLIDS BY VOLUME	72% (White/Light Base)
VOC LEVEL	<310 g/L (White/Light Base, untinted)
FLASH POINT	>23°C
POT LIFE	90 Minutes (4 litre kit, 25°C)

APPLICATION CONDITIONS

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

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

					OVERCOAT	
Temperature	Humidity	Touch	Handle	Full Cure	Min	Max[1]
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

*These figures are a guide only, as ventilation, film thickness, humidity, thinning and other factors will influence the rate of drying.
[1]**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.

SPREADING RATE
with Quickturn Hardener
assuming no losses

5.8 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.

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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 OR MAINTENANCE	Immersion System EHB7	Abrasive blast clean AS1627.4 Class 3.0	1st Coat 2nd Coat	Duremax® GPE (untinted only) Duremax® GPE (untinted only)	150 µm 150 µm
STEEL – NEW	Very high corrosivity (AS2312.1 Cat C5) System PUR 5	Abrasive blast clean AS1627.4 Class 2.5	1st Coat 2nd Coat 3rd Coat	Zincanode® 402 Duremax® GPE Weathermax® HBR	75 µm 200 µm 100 µm
STEEL – NEW	Very high corrosivity (AS2312.1 Cat C5) System PUR5	Abrasive blast clean AS1627.4 Class 2.5	1st Coat 2nd Coat 3rd Coat	Durezinc® i90 Duremax® GPE Luxathane® HPX	75 µm 200 µm 50 µm
STEEL – NEW	High corrosivity (AS2312.1 Cat C5) System PUR 4	Abrasive blast clean AS1627.4 Class 2.5	1st Coat 2nd Coat 3rd Coat	Zincanode® 402 Duremax® GPE Luxathane® HPX	75 µm 125 µm 50 µm
STEEL – NEW	High corrosivity (AS2312.1 Cat C4) Exceeds System PUR3	Abrasive blast clean AS1627.4 Class 2.5	1st Coat 2nd Coat 3rd Coat 4th Coat	Durepon® EZP Duremax® GPE Quantum® FX Quantum® Clearcoat	75 µm 125 µm 55 µm 45 µm
STEEL – NEW	Interior	Abrasive blast clean AS1627.4 Class 2.5	1st Coat 2nd Coat	Duremax® GPE ZP Duremax® GPE	125 µm 125 µm
STEEL – NEW	Interior	Abrasive blast clean AS1627.4 Class 2.5	1st Coat	Duremax® GPE	125 – 200 µm
CONCRETE	Interior	Remove release agents and other surface contaminants	1st Coat 2nd Coat	Duremax® GPE (Thin 10-15%) Duremax® GPE	125 µm 125 µm
GALVANISED STEEL, ALUMINIUM	Exterior/Interior	Clean, degrease and abrade or whip blast surface	1st Coat 2nd Coat	Duremax® GPE Weathermax® HBR	150 µm 100 µm

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.

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

Steel where abrasive blast cleaning is not viable: 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.

Galvanised steel: Round off all rough welds, sharp edges, and zinc dags and remove weld spatter. Remove grease, oil and other contaminants in accordance with AS1627.1. Whip blast, taking care not to damage the galvanising layer. Remove all dust by vacuum cleaning.

Concrete: Concrete must 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.

APPLICATION

Mix each pack 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 let stand for 10 minutes. Box all containers before use to ensure colour consistency. Remix thoroughly before application.

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) may be used.

Typical Set-up	Graco AirPro	1.8mm (239543)
	Pressure at Triton 308:	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 Graco Xtreme 45:1 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 usually required but up to 50ml/litre of Dulux® Epoxy Thinner (920-08925) or Duthin® 450 (920-81942) may be added to aid application.

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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 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 completely 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 on galvanised steel when using Fast Cure hardener as delamination can occur. The 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	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.
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 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 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 off coating before welding.

COMPANY INFORMATION

Dulux Protective Coatings a division of

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PACKAGING, TRANSPORT AND STORAGE

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)