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FASSA BORTOLO SYSTEMS AND PRODUCTS

Dehumidifying System

- RINZAFFO 720
- INTONACO MACROPOROSO 717
- FINITURA 750

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**FASSA
BORTOLO**
QUALITY FOR BUILDING

TYPE OF WORK

Restoration of damp
masonry



On May 21, 1761, the Senate of the Republic of Venice issued a decree to build an astronomical observatory at the University of Padova.

This decision followed the proposal by the educational reformers - the Venetian magistrates responsible for governing the University of Padova - as part of a university reform that involved renewing the lecturing positions and constructing new scientific establishments, to allow professors to instruct students in conducting experiments.

In September 1765, the abbot Giuseppe Toaldo (1719-1797), in the role of professor of 'astronomy, geography and meteors', was assigned the task of visiting the main Italian observatories to learn about the structure of the building and the main tools needed by astronomers. Upon returning from this fact-finding mission, Toaldo presented a cost estimate and a plan; in December of the same year, the architect Don Domenico Cerato (1715-1792) was brought in from Vicenza.

For the construction of the observatory, Toaldo proposed using the high tower of the Castel Vecchio, due to its solid walls. The tower in fact had all the requisites needed to be converted into an observatory: in addition to the lower costs, it was also located on the southern outskirts of the city, and from the top offered a free view across the southern horizon, providing future astronomers an ideal place for their observations. Thus the ancient medieval castle was transformed into an astronomical *specola* (from the Latin *specula*, observatory). Construction work began in 1767 and ended ten years later.

A lower observatory was designed, leaning against the east wall of the tower 16 metres above the ground, together with an upper observatory 35 metres above the ground, at the level of the battlements. Above this, two small domes were built to house other instruments, and a turret for the access stairs.

The lower observatory was later called the meridian room: here, in fact, local noon was measured on the meridian line engraved on the floor, and the meridian passage of the stars was observed.



The tower seen from the inner courtyard

Subsequently, **INTONACO MACROPOROSO 717** (minimum thickness 2.5 cm) was applied; this product helps bring about crystallisation of the salts contained in the water in the large pores, thus preventing formation of tensions and consequently surface breakages. Finally, **FINITURA 750** was used, a highly-breathable product and certified **1**, just like all the products that make up the **EX NOVO EX NOVO HISTORIC PRESERVATION** line.

For painting the walls, **PC 144** from the **FASSA BORTOLO** Decorcalce line was used, particularly suitable for the restoration of historic buildings. This precious paint made from lime putty features high breathability and is therefore the most suitable solution for preventing mould formation.

The upper observatory, with an octagonal floor plan, had 8-metre-high walls and six large windows that were almost 6 metres high, with shutters that originally retracted into the wall; this environment was intended for astronomical observations using various types of telescopes, able to turn in any direction of the sky, even going out onto the surrounding square-shaped terrace. It was later called the 'room of figures' due to the frescoes that adorned it.

The terrace above the meridian room was intended for meteorological observations using specific instruments: in fact, until the beginning of the twentieth century, astronomers were responsible for recording, day-by-day, the temperature, atmospheric pressure, amount of rainfall, state of the sky - clear or cloudy etc. - and wind.

The work

During the inspection carried out by the **FASSA BORTOLO** technician, the masonry in the Jappelli room and the adjacent porticoed walkways was found to have a significant moisture content.

This was measured using an electrode hygrometer, which showed humidity levels between 50 and 90% up to a height of 1.5 m. Considering the values measured, a complete restoration cycle was performed on the masonry, using products from the **FASSA BORTOLO EX NOVO HISTORIC PRESERVATION** line, made from NHL 3.5 hydraulic lime.

After removing the existing plaster up to a height of 50 cm above the moisture line, the masonry was cleaned to remove all loose or crumbling parts, and a layer of **RINZAFFO 720** (minimum thickness 3 mm) was applied, specifically for damp walls.

FASSA BORTOLO PRODUCTS



RINZAFFO 720

Bio undercoat made from NHL 3.5 natural hydraulic lime for the restoration of damp masonry, for interiors and exteriors



INTONACO MACROPOROSO 717

Bio base coat plaster made from NHL 3.5 natural hydraulic lime for the restoration of damp masonry for interiors and exteriors



FINITURA 756

Bio wall coating water repellent made from NHL 3.5 natural hydraulic lime for exteriors and interiors