

Monodex Metallic

Translucent Metallic, Water-based Anti-Carbonation Coating

Product Overview

Translucent metallic, elastomeric, water-based anti-carbonation coating. CE-marked in accordance with BS EN 1504-2

Uses

To provide protection from the effects of carbonation and an effective barrier to water penetration and the ingress of airborne chlorides, whilst also allowing the release of moisture from the substrate. Designed for application over a complementary pigmented **MONODEX** base coat system to produce a metallic satin effect finish on external façades and other structures. Equally suited for internal use, providing a unique appearance to decorative elements in high profile construction. Suitable for surface protection systems principles 1.3,2.2, 8.2 as defined in BS EN 1504-2.

Advantages

- Metallic particles ensure a sparkling, reflective finish, making it ideal for architectural new build or refurbishment projects.
- **MONODEX SMOOTH** ensures a highly protective base coat, whilst a **MONODEX METALLIC** top coat ensures a lustrous, metallic finish.
- High diffusion resistance to carbon dioxide, offering complete protection from the effects of carbonation.
- Equally suited for both external and internal applications.
- Low hazard, water-based product with no flash point. Equipment easily cleaned with water.
- Fast drying, allowing two coat applications on the same day and year-round use.
- Low water vapour diffusion resistance allows damp substrates to breathe and dry out without blistering.
- Provides protection against water ingress, yet allows damp substrates to breathe.
- Rapid application by brush, roller or airless spray.
- **MONODEX METALLIC** can be applied using Graco Pumps (see the Airless Spraying of Decorative Protective Coatings & Membranes Graco Pumps).
- A range of special metallic colours can be created.

Description

MONODEX METALLIC is a single component, waterborne, translucent coating that offers an excellent defence against carbon dioxide ingress and the effects of weathering, significantly prolonging the maintenance free life of buildings and structures. Applied over a complementary pigmented **MONODEX** base coat system, it forms a translucent reflective metallic satin finish to create a feature appearance. It prevents water ingress, yet allows damp substrates to breathe and dry out, and is both dirt and UV resistant. Protection from the growth of mould and fungi is assured with the use of advanced encapsulated biocide technology to help maintain its appearance.

Compliance

- CE-Marked in accordance with BS EN 1504-2. Suitable for surface protection systems principles 1.3, 2.2, 8.2 as defined in BS EN 1504-2.

Specification Clause

The anti-carbonation coating shall have a metallic finish and be a single component, high build, waterproof coating incorporating a micropolymer, cross-linking resin binder. It shall be CE-Marked in accordance with BS EN 1504-2 and shall comply with the following performance specification:

- Permeability to Carbon Dioxide 2.76×10^{-7} cm²/s in accordance with EN 1062-6 (equivalent concrete thickness 210mm and equivalent air layer thickness 83m at 150µm dry film thickness).
- No blistering, cracking or flaking after 2,500 hours QUV-B weathering in accordance with EN 1062-11.
- Water vapour transmission 50g/m²/day in accordance with BS EN ISO 7783-2.

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2797-CPD-530942

EN1504-2: Surface Protection Systems - Moisture Control;
(MCC)

Adhesive Bond	: Pass ≥ 3.0 MPa
Permeability to Water Vapour	: Class I < 5m
Capillary Absorption	: Class III < 0.1 kg.m ⁻² .h ^{0.5}
Artificial Weathering	: 2,500 hours



Technical Data / Mechanical Characteristics

Property	Standard	BS EN 1504-2 Requirement	Result
Adhesive Bond	EN 1542	≥ 0.8MPa Crack bridging or flexible systems	> 3.0MPa
Water Vapour Permeability (Equivalent Air Layer Thickness)	EN 7783-2	Class I (Permeable) S _D < 5m	S _D = 0.42m
Permeability to CO ₂	EN 1062-6	S _D ≥ 50m (R)	83m @ 150µm DFT Equivalent Concrete Thickness (S _c) = 210mm
Liquid Water Transmission Rate (Capillary Absorption)	EN 1062-3	Class III (low) w < 0.1kg.m ⁻² .h ^{-0.5}	W = 0.02 kg.m ⁻² .h ^{-0.5}
Elongation at Break	BS 903 Part A2		164%
Accelerated Weathering	EN 1062-11		No blistering, cracking or flaking after 2,500 hours QUV-B weathering
Solids Content			33 - 35% (wt) 38% (vol)
Specific Gravity			1.04 – 1.10
VOC Content			< 0.29% by mass
Minimum Application Temperature			3°C.
Reaction to Fire	EN13501-1	Euroclass	Euroclass F

The properties given above are obtained from laboratory tests: results obtained from on-site testing may vary according to site conditions.

Application Instructions

Preparation

The complementary pigmented **MONODEX** base coat system must be applied in compliance with the requirements set out in the separate Technical Data Sheet and Application Guide.

Allow to cure, typically 24 hours, prior to proceeding with the application of **MONODEX METALLIC**.

Prior to work continuing, ensure the surfaces are clean, dry and free from all unsound material, i.e. dust, oil, or grease. In coastal locations, any airborne salt deposits should be washed off.

Equipment

Brushes: Wide, soft nylon or bristle paint brushes.

Rollers: Use a medium pile roller.

Spray: Airless spray can be used on smooth substrates; always finish off in one direction. Most types are suitable operating at 1500-3000psi tip sizes 11-19 thou.

Coating Application

MONODEX METALLIC must be thoroughly stirred with a slow speed drill and paddle for a minimum of 2 minutes to produce an even mix, free of streaks. Care must be taken to ensure excess air is not introduced into the coating during the mixing operation.

Apply **MONODEX METALLIC** over the clean, dry surface of the complementary pigmented **MONODEX** base coat system by brush, roller or airless spray at the coverage rate given below. Take care not to entrap air into the coating. Allow to become touch dry, typically 1-2 hours, before applying a second coat as above. Do not apply if rain is imminent.

Coat	Coverage Rate			
	l/m ²	m ² /l	WFT (µm)	DFT (µm)
1 st	0.2	5.0	200	
2 nd	0.2	5.0	200	
Overall	0.4	2.5		Nominal 150

A 15 litre unit will cover 37.5m²

Coverage rates are for smooth, non-absorbent surfaces. Make allowances for uneven or absorbent surfaces.



Cleaning and Storage

All tools should be cleaned with water immediately after use.

Shelf life is 2 years for unopened containers stored in dry, frost free conditions away from heat.

Packaging

MONODEX METALLIC is supplied in 15 litre containers.

Health and Safety

Safety Data Sheets are available on request.

Application Top Tips

1. Metallic pigments will settle on storage. Stir thoroughly for a minimum of 2 minutes using a slow speed drill and paddle to produce an even, streak free mix prior to use.
2. Rough or irregular substrates will reduce coverage.
3. For brush application use wide, soft nylon or bristle brushes.
4. For roller application use medium pile (¾" or 1") synthetic cover.
5. Airless spray can be used with care on smooth substrates only; always finish off in one direction. Most types of equipment are suitable; operating at 1500-3000psi with tip sizes of 11-19 thou.
6. We have found that an acceptable spray finish can be achieved with a Graco Ultra Max II 490 electric airless spray pump using a 17 thou tip at 2000psi.
7. Regularly check coating thickness during application using the wet film thickness gauge available from Flexcrete.
8. Take care not to entrap air as this will affect the finish.
9. Clean brushes and rollers occasionally during use.
10. Regularly clean spray nozzles to avoid blockages.
11. Curing/drying time is temperature dependent. As a guide the coating will be touch dry in approximately 1 hour at 20°C. and 2 hours at lower temperatures (<10°C.).
12. Product is through-cured in 2-12 hours dependent on ambient temperature.
13. Spray equipment must be emptied and flushed at the end of the working day.
14. Cold Weather Working (See separate Guide)
 - ≥3°C. on a rising thermometer.
 - ≥5°C. on a falling thermometer.
 - Do not use any product which has been frozen.
15. Avoid prolonged storage at high temperatures (≥35°C.).

The information herein is correct to the best of our knowledge, but it does not necessarily refer to the particular requirements of the customer. If the customer has any particular requirements it should make them known in writing to Flexcrete Technologies Limited, and obtain further advice accordingly.



FM 41091 Quality
 EMS 597350 Environmental
 OHS 597351 Health & Safety