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THERMAL INSULATION OF HISTORIC AND LISTED BUILDINGS: THERMAL INSULATING PLASTER AS AN ALTERNATIVE TO ETICS

In historic town centres and on protected buildings, external insulation is often not permitted. Thermal insulating plaster based on EPS beads is a breathable, machine-applied solution of limited thickness that improves comfort without altering the appearance of the façade. Edilteco’s Isolteco was created precisely for this kind of work.

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The energy renovation of the existing building stock is a priority today, but on a significant part of this stock – historic buildings, façades in historic town centres, protected properties – the most common solution, external thermal insulation, cannot be used. Restrictions imposed by the heritage authorities (in Italy, the Soprintendenza), façade alignments, cornices, stringcourses and decorations make it impossible to increase the thickness of the walls towards the outside. The designer thus faces a concrete problem: improving the thermal performance of the envelope without being able to change the image of the building.

Why conventional external insulation is not always applicable

An ETICS places the insulation on the outside of the masonry, with thicknesses that often reach 8–12 cm or more. On a listed building, this means altering projections, window sills, window reveals and the entire design of the façade: in many contexts the work cannot be authorised.

Internal insulation, on the other hand, reduces the usable floor area, requires careful management of the risk of interstitial condensation and interrupts the continuity of the insulation at floor slabs and internal load-bearing walls, creating thermal bridges that are difficult to control.

In this scenario, thermal insulating plaster is once again a relevant design answer, not a fallback: it allows work to be carried out with limited thicknesses, while preserving the breathability of the historic masonry.

Isolteco thermal insulating plaster: Edilteco’s original technology

Isolteco® is the first product developed by Edilteco and represents the company's technological root: a thermal insulating plaster based on treated EPS beads, which can be applied with a plastering machine. It is a solution designed to adhere to the existing masonry and follow its behaviour, not to replace it.

The EPS beads used are **closed-cell and non-absorbent**: the insulation is therefore not impaired by moisture, an essential condition when working on historic masonry that must continue to release water vapour.

Applied in layers of limited thickness, thermal insulating plaster corrects the thermal behaviour of the wall: it reduces the cold-wall effect and raises the internal surface temperature, with direct effects on perceived comfort and on the risk of mould forming in corners and at structural junctions.

Isolteco pre-mixed thermal insulating plasters

Isolteco pre-mixed thermal insulating plasters

Breathability and compatibility with historic masonry

In work on existing buildings, a decisive aspect is the compatibility between the new layer and the substrate. Historic masonry, often in solid brick or stone, manages moisture through cycles of vapour absorption and release: a coating with low breathability can trap moisture and trigger deterioration.

Thanks to its porous structure and the non-absorbent nature of the beads, EPS-based thermal insulating plaster behaves well with respect to vapour and helps preserve the healthiness of the wall over time.

Machine application and technical support

The possibility of applying Isolteco with a plastering machine makes the work fast and uniform even on large or complex surfaces, typical of historic buildings. Installation follows the stages of a traditional plaster, with the added thermal benefits of the material.

For designers and contractors, Edilteco provides dedicated **installation manuals** and the assistance of its Technical Department, to define thicknesses, finishes and wall build-ups according to the performance required and the constraints of the context.

A design solution, not a compromise

Insulating a historic building does not mean giving up comfort or distorting its image. With Isolteco thermal insulating plaster, Edilteco offers an approach consistent with its own history and with the needs of those working on the existing building stock: improving the performance of the envelope while respecting the façade, the masonry and the heritage protection constraints.

Discover the Isolteco range of thermal insulating plasters