

BioPOROVENT Evolution

DAMP-PROOFING, SINGLE LAYER, NATURAL HYDRAULIC LIME-BASED, TRANSPIRING, MACROPOROUS, FIBRE-REINFORCED PLASTER FOR RESTORING WALLS AFFECTED BY CAPILLARY RISING DAMP

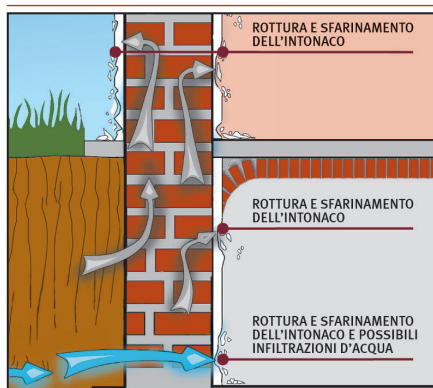
GRANTS **LEED** CREDITS



CHARACTERISTICS		ENVIRONMENTAL	METHOD OF USE			PRECAUTIONS
DAMP-PROOFING	ALLOWS TO BREATHE	ECO GREEN	MIX MECHANICALLY	APPLY MECHANICALLY USING A SPRAY PUMP	APPLY BY TROWEL	STORAGE: IN A DRY PLACE

PROBLEM

DEHUMIDIFYING MASONRY SUBJECT TO CAPILLARY RISING DAMP



Damp and its effects make rooms unhealthy and uninhabitable. Capillary rising damp is a problem that often affects the masonry of old and modern buildings, causing damage to mortar and bricks. This process is caused by capillary absorption by porous building materials in contact with ground water. The effects are devastating: damp walls and crumbling plaster due to the crystallization of the salts conveyed by the water, which cause the plaster to break up and become detached because of the increase in volume of the salt crystals.

SOLUTION

The dehumidifying render **BioPOROVENT Evolution** is the solution to problems of capillary rising damp using just one product, and has the following important features:

- uniform macroporosity
- low water absorption
- chemical-physical compatibility with substrates and old mortar.

BioPOROVENT Evolution is based on the application of a macroporous dehumidifying render in which the evaporation mechanism is due to the large macroporous surface of the render achieved through the use of special pore-forming additives and aggregates. This surface has more than twenty times the surface area of a normal render. These aerating conditions allow the plaster to evaporate the water caused by rising damp, at a faster rate than the speed at which humidification takes place, without the degradation caused by saline efflorescence. **BioPOROVENT Evolution** is a premixed

powder containing a base of natural hydraulic lime (NHL) and macroporous silicate-based light inert aggregates. It is water-repellent and contains reinforcing fibres and pore-forming additives. Its macroporosity enables it to contain any unattractive efflorescence and the tensions caused by the increase in volume due to crystallisation of the salts. The high degree of transpiration ensures that excess moisture is correctly removed.

APPLICATION FIELDS

BioPOROVENT Evolution is particularly suitable for renovating interior and exterior walls affected by capillary rising damp and saline efflorescence.

ADVANTAGES

- Resolves capillary rising damp problems with a single product.
- Easy to apply
- Excellent breathability.
- Naturally eliminates excessive moisture in masonry.
Stops the disintegrating action of salts and damp patches.
- Excellent resistance to frost/thaw cycles.
- Natural composition ideally suited for renovating/conserving historic buildings.



METHOD OF USE

• PREPARING THE SUBSTRATE

Plaster must be removed from damp walls for about a metre beyond any obvious signs of damp. Remove loose and flaking parts, oils, release agents, salts, dust and general dirt, by descaling, brushing and water jet cleaning. Fill any cavities with fragments of brick and cement-lime mortar. For work below ground level where water penetration has taken place, stop any water penetration with BETONRAPID.

• PREPARING THE MIX

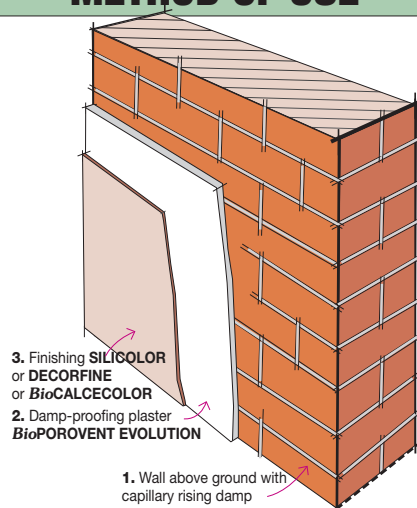
The render is made by mixing 5.25 litres of clean water per 25 kg bag of **BioPOROVENT Evolution**. The mixing time when using a cement mixer should not exceed three minutes.

• COVERAGE

11 kg/m² x cm **BioPOROVENT Evolution**.

• APPLICATION

BioPOROVENT Evolution besides being applied with a trowel, can also be applied with automatic sprayers such as PFT or TURBOSOL. Applying it does not require particular precautions beyond those normally followed for applying



normal plaster. Apply in one or more coats until the minimum recommended thickness of 2 cm is reached. Its handling time is such as to allow applying on any architectural surface. Joints of dissimilar elements must be reinforced with a special alkali-resistant glass fibre mesh, which must be embedded in the surface layer of the render. Cracks and holes in the masonry must be filled in advance, and in order to maintain the verticality of the walls it is advisable to fix angle beads to the corners and vertical guides to the walls.

WORK BELOW GROUND LEVEL IN THE EVENT OF GROUND WATER PENETRATION AND RISING DAMP

In the case of walls below ground level in the event of water penetration, normal application of **BioPOROVENT Evolution** should be preceded by a water-repellent render and waterproofing with osmotic cement. **WATER-REPELLENT PLASTER** Apply IDROPLAN by hand or with a spraying machine, to a minimum thickness of 1 cm. It should be mixed with just 20% of clean water. The mixing

TECHNICAL CHARACTERISTICS

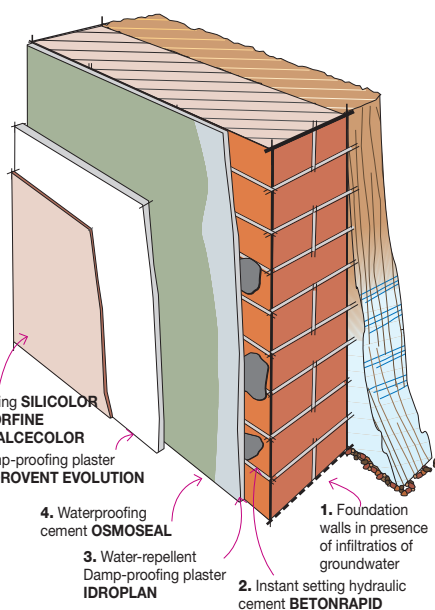
	Standard	BioPOROVENT Evolution
Appearance		Powder
Colour		Beige
Particle size		0 to 1.3 mm
Apparent density		1.10 ± 0.05 kg/litre
Mixing water		21% ± 1%
Storage in original packaging in a dry place		12 months
Mix properties and workability	Standards	
Density of the mix	EN 1015-6	1.40 ± 0.05 kg/litre
Application temperature		+5°C to +35°C
Minimum application thickness		8 mm
Maximum application thickness per layer		30 mm
Application		Manual or mechanical
Performance characteristics	Standards	Product performance
Class and type	EN 998-1	R
Resistance to compression - after 28 days	EN 1015-11	≥3 N/mm ² - CS II
Resistance to bending - after 28 days	EN 196-1	≥2 N/mm ²
Adhesion	EN 1015-12	≥0.5 N/mm ² - FP: B
Adhesion to concrete substrate	EN 1015-12	0.72 N/mm ² - FP: B
Water absorption through capillarity	EN 13057	w ≤ 0.2 kg/m ² ·h ^{0.5} - W2
Water vapour permeability coefficient	EN 1015-19	μ = 8
Thermal conductivity λ_{10,dry}	EN 1745 A.12	0.54 W/mK
Durability	EN 998-1	5.2.3.2 compliant
Thermal resistance - Working temperature		-30°C to +90°C
Reaction to fire	EN 13501-1	A1
Hazardous substances	EN 998-1	According note in ZA.1

Test conditions: temperature 23±2°C, R.H. 50±5% and air speed in the test area <0.2 m/s. These figures may vary depending on the specific conditions of the worksite:

temperature, humidity, ventilation, absorbency of the base coat.

(*) The stated times may be longer or shorter as the temperature decreases or increases.

Compliant with the general principles defined in **EN 998-1** - Principles for evaluation of the use of products and systems.



time when using a cement mixer should not exceed 3-4 minutes. **OSMOTIC WATERPROOFING.** To prepare the mix, gradually pour OSMOSEAL into enough water (20%) to create a mortar of the consistency of honey, mixing with a drill at low speed. Apply the osmotic waterproofing cement in two coats, using a brush, wet on wet, with a coverage of approximately 3 kg/m².

FINISHES

For painting, use highly breathable lime-, silicate- or siloxane-based wall paints, such as **BioCALCECOLOR** or **SILICOLOR**, or decorative mineral coatings, such as **DECORFINE** or **DECORFINE SIL**.

PRECAUTIONS

- Use cold water in the summer and water at 20°C in the winter.
- Application temperature from +5°C to +35°C.
- Do not add other materials such as bonding agents, aggregates or additives.
- In hot weather, keep the surface of the laid mortar wet, preventing the product from drying out quickly, for at least 8 hours.
- Wet the surfaces in high temperatures.
- Avoid sudden temperature changes while the plaster is setting.

- Do not add water when the mix starts to set.
- If there is a considerable amount of efflorescence, apply the anti-saline impregnating agent **DEUMISAL** as a precaution, until soaked.
- In environments where there is damp caused by water infiltration, a waterproofing treatment must be applied before the plaster, with **OSMOSEAL** osmotic cement (see "WORK BELOW GROUND LEVEL IN THE EVENT OF GROUND WATER PENETRATION AND RISING DAMP"). For this purpose, please consult the chapter entitled "RENOVATING DAMP WALLS WITH DEHUMIDIFYING PLASTER".
- Joints between different elements must be reinforced with special fibreglass mesh, **RETINVETRO PER INTONACI**, which should be embedded in the last layer of plaster.
- Store in original closed packaging in a dry place. Protect against frost and high temperatures.



PACKAGING

BioPOROVENT Evolution

25-kg Sacks

• FOR ANY FURTHER INFORMATION OR ADVICE ON PARTICULAR APPLICATIONS, CONTACT OUR TECHNICAL OFFICE • IN ORDER TO CORRECTLY USE OUR PRODUCTS, REFER TO INDEX TECHNICAL SPECIFICATIONS •

index
Construction Systems and Products

Via G. Rossini, 22 - 37060 Castel D'Azzano (VR) - Italy - C.P.67
T. +39 045 8546201 - F. +39 045 518390

Internet: www.index-spa.com
Informazioni Tecniche Commerciali
tecom@indexspa.it
Amministrazione e Segreteria
index@indexspa.it
Index Export Dept.
index.export@indexspa.it



the numerous possible uses and the possible interference of conditions or elements beyond our control, we assume no responsibility regarding the results which are obtained. The purchasers, of their own accord and under their own responsibility, must establish the suitability of the product for the envisaged use.

The figures shown are average indicative figures relevant to current production and may be changed or updated by INDEX at any time without previous warning. The advice and technical information provided, is what results from our best knowledge regarding the properties and the use of the product. Considering