Roofdex HB

High Build, Eco-Friendly, Cold Applied Liquid Roofing

Product Overview

Elastomeric, fluid applied, waterproof coating for flat or pitched roofs. CE-marked in accordance with BS EN 1504-2

Uses

To provide long-term flat or pitched roof weatherproofing for exposed, inverted and green roofs. To provide a solar reflective finish to reduce energy consumption and maximise durability in tropical conditions, and to reduce Urban Heat Island (UHI) effect in metropolitan areas. Suitable for surface protection systems principles 2.2, 8.2 as defined in BS EN 1504-2.

Advantages

- Applied in a cold, fluid form with no fire risks; it cures to form a completely seamless, waterproof membrane.
- Single pack with no mixing required.
- Environmentally friendly, ultra-low VOC, curing without releasing hazardous solvents or heavy odour.
- Elastomeric and able to tolerate thermal and substrate movement and extreme temperature ranges without degrading.
- When specified in solar reflective white, reduces energy consumption, heat build-up and Urban Heat Island (UHI) effect.
- Compatible with a wide range of new or existing flat or pitched roofs. Excellent adhesion to cementitious and bituminous roofs.
- Vapour permeable, allowing the release of substrate moisture.
- Readily accepts the addition of reinforcement either locally over joints, or overall if required for supreme tensile strength.
- Exceptional resistance to accelerated weathering; in tests **ROOFDEX HB** has shown no signs of deterioration after 15,000 QUV-B weathering.
- Achieves the best possible fire rating (EXT.F.AA) when tested to BS 476: Part 3:2004.

Description

ROOFDEX HB is a vapour permeable, minimal VOC rated styrene acrylic coating which is virtually odourless on application and inherently protected against biofilm attack. It is resistant to water ponding and remains flexible throughout its long service life on flat or pitched roofs. The high build, thixotropic nature of **ROOFDEX HB** is ideal for embedment of reinforcement and allows for treatment of upstands and other roof details without slumping.

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 1504-2.
- Meets the requirements of ETAG-005 Part 8 for Fluid Applied Roofing.

Specification Clause

The roof coating shall be a vapour permeable, minimal VOC rated, styrene acrylic coating with inherent protection against biofilm attack. It shall be CE-Marked in accordance with BS EN 1504-2, and shall comply with the following performance specification:

- Tensile elongation (unreinforced membrane) of at least 500% in accordance with BS 903-A2.
- Tensile strength of reinforced system (utilising 225gsm glass fibre matting) of at least 16.6MPa in accordance with BS 903-A2.
- Water vapour transmission no greater than 17g/m²/day in accordance with BS EN ISO 7783-2.

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Flexcrete Technologies Ltd
Tomlinson Road, Leyland PR25 2DY England
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2797-CPD-530942

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

Adhesive Bond	:	Pass ≥ 0.8MPa
Water Vapour Permeability	:	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 F

Technical Data / Mechanical Characteristics

Property	Result			
Basis	Styrene Acrylic copolymer			
Solids Content	60% by weight 49% by volume			
Specific Gravity	1.35			
VOC Content	< 0.07% by mass			
Minimum Application Temperature	3ºC.			
Colours	Solar Reflective White: other standard colours available			
External Fire Exposure Roof Test BS 476: Part 3:2004	Ext. F.AA: 1 hour - no penetration or spread of flame			
Reaction to Fire EN13501-1	Euroclass F			
Accelerated Weathering BS EN 1062-11	No change after 20,000 hours.			
Adhesive Bond: BS EN 1542	>3.0MPa			
Service Temperature	-20ºC. to +80ºC.			
	System 1	**System 2**	**System 3**	**Comments**
Tensile Elongation BS903-A2	500%	10%	5%	See Bulletin RXHB/023
Tensile Strength BS903-A2	0.68MPa	5.45MPa	16.60MPa	See Bulletin RXHB/023
Liquid Water Permeability BS1062-3:1998	0.01 Kg/(m^2.$h^{0.5}$)	0.02 Kg/(m^2.$h^{0.5}$)	0.02 Kg/(m^2.$h^{0.5}$)	All results are Class III (Low) See Bulletin RXHB/005
Water Vapour Transmission BS EN ISO7783-2:1998	V = 17.0 g/m^2/24h	V = 15.0 g/m^2/24h	V = 11.5 g/m^2/24h	See Bulletin RXHB/007
Equivalent Air Layer Thickness, S_D	1.21m	1.41m	1.79m	All classed as breathable (S_D<5m) See Bulletin RXHB/007
Curing/Drying Times Per Coat	1 - 12 hours	2 hours - overnight	4 – 24 hours	Times dependent on temperature, RH and air movement when curing
Flexibility (Mandrel Test) ASTM D-522 Method A	No crack	No crack	1.5mm crack*	* 3.6mm diameter mandrel See Bulletin RXHB/055

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

Application Instructions

Preparation

The areas to be treated must be free from all unsound material, i.e. dust, oil, grease, corrosion by-products and organic growth. Surface laitance and any soft, sandy or flaking material should be removed by mechanical means back to a sound surface, suitable for treatment. Use techniques capable of achieving the required degree of preparation. Fill large static cracks and other defects with **MONOLEVEL FC**, or **MONOLEVEL 250F** if a finer finish is required and allow to cure for a minimum of 24 hours. Please contact our Technical Department for advice on levelling and screeding materials.

Equipment

Brushes: Wide, soft nylon or bristle paint brushes.

Rollers: Use a medium pile roller.

Spray: Airless spray can be used with care on smooth substrates. Most types are suitable operating at 2500-3000psi tip sizes 17-23 thou.

Priming of Concrete

For areas free of ponding on non-absorbent cementitious substrates, **ROOFDEX HB** is self-priming with a 25% dilution with clean water (3 parts **ROOFDEX HB** mixed with 1 part clean water). Porous surfaces, ponded areas and other mineral substrates require **BOND-PRIME**. Asphalt, bituminous felts and painted surfaces must be treated with **BOND-PRIME**. Metal surfaces and flashings should be primed with **METAL-PRIME WB** as required. Plastics should be lightly abraded before applying **BOND-PRIME**.

Please consult our priming guide or Technical Department for further information.

Coating Application

Apply the first coat of **ROOFDEX HB** by brush, roller or airless spray at the minimum coverage rates shown below. Where necessary, immediately embed reinforcement.

System 1 - Solar Reflective Waterproofing. Unreinforced.

System 2 - Weatherproofing (10 years). Reinforced with **CEMPROTEC GFM 100.**

System 3 - Weatherproofing (15 years). Reinforced with **CEMPROTEC GFM 225.**

Coat	System 1 Unreinforced			System 2 Cemprotec GFM 100			System 3 Cemprotec GFM 225		
	l/m²	m²/l	WF µm	l/m²	m²/l	WFT µm	l/m²	m²/l	WFT µm
1st	0.375	2.67	375	0.75	1.33	750	1.25	0.8	1250
2nd	0.375	2.67	375	0.5	2.00	500	0.5	2.00	500
Overall	0.75	1.33	750	1.25	0.8	1250	1.75	0.57	1750

Cracks and Joints

Fill 'live' cracks, construction joints and joints between dissimilar materials with a suitable exterior grade flexible filler. When treating expansion joints, apply masking tape (at least 25mm wide) centred over the joint. For **System 1** applications, where necessary apply a local embedment coat and immediately place **CEMPROTEC FLEX-TAPE.** Allow to dry, and if necessary lightly sand to remove any prominent edges before overcoating the whole area with two coats of **ROOFDEX HB**.

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

ROOFDEX HB is supplied in 15 litre plastic buckets.

Health and Safety

Safety Data Sheets are available on request.

Application Top Tips

1. Rough, porous or irregular substrates will reduce coverage.

2. For brush application use wide, soft nylon or bristle brushes.

3. For roller application use medium or heavy nap (¾" or 1") synthetic or sheepskin cover.

4. 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.

5. We have found that an acceptable spray finish can be achieved with a Graco Ultra Max II 490 electric airless spray pump using a 23 thou tip at 2700psi.

6. 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.

7. Regularly check the coating thickness during application using the wet film thickness gauge available from Flexcrete.

8. Clean brushes and rollers occasionally during use.

9. Regularly clean spray nozzles to avoid blockages.

10. Curing/drying time is temperature dependent. As a guide the coating will be touch dry in approximately 1-8 hours in hot conditions (>30ºC), 2-12 hours at 20ºC and 4-24 hours at lower temperatures (<10ºC).

11. The product is through-cured in approximately 12 hours dependent on ambient temperature.

12. Spray equipment must be emptied and flushed at the end of the working day.

13. Cold Weather Working (See separate Guide)

- ≥3ºC. providing this is 2ºC. above dew point.
- Do not use any product that has been frozen.

14. Avoid prolonged storage at high temperatures (≥35°C.).

CONCRETE REPAIR ASSOCIATION

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FM 41091 Quality
EMS 597350 Environmental
OHS 597351 Health & Safety