

QUANTUM® 221

Recoatable High Gloss Polyurethane Finish

PC 431

- FEATURES**
- OUTSTANDING WEATHERING AND CHEMICAL RESISTANCE
 - EXCELLENT APPLICATION PROPERTIES
 - EXCELLENT GRAFFITI RESISTANCE
 - HIGH GLOSS QUANTUM® CLEARCOAT AVAILABLE

USES QUANTUM® 221 is a premium quality, high gloss two-pack acrylic polyurethane. QUANTUM® 221 has been designed for superior weathering and gloss retention even in areas of extreme UV radiation. QUANTUM® 221 is readily recoatable with minimal surface preparation.

QUANTUM® 221 imparts an ultra-premium quality high gloss finish for high demand areas such as commercial facades, awnings, lift doors and frames, joinery in hotels, showrooms and restaurants, and is equally suitable for heavy industrial applications such as factory and farm machinery, earth moving equipment, and structural steel in power generation plants, bulk handling equipment, oil refineries, mining and chemical processes, offshore structures, road and rail infrastructure and exposed pipelines.

QUANTUM® 221, when fully cured, exhibits excellent graffiti resistance and durability to areas subject to public scrutiny such as sporting facilities, public transport and retail complexes.

SPECIFICATIONS AS/NZS 3750.6

RESISTANCE GUIDE

WEATHERABILITY	Excellent gloss and colour retention on exterior exposure	SOLVENTS	Excellent resistance to splash and spillage of common alcohols, aliphatic and aromatic hydrocarbons, esters and ketones
HEAT RESISTANCE	Up to 120°C dry heat	WATER	Excellent resistance to fresh and salt water but not suitable for immersion
SALTS	Unaffected by splash and spillage of most salt solutions	ALKALIS	Good resistance to splash and spillage of most common alkalis
ACIDS	Suitable for splash and spillage exposure to most acids	ABRASION	Excellent when fully cured

TYPICAL PROPERTIES AND APPLICATION DATA

CLASSIFICATION	Acrylic polyurethane coating		APPLICATION CONDITIONS			
FINISH	High Gloss			Min	Max	
COLOUR	White and a range of tintable colours		Air Temp.	10°C	40°C	
			Substrate Temp.	10°C	40°C	
			Relative Humidity	85%		
			Concrete Moisture	<6%		
COMPONENTS	Two		COATING THICKNESS (MICRONS)			
VOLUME SOLIDS	52.9% (White)					
VOC LEVEL	<432 g/L (White)					
FLASH POINT	4°C					
POT LIFE	2 hours (4 Litre kit, 25°C)		Wet film per coat (µm)	Min	Max	Recommended
MIXING RATIO V/V	Part A : 2	Part B : 1	Dry film per coat (µm)	75	115	95
THINNER – BRUSH	965-42166	Duthin® 040		40	60	50
THINNER – SPRAY	965-42166	Duthin® 040	SUITABLE SUBSTRATES	Primed steel, aluminium, galvanised steel, MDF, concrete or fibreglass		
	965-63023	Dulux® Urethane Thinner	PRIMERS	Most Dulux® two pack epoxy primers		
PRODUCT CODE	722-63313	White	TOPCOATS	Not applicable		
	722-63001	Light Base				
	722-63003	Clear Base	APPLICATION METHODS	Brush, roller, conventional, airless spray or air assisted spray		
	976-H0149	Standard Hardener				

DRYING CHARACTERISTICS AT 50 µm DRY FILM THICKNESS*

					OVERCOAT	
Temperature	Humidity	Touch	Handle	Full Cure	Min	Max
25° C	50%	40 Minutes	7 Hours	7 Days	7 Hours	Extended

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

SPREADING RATE 10.5 square metres per litre equals 50 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.

QUANTUM® 221

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 PUR5	Abrasive blast clean AS1627.4 Class 2.5	1 st Coat	Zincanode® 402	75 µm
			2 nd Coat	Duremax® GPE MIO	200 µm
			3 rd Coat	Quantum® 221	50 µm
			4 th Coat	Quantum® 221	50 µm
STEEL – NEW	High corrosivity (AS2312.1 Cat C4) Exceeds System PUR3	Abrasive blast clean AS1627.4 Class 2.5	1 st Coat	Duremax® GPE ZP	125 µm
			2 nd Coat	Duremax® GPE	125 µm
			3 rd Coat	Quantum® 221	50 µm
STEEL – NEW	Low corrosivity (AS2312.1 Cat C1-2) Exceeds System PUR2	Abrasive blast clean AS1627.4 Class 2.5	1 st Coat	Duremax® GPE ZP	125 µm
			2 nd Coat	Quantum® 221	55 µm
			3 rd Coat	Quantum® 221	50 µm
CONCRETE	Exterior/Interior	Remove release agents and other surface contaminants	1 st Coat	Durebild® STE	125 µm
			2 nd Coat	Quantum® 221	50 µm
			3 rd Coat	Quantum® 221	50 µm
HARDWOOD & MDF	Interior	Sand and dust down before and after first coat	1 st Coat	Luxepoxy® 4 White Primer	50 µm
			2 nd Coat	Quantum® 221	50 µm
			3 rd Coat	Quantum® 221	50 µm
ALUMINIUM & FIBREGLASS	Exterior/Interior	Clean, degrease and abrade surface	1 st Coat	Luxepoxy® 4 White Primer	50 µm
			2 nd Coat	Quantum® 221	50 µm
			3 rd Coat	Quantum® 221	50 µm
FIBRE CEMENT SHEET	Exterior/Interior	Clean, degrease and lightly sand surface. Dust down.	1 st Coat	Luxepoxy® 4 White Primer	50 µm
			2 nd Coat	Quantum® 221	50 µm
			3 rd Coat	Quantum® 221	50 µm

NOTE: If application is by brush or roller, additional coats will be necessary to achieve the minimum DFT and full opacity. Appearance may greatly differ depending on application method (brush, roller and spray).

*Plasterboard surfaces may move and crack, particularly at the joints. Quantum® 221 is not sufficiently flexible to be suitable over surfaces prone to movement, therefore, ensure that any movement is borne by expansion joints and that these joints are masked off when applying Quantum® 221 to avoid painting over the movement joint.

QUANTUM[®] 221

SURFACE PREPARATION	Refer to relevant prime coat data sheet for surface preparation recommendations.	
APPLICATION	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 and during application to prevent settling.	
BRUSH/ROLLER	Suitable for small areas only. Thin with up to 100 ml/litre with Duthin [®] 040 (965-42166) to aid application. When brushing and rolling additional coats may be required to attain the specified thickness and full opacity. Colour and appearance are dependent on thinning levels and application technique. The effect achieved will differ from that obtained by spray application.	
CONVENTIONAL SPRAY	Up to 200ml/litre Dulux [®] Urethane Thinner can be used to aid atomisation. Apply in multiple wet on wet coats overlapping each pass 50%. Between two and four wet on wet coats are required to achieve opacity. Opacity may vary depending on colour. A short flash time of approximately two minutes is required between coats	
	Typical Set-up	Graco AirPro: 1.4mm (239542) Pressure at Triton 308: 70-100 kPa (10-15 p.s.i.) Pressure at Gun: 380-410 kPa (55-60 p.s.i.) HVL P 1.4 Fluid Tip Set
AIRLESS SPRAY	Standard airless spray equipment such as a Graco Xtreme 30:1 with a fluid tip of 15 thou (0.38) 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 150 ml/litre of Duthin [®] 040 (965-42166) may be added to aid 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 10°C. Do not apply at relative humidity above 85% or when the surface is less than 3°C above the dewpoint. Ensure that you read and understand the safety precautions on the Material Safety Data Sheets for the two components before using. The recommended thinner MUST be used as some solvents react with the isocyanate hardener seriously degrading the life of the coating. Under no circumstances should water or non-recommended thinner be allowed to contaminate the product. In hot conditions use Duthin [®] 040 (965-42166) for improved flow and to reduce dry spray.	
CLEAN UP	Clean all equipment with Dulux [®] Urethane Thinner (965-63023) 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.	
SAFETY PRECAUTIONS	Read Data Sheet, SAFETY DATA SHEET and any precautions on container labels. SAFETY DATA SHEET is available from Customer Service (132377) or www.duluxprotectivecoatings.com.au	
STORAGE	Store as required for a flammable liquid Class 3 in a bonded 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 must be worn while handling. Always wash hands before smoking, eating, drinking or using the toilet. Gas is evolved when isocyanate in the hardener reacts with water. If a closed container shows signs of internal pressure, cover it completely with a cloth and remove the lid slowly to prevent splashing or violent expulsion of the lid.	
USING	Use with good ventilation and avoid inhalation of spray mists and fumes. When spraying, wear a positive-pressure, air-supplied respirator. Users must always comply with the provisions of the respective State Spray Painting Regulations at all times.	
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		PACKAGING, TRANSPORT AND STORAGE	
Dulux Protective Coatings a division of		PACKAGING	Available in 5 and 15 litre packs
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	TRANSPORTATION WEIGHT	1.40 kg/litre (Average of components)
		DANGEROUS GOODS	Part A: Class 3 UN 1263 Part B: Class 3 UN 1263

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