

Tuscany's Apuano Hospital Chooses PREPRUFE® Waterproofing

Design and Technical support help modernise Tuscany Hospital



Project	Apuano Hospital
Client	Regione Toscana
Architect	Mario Cucinella
Contractor	ATI Astaldi-Techint-Pizzaroli
Waterproofing Applicator	Prati S.r.L.
GCP Solution	PREPRUFE® 300R pre-applied waterproofing system and BITUTHENE® 8000 post-applied waterproofing system

Project

Regione Toscana set out to modernise its hospitals in Prato, Pistoia, Lucca and Massa-Carrara to offer personalised medicine and enhance the comfort of patients. For the project, architect Mario Cucinella envisioned four technologically advanced hospitals that would be integrated with a health services network across the region. Designed by Cucinella Architects, the new Apuano Hospital is based on guiding principles developed by the Ministerial Commission of Health. This team of doctors and designers brought forward health-related innovations in intensive care and interdisciplinary collaboration.



The high water table in the region meant there was a greater risk of water penetrating into the basement of the new hospital. In a health care setting, it was critical to prevent any such leaks. This meant not just providing a waterproofing system but a system that would secure joints and penetrations throughout the below-ground structure, since those areas have the highest vulnerabilities to water infiltration. In addition, the site was found to have a high concentration of radon gas in the soil, and the solution would need to keep these harmful gases out of the building.

Originally, the project specified a bentonite system for waterproofing, however realising the critical nature of the situation, general contractor ATI Astaldi-Techint-Pizzarolli and engineering team Studio Altieri S.P.A began looking for another solution.

The general contractor and engineer selected:

- The PREPRUFE® 300R pre-applied waterproofing membrane to prevent water and radon gas from permeating the below ground structure
- The BITUTHENE® 8000 post-applied waterproofing system to protect vertical walls and satisfy BS 8485:2015 standards for gas resistance

For more than 30 years, these systems have been used for high risk waterproofing protection around the world, including at many hospitals. The PREPRUFE®300R membrane offers high performance under hydrostatic pressure. “The highest benefit was definitely the protection of water migration between the concrete surface and the membrane, due to the strong and durable bonding of the PREPRUFE®waterproofing system to the structure,” said Riccardo Prati of the waterproofing applicator firm Prati S.r.L. “In high water table situations where the risk of leaking is significant, such an effective bond provides the highest protection for the structure, and therefore piece of mind for the entire application.”

This proven waterproofing membrane provided the added benefit of helping to accelerate the construction process. “The experience I had with the PREPRUFE®300R membrane has been very positive, especially due to the simplicity and speed of installation, which saved 20 percent on installation time,” Prati said.



GCP's Technical Support team worked closely with Prati S.r.L during the design and construction phases, providing CAD drawings for all detailing, such as service penetrations and corner details. This helped ensure protection for all elements of the below-grade structure. Prati said, "The GCP Technical Team was very responsive, from design to the technical support onsite, and brought a high degree of professionalism."

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