

DUREMAX[®] HBE

Fast Cure High Build Epoxy Coating

PC 257

- FEATURES**
- ABRASION RESISTANT FILM
 - HIGH BUILD ONE COAT PROTECTION
 - SUITABLE FOR APPLICATION TO SUITABLY PREPARED METAL AND CONCRETE
 - EXCELLENT RESISTANCE TO FRESH AND SALT WATER

USES DUREMAX[®] HBE is a high-solids, two component epoxy with high build characteristics allowing single coat application up to 500 microns dry film thickness direct to suitably prepared mild steel. DUREMAX[®] HBE is designed for the protection of marine structures and chemical plants where maximum resistance to chemicals, abrasion or solvents is required. DUREMAX[®] HBE can be topcoated with a wide range of coating types.

SPECIFICATIONS

RESISTANCE GUIDE

WEATHERABILITY	Will yellow with time. Will 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	Good resistance to splash and spillage of aromatic and aliphatic hydrocarbon solvents and alcohols
HEAT RESISTANCE	Up to 120°C dry heat	WATER	Excellent resistance to fresh and salt water. For immersion situations refer to your Dulux [®] Protective Coatings Consultant
SALTS	Unaffected by splash and spillage of neutral and alkaline salt solutions	ALKALIS	Excellent resistance to splash and spillage of most alkalis
ACIDS	Suitable for splash and spillage exposure to dilute acids	ABRASION	Excellent when fully cured 134.9 mg weight loss per 1000 cycles, using a CS-17 wheel and a 1 kg load
		ADHESION	Excellent when fully cured 11.3 MPa @250 micron (Dolly Pull-Off test, AS1580.408.5)

TYPICAL PROPERTIES AND APPLICATION DATA (STANDARD HARDENER)

CLASSIFICATION	High build two pack epoxy finish	APPLICATION CONDITIONS			
FINISH	High Gloss		Min	Max	
COLOUR	An extensive range of tinted colours	Air Temp.	10°C	40°C	
		Substrate Temp.	10°C	40°C	
		Relative Humidity		85%	
COMPONENTS	Two	Concrete Moisture		<6%	
VOLUME SOLIDS	88% (White/Light Base, untinted)	COATING THICKNESS (MICRONS)			
VOC LEVEL	<100 g/L (White/Light Base, untinted)		Min	Max	Recommended
FLASH POINT	>14 °C	Wet film per coat (µm)	285	570	285
POT LIFE	1.5 Hours (4 litre kit, 25°C)	Dry film per coat (µm)	250	500	250
SPRAY LIFE	1.0 Hour (15 litre kit, 25°C, unthinned) 1.5 Hour (15 litre kit, 25°C, thinned)	SUITABLE SUBSTRATES	Blast cleaned steel. Suitably primed steel and prepared concrete.		
MIXING RATIO V/V	Part A : 3 Part B : 1	PRIMERS	Specified Dulux [®] primers (optional)		
THINNER	920-08925 Dulux [®] Epoxy Thinner	TOPCOAT	Specified Dulux [®] topcoats		
PRODUCT CODE	754-63001 Light Base 754-63003 Clear Base 976-H0313 Standard Hardener 976-H0341 Cold Cure Hardener	APPLICATION METHODS	Conventional, airless spray or roller		

DRYING CHARACTERISTICS AT 250 µm DRY FILM THICKNESS*

Temperature	Humidity	Touch	Handle	Full Cure	OVERCOAT	
					Min	Max ¹
10° C	50%	13.5 Hours	24 Hours	7 Days	24 Hours	10 Days
15° C	50%	9 Hours	16 Hours	7 Days	16 Hours	10 Days
25° C	50%	4.5 Hours	8 Hours	7 Days	8 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.

SPREADING RATE 3.5 square metres per litre equals 250 µm dry film thickness

ASSUMING NO LOSSES

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

DUREMAX[®] HBE

COLD CURE HARDENER

COATING THICKNESS (MICRONS)

	Min	Max	Recommended
Wet film per coat (µm)	290	580	290
Dry film per coat (µm)	250	500	250

APPLICATION CONDITIONS

	Min	Max
Air Temperature	5°C	35°C
Substrate Surface Temperature	5°C	35°C
Relative Humidity		85%
Concrete Moisture Content		<6%

SOLIDS BY VOLUME	87% (White/Light Base)
VOC LEVEL	<110 g/L (White/Light, untinted)
POT LIFE	45 Minutes (4 litre kit, 25°C)

DRYING CHARACTERISTICS AT 250 µm DRY FILM THICKNESS* (COLD CURE HARDENER)

OVERCOAT

Temperature	Humidity	Touch	Handle	Full Cure	Min	Max ^{1,2}
5° C	50%	12 Hours	25 Hours	7 Days	25 Hours	7 Days
10° C	50%	9 Hours	18 Hours	7 Days	18 Hours	7 Days
15° C	50%	6 Hours	12 Hours	7 Days	12 Hours	7 Days
25° C	50%	3 Hours	6 Hours	7 Days	6 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.

²NOTE: Figures shown are for non-immersion conditions. When used for immersion the maximum overcoat interval is 48 hours. The coating can be exposed to early immersion, however please consult your Dulux[®] Protective Coatings representative for specific advice relating to your project.

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

3.5 square metres per litre equals 250 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	Severe Industrial (AS2312.1) System ETL1	Abrasive blast clean AS1627.4 Class 2.5	1 st Coat Duremax [®] HBE	250 µm
			2 nd Coat Duremax [®] HBE	250 µm
STEEL	Very High Corrosivity (Exceeds AS2312.1 Cat C5-I) System PUR5	Abrasive blast clean AS1627.4 Class 2.5	1 st Coat Zincode [®] 402	75 µm
			2 nd Coat Duremax [®] HBE	250 µm
			3 rd Coat Weathermax [®] HBR	100 µm
CONCRETE	Interior	Remove release agents and other surface contaminants. Whip blast to remove adhering material.	Repairs Luxepoxy [®] Filler	N/A
			1 st Coat Duremax [®] HBE*	250 µm
			2 nd Coat Duremax [®] HBE	250 µm

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

* Thinning of 10-15% using of Dulux[®] Epoxy Thinner (920-08925) may be required for 1st coat.

SURFACE PREPARATION

Steel: Round off all rough welds, sharp edges and remove weld spatter. Degrease in accordance with AS1627.1. Abrasive blast clean to a minimum of AS1627.4 Class 2.5.

Concrete: Concrete must be at least 28 days old before coating. Remove all laitance, form release, curing compounds, oil, grease and other surface contaminants. Diamond grind, track or light shot-blast concrete floors to provide a suitable profile for intended surface, ICRI CSP 2-3 for floors, ICRI CSP 5-6 for concrete tanks. Remove all dust by vacuum cleaning. Fill any large cracks or voids using Luxepoxy[®] Filler.

*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). 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.																						
APPLICATION	Mix each can thoroughly using a power mixer until the contents are uniform. Mix the contents of both packs together thoroughly with a power mixer. Box all containers before use to ensure colour consistency. Remix thoroughly before application.																						
APPLICATION EQUIPMENT	<p>Airless Spray: Graco K60FH2 or equivalent. Thinning is not normally required but up to 50 ml/litre or 5% of Dulux® Epoxy Thinner (920-08925) may be added to aid application. Apply in multiple wet coats overlapping each pass 50%.</p> <table border="1"> <thead> <tr> <th>Tip Orifice</th> <th>Atomising Pressure</th> <th>Mat'l Hose ID</th> <th>Pump Manifold Filter</th> </tr> </thead> <tbody> <tr> <td>0.017" – 0.021" (430 - 533 microns)</td> <td>3,500 – 4,000 psi (241 – 276 bar)</td> <td>3/8" or 1/2" (9.5 mm or 12.7mm)</td> <td>60 mesh (250 microns)</td> </tr> </tbody> </table> <p>NOTE: A 2 metre x 1/4" (6.35mm) whip hose is allowed at the end of the material hose for greater ease of application.</p> <p>Air Spray: Graco Triton 308 or equivalent. Thinning is not normally required but up to 100 ml/litre or 10% of Dulux® Epoxy Thinner (920-08925) may be added to aid application. Apply in multiple wet coats overlapping each pass 50%.</p> <table border="1"> <thead> <tr> <th>Gun</th> <th>Fluid Tip</th> <th>Air Cap</th> <th>Air Hose ID</th> <th>Mat'l Hose ID</th> <th>Atomising Pressure</th> <th>Material Pressure</th> </tr> </thead> <tbody> <tr> <td>Graco Air Pro or Equivalent</td> <td>2.2 mm (0.086)</td> <td>Graco 192318</td> <td>5/16" or 3/8" (7.9 or 9.5 mm)</td> <td>3/8" or 1/2" (9.5 or 12.7 mm)</td> <td>60 to 70 PSI (4.14 – 4.83 Bar)</td> <td>70 to 80 PSI (4.83 – 5.52 Bar)</td> </tr> </tbody> </table> <p>NOTE: Low temperatures and/or long hose lengths require higher material pressure.</p> <p>Roller: Thin 10% to 15%. Recommended for small touch up areas only. Use 12 mm to 14 mm synthetic woven nap covers. Note: Two or more coats may be required to obtain recommended film thicknesses.</p> <p>Brush: Thin 10% to 15%. Recommended for small touch up areas only. Use high quality natural or synthetic bristle brushes. Note: Two or more coats may be required to obtain recommended film thicknesses.</p> <p>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® Protective Coatings Consultant for advice prior to painting. Do not apply in conditions outside the parameters stated in this document without the written consent of Dulux® Protective Coatings Australia.</p> <p>Freshly mixed material must not be added to previously mixed material.</p> <p>The rate of cure is dependent upon temperature. Do not apply at temperatures below 10°C when using Standard Hardener. Do not apply at relative humidity above 85% or when the surface is less than 3°C above the dewpoint. The surface to be coated must be totally free of moisture and contaminants. When applying this product to broad surfaces such as floors use only one application method to avoid colour variation or streaking.</p>	Tip Orifice	Atomising Pressure	Mat'l Hose ID	Pump Manifold Filter	0.017" – 0.021" (430 - 533 microns)	3,500 – 4,000 psi (241 – 276 bar)	3/8" or 1/2" (9.5 mm or 12.7mm)	60 mesh (250 microns)	Gun	Fluid Tip	Air Cap	Air Hose ID	Mat'l Hose ID	Atomising Pressure	Material Pressure	Graco Air Pro or Equivalent	2.2 mm (0.086)	Graco 192318	5/16" or 3/8" (7.9 or 9.5 mm)	3/8" or 1/2" (9.5 or 12.7 mm)	60 to 70 PSI (4.14 – 4.83 Bar)	70 to 80 PSI (4.83 – 5.52 Bar)
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PRECAUTIONS																							
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.																						
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	The PART A is classified as a Class 9 Miscellaneous Dangerous Good and the PART B is classified as a Class 8 Corrosive, as per the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and/or the "New Zealand NZS5433: Transport of Dangerous Goods on Land" and must be stored in accordance with the relevant regulations. 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 beyond the hazardous affected zone before welding. Repair area following the surface preparation and coating application recommendations of this technical data sheet.																						

COMPANY INFORMATION

Dulux Protective Coatings a division of
DuluxGroup (Australia) Pty Ltd
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DuluxGroup (New Zealand) Pty Ltd
150 Hutt Park Road, Lower Hutt, NZ
A.B.N. 55 133 404 118

PACKAGING, TRANSPORT AND STORAGE

PACKAGING Available in 15 litre packs

TRANSPORTATION WEIGHT 1.69 kg/litre (Average of components)

DANGEROUS GOODS Part A: Class 9 UN 3082
Part B: Class 8 UN 1760

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