References

Renovation of a 1920s building in Concello Vello featuring underfloor heating



Uponor involvement

- Climatización Invisible por techo radiante (calefacción y refrigeración) con Uponor Thermatop M.

Concello Vello: renovation of a 1920s building featuring underfloor heating

Moaña Town Council (Pontevedra) has restored the Concello Vello for the benefit of local residents, completely transforming this public building, which dates from the 1920s, into a hub for social and cultural activities.

An example of the circular economy, comfort and energy efficiency in a public space

Moaña Town Council (Pontevedra) has restored the Concello Vello for the benefit of local residents, completely transforming this public building, which dates from the 1920s, into a hub for social and cultural activities.

In addition to restoring this heritage gem, the building has undergone energy-efficiency improvements and accessibility upgrades, and is equipped with an automated access system for all organisations using the facility.

For the climate control – both heating and cooling – of the first floor and the attic, a decision was made to install an invisible climate control system using a radiant ceiling with the Uponor Thermatop M solution



Fotografía: Construarte Arquitectura

Project Facts:

Location

Moaña, Pontevedra, Spain

Completion

2023

Building Type

Cultural institutions

Partners

Promotor: Ayuntamiento de Moaña

Arquitectura: Ester Suárez Barbeito
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Instaladora: Cofrico

Refurbishment of an early 20th-century public building for 21st-century use and sustainability

Ester Suárez Barbeito of Construarte Arquitectura was responsible for the design, and she states that ‘‘the aim of the project was to promote the circular economy from two perspectives. Firstly, through the very nature of the renovation itself, breathing new life into an existing building, and secondly through the use of technical solutions designed to achieve maximum sustainability, with a focus on responsible production and consumption’’.

The renovation has made use of natural, recycled or recyclable materials, as well as technical and bioclimatic solutions, such as the installation of a green façade featuring over 2,000 different plants, which improve the building’s insulation properties whilst substantially reducing waste generation and carbon emissions.

The project continued with the decarbonisation of the building’s heating and cooling systems through the use of renewable energy. To this end, a high-efficiency heat pump was installed to power Uponor’s ‘Invisible Climate Control’ radiant ceiling system (heating and cooling) and to generate domestic hot water. In addition, photovoltaic panels have been installed which, combined with the heat pump, facilitate self-consumption of electricity.

Radiant ceiling with the Uponor Thermatop M system

According to Ester Suarez, the decision to install the radiant ceiling system was motivated by the fact that ‘‘as this is a building with a hipped roof, I didn’t want to have to include any exposed elements or fixtures that would detract from the building’s interior design. Furthermore, this reversible (cooling-heating) system is quick and easy to install, and works very well in terms of energy efficiency when combined with an air-source heat pump. Having decided to install a radiant surface, we opted for the ceiling because we have retained an existing wooden staircase that prevented us from raising the floor level’’.

The architect continues, ‘‘After researching the options available on the market, I could only find ceilings that came with their own finish, usually a plasterboard panel. However, I needed to install an acoustic ceiling with random perforations to improve indoor comfort. Finally, I found the Uponor Thermatop M solution, which allows you to choose any cladding and finish you like.’’

Eva Naranjo, head of the Technical Office at Uponor Iberia, comments that ‘‘the advantage of this system is that it can be integrated into the building’s hipped roof without compromising the climate control of the space. The system is integrated into the ceiling framework and covered by the exposed ceiling finish, providing the building with an Invisible Air Conditioning system. It is an innovative solution for a public venue such as a cultural centre’’.

As for its use, Moaña Town Council has opted for a cultural centre featuring various accessible and adapted spaces (exhibition hall, meeting rooms, study room, rehearsal room) with separate, self-managed entrances. This means that local residents can make use of these facilities simply by activating a digital key.

These zoned spaces are designed so that only those currently in use consume energy. This demonstrates a commitment to comfort, accessibility, energy efficiency and versatility in adapting to users’ needs.

Ester Suarez concludes, ‘‘Uponor’s technical department has advised us and confirmed the calculations we had made; furthermore, they have always been on hand to answer any questions, and their professionals have been fully involved in the project as if they were part of the team.’’



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