



New Guard Coatings Group

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Monodex Smooth

Elastomeric, Water-Based, Decorative Anti-Carbonation Coating



Product Overview

Elastomeric, water-based, decorative high build coating for the protection of concrete and masonry substrates. CE-marked in accordance with BS EN 1504-2.

Uses

Provides protection against carbonation and water ingress whilst allowing the substrate to breathe. Resists the growth of mould and fungi. Suitable for surface protection systems principles 1.3, 2.2, 8.2 as defined in BS EN 1504 Part 2.

Advantages

- High diffusion resistance to carbon dioxide, offering complete protection from the effects of carbonation.
- Active encapsulated in-film biocide inhibits the growth of mould, mildew and lichens.
- Advanced cross-linking micropolymer resin system forms a durable coating with excellent adhesion.
- Fast drying to permit two coat applications on the same day and facilitating year-round use.
- Low hazard, water-based product with no flash point. Equipment easily cleaned with water.
- Low water vapour diffusion resistance allows damp substrates to breathe and dry out without blistering.
- High colour pigment concentration obliterates strong underlying colours to produce an attractive matt finish.
- Easily reinforced locally over cracks and joints, or overall to effectively seal crazed surfaces to provide further protection and aesthetic properties.

Description

MONODEX SMOOTH is a single component, high build, decorative waterproof coating based on an advanced micropolymer resin binder which cross-links to give outstanding durability over a service life of 15 years. It provides protection against water ingress and carbonation whilst allowing damp substrates to breathe. Its elastomeric nature facilitates substrate movement and bridging of hairline cracks. It is available in a range of attractive colours and contains an active biocide to inhibit mould and lichen growth.


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 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:

- Carbon Dioxide diffusion resistance number of no less than 1.33×10^6 in accordance with EN 1062-6 (equivalent concrete thickness of 798mm and equivalent air layer thickness 320m at 239µm dry film thickness).
- No blistering, cracking or flaking after at least 20,000 hours QUV-B weathering in accordance with EN 1062-11.
- Water vapour transmission no greater than 46g/m²/day in accordance with BS EN ISO 7783-2.



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EN1504-2: Surface Protection Systems – Coating Protection Against Ingress (PIC)

Adhesive Bond	: Pass ≥ 0.8 MPa
Permeability to Water Vapour	: Class I < 5m
Permeability to CO ₂	: Pass R>50m
Capillary Absorption	: Class III < 0.1 kg.m ⁻² .h ^{0.5}
Artificial Weathering	: 20,000 hours
Crack Bridging	: Static >500µm (Class A3)
Dangerous Substances	: Complies with 5.4
Reaction to Fire	: Class F



Technical Data / Mechanical Characteristics

Property	Standard	BS EN 1504-2 Requirement	Result
Adhesive Bond	EN 1542	≥ 0.8 MPa Crack bridging or flexible systems	2.5 MPa
Water Vapour Permeability (equivalent air layer thickness)	EN 7783-2	Class I (Permeable) S _D < 5m	S _D = 0.48m
Permeability to CO ₂	EN 1062-6 Method A	S _D ≥ 50m (R)	S _D = 320m @ 240µm DFT
Equivalent Concrete Thickness			S _C = 798mm
Liquid Water Transmission Rate (Capillary Absorption)	EN 1062-3	Class III(Low) w ≤ 0.1 kg.m ⁻² .h ⁻⁰⁵	w = 0.014 kg.m ⁻² .h ⁻⁰⁵ @240µm
Static Crack Bridging	EN1062-7	Class A3>0.50mm Class A2>0.25mm	1.00mm at 20°C 0.30mm at -10°C
Elongation at Break	BS 903 Part A2	-	279% at 240µm DFT (Unreinforced) 27% at 1100µm DFT (Reinforced GFM 225)
Tensile Strength	BS 903 Part A2		1.4MPa
Accelerated Weathering	EN 1062-11	-	No blistering, cracking or flaking after 20,000 hours QUV-B weathering
Solids Content			63.9% (wt) 59.0% (vol)
Specific Gravity			1.42
VOC Content			< 0.07% 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

Areas to be treated must be free from unsound material, i.e. dust, oil, grease, mould release agents, corrosion by-products and organic growth. Mechanically remove surface laitance and any soft, sandy or flaking material. Use techniques to achieve the required degree of preparation, such as wet grit or water blasting techniques or equivalent approved methods. Seal blow holes and surface defects in existing concrete using **MONOLEVEL FC** or **MONOLEVEL ICB**. Flexcrete Concrete Repair Mortars must be allowed to cure for a minimum of 24 hours. Leave concrete and cementitious screeds or renders for a minimum of 10 days, preferably 28 days. Our Technical Department will advise on treating other substrates.

Equipment

Brushes: Wide, soft nylon or bristle paint brushes.

Rollers: Use a heavy nap (¾" or 1") synthetic cover.

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 17-23 thou.

Priming of Concrete

Ensure substrate moisture content is less than 20% wood moisture equivalent. Apply **BOND-PRIME** to prepared surfaces at a rate of up to 5m²/litre by brush, roller or airless spray. Ensure complete coverage. Rough or porous surfaces will increase consumption. For further information, please refer to the relevant data sheet and priming guide.

Coating Application

Apply **MONODEX SMOOTH** by brush, roller or airless spray at the coverage rates below. Allow to dry for 1-4 hours in ideal conditions until touch dry before applying a second coat. To assist application and to act as a guide to coverage rates, each coat may be applied in a contrasting colour.

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 240

A 15 litre unit will cover 37.5m².

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

Reinforcing Cracks and Joints

MONODEX SMOOTH will accommodate hairline cracks, but larger static cracks require filling with **MONOLEVEL FC**. Fill live cracks, construction joints and joints between dissimilar materials with a suitable exterior grade flexible filler and reinforce the membrane with **FLEXCRETE FLEX-TAPE** embedded in **MONODEX SMOOTH** centrally over the crack or joint. Allow to dry, and if necessary lightly sand to remove any prominent edges before overcoating the whole area with two coats of material. Overall reinforcement incorporating **CEMPROTEC GFM** random weave glass fibre matting may be used over larger areas. Further information is available through our Technical Department.

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 SMOOTH is supplied in 15 litre containers.

Health and Safety

Safety Data Sheets are available on request.

Application Top Tips

1. If possible, complete work using only one batch number. As with any paint, avoid using different batch numbers on the same elevation or inter-mix batches to ensure full continuity of colour.
2. Rough, porous or irregular substrates will reduce coverage.
3. For brush application use wide, soft nylon or bristle brushes.
4. For roller application use heavy knap (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 17-23 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 19 thou tip at 2700psi.
7. To assist application and to act as a guide to coverage rates during application, the base coat may be applied in a similar but contrasting colour.
8. Regularly check the coating thickness during application using the wet film thickness gauge available from Flexcrete.
9. Clean brushes and rollers occasionally during use.
10. Regularly clean spray nozzles to avoid blockages.
11. Curing/drying is temperature dependant. As a guide the coating will be touch dry in approximately 1 hour in hot conditions (>30°C), 2 hours at 20°C and 4-12 hours at lower temperatures (<10°C).
12. The product is through-cured in 2-24 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 providing this is 2°C above dew point.
 - 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
EMS 597350
OHS 597351

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