

Art of restoration... ...Reinforcement engineering

SINERT



When the salts conveyed by the water are highly hygroscopic, they are able to absorb humidity from the atmosphere thereby increasing the degradation related to the presence of damp: in the most serious cases, in the damp area the plaster can actually break up due to the formation of sulphates and their subsequent removal due to the increase in volume that accompanies the crystallization of the soluble salts.

METHODS OF INTERVENTION

Among the various forms of damp that can affect walls, that due to the capillary rising of damp historically represents the most difficult to combat and eliminate. The current state of the art in the difficult field of wall dehumidification contemplates various methods based on different physical and chemical principles.

In view of this, the IDRO STOP SYSTEM by Res.In.Tec. Italia® Restauri innovativi Tecnologici for the Dehumidification and Control of wall damp, based on the "Vertical and horizontal barrier technology", represents a certified and reliable solution, that goes beyond the aesthetic aspect of the problem and tackles it at the roots, thereby not only repairing effects but also eliminating the cause.



DEHUMIDIFICATION JOBS

The tranquillity of solid guarantees

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Res.In.Tec. Italia®
Restauri Innovativi Tecnologici

The tranquillity of solid guarantees

Brick and stone walls affected by rising damp undergo various forms of degradation, dilapidation and instability, preceded by stains, mildew and the detachment of plaster and finishes.

The treatments performed by Resintec Italia are not restricted to the aesthetic aspect of the problem, but tackle it where it originates and thereby not only repair the effects but also eliminate the cause.

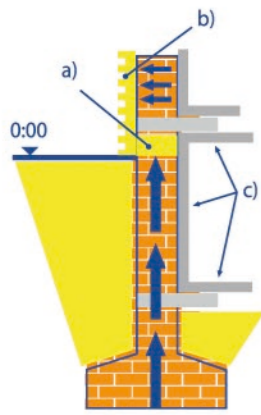
Rising damp is the damp that rises up through walls from the ground below and statistically represents the most widespread form of the problem whereby the damp penetrates into concrete and/or masonry buildings causing degradation of building finishes.

The problem originates from adhesion forces (surface tension) which are created inside the capillary between the liquid this contains and the walls of the capillary itself. This causes damp to rise up in the vessel. The smaller the section of the vessel, the more the damp rises (Jurin-Borelli law).

In the case of walls built using very hygroscopic materials, meaning they are also able to absorb the water vapour in the atmosphere – as, generally, is the case of mortar and brick – the water content due to the rising of damp by capillarity from the ground can often reach over 30% of volume, corresponding to 300 litres of water for every cubic metre of wall!

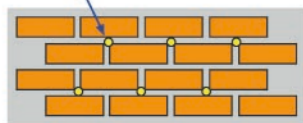
A demarcation line thus appears on the wall surface that separates the lower damp part – made evident by a deeper stain that starts from the base – from the upper part, which is not affected by the rising damp and is therefore dry.

Brick or stone walls affected by rising damp undergo various types of degradation, dilapidation and instability, preceded by stains, mildew and the detachment of plaster and finishes.



a) Sbarramento orizzontale silossanico
b) Traspirazione verso l'esterno
c) Sbarramento verticale

Position of the injection holes



The damaging effects:

Generally speaking, rising damp triggers an irreversible process of break up of the brick or stone, of the plaster and mortars making up the wall, which can cause the following types of damage:

- ◆ widespread stains and salt bloom;
- ◆ degradation of materials due to frost;
- ◆ detachment of plaster from walls due to the salts conveyed in the water and originating from the ground or from the construction materials making up the wall;
- ◆ reduction in the heat insulation of buildings;
- ◆ degradation due to the chemical incompatibility of the materials making up the wall.

Advantages of Res.In.Tec. Italia® method

- ◆ Definitive form of intervention that does not become ineffective over time;
- ◆ Injection performed with pumping units that "impose" absorption and not with gravity systems devoid of pressure;
- ◆ Work is done inside the wall to reduce the wall's capacity to absorb water;
- ◆ Wall structures are neither weakened nor cut;
- ◆ The result is not tied to the operation of "power appliances" that could not work and the system generates no magnetic fields.

We have always worked underwater ... without ever getting wet

