DUREMAX® HBE
Fast Cure High Build Epoxy Coating

FEATURES
- HIGHLY RESISTANT TO CHEMICALS, SOLVENTS AND AGGRESSIVE EXPOSURE
- SUITABLE FOR APPLICATION TO PREPARED CONCRETE
- ABRASION RESISTANT FILM
- VOC LESS THAN 100 g/L
- WILL CONTINUE TO CURE WHEN IMMERSED IN WATER
- HIGH BUILD ONE COAT PROTECTION

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
AS/NZS 3750.14

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

WATER
Excellent resistance to fresh and salt water. Suitable for immersion

ALKALIS
Excellent resistance to splash and spillage of most alkalis

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
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) 285 500 250
Dry film per coat (μm) 250 570 285

MIXING RATIO V/V
Part A : 3
Part B : 1

THINNER
920-08925 Dulux® Epoxy Thinner
965-63020 Dulux® CR Reducer

THINNER (IMMERSION)
773-63001 White/Light Base
773-63002 Deep Base
773-63003 Clear Base
976-H0201 Standard Hardener
976-H0209 Cold Cure Hardener

APPLICATION SUBSTRATES
Suitable for blast cleaned steel. Suitable for primed steel and prepared concrete.

PRIMERS
Inorganic zinc or two-pack epoxy primers

APPLICATION METHODS
Conventional, airless spray or roller

DURING CHARACTERISTICS AT 250 µm DRY FILM THICKNESS*

<table>
<thead>
<tr>
<th>Humidity</th>
<th>Touch</th>
<th>Handle</th>
<th>Full Cure</th>
<th>Max1, 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>15°C</td>
<td>50%</td>
<td>6 Hours</td>
<td>12 Hours</td>
<td>7 Days</td>
</tr>
<tr>
<td>25°C</td>
<td>50%</td>
<td>3 Hours</td>
<td>6 Hours</td>
<td>7 Days</td>
</tr>
</tbody>
</table>

*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.

NOTE: 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 contact your Dulux® Protective Coatings Consultant for specific advice relating to your project.

SPREADING RATE
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, surface porosity and roughness.
DUREMAX® HBE
COLD CURE HARDENER

### COATING THICKNESS (MICRONS)

<table>
<thead>
<tr>
<th>Wet film per coat (μm)</th>
<th>Min</th>
<th>Max</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>285</td>
<td>570</td>
<td>285</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dry film per coat (μm)</th>
<th>Min</th>
<th>Max</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>250</td>
<td>500</td>
<td>250</td>
</tr>
</tbody>
</table>

### APPLICATION CONDITIONS

<table>
<thead>
<tr>
<th>SOLIDS BY VOLUME</th>
<th>90% (White/Light Base)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC LEVEL</td>
<td>&lt;84 g/L (White/Light, untinted)</td>
</tr>
<tr>
<td>POT LIFE</td>
<td>50 Minutes (4 litre kit, 25°C)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THICKNESS</th>
<th>APPLICATION CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
<td>Max</td>
</tr>
<tr>
<td>Wet film per coat (μm)</td>
<td>Air Temperature</td>
</tr>
<tr>
<td>Dry film per coat (μm)</td>
<td>Substrate Surface Temperature</td>
</tr>
<tr>
<td></td>
<td>Relative Humidity</td>
</tr>
<tr>
<td></td>
<td>Concrete Moisture Content</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Humidity</th>
<th>Touch</th>
<th>Handle</th>
<th>Full Cure</th>
<th>Min</th>
<th>Max1, 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>5°C</td>
<td>50%</td>
<td>7.5</td>
<td>20</td>
<td>7</td>
<td>20</td>
<td>7</td>
</tr>
<tr>
<td>10°C</td>
<td>50%</td>
<td>7</td>
<td>18</td>
<td>7</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td>15°C</td>
<td>50%</td>
<td>4.5</td>
<td>14</td>
<td>7</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>25°C</td>
<td>50%</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>

*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.

2 NOTE: 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.

<table>
<thead>
<tr>
<th>SURFACE</th>
<th>ENVIRONMENT</th>
<th>PREPARATION GUIDE</th>
<th>SYSTEM</th>
<th>DFT (μm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEEL</td>
<td>Immersion (AS2312.1) System EVH3</td>
<td>Abrasive blast AS1627.4 Class 3.0</td>
<td>1st Coat Duremax® HBE</td>
<td>250 μm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2nd Coat Duremax® HBE</td>
<td>250 μm</td>
</tr>
<tr>
<td>STEEL</td>
<td>Severe Industrial (AS2312.1) System ETL1</td>
<td>Abrasive blast clean AS1627.4 Class 2.5</td>
<td>1st Coat Duremax® HBE</td>
<td>250 μm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2nd Coat Duremax® HBE</td>
<td>250 μm</td>
</tr>
<tr>
<td>STEEL</td>
<td>Very High Corrosivity (Exceeds AS2312.1 Cat C5-I) System PUR5</td>
<td>Abrasive blast clean AS1627.4 Class 2.5</td>
<td>1st Coat Zincanode® 402</td>
<td>75 μm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2nd Coat Duremax® HBE</td>
<td>250 μm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3rd Coat Weathermax® HBR</td>
<td>100 μm</td>
</tr>
<tr>
<td>STEEL</td>
<td>Immersion (AS2312.1) System EVH2</td>
<td>Abrasive blast AS1627.4 Class 3.0</td>
<td>1st Coat Duremax® HBE</td>
<td>400 μm</td>
</tr>
<tr>
<td>STEEL</td>
<td>High Corrosivity (Exceeds AS2312.1 Cat C4) System EHB4</td>
<td>Abrasive blast clean AS1627.4 Class 2.5</td>
<td>1st Coat Zincanode® 402</td>
<td>75 μm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2nd Coat Duremax® HBE</td>
<td>250 μm</td>
</tr>
</tbody>
</table>

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

PC 257
August 2018
**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. 

**Immersed steel:** Abrasive blast clean to AS1627.4 Class 3. Remove all dust by brushing or 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. Diamond grind, track or light shot-blast concrete floors to provide a profile. Remove all dust by vacuum cleaning. Fill any large cracks or voids using Luxepoxy® Filler.

**APPLICATION**

**BRUSH/ROLLER**

Mix each pack thoroughly using a power mixer until the contents are uniform. Mix the contents of both packs together thoroughly with a power mixer and let stand for 10 minutes. Remix thoroughly before application.

Recommended for brush application only for spot patching on rivets, seams, etc. Roller application suitable for use on concrete floors by applying even coats of mixed material to the prepared surface. Thin if necessary with up to 100m/litre with Dulux® Epoxy Thinner (920-08925) to ease application. When brushing and rolling additional coats may be required to attain the specified thickness.

Thin up to 100m/litre with Dulux® Epoxy Thinner (920-08925) may be used to aid atomisation. Apply in multiple wet coats overlapping each pass 50%.

**CONVENTIONAL SPRAY**

Typical Set-up

- Graco AirPro
- Pressure at AirPro
- Pressure at Gun:
  - 1.8mm (239543)
  - 70-100 kPa (10-15 p.s.i.)
  - 380-410 kPa (55-60 p.s.i.)

**AIRLESS SPRAY**

Standard airless spray equipment such as a Graco Xtreme 60:1 with a fluid tip of 19-21 thou (0.48-0.53mm) and an air supply capable of delivering 550-690 KPa (80-100 p.s.i.) at the pump. Thinning is not normally required but up to 50 ml/litre of Dulux® Epoxy Thinner (920-08925) may be used to aid atomisation.

**PRECAUTIONS**

This is an industrial product designed for use by experienced Protective Coating applications. 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 written consent of Dulux® Australia. Freshly mixed material must not be added to material that has been mixed for some time. The rate of cure is dependent upon temperature. 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 applying this product to broad surfaces such as floors use only one application method to avoid colour variation or streaking. When used in light colours, the Cold Cure Hardener will impart a yellow tone that will darken with time. When used for immersion conditions, the maximum overcoat interval is 48 hours at 25°C. The coating can be exposed to early immersion, however please consult your Dulux® Protective Coatings Consultant for specific advice relating to your project. For best results in water immersion conditions replace Dulux® Epoxy Thinner (920-08925) with Dulux® CR Reducer (965-63020). Use of a 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**

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**

**SAFETY DATA SHEET**

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 NZSS433: 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, use 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, CO₂ 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 DuluxGroup (Australia) Pty Ltd

**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

Dulux, Duramax, Luxepoxy and Zincanode are registered trade marks of DuluxGroup (Australia) Pty Ltd.

Any advice, recommendation, information, assistance or service provided by Dulux Australia in relation to goods manufactured by it or their use and application is given in good faith and is believed by Dulux to be appropriate and reliable. However, any advice, recommendation, information, assistance or service provided by Dulux is provided without liability or responsibility PROVIDED THAT the foregoing shall not exclude, limit, restrict or modify the right entitlements and remedies conferred upon any person or the liabilities imposed upon Dulux by any condition or warranty implied by Commonwealth, State or Territory Act or ordinance void or prohibiting such exclusion limitation or modification. Products can be expected to perform as indicated in this sheet so long as applications and application procedures are as recommended. Specific advice should be sought from Dulux for application in highly corrosive areas and for large projects to ensure proper performance.

PC 257

August 2018

Page 3 of 3