



# SYSTEM FOR REPAIR OF DAMP AND SALINE WALLS

# HUMIDITY SICK WALL



Walls are all potentially absorbent and suffer from contact with water. In particular the most critical form of humidity is that deriving from the ground, as it is loaded with salts (chlorides, sulphates and nitrates) that impregnate the wall and trigger capillary moisture rising that can reach heights of several meters.

Damp changes the physical and chemical behaviour of the wall, increasing thermal conductivity and restricting the insulating capacity. Furthermore, due to the surface crystallisation of the salts, it causes early crumbling of the construction materials and rapid destruction of the wall.

A wall that is saturated with water has a lower insulating power and encourages the formation of moulds and bacteria, worsening the health of rooms and the well-being of those living in them.



## Biocalce® Zoccolatura, solves the problem of damp walls once and for all

Biocalce® Zoccolatura guarantees a natural balance between moisture rising and surface dispersal of the humidity, taking advantage of the natural micro-porosity and hygroscopic qualities of pure NHL lime and natural pozzolan.

The fact that it does not react with the salts ensures that the render is chemically stable and makes the entire dehumidifying system more long-lasting.



The birth of the first natural plaster/render for long-term cortical dehumidification.

- The size of the ACTIVE MICROPORES in Biocalce® Zoccolatura guarantee high levels of breathability and very low capillary absorption. The small diameter of the capillary channels blocks the passage of water, which does not get into the render, while it allows free passage of the vapour molecules.



**THE NATURAL VENTILATION OF BIOCALCE® ZOCCOLATURA PROVIDES A FINAL SOLUTION TO THE PROBLEM OF DAMP WALLS**



### Nature has taught us the secret of how to make walls breathable

BIOCALCE® is a simple, natural material whose porosity, breathability and hygroscopic qualities allows a continuous interchange of air and vapour within the wall, keeping the house healthy and in perfect equilibrium.

The quality of the natural hydraulic lime NHL 3.5 and selection of the natural elements gives BIOCALCE® mortars greater natural porosity, compared with cement-based plasters and renders, acting as a true “hygrometric lung” on the wall and providing a perfect balance between strength and elasticity, making BIOCALCE® perfectly compatible with even deteriorated walls and increasing indoor liveability.

#### NATURAL INGREDIENTS



### BioCalce®, the natural lime-pozzolan that is insensitive to sulphate attack



**KERAKOLL'S RESEARCH TECHNICIANS HAVE MANAGED TO IDENTIFY A NATURAL POZZOLAN THAT, THANKS TO ITS ORIGIN AND GRAIN SIZE, MAKES THE NATURAL HYDRAULIC LIME NHL 3.5 IN BIOCALCE® INSENSITIVE TO SULPHATE ATTACK.**

The chemical resistance of an hydraulic binder to attack by sulphate salts is determined using an analysis method known as the “ANSTETT TEST”.

- 1 The method involves preparing test samples of binder (which is first hardened in water, dried and then ground) with 33% gypsum (sulphate).
- 2 The new powder mixture is then damped with 6% water and compressed in a special mould to form a cylindrical pellet of standard dimensions (Ø 80 mm).
- 3 The test sample prepared in this way is placed on a porous septum (ceramic biscuit tile) in permanent contact with water.
- 4 The reaction to sulphates is checked by measuring the diameter of the pellet at regular intervals using a precision gauge ( $\pm 0.01$  mm).

The measurement is expressed by the percentage increase in diameter from the start of the test.

#### ANSTETT SAMPLE

START OF TEST      END OF TEST



Portland Cement  
> 40% pellet expansion



Artificial hydraulic lime - HL  
> 30% pellet expansion



Natural Hydraulic Lime - NHL  
< 10% pellet expansion

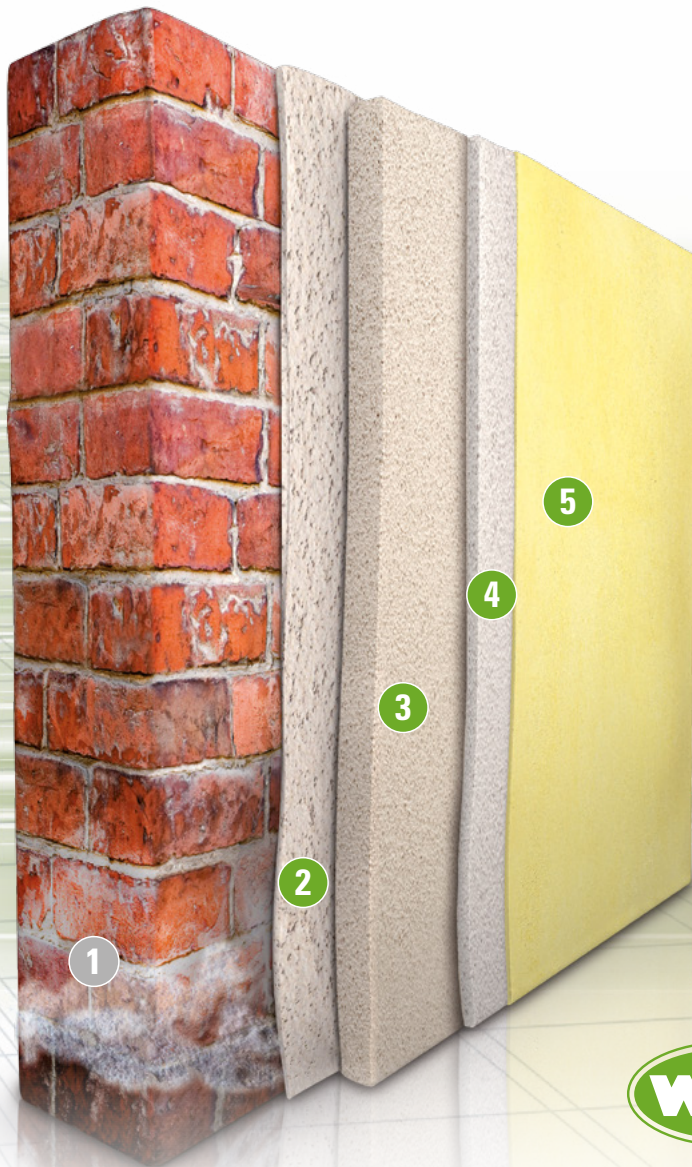


**BIOCALCE®**

Natural Hydraulic Lime – NHL +  
Micronized Natural Pozzolan  
< 0,8% pellet expansion

# WALL DEHUMIDIFYING AND REPAIRING SYSTEM

The wall is dried completely by dehydration using the Biocalce® restoration system



- Highly breathable
- High degree of water-repellence
- Resistant to mould and atmospheric agents
- High level of durability
- Wide range of colours

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FOR INTERNAL USE



INTERNAL / EXTERNAL USE



4



3



2



1





\* ÉMISSION DANS L'AIR INTÉRIEUR Information sur le niveau d'émission de substances volatiles dans l'air intérieur, présentant un risque de toxicité par inhalation, sur une échelle de classe allant de A+ (très faibles émissions) à C (fortes émissions).



## DECORATIVE CYCLE

<p>COVERAGE for 2 coats on substrate finished with Biocalce® Intonachino Fino ≈ 0,2 – 0,3 l/m<sup>2</sup></p>		<p><b>Biocalce® Tinteggio</b> Certified, eco-friendly, natural wall paint based on selected pure CL 90-S lime putty compliant with EN 459-1 and naturally coloured pigments.</p>	
<p>COVERAGE ≈ 0,15 – 0,3 l/m<sup>2</sup></p>		<p><b>Biocalce® Fondo</b> Certified, eco-friendly, intermediate, mineral filling coat based on selected pure CL 90-S lime putty compliant with EN 459-1 standard and selected inert materials.</p>	
<p>COVERAGE for 2 coats on fine-texture finished substrate ≈ 0,15 – 0,25 l/m<sup>2</sup></p>		<p><b>Biocalce® Silicato Puro Pittura</b> Certified, eco-friendly, natural wall paint based on pure stabilized potassium silicate, with natural coloured earths and minerals.</p>	
<p>COVERAGE average for each coat ≈ 0,2 l/m<sup>2</sup></p>		<p><b>Biocalce® Silicato Consolidante</b> Natural, eco-friendly, breathable, stabilizing cortical consolidant based on pure stabilized potassium silicate, solvent-free.</p>	



## BREATHABLE FINISH

<p>COVERAGE ≈ 1.6 kg per mm thickness</p> 	<p><b>Biocalce® Intonachino Fino</b> Certified, eco-friendly, natural finishing coat containing pure NHL 3.5, EN 459-1 compliant lime for highly breathable fine-grain finishing of plasters/renders.</p>	
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## NATURAL WALL DRYING PLASTER/RENDER

<p>COVERAGE ≈ 12 kg/m<sup>2</sup> per cm of thickness</p> 	<p><b>Biocalce® Zoccolatura</b> It is specifically intended for the restoration of masonry with signs of blistering, erosion and peeling caused by exposure to atmospheric aggression and the disintegrating effect of saline concentrations caused by rising damp.</p>	
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## BREATHABLE NATURAL MORTAR

<p>COVERAGE ≈ 15 kg/m<sup>2</sup> per cm of thickness</p> 	<p><b>Biocalce® Rinzafo</b> It is specifically intended for levelling and grip-coating before final plastering/rendering. Highly breathable and saline-resistant, ideal for preparing masonry affected by rising damp.</p>	
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## WALL PREPARATION

- Total demolition of old plasters/renders or coatings in general, down to the brickwork.
- Sanding or power washing to remove salt deposits and to re-open the pores and guarantee breathability of the surfaces.
- Repairs carried out with Biocalce® Rinzafo to fill, reconstruct and consolidate missing parts.
- Rough coat to level the surfaces, absorption and adhesions using Biocalce® Rinzafo, designed for overlaying with Biocalce® Zoccolatura dehumidifying plaster/render.



Together with nature we  
can build the future.

**KERAKOLL Spa**

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