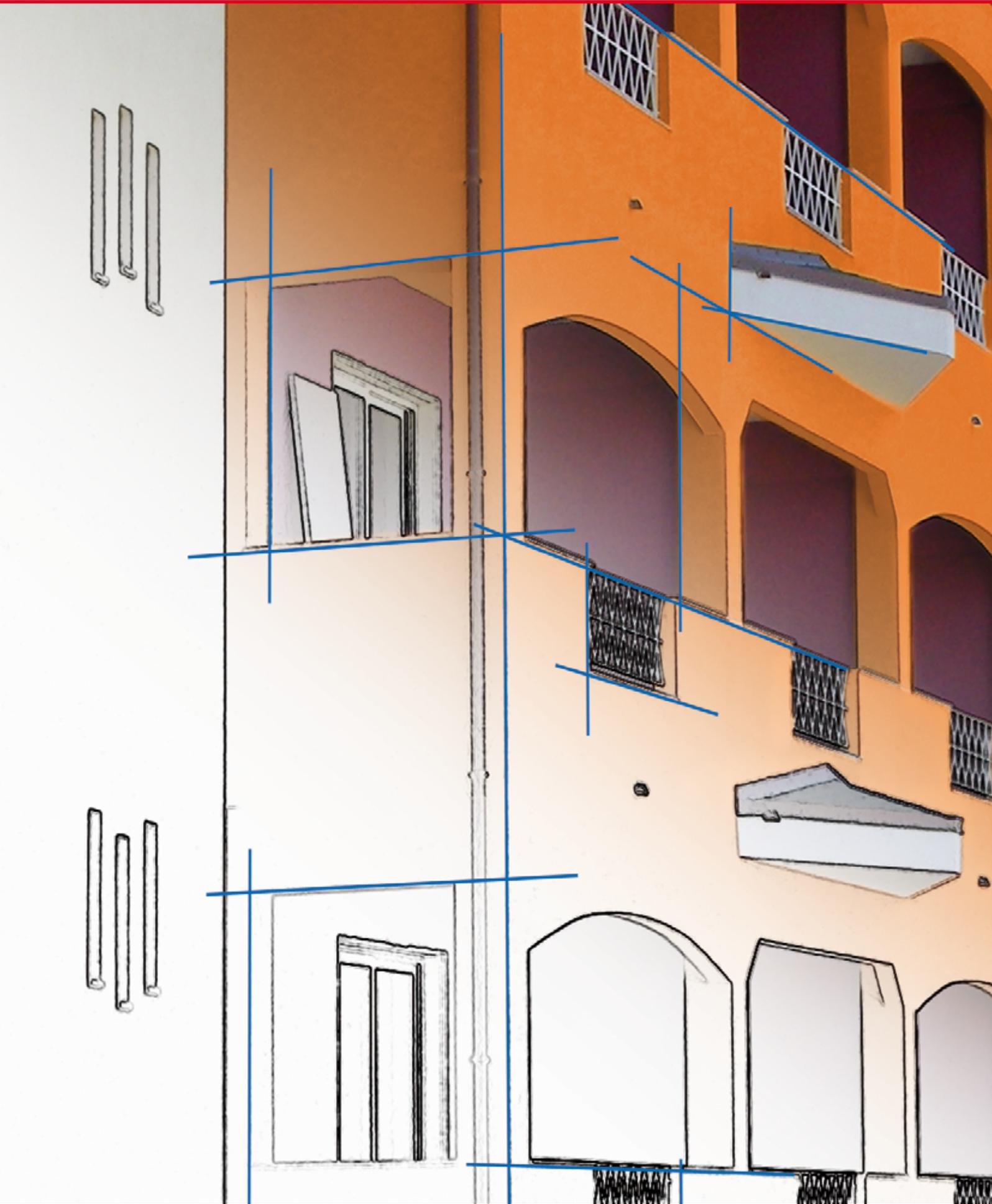




## SILANCOLOR RANGE PROTECTING AND DECORATING MASONRY

**Siloxane finishing systems: high water  
repellence and transpiration capacity**





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# Silancolor Range

## SILOXANE RESIN PRIMERS, PAINTS AND THICK-LAYERED COATING PRODUCTS IN WATER DISPERSION.

- Water-repellent
- Transpirant
- Resistant to aggressive environments
- Resistant to UV rays
- Remain stable over the years
- Wide range of colours
- Adhere to old paintwork
- Applicable on thermal insulation cladding systems
- Easy to use
- Resistant to mould and mildew (*Silancolor Plus* system)
- Certified performance



## Siloxane finishing systems: high water repellence and transpiration capacity

### SILANCOLOR SYSTEM



#### **Silancolor Primer**

Transpirant siloxane primer with a smooth finish.

#### **Silancolor Base Coat**

Water-repellent, coloured acrylic undercoat with good filling properties and a smooth finish, for internal and external use.

#### **Silancolor Pittura**

Water-repellent, transpirant siloxane paint resistant to aggressive environments, for internal and external use.

#### **Silancolor Tonachino**

Highly water-repellent, transpirant, trowelable, thick-layered siloxane coating available in various grain sizes, for internal and external use.

#### **Silancolor Graffiato**

Water-repellent, transpirant, trowelable, scratch-effect siloxane coating with defect-covering properties, for internal and external use.

### SILANCOLOR PLUS SYSTEM



#### **Silancolor Cleaner Plus**

Hygienising detergent in watery solution.

#### **Silancolor Primer Plus**

Anti-mould and anti-mildew siloxane hygienising primer with a smooth finish.

#### **Silancolor Pittura Plus**

Water-repellent, transpirant, anti-mould and anti-mildew hygienising siloxane paint, for internal and external use.

#### **Silancolor Tonachino Plus**

Water-repellent, transpirant, anti-mould and anti-mildew hygienising siloxane coating, for internal and external use.

### SILANCOLOR AC SYSTEM



#### **Silancolor Primer**

Transpirant siloxane primer with a smooth finish.

#### **Silancolor Base Coat**

Water-repellent, coloured siloxane undercoat with good filling properties and a smooth finish, for internal and external use.

#### **Silancolor AC Pittura**

Water-repellent acrylic-siloxane paint with high resistance to UV rays, for internal and external surfaces.

#### **Silancolor AC Tonachino**

Water-repellent, thick-layered acrylic-siloxane coating with high filling properties, for internal and external use.

# Silancolor Range



## PROBLEM THE CAUSES OF DETERIORATION IN MASONRY:

### WATER

Water, a fundamental component of living organisms, is the most abundant chemical composition on the earth. It is present in nature in a liquid state (rivers, lakes and seas), in a solid state (snow and ice) and in a gaseous state (water vapour).

There are an estimated 1,400 million billion tonnes of water on the earth, and it is a fundamental element for life on our planet.

While it is fundamental for life on the earth, it is also one of the major causes of the rapid deterioration of cementitious structures.

The mechanism through which water interacts with masonry, causing its progressive, relentless deterioration, is quite simple, and may be ascribed to the various "states" in which water is present in nature: liquid (rain), solid (ice) and gaseous (water vapour).

### RAIN

Rainwater infiltrates into masonry through the porosity of the substrate and/or crazing on the faces, leading to considerable damage:

1) dissolved gases such as sulphur dioxide (acid rain) are transported by the rainwater and, upon contact with the calcium carbonate which is present in abundance in cementitious materials, reacts and forms composites of calcium sulphate (gypsum), a notoriously weak, fragile and crumbly composite which offers no resistance in external environments (*photo 1*).

2) favours the formation of saline efflorescence, in that when penetrating into masonry, it dissolves the salts contained in it. When the water evaporates off, the salts which have been extracted deposit on the surface

## Siloxane finishing systems: high water repellence and transpiration capacity

- in the form of white crystals. The opposite may also occur, and the water dissolves the salts on the surface and carries them deep down into the substrate (*photos 2 and 3*).
- 3) promotes corrosion of steel reinforcement by penetrating deep into the substrate and combining with oxygen to set off an oxidation reaction in the steel (*rust, photo 4*).
  - 4) determines the formation of crazing (*photo 5*) due to the continuous salt hydration/crystallisation cycle (which increases the volume initially occupied in the liquid state by up to ten times), or induces the formation of cracks due to the increase in diameter of the rusted steel reinforcement (*photo 6*).
  - 5) facilitates the formation of mildew and mould by keeping the surface damp, an ideal habitat for the growth of micro-organisms (*photos 7 and 8*).
  - 6) keeps the wall wet and considerably increases the coefficient of thermal conductivity ( $\lambda$ ) of the masonry-finishing coat system, leading to a loss in the insulating capacity of the system by up to 25-30%.



# Silancolor Range



9



10



11



12



13

## ICE

Rainwater absorbed by the porosity in the substrate, or which infiltrates through the crazing in the masonry, transforms into its solid state (ice) when the temperature drops. This change in state leads to an increase in the initial volume occupied by the water of approximately 9%, producing a phenomenon known as “freeze-fracturing” (*photo 9*).

## WATER VAPOUR

Water in the form of vapour carries gases responsible for chemical reactions with the components which make up the masonry. Also, when water absorbed by the masonry or contained in the masonry due to capillary lift changes state from liquid to gas, it produces vapour stresses which cause the finishing coat applied on the faces to flake or detach (*photos 10, 11, 12 and 13*).

### SOLUTION

Since the main cause of the deterioration of masonry is the presence of water, the solution to the problems described previously could be very simple: keep water as far away as possible from the wall faces.

Unfortunately, even though today there is technology available to “combat” this element, we tend to favour finishing products with different characteristics and which are less focused on contrasting this phenomenon.

**The innovation in the field of Mapei wall finishing products is best represented by our range of siloxane systems: *Silancolor*.**

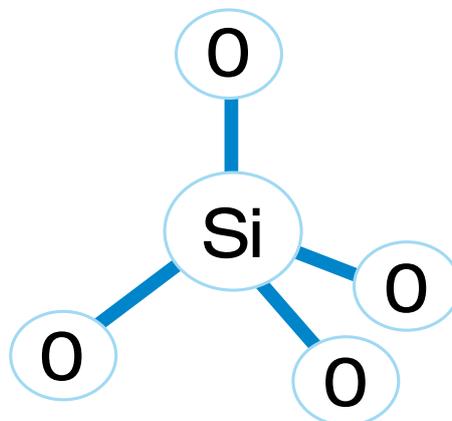
Continuous research into high-performance raw materials, in conjunction with our knowledge of formulating products, has led to a constant improvement in the quality of Mapei finishing products. The systems from the ***Silancolor*** range are a clear example; formulates based on siloxane resins which are a perfect demonstration of the balance between the properties of water-repellence and transpiration. All the products from the ***Silancolor*** range are formulated using silicon-derived binders. The base molecule is quartz crystal (photo 14 - a hard, tough, compact mineral). This component is modified through specific chemical reactions, so that the original inorganic part “fuses” with organic components. At the end of this reaction, a molecule is formed with new, improved characteristics (photo 15); those of quartz: solidity, hardness, impregnability and inalterability; with those of the organic part: water-repellence and compatibility with the mineral components of the substrate.

Once applied, products containing siloxane resins form a “micro-perforated” film with a mesh that is so tight that water is unable to pass through, while at the same time, the mesh is open just enough to allow the passage of water vapour.

This characteristic allows the masonry to be preserved intact over the years.

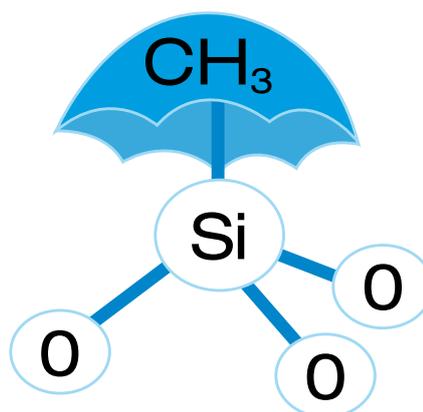
Molecola di quarzo

14

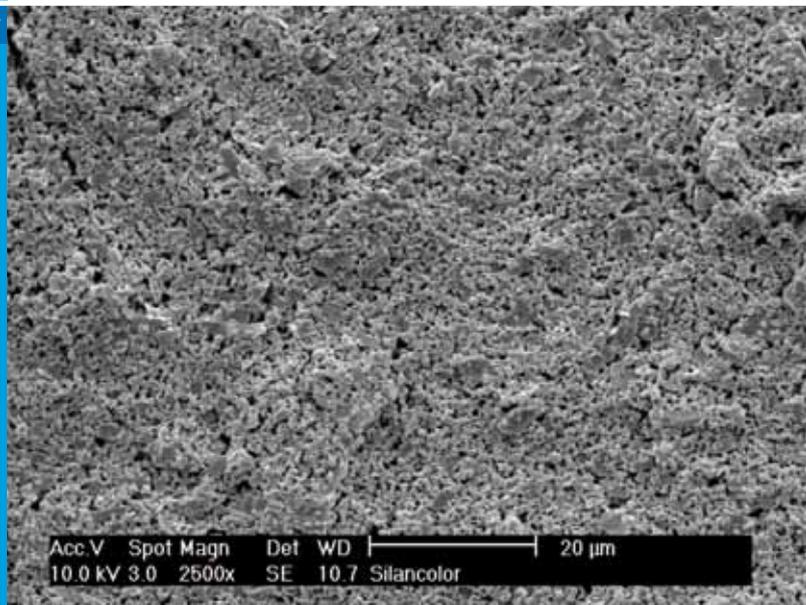


Molecola di silossano

15



16



## CARATTERISTICHE DELLE PELLICOLE DEI PRODOTTI LINEA SILANCOLOR



### WATER-REPELLENCE or impermeability to water

Expressed as  $W_{24}$  and measured according to laboratory tests defined in EN 1062-3, this value is expressed in  $\text{kg}/(\text{m}^2 \cdot \text{h}^{1/2})$ ; the lower the value of  $W_{24}$ , the higher the absorption of water.

### PERMEABILITY TO WATER VAPOUR or transpiration capacity

It is expressed as  $\mu$ , or coefficient of resistance to water vapour, and is measured according to laboratory tests defined in EN 7783-2. To have a precise value of a material's permeability to vapour, the  $\mu$  value must be correlated to the thickness of the finishing coat ( $\mu \cdot \text{thickness in metres}$ ) to obtain its **Sd value**, which expresses the exact resistance to the diffusion of water vapour of the finishing coat at the thickness it is actually applied.

The lower the value of  $\mu$ , and hence the lower the value of **Sd**, the lower the resistance to the passage of water vapour of the finishing coat, that is, high transpiration capacity.



### ADHESION

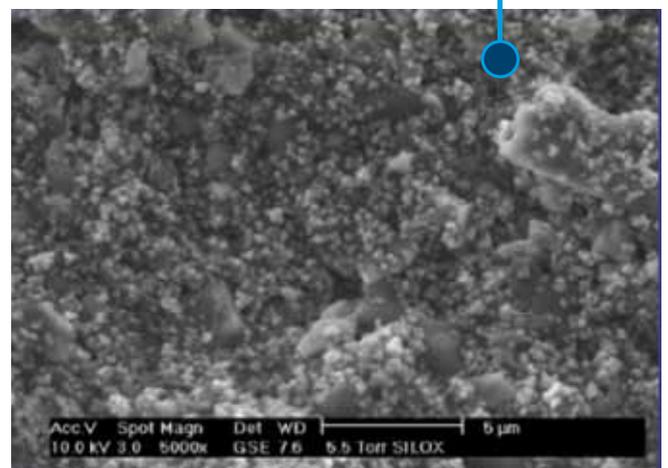
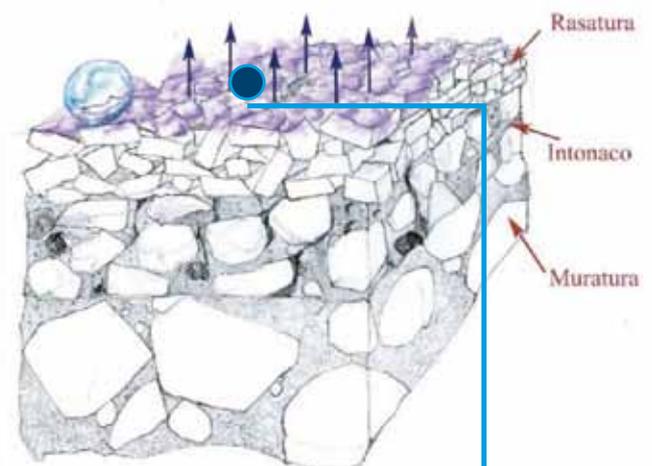
Unlike film-forming products (such as acrylic), Siloxane finishing products do not film by coalescence when the water has evaporated off, rather they form a chemical bond and adhere directly with the substrate. This behaviour also means that the substrate is consolidated, thanks to the formation of a new, strengthened mineral structure (silicone oxide network).

## Siloxane finishing systems: high water repellence and transpiration capacity

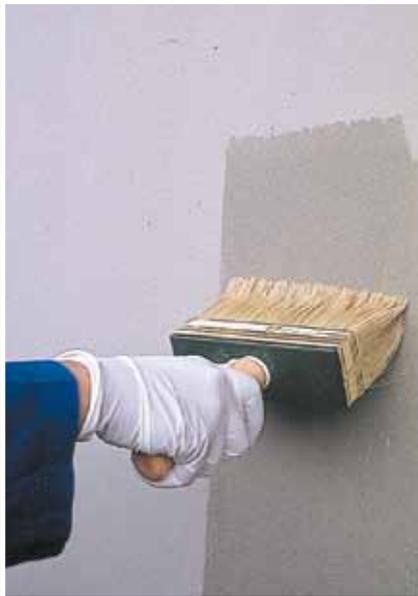
The use of this innovative technology, together with our experiencing of formulating products, allows these quality binders to be bound with fillers, selected pigments and additives with unique performance characteristics, guaranteeing that all the products from the **Silancolor** range have excellent properties, such as:

- long-term water-repellence;
- high permeability to vapour;
- durability;
- minimum hygro-plasticity and thermo-plasticity (low dirt pick up);
- strengthening of the substrate;
- mineral appearance;
- surfaces are always dry;
- energy savings.

Dettaglio al microscopio elettronico struttura SILANCOLOR PITTURA



# Silancolor Range



## Silancolor System

Finishing products from the **Silancolor** range constitute a painting cycle for internal/external applications which guarantee the protection of wall substrates against chemical aggression, UV rays and humidity in general, keep the transpiration capacity of the substrate unaltered and give it a level of water-repellence which can not be achieved using conventional painting cycles.

### **Silancolor Primer**

Transpirant siloxane primer with a smooth finish, for internal and external use.

**Silancolor Primer** is used for priming and preparing cementitious surfaces before applying finishing products from the **Silancolor** range, and guarantees:

- long-lasting protection against humidity and aggressive environments;
- harmonisation of the absorption of the substrate and promotion of good adhesion;
- consolidation of the dust on the surface of the substrate to be treated.

### **Silancolor Base Coat**

Water-repellent, coloured siloxane undercoat with good filling properties and a smooth finish, for internal and external use.

**Silancolor Base Coat** is used for undercoating and preparing cementitious surfaces before applying finishing products from the **Silancolor** range, and guarantees:

- crazing and static micro-cracks are hidden;
- harmonisation of the absorption of surfaces with different chemical and physical properties;
- good coverage of the underlying substrate;
- uniformity of substrates with different surface finishes;
- harmonisation of the colour of substrates before applying finishing coats with poor covering properties;

## Siloxane finishing systems: high water repellence and transpiration capacity

- uniform distribution of thick-layered coatings by roughening the surface;
- better cohesion of old, flaky paintwork.



### **Silancolor Pittura**

Water-repellent, transpirant siloxane paint resistant to aggressive environments, for internal and external use.

### **Silancolor Tonachino**

Highly transpirant, water-repellent, thick-layered, trowelable siloxane coating, for internal and external use.

### **Silancolor Graffiato**

Water-repellent, transpirant, sctach-effect, trowelable siloxane coating to even out substrate defects, for internal and external applications.

Products created for decorating new or painted internal and external surfaces, where substrates with an attractive finish, very high water-repellence and excellent transpiration capacity are required, and which guarantee:

- excellent resistance to alkalis and ageing;
- high protection and durability over the years;
- protection for thermal insulation cladding systems;
- la perfetta sinergia con i sistemi di deumidificazione tipo **Mape-Antique** or **PoroMap**;
- very low dirt retention;
- easy application;
- good adhesion on internal gypsum substrates;
- CE UNI EN 15824 certification (for Tonachini and Graffiati);
- a wide range of colours available, created using the **ColorMap**® automatic colouring system.



# Silancolor Range

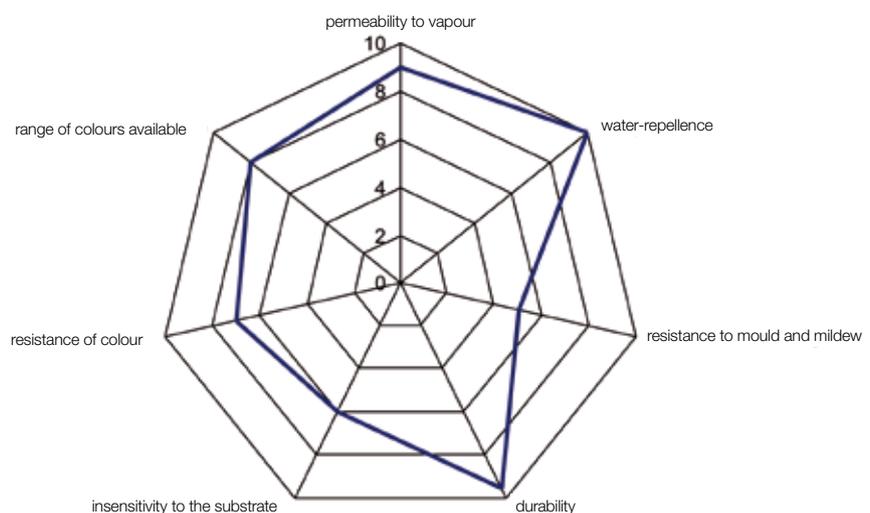
## HOW TO USE

	Application	Dilution	Consumption
Silancolor Primer	by brush, roller or spray	Ready to use	0,1-0,15 kg/m <sup>2</sup>
Silancolor Base Coat		Ready to use or diluted with 5-10% of water	0.3-0.5 kg/m <sup>2</sup> per coat
Silancolor Pittura		15-20% of water	0.2-0.3 kg/m <sup>2</sup> for two coats
Silancolor Tonachino 0.7 mm	by trowel	Ready to use	1.7-2.0 kg/m <sup>2</sup>
Silancolor Tonachino 1.2 mm			1.9-2.3 kg/m <sup>2</sup>
Silancolor Tonachino 1.5 mm			2.2-2.6 kg/m <sup>2</sup>
Silancolor Tonachino 2.0 mm			2.6-3.0 kg/m <sup>2</sup>
Silancolor Graffiato 1,2 mm			1.9-2.3 kg/m <sup>2</sup>
Silancolor Graffiato 1,8 mm			2.4-2.8 kg/m <sup>2</sup>

## PERFORMANCE CHARACTERISTICS

	Silancolor Pittura	Silancolor Tonachino	Silancolor Graffiato
Vapour diffusion resistance coefficient ( $\mu$ )	600	178	178
Resistance to passage of vapour Sd (mt)	0,06	0,267	0,267
Capillary action water absorption coefficient W <sub>24</sub> [kg/(m <sup>2</sup> h <sup>0.5</sup> )]	0,06	0,12	0,12

### Silancolor System



## Siloxane finishing systems: high water repellence and transpiration capacity

**1**  
Wall  
with mould

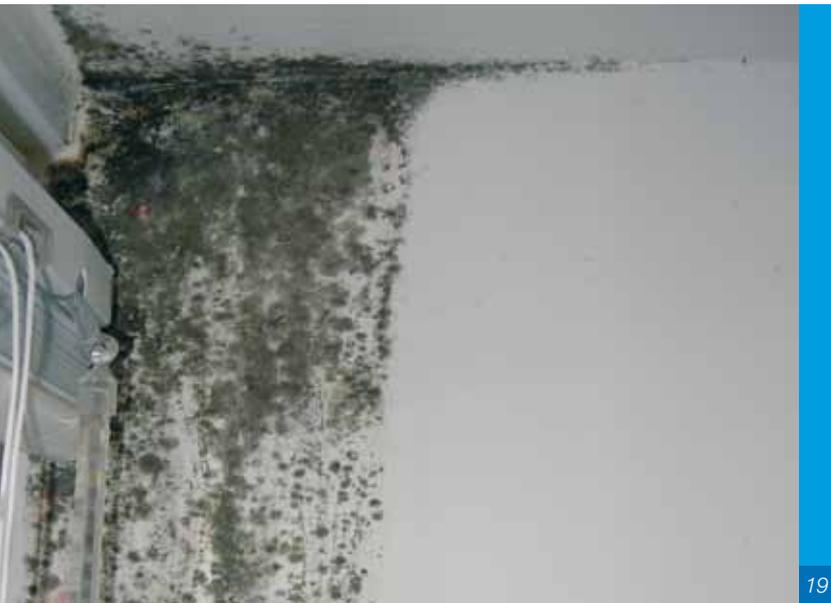
**3**  
Application of Finishing  
coat on a wall

Application of  
Silancolor Plus

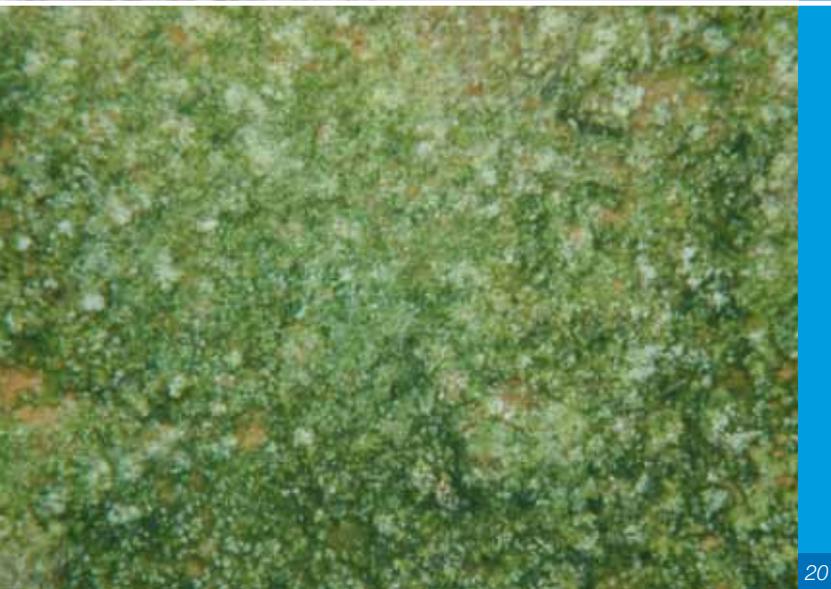
**2**



**WALL FINISHING SYSTEM  
RESISTANT TO THE GROWTH  
OF MILDEW AND MOULD**



19



20



21

## PROBLEM

### BIOLOGICAL DETERIORATION OF COATINGS

When the micro-organisms which make up mildew and mould find suitable conditions for breeding, they quickly infest the facades of buildings and damage walls inside homes, leading quickly to severe deterioration.

Deterioration of the surfaces shows up as physical damage to the walls, but may also have an effect on the health of those who live in the surrounding areas. For example, the following situations may occur:

- formation of unsightly black and green stains (*photos 19, 20 and 21*);
- penetration of micro-organisms and the release of acid metabolites with a progressive deterioration of the coating;
- water retention by the mildew which also penetrates into cracks formed in the coating and deterioration deep down into the substrate;
- formation of unpleasant smells and the release of potentially allergenic spores and micro-toxins, especially in homes, which create a potential health risk.

### MILDEW AND MOULD

Mildew and mould are biological vegetable organisms which reproduce by releasing large quantities and varieties of spores into the air. Mildew (*photo 22 seen through an electron microscope*) is made up of photosynthetic organisms which contain chlorophyll: they need light therefore to live, a high level of humidity and mineral salts, elements which are normally present on the surface of walls. Because of their special nature, they almost always form externally.

Mould (*photo 23 seen through an electron microscope*) is made up of vegetable organisms which are part of the fungi group.

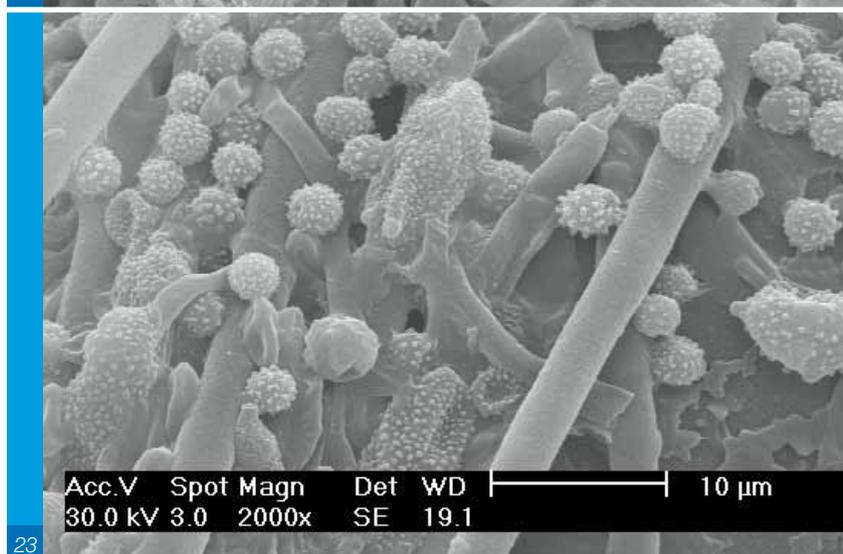
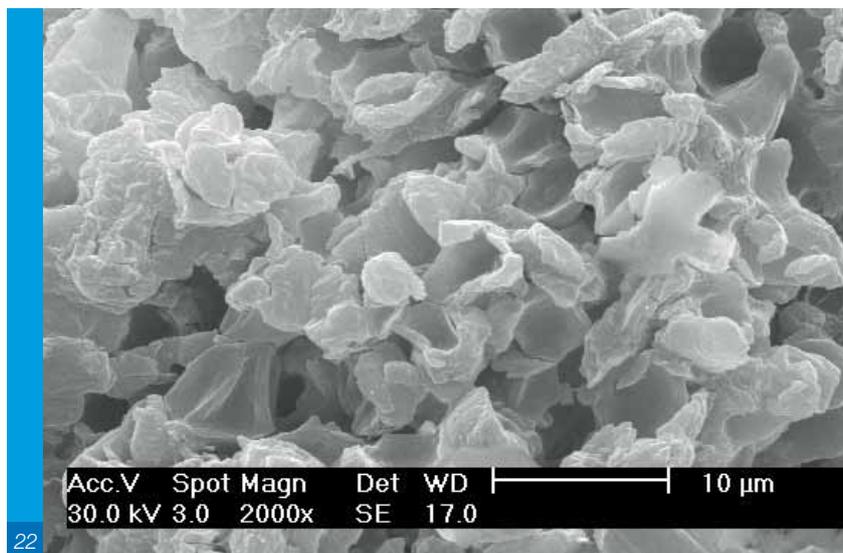
They are unable to photosynthesise and, apart from a certain level of humidity, they require organic nutrition. Suitable substrates for such organisms are wall surfaces which contain the “nutrients” required, such as dirt (a mixture of dust and organic particles) deposited on the coating, or which derive from the cellulose contained in wall paints. They reproduce both internally and externally. In the latter case, they form mainly on old colonies of mildew (in symbiosis) which guarantee water retention and a supply of metabolites for nutrition. Special attention must be paid to mould, in that it develops filaments, called hyphae, which may penetrate deep down into the coating and cause considerable damage. The biological activity of mildew and mould also produces various acid metabolites which also attack the coating.

### HUMIDITY: AN ESSENTIAL CONDITION FOR THE DEVELOPMENT OF MILDEW AND MOULD

The main condition for biological deterioration, therefore, is the presence of damp on the coating due to various factors.

**On external walls (photo 24), absorption and water retention due to:**

- climatic and environmental conditions;
- a high level of water absorption and low transpiration capacity of the coating;
- the presence of thermal bridges (cold spots) due to the incorrect use of materials with different thermal conductivity and, as a result, the formation of condensation;
- exposure to atmospheric agents without protective architectonic elements (such as flat roofs and guttering);
- being close to damp in the ground.



# Silancolor Range



25



26

On internal walls (*photos 25 and 26*), condensation forms mainly in cold spots on walls, due to:

- poor thermal insulation;
- the presence of thermal bridges;
- poor air circulation and, therefore, poor discharge of humidity produced in rooms.

The problems mentioned above are quite common and occur frequently in almost all buildings. It is quite safe to say, therefore, that all buildings and walls have a substrate which is suitable to promote the growth of these biological organisms. If possible, suitable methods and building materials should be adopted for new buildings to reduce the risk of their formation, although such countermeasures are not always sufficient.

Also, it is very difficult to predict if, and when, the formation of mildew and mould will occur due to the complexity of factors implicated and the wide variety of biological species present in different areas. With repair work, on the other hand, only limited construction modifications may be carried out.

The only really efficient method of counteracting biological deterioration in both cases is to apply coatings which are resistant to the growth of mildew and mould after treating the surfaces correctly, and a thorough hygienising cleaning operation of any areas already affected.

With these types of coating products, resistance to biological organisms is given by their content of special additives which remain inside the coating, even after they have dried, and protect against the proliferation of mildew and mould.

These additives have to be correctly balanced. They must also have low solubility so they are not removed by the leaching action of rainwater and damp, so that they can offer long-lasting protection.



## SOLUTION

### **Silancolor Plus system**

Finishing cycle resistant to biological deterioration by mildew and mould.

For internal and external use, on repair work and new surfaces:

- old surfaces: complete cleaning system: (**Silancolor Cleaner Plus**), primer (**Silancolor Primer Plus**) and finishing coat (**Silancolor Pittura Plus** or **Silancolor Tonachino Plus**);
- new surfaces: a perfect interaction between the components which make up the system (primer and finishing coat) to guarantee efficient, long-lasting coverage;
- a mixture of carefully-balanced admixes for efficient, long-lasting resistance against a wide range of mildew and mould.

The finishing cycle comprises a cleaning product, an insulating primer and two finishing products resistant to the growth of mildew and mould.

#### **Silancolor Cleaner Plus**

Product with active anti-mildew and anti-mould composites in a watery solution for cleaning the surface of walls..

#### **Silancolor Primer Plus**

Insulating primer resistant to the growth of mildew and mould made from silanes and siloxanes in watery emulsion..

#### **Silancolor Pittura Plus**

Highly transpirant, water-repellent paint resistant to the growth of mildew and mould made from siloxane resin in water dispersion, for internal and external use.

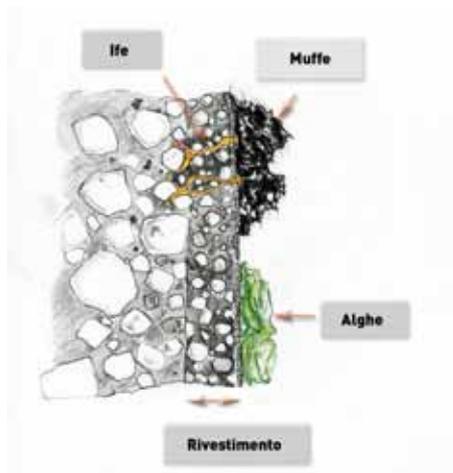
#### **Silancolor Tonachino Plus**

Highly transpirant, water-repellent, trowelable coating paste resistant to the growth of mildew and mould made from siloxane resin in water dispersion, for internal and external use.



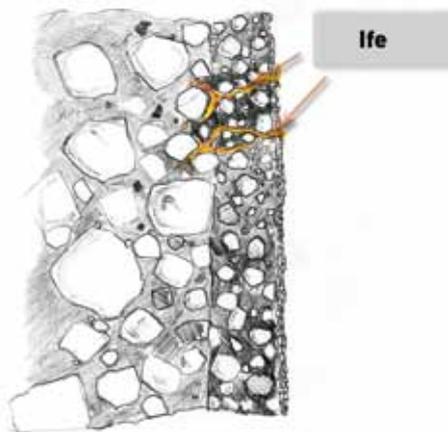
# Silancolor Range

Wall infested with mildew and mould.  
Notice how the roots have penetrated into the substrate.



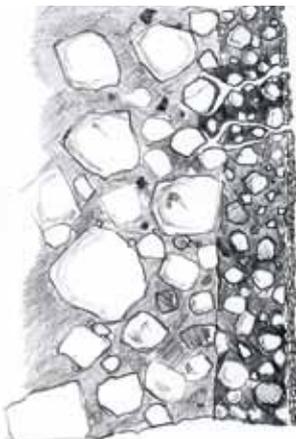
27

Wall after cleaning with a conventional product.  
The external surface is clean but the roots are still present inside the wall.



28

Wall after cleaning with **Silancolor Cleaner Plus**.  
The results are excellent: the mildew, mould and roots have all been eliminated.



29

## PROTECTION

### **Silancolor Cleaner Plus**

Anti-mildew and anti-mould substance in a watery solution for cleaning the surface of walls.

In the case of walls which are already infested (*photo 27*), they must be thoroughly cleaned in order to completely remove the mildew and mould right down to the spores and roots. These preliminary operations are fundamental to avoid the micro-organisms quickly proliferating again, which would then deteriorate or even detach the newly-applied coating. Conventional bleaching products made from sodium hypochlorite or quaternary ammonium salts are not always sufficient to contrast the growth of mould right down to its roots, or hyphae (*photo 28*). Also, if such chemical products remain in the wall, they may even accelerate deterioration of the coating, so another cleaning operation with water must be carried out before applying any other product.

Thanks to its innovative contents, **Silancolor Cleaner Plus** guarantees:

- complete removal of infesting agents by also penetrating into the substrate and eliminating the spores and roots (*photo 29*);
- an efficient wide-spectrum biocide against mildew, mould, bacteria and fungi;
- application of **Silancolor Primer Plus**, **Silancolor Pittura Plus** or **Silancolor Tonachino Plus** without requiring pre-cleaning with water, thanks to the compatibility of the main ingredient with the successive coating;
- non-toxic with no solvents or unpleasant smells, may also be used on internal walls.



### **Silancolor Primer Plus**

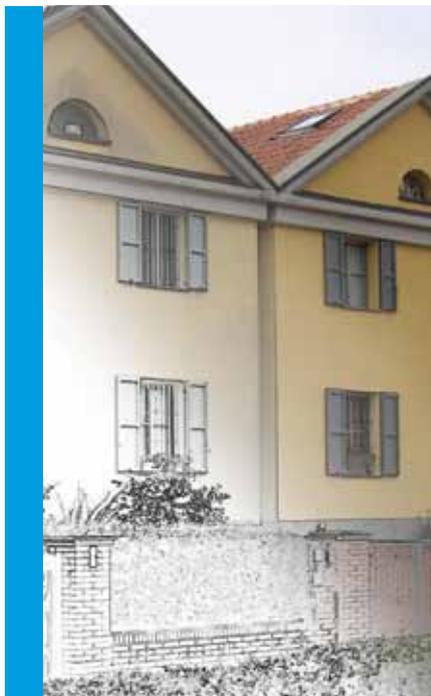
Insulating primer resistant to the growth of mildew and mould made from silanes and siloxanes in watery emulsion.

In order to even out the absorption of the substrate and contemporarily promote protection of the successive coating against infestants, all new surfaces and those restored using **Silancolor Cleaner Plus** must be treated beforehand with **Silancolor Primer Plus**.

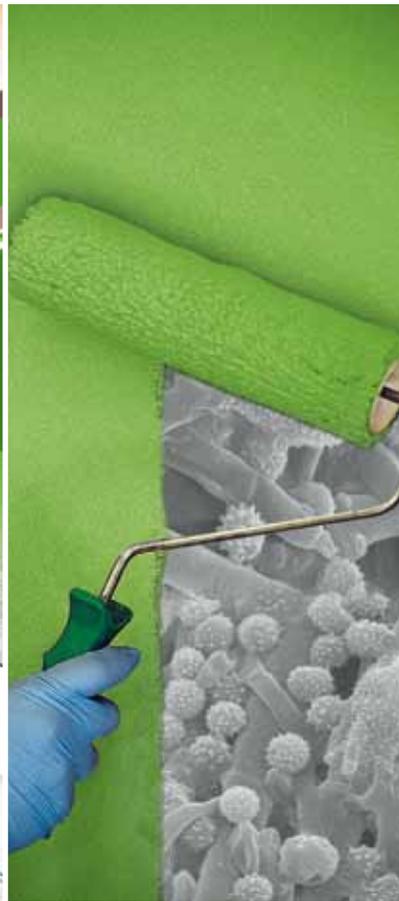
**Silancolor Primer Plus** may also be applied on internal walls and is compatible with all Mapei finishing products, although its full efficiency is only guaranteed when used in combination with **Silancolor Pittura Plus** or **Silancolor Tonachino Plus** finishing products.

**Silancolor Primer Plus** guarantees:

- a film resistant to the growth of micro-organisms from the moment the painting cycle is applied;
- long-lasting protection against damp and aggressive chemical agents, while maintaining the transpiration of the substrate and leaving a water-repellent surface;
- high penetration for deep-down treatment of the substrate;
- harmonisation of the absorption of the substrate and promotion of good adhesion;
- may also be used internally, contains no solvent so odourless.



# Silancolor Range



## **Silancolor Pittura Plus**

Highly water-repellent, transpirant, siloxane resin paint in water dispersion resistant to a wide spectrum of mildew and mould, for internal and external use.

or

## **Silancolor Tonachino Plus**

Highly water-repellent, transpirant, trowelable siloxane coating paste in water dispersion resistant to the growth of mould and mildew, for internal and external use.

**For internal and external use, on repair work and new surfaces:**

- includes added biocide agents which work together in synergy to guarantee the resistance of the coating against a wide spectrum of bacterial agents and high stability against leaching, temperature variations, UV rays and the alkalinity of substrates.  
The mixture of biocides has low solubility so is not prone to leaching, which over the years guarantees long-lasting resistance against the growth of mildew and mould;
- highly permeable to vapour and low water absorption thanks to the silicon binder, which leads to a considerable reduction of damp on the walls, the main condition to delay the development of mildew and mould;
- low dirt retention which further inhibits the growth of microbes;
- protection against aggressive chemical agents carried by water and high resistance to cleaning operations, alkalis, UV rays and ageing for a long-lasting treatment;
- adheres perfectly to all types of conventional and dehumidifying renders and to old, well-bonded paintwork;
- attractive, smooth, opaque finish with a velvety surface;
- available in a wide range of colours, created using the **ColorMap®** automatic colouring system;
- non-toxic, may also be used on internal walls.

## EFFICIENT PROTECTION WITH SILANCOLOR PLUS SYSTEM

The efficiency of the **Silancolor Plus** system has been fully verified through a series of in-depth tests in well-equipped domestic and European macro-biology laboratories. Its resistance is measured with laboratory tests (photo 30), in which a sample of coating is inoculated with various microbes and incubated on fertile ground in conditions which are favourable for their biological growth.

The fact that there is no development of mildew or mould on or around the sample indicates the efficiency of the protection offered by the coating and on adjacent layers of dirt. The tests were also carried out after rinsing the sample with water to determine the durability of the product's resistance to the formation of mildew and mould.

30

*Test of the resistance to the growth of mould in a Petri capsule carried out in the Mapei R&D laboratories.*

*On the left: result of the test on a coat of paint with no anti-mould additive.*

*On the right: result of the test on **Silancolor Pittura Plus** with **BioBlock**® technology.*



# Silancolor Range

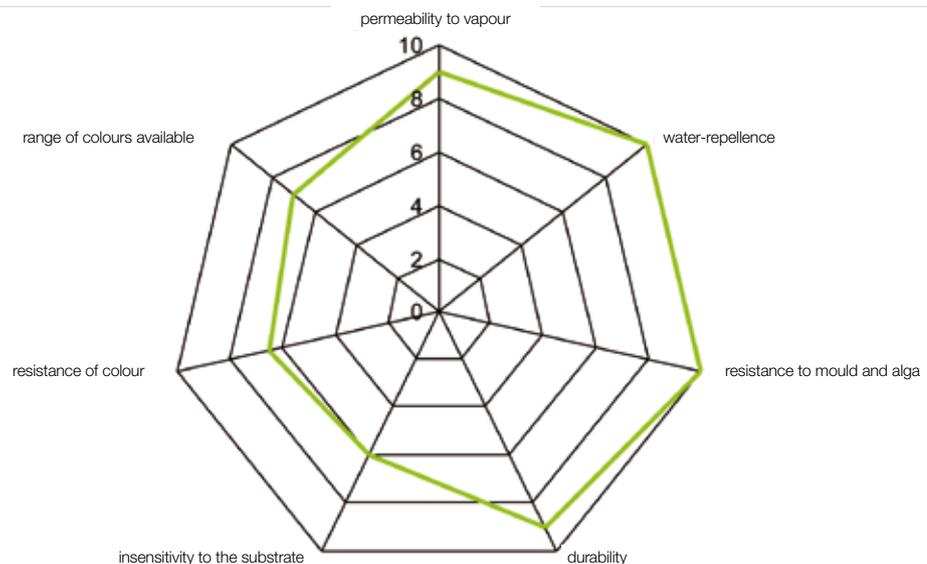
## PERFORMANCE CHARACTERISTICS

	Application	Dilution	Consumption
Silancolor Cleaner Plus	by brush	1 : 3 in water	0.2-1.0 kg/m <sup>2</sup>
Silancolor Primer Plus	by brush, roller or spray	Ready to use	0.1-0.3 kg/m <sup>2</sup>
Silancolor Pittura Plus	by brush, roller or spray	15-20% of water	0.2-0.3 kg/m <sup>2</sup> for two coats
Silancolor Tonachino Plus 0.7 mm	by trowel	Ready to use	1.7-2.0 kg/m <sup>2</sup>
Silancolor Tonachino Plus 1.2 mm	by trowel	Ready to use	1.9-2.3 kg/m <sup>2</sup>

## PERFORMANCE CHARACTERISTICS

	Silancolor Pittura Plus	Sialancolor Tonachino Plus
Vapour diffusion resistance coefficient ( $\mu$ )	339	178
Resistance to passage of vapour Sd (mt)	0,07	0,267
Capillary action water absorption coefficient W <sub>24</sub> [kg/(m <sup>2</sup> h <sup>0.5</sup> )]	0,09	0,12

### Silancolor Plus System



### Silancolor AC System

In recent years conventional siloxane products, whose formulation contains an amount of siloxane resin equivalent to approximately 40% of the total amount of binder, have been joined by a new type of coating product: **AC**ril-siloxane.

This new range of products has been specially developed so that the user may opt to use a partially-mineral coating product, which improves and exceeds the well-known limits of classic acrylic finishing products.

Although the finishing products in the **Silancolor AC** system are of high quality, their characteristics are obviously different to those of the finishing products used for the **Silancolor** and **Silancolor Plus** systems.

This new class of thick-layered paints and coating products has been specifically developed to solve the problem of sensitivity between the substrate and the finishing product, by optimising a compromise between the advantages of an acrylic product and the unique performance guaranteed by the technology of siloxane products.

The hard work carried out in the Mapei Research Centre has allowed formulates to be developed which, although they are different, achieve an excellent compromise between water-repellence and vapour permeability, and come close to the excellent, particular performance of the more noble family of siloxane finishing products.

Satisfying results have also been obtained with colours. In fact, unlike mineral products, the **Silancolor AC** system has left ample margin to those working with colouring products to produce extremely bright, clean tints. This margin obviously doesn't take second place to the durability of the colours themselves, which remain unaltered over the years.

And finally, considering the light acrylic matrix of the **Silancolor AC** system, its application has not been overlooked either. In fact, the products themselves are easy to apply and the problem of compatibility with the substrate, typical with mineral products, has been overcome without the need for particular attention before they are applied.



# Silancolor Range



## PROTECTION AND DECORATION

### **Silancolor Primer**

Transpirant siloxane primer with a smooth finish.

### **Silancolor Base Coat**

Water-repellent, coloured siloxane undercoat with good filling properties and a smooth finish, for internal and external use.

### **Silancolor AC Pittura**

Water-repellent, protective acrylic-siloxane paint with high resistance to UV rays, for internal and external use.

or

### **Silancolor AC Tonachino**

Water-repellent, thick-layered acrylic-siloxane coating with high filling properties, for internal and external use.

Ideal for internal and external use on repair work and new surfaces, they guarantee:

- water-repellence;
- good vapour permeability;
- long-lasting protection against aggressive environmental agents;
- high resistance of colour;
- very low dirt retention;
- easy application;
- attractive finish;
- a wide range of colours available, created using the **ColorMap®** automatic colouring system.

# Siloxane finishing systems: high water repellence and transpiration capacity

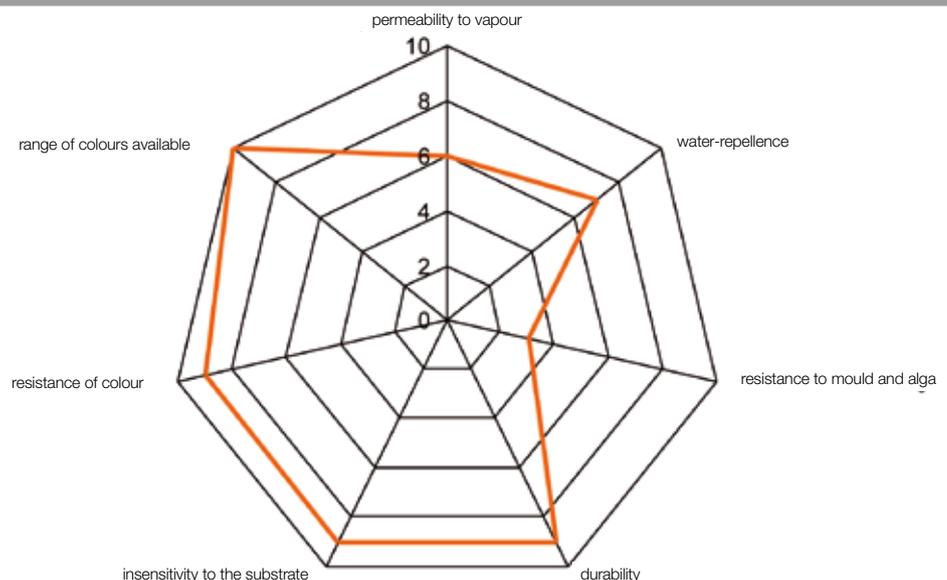
## HOW TO USE

	Application	Dilution	Consumption
Silancolor Primer	by brush, roller or spray	Ready to use	0,1-0,15 kg/m <sup>2</sup>
Silancolor Base Coat	by brush, roller or spray	Ready to use or diluted with 5-10% of water	0.3-0.5 kg/m <sup>2</sup> per coat
Silancolor AC Pittura	by brush, roller or spray	10-15% of water	0.2-0.4 kg/m <sup>2</sup> for two coats
Silancolor AC Tonachino 1,2 mm	by trowel	Ready to use	1,9-2,3 kg/m <sup>2</sup>

## CHARACTERISTICS

	Silancolor AC Pittura	Sialancolor AC Tonachino
Composition	Acrylic-siloxane base in water dispersion	Silicon resin-based in water dispersion
Density g/cm <sup>3</sup>	1,550	1,700
Dry solids content (%)	66	80
Vapour diffusion resistance coefficient (μ)	2500	380
Resistance to passage of vapour Sd (mt)	0,25	0,456
Capillary action water absorption coefficient W <sub>24</sub> [kg/(m <sup>2</sup> h <sup>0.5</sup> )]	0,15	0,18

### Silancolor AC System



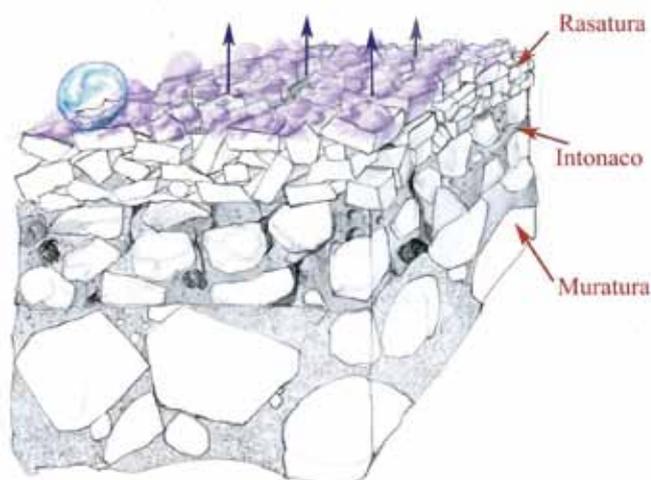
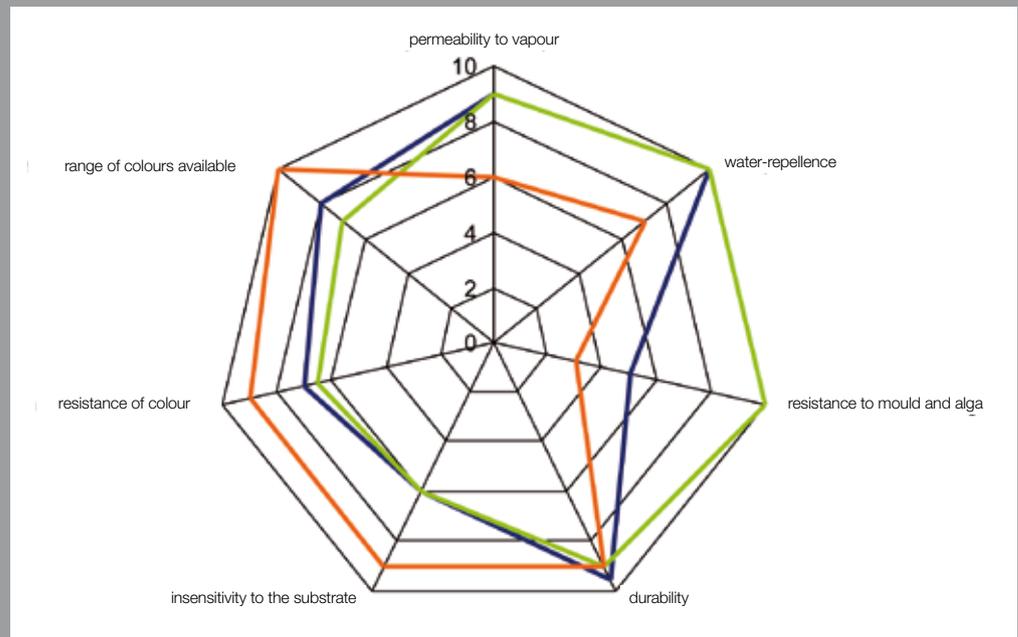
# Silancolor Range

The following is a summary of the main characteristics of the **Silancolor** range, a guideline to help choose the most suitable type of finishing product according to specific individual requirements:

## Silancolor System

## Silancolor Plus System

## Silancolor AC System



*Siloxane finishing systems: high water repellence and transpiration capacity*



# Silancolor Range

## MAPETHERM



Thermal cladding systems such as the **Mapetherm** system cooperate efficiently to improve the energy efficiency of buildings by reducing energy consumption, increasing living comfort and also playing a part in overcoming the problem of mould inside the buildings.

Thermal cladding systems, however, must be protected against inclement weather with a finishing product, preferably applied in thick coats.

The finishing products from the **Silancolor** range have been specifically developed to guarantee sufficient protection for the system. It is preferable to use a light colour, with a reflection index of at least 20%.

The **Mapetherm** system protected with thick coating products from the **Silancolor** range is certified according to the European norm ETAG 004, which guarantees that it has passed a series of extremely severe tests and, therefore, is suitable for its designed use.



## MAPEI COLOURS AND DESIGN

- Colour representing the capacity to innovate while respecting its surroundings.
- Colour intended as a part of a system, and not just as a simple finish.
- Colour as an emotion between a need for conservation and a desire for innovation.

This is the way Mapei interprets colour. And with the finishing products from the **Silancolor** range, there is a free choice from the world of colour and aesthetic effects.



# SILANCOLOR RANGE PROTECTING AND DECORATING MASONRY

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