QUANTUM® Si 70

High Build Epoxy Polysiloxane Finish — PC 471

FEATURES

- EXCELLENT EXTERIOR WEATHERABILITY
- EXCELLENT GRAFFITI RESISTANCE
- HIGH BUILD, HIGH VOLUME SOLIDS
- ISOCYANATE FREE
- TINTABLE – AVAILABLE IN A WIDE RANGE OF COLOURS
- SUITABLE FOR USE IN A TWO-COAT SYSTEM

USES

QUANTUM® Si 70 is a two-component epoxy polysiloxane finish with high build properties that allow it to be used in a protective two coat system with the same performance as a 3 coat system in up to C3 and C4 environments* when used with an approved primer coat. When used in an approved system, QUANTUM® Si 70 delivers both long term corrosion and chemical protection of steel that is subject to sheltered or exposed (C2-C5) environments when prepared and applied in accordance with the TDS. Typical areas of application of QUANTUM® Si 70 include bridges, stadiums, commercial assets and mining assets for steel; and road and rail infrastructure or commercial assets for concrete.

SPECIFICATIONS

APAS 1441/2: assessed and confirmed to meet all requirements on specific certified products

RESISTANCE GUIDE

WEATHERABILITY	Excellent gloss and colour retention on exterior exposure	**SOLVENTS**	Good resistance to splash and spillage of most common solvents
HEAT RESISTANCE	Up to 120°C dry heat	**WATER**	Excellent resistance to fresh salt water but not suitable for immersion
SALTS	Good resistance to splash and spillage of salt	**ALKALIS**	Good resistance to splash and spillage of most common alkalis
ACIDS	Good resistance to splash and spillage of most common acids	**ABRASION**	Excellent when fully cured

TYPICAL PROPERTIES AND APPLICATION DATA

CLASSIFICATION	Two pack epoxy polysiloxane coating
FINISH	Gloss
COLOUR	An extensive range of tinted colours using Dulux® DuColour® tint system
COMPONENTS	Two
VOLUME SOLIDS	85% (Light Base)
VOC LEVEL	<130 g/litre (Light Base)
FLASH POINT	>23°C
POT LIFE	4 hours (16 litre kit, 25°C)
MIXING RATIO V/V	Part A: 7 Part B: 1
THINNER – BRUSH	920-08925 Dulux® Epoxy Thinner
THINNER – SPRAY	920-08925 Dulux® Epoxy Thinner
PRODUCT CODE	70B-63001 Light Base 70B-63003 Clear Base 976-H0376 Standard Hardener

APPLICATION CONDITIONS

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

COATING THICKNESS (MICRONS)

	Min	Max	Recommended
Wet film per coat (µm)	120	240	150
Dry film per coat (µm)	100	200	125

SUITABLE SUBSTRATES	Prepared concrete; suitably primed steel
PRIMERS	Most Dulux® two pack epoxy primers
TOPCOATS	N/A
APPLICATION METHODS	Brush/roller, conventional, airless spray, or air assisted spray

DRYING CHARACTERISTICS AT 150 µm DRY FILM THICKNESS

					OVERCOAT	
Temperature	**Humidity**	**Touch**	**Handle**	**Full Cure**	**Min**	**Max****
10° C	50%	9 Hours	18 Hours	7 Days	18 Hours	Extended
15° C	50%	6 Hours	12 Hours	7 Days	12 Hours	Extended
25° C	50%	3 Hours	6 Hours	7 Days	6 Hours	Extended

These figures are a guide only, as ventilation, film thickness, humidity, thinning and other factors will influence the rate of drying.
When recoating over Quantum® Si 70, the surface needs to be clean, dry, and contaminant free only before proceeding forward with the next coat of Quantum® Si 70.

*In areas of extreme humidity or moisture a 3 coat system is recommended, contact your local protective coatings representative for more information

SPREADING RATE ASSUMING NO LOSSES	**6.8 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, surface porosity and roughness.

QUANTUM® Si 70

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)
CONCRETE	Barrier walls	Follow concrete surface preparation recommendations	1st Coat 2nd Coat	Quantum® Si 70 (thinned 10%) Quantum® Si 70	125 µm 125 µm
STEEL	Very low–high corrosivity (AS2312.1 Cat C2–4) System PSL1	Abrasive blast AS1627.4 Class 2.5	1st Coat 2nd Coat	Zincanode® 402 Quantum® Si 70	75 µm 125 µm
STEEL	Low-very high corrosivity (AS2312.1 Cat C2-5) System PSL2	Abrasive blast AS1627.4 Class 2.5	1st Coat 2nd Coat 3rd Coat	Zincanode® 402 Duremax® GPE Quantum® Si 70	75 µm 150 µm 100 µm
STEEL	Low–very high corrosivity (AS2312.1 Cat C2–5) System PSL3	Abrasive blast AS1627.4 Class 2.5	1st Coat 2nd Coat 3rd Coat	Durepon® EZP Duremax® GPE Quantum® Si 70	75 µm 150 µm 100 µm
STEEL	Two-coat, high build system	Abrasive blast AS1627.4 Class 2.5	1st Coat 2nd Coat	Duremax® MBE Quantum® Si 70	250 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: Specifiers should follow the surface preparation guidelines from the data sheet for the primer or first coat selected. The primed surface must be free from grease, oil, dirt, rust and other contaminants. If the primer has exceeded its maximum overcoat interval (see the data sheet of the primer) then the surface MUST be abraded to maximize the adhesion of this topcoat.

Concrete: Concrete must be at least 28 days old before coating. Remove all laitance, form release, curing compounds, oil, grease and other surface contaminants. Mechanically prepare concrete walls to provide a profile of CSP 2-3 per ICRI 310.2R. Remove all dust by vacuum cleaning. Fill any large cracks, bugholes, or voids using a suitable 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, or for projects greater than 500m^2, at least one of the following more accurate quantitative test method should be used - 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. This is especially true if the use of a moisture vapor barrier cannot be confirmed or concrete contamination from oils, chemical spills, unreacted silicates, chlorides or Alkali Silica Reaction (ASR) is suspected.

APPLICATION

Always mix full kits of product – do not part mix. Mix each can 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 with a power mixer and let stand for 10 minutes. Box all containers before use to ensure colour consistency. Remix thoroughly before application. It is recommended that full kits of QUANTUM® Si 70 are mixed at a time as the Hardener component will spoil quickly once opened. For multiple coat applications a two-shade difference in the underlying layer to the finish coat should be employed.

BRUSH/ROLLER

Use a 4 mm or 5 mm high quality synthetic woven nap roller cover, such as a Rota Cota smooth microfibre roller cover. Do not use medium or long nap roller covers. Two coats may be required to obtain desired dry film thickness. Thin 50 ml/litre or 5% per litre with Dulux® Epoxy Thinner (920-08925) to aid in application.

CONVENTIONAL SPRAY

Graco Triton 308 or equivalent. Thinning is not normally required but up to 50-100ml/litre or 5-10% per litre of Dulux® Epoxy Thinner (920-08925) may be added to aid in application. Apply in multiple wet coats overlapping each pass 50%.

Gun	Fluid Tip	Air Cap	Air Hose ID	Mat'l Hose ID	Atomising Pressure	Material Pressure
Graco® Air Pro (or equivalent)	1.8mm (0.070)	Graco® 192318	5/16" or 3/8" (7.9 or 9.5 mm)	3/8" (9.5 mm)	60 to 70 PSI (4.14 – 4.83 Bar)	25 to 35 PSI (1.72 – 2.41 Bar)

AIRLESS SPRAY

Graco® Merkur 48:1 or equivalent. Thinning is not normally required but up to 50 ml/litre or 5% per litre of Dulux® Epoxy Thinner (920-08925) may be added to aid application. Apply in multiple wet coats overlapping each pass 50%.

Tip Orifice	Atomising Pressure	Mat'l Hose ID	Pump Manifold Filter
0.013" – 0.017" (330 – 432 µm)	2,400 – 3,000 psi (165 – 207 bar)	3/8" (9.5mm)	60 mesh (250 microns)

NOTE: A 2-metre x ¼" (6.35mm) whip hose is allowed at the end of the material hose for greater ease of 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® 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 5°C. Do not apply at relative humidity above 85% or when the surface is less than 3°C above the dewpoint. Ensure you read and understand the safety precautions on the Material Safety Data Sheets for the two components before using. Under no circumstances should water or non-recommended thinner be allowed to contaminate the product.
CLEAN UP	Clean all equipment with Dulux® Epoxy Thinner (920-08925) immediately after use.
OVERCOATING	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	Store in a dry, well-ventilated area away from sources of heat or ignition. Keep containers closed at all times. Avoid moisture contamination.
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 must be worn while handling and using. Always wash hands before smoking, eating, drinking, or using the toilet.
USING	Use with good ventilation and avoid inhalation of spray mists and fumes. When spraying, wear a positive-pressure, air-supplied respirator. Users must comply with the provisions of the respective State Spray Painting Regulations at all times.
FLAMMABILITY	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.
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
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DuluxGroup (New Zealand) Pty Ltd
150 Hutt Park Road, Lower Hutt, NZ
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PACKAGING, TRANSPORT AND STORAGE

PACKAGING	Available in 16 litre packs
TRANSPORTATION WEIGHT	1.21 kg/litre (Average of components)
DANGEROUS GOODS	Part A: Non Dangerous Goods Part B: Class 8 UN 1760

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