Dulux PROTECTIVE COATINGS

DUREBILD® STE MIO

Surface Tolerant Micaceous Iron Oxide Epoxy Coating — PC 565

FEATURES
- SUPERIOR SURFACE WETTING PROPERTIES
- HIGH PERFORMANCE BARRIER PROTECTION FOR NEW OR EXISTING STEEL
- IDEAL MAINTENANCE COATING OVER MOST WELL ADHERED AGED COATINGS
- MIO PIGMENTATION PROVIDES IMPROVED WEATHERABILITY PROPERTIES
- SELF PRIMING FINISH

USES DUREBILD® STE MIO has been developed specifically for Australian and New Zealand conditions. It can be used as a high-performance maintenance coating over hand or power tool cleaned surfaces where blasting is impractical or not allowed. This coating can also be used as an intermediate or topcoat for new or existing steel. DUREBILD® STE MIO can be topcoated with a wide range of coating types. Amine blush and bloom resistant cold cure hardener available during colder months and Quickturn hardener is available when faster return to service is required. Standard and Cold Cure hardeners are suited for immersion.

SPECIFICATIONS AS/NZS 3750.1

RESISTANCE GUIDE

WEATHERABILITY	Will yellow with time and chalk on exterior exposure, although the MIO pigment reduces chalking. Neither yellowing nor chalking detracts from protective properties of the coating. Use a weatherable pigmented topcoat if appearance is important.	**SOLVENTS**	Resists splash and spillage of most hydrocarbon solvents, refined petroleum products & most alcohols.
		WATER	Excellent resistance to fresh and salt water. Only Natural Steel Grey is suitable for immersion.
HEAT RESISTANCE	Up to 120°C dry heat.	**ALKALIS**	Only Natural Steel Grey is suitable for splash and spillage of alkalis.
SALTS	Excellent resistance to neutral and alkali salts. Only Natural Steel Grey is suitable for alkali exposure.	**ADHESION**	Excellent when fully cured.
ACIDS	Only Natural Grey is suitable for splash and spillage of mild acids.	**ABRASION**	Very Good when fully cured.

TYPICAL PROPERTIES AND APPLICATION DATA (STANDARD HARDENER)

CLASSIFICATION	Surface Tolerant Epoxy MIO
FINISH	Semi Gloss
COLOUR	Natural Grey, Mid Grey
COMPONENTS	Two
VOLUME SOLIDS	85% (Natural Grey)
VOC LEVEL	<220 g/L (Natural Grey)
FLASH POINT	41°C
POT LIFE	60 Minutes (4 litre kit, 25°C)
MIXING RATIO V/V	Part A : 4 Part B : 1
THINNER	920-08925 Dulux® Epoxy Thinner
THINNER - IMMERSION	965-63020 CR Reducer
PRODUCT CODE	775-00805 Natural Grey 775-63006 Mid Grey 976-84539 Standard Hardener 976-84685 Cold Cure Hardener 976-H0248 Quickturn® Hardener

APPLICATION CONDITIONS

	Min	Max
Air Temp.	10°C	40°C
Substrate Temp.	10°C	40°C
Relative Humidity		85%
Concrete Moisture		<6%

COATING THICKNESS (MICRONS)

	Min	Max	Recommended
Wet film per coat (µm)	120	250	150
Dry film per coat (µm)	100	210	125

SUITABLE SUBSTRATES	Suitably prepared substrates including rusty steel, aged tightly adhering coatings, concrete, aluminium and galvanised steel.
PRIMERS	Self priming or Zincanode® 402
APPLICATION METHODS	Brush, roller, conventional or airless spray

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

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

[1]**If the maximum overcoat interval is exceeded then the surface MUST be thoroughly & uniformly 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.

SPREADING RATE
WITH STANDARD 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 MIO

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

SOLIDS BY VOLUME	85% (Natural Grey)
VOC LEVEL	<200 g/L (Natural Grey)
FLASH POINT	>23°C
POT LIFE	60 Minutes (4 litre kit, 25°C)

APPLICATION CONDITIONS

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

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

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

SOLIDS BY VOLUME	86% (White/Light Base)
VOC LEVEL	<200 g/L (White, untinted)
FLASH POINT	>23°C
POT LIFE	45 Minutes (4 litre kit, 25°C)

APPLICATION CONDITIONS

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

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.
[1]If the maximum overcoat interval is exceeded then the surface MUST be abraded to ensure maximum intercoat adhesion.
[#]NOTE: Quickturn® hardener is not currently recommneded for immersion.

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 MIO

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) Exceeds System PUR 5	Abrasive blast clean AS1627.4 Class 2.5	1st Coat 2nd Coat 3rd Coat	Zincanode® 402 Durebild® STE MIO Weathermax® HBR	75 µm 200 µm 100 µm
STEEL – MAINTENANCE	Coastal	Power tool clean AS1627.2 St 3 or Abrasive blast AS1627.4 Class 2	Spot Prime 1st Coat 2nd Coat	Durebild® STE MIO Durebild® STE MIO Weathermax® HBR	125 µm 125 µm 100 µm
STEEL NEW OR MAINTENANCE	Immersion – Salt water or fresh water System EHB7	Abrasive blast clean AS1627.4 Class 3.0	1st Coat 2nd Coat	Durebild® STE MIO Durebild® STE MIO	150 µm 150 µm
GALVANISED STEEL	Exterior	Degrease and whip blast	1st Coat 2nd Coat	Durebild® STE MIO Durebild® STE MIO	125 µm 125 µm
CONCRETE	Exterior	Remove release agents and other surface contaminants, followed by mechanical prep as instructed below.	1st Coat 2nd Coat 3rd Coat	Luxepoxy® Filler Durebild® STE MIO Weathermax® HBR	N/A 125 µm 100 µm
ALUMINIUM	Exterior/Interior	Clean, degrease and thoroughly & uniformly abrade surface	1st Coat	Durebild® STE MIO	125 µm

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

SURFACE PREPARATION

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

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

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.

*** 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.**

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.

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.

*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.

DUREBILD® STE MIO

APPLICATION	Mix each can thoroughly using a power mixer until the contents are uniform. Mix the contents of both packs together thoroughly using a power mixer. Remix thoroughly before using and continue mixing during 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) can be added. Ensure paint is regularly agitated during application to prevent separation. Typical Set-up — Graco AirPro: 1.8mm (239542); Pressure at Triton 308: 65-100 kPa (10-15 p.s.i.); Pressure at Gun: 385-420 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. Ensure paint is regularly agitated during application to prevent settling of the MIO pigment.
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® Protective Coatings 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 and Quickturn™ 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. Contect Dulux® PC Consultant before using Quickturn™ in immersion condition. 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. Galvanised steel and existing coatings need to be suitably prepared as per Surface Preparation section, otherwise 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 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

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

PACKAGING, TRANSPORT AND STORAGE

PACKAGING	Available in 15 litre packs
TRANSPORTATION WEIGHT	1.73 kg/litre (Average of components)
DANGEROUS GOODS	Part A: Class 3 UN 1263 Part B: Class 8,3 UN 2734