



Biodex HB

Elastomeric, Water-Based, High Build Biostatic Coating



Product Overview

Water-based, elastomeric, high build hygiene coating for walls and ceilings in demanding service conditions. CE-Marked in accordance with BS EN 1504-2.

Uses

Benefits from the latest dual action mechanism to protect against the growth of micro-organisms and to provide added protection from germs. **BIODEX HB** has a safe, non-leaching biostatic formulation ideally suited for a range of hygiene sensitive locations. It is applied to walls and ceilings to prevent the growth of mould and bacteria in food preparation or production areas, brewing and beverage industries, hospitals, the pharmaceutical industry and in kitchens and bathrooms. Suitable for surface protection systems principles 2.2, 8.2 as defined in BS EN 1504 -2.

Advantages

- Unique dual action in-film protection combined with silver chloride technology.
- Independently tested against a wide range of micro-organisms.
- Totally non-toxic, non-leaching and non-tainting formulation.
- Vapour permeable to allow substrate moisture to escape.
- High build matt finish coating with very high tensile elongation.
- Permanently elastomeric and ideally suited for overall reinforcement.
- Safe, water-based, low odour, minimal VOC coating. Equipment easily cleaned with water.
- Durable, low maintenance coating, easy to maintain and refurbish.

Application Areas

Within healthcare **Biodex HB** is suitable for use in:

- Category 1 – Operating Rooms, Aseptic Rooms
- Category 2 – Food Preparation Areas, Laundry
- Category 3 – Sterilising Rooms, Utility Areas, Post-Operative Recovery Area, Corridors
- Category 4 – Bathrooms
- Category 5 – Wards, Reception Areas
- Category 6 – Changing Rooms, Offices

Description

BIODEX HB is a resin-rich biostatic membrane that incorporates the latest encapsulated protectant technology in combination with silver ions to give completely safe use and zero leaching into the surrounding environment. It effectively prevents the growth of mould and bacteria whilst proven silver ion technology has recognised benefits in limiting the spread of germs. The unique in-film chemistry allows for the ultra-slow, controlled release of active ingredients into the coating film throughout a long service life, even where harsh cleaning regimes are followed. **BIODEX HB** is a vapour permeable membrane which can be reinforced to impart increased tensile strength for crazed surfaces or to resist mechanical damage.

Compliance

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

Specification Clause

The anti-microbial coating shall be a non-toxic, non-leaching biostatic coating incorporating in-film protection and a silver ion component. It shall be CE-Marked in accordance with BS EN 1504-2, and shall comply with the following performance specification:

- Elongation at break at 245µm / 20°C of at least 519% in accordance with BS903 Part A2.
- Water vapour transmission no greater than 17g/m²/day in accordance with BS EN ISO 7783-2.
- Service temperature of -50°C. to+80°C.

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

Adhesive Bond	: ≥ 0.8 MPa
Permeability to Water Vapour	: Class I < 5m
Capillary Absorption	: Class III < 0.1 kg.m ⁻² .h ^{-0.5}
Artificial Weathering	: 20,000 hours
Dangerous Substances	: Complies with 5.4
Reaction to Fire	: Euroclass B-s1, d0

Technical Data / Mechanical Characteristics

Property	Standard	BS EN 1504-2 Requirement	Result
Adhesive Bond	EN 1542	≥ 0.8 MPa Crack bridging or flexible systems	> 3.24 MPa
Water Vapour Permeability (Equivalent Air Layer Thickness)	BS EN ISO 7783-2	Class I (Permeable) S _D < 5m	S _D = 1.21m
Liquid Water Transmission Rate (Capillary Absorption and Permeability to Liquid water)	EN 1062-3	Class III (Low) W < 0.1kg.m ⁻² .h ^{-0.5}	W = 0.014 kg.m ⁻² .h ^{-0.5}
Elongation at Break	BS 903 Part A2		519% @ 245µm DFT
Tensile Strength	BS 903 Part A2		1.46 MPa @ 245µm DFT
Accelerated Weathering	EN 1062-11		No blistering, cracking or flaking after 20,000 hours QUV-B weathering
Gloss Value	BS EN ISO 2813		2.6% @ 85° Matt: (American Master Painters Institute Classification)
Minimum Service Temperature			-20°C.
Maximum Service Temperature			+80°C
Solids Content			60.0% (wt) 49.0% (vol)
Specific Gravity			1.33
VOC Content			< 0.07% by mass
Minimum Application Temperature			3°C
Reaction to Fire	EN 13501-1	Euroclass	Euroclass B-s1, d0

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

Resistance to Micro-Organisms

Test Method ISO 22196: 2007:

No growth on **BIODEX HB** of the following:

Bacteria	<i>Pseudomonas aeruginosa</i>
Mould/Fungi	<i>Alternaria alternate</i> <i>Phoma violacea</i> <i>Aspergillus versicolour</i> <i>Rhodotorula rubra</i> <i>Aureobasidium pullulans</i> <i>Sporobolomyces roseus</i> <i>Cladosporium cladosporoides</i> <i>Stachybotrys chartarum</i> <i>Penicillium purpurogenum</i> <i>Ulocladium atrum</i>
Algae	<i>Chlorella emersonii</i> <i>Gloeocapsa sp.</i> <i>Nostoc commune</i> <i>Pleurococcus sp.</i> <i>Stichococcus bacillaris</i> <i>Stigeoclonium tenue</i> <i>Trentepohlia auerea</i> <i>Trentepohlia odorata</i>

Application Instructions

Preparation

The 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 **MONODEX ICB**. Flexcrete Concrete Repair Mortars must be allowed to cure for a minimum of 24 hours.

Substrates contaminated by mould, algae, mildew, bacteria, etc., require pre-treatment with **BIODEX WASH**. Visible areas of growth and associated underlying loose paint or substrate must be removed by mechanical means and the substrate treated with **BIODEX WASH**.

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 one coat of **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 relevant Technical Data Sheet and Priming Guide.

Coating Application

Apply **BIODEX HB** membrane over the primed, dry surface by brush, roller or airless spray at the maximum coverage rate given below. Allow to dry for a minimum of 1-4 hours until touch dry before applying a second coat as above. To assist application and to act as a guide to coverage rates during application each coat may be applied in a contrasting colour.

Coat	Coverage Rate		
	m ² /l	WFT (µm)	DFT (µm)
1 st	4.0	250	
2 nd	4.0	250	
Overall			245

A 15 litre bucket will cover approximately 30m² at 245µm DFT.

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

Reinforcing Cracks and Joints

BIODEX HB will accommodate hairline cracks. Larger static cracks require filling with **MONOLEVEL 250F**. Reinforce over live cracks, construction joints and joints between dissimilar materials with **FLEXCRETE FLEX-TAPE** to provide strategic strengthening. Apply a local embedment coat into which the reinforcement is placed whilst the coating is still wet. Allow to dry, and if necessary lightly sand to remove any prominent edges before overcoating the whole area with two coats of **BIODEX HB**. Overall reinforcement with **CEMPROTEC GFM** random weave glass fibre matting is also available. Please contact our Technical Department for further information.

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

BIODEX HB is supplied in 15 litre plastic buckets.

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 21 thou tip at 2700psi.
7. To assist application and to act as a guide to coverage rates during application, base coat may be applied in a similar but contrasting colour.
8. Regularly check 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 time is temperature dependant. As a guide the coating will be touch dry in approximately 1 hour in hot conditions (>30°C), 80 minutes at 20°C and 4½ 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 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.



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