

Wavin PolderRoof®

A blue-green roof solution for urban climate resilience

Wavin offers a new solution for smart rooftop water management. The PolderRoof® is helping cities think about water as a closed loop resource, from the first drop of rain to the final runoff. Cities are growing and the climate is changing. Rooftops offer extensive opportunities for climate adaptation and mitigation, both in the public and private sectors.

Communities need nature-based solutions like the PolderRoof® to respond to climate impacts such as heavier precipitation, extreme heat and prolonged drought. Green infrastructure, and especially green rooftops, have a successful track record of mitigating stormwater runoff and reducing urban heat. It turns out that the green doesn't work without the blue - which is why our smart blue-green PolderRoof® is a valuable solution for creating more livable and biodiverse urban spaces, for climate-resilient cities of tomorrow.

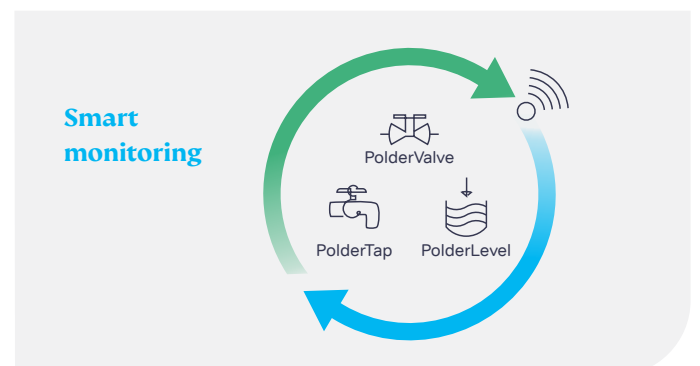


What makes the PolderRoof® special?

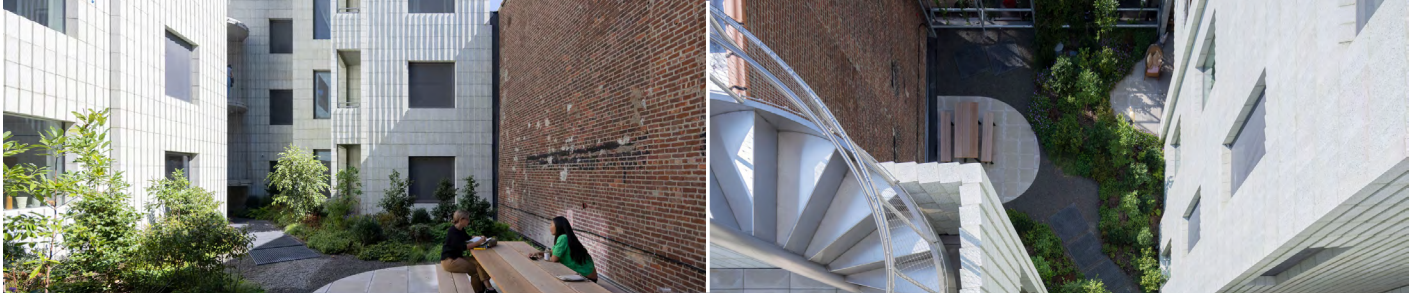
The PolderRoof® transforms flat roofs on any building into intelligent and controlled water reservoirs with built in capillary irrigation technology. The system consists of a horizontal retention and detention layer, air and water sensors, and a digital platform that can access weather forecasts with hyper local rain data reconciliation. These smart features allow the PolderRoof® to control the storage and release of rainwater depending on temperature and upcoming rain events. The PolderRoof® can also tap into municipal water for supplemental irrigation if needed.

Wavin pairs all of our nature-based solutions with a water balance analysis where design conditions and water inputs are balanced against stormwater requirements, water outputs such as evaporation and other factors like water reuse. The goal is to work toward a positive net water balance where water is stored and reused in a circular system.

The PolderRoof® cools buildings and helps owners reduce utility costs. It also improves biodiversity and manages stormwater intelligently. The PolderRoof® can be paired with a variety of green roof plantings and with solar arrays. It is an instrumental tool for building equity in blue-green infrastructure planning and indispensable for future-proofing our cities and communities.



Case Study: Gardens Grow in Brooklyn at 450 Warren



The 450 Warren condominium building in Brooklyn sought a solution to manage excess water during rainstorms and cope with water scarcity during droughts. They turned to Wavin's PolderRoof® to create a smart water reuse system. The PolderRoof® captures and holds rainwater that irrigates green spaces of native plants in the courtyard and terraces for residents to enjoy. These blue-green spaces reduce the building's energy consumption by providing shade, thermal mass and insulation. The innovative PolderRoof® system enhances the traditional green roof concept, mitigates

stormwater flooding and significantly contributes to improving the quality of life in urban environments.

The PolderRoof® acts as a buffer for the city's sewage system, reducing strain from intense rain events. Rainwater is stored on site for irrigation, reducing the building's reliance on city drinking water for irrigation. Water storage also alleviates stress on the city's water resources during periods of drought. The lush courtyard and terraces provide much-needed green spaces for residents, promoting socialization and well-being.

PolderRoof® structure

- 1 Extensive or intensive green roof with substrate
- 2 Capillary fleece
- 3 Water storage
- 4 Protective fleece
- 5 Warm roof structure with waterproofing membrane



Contact Us to Start Your Project

Wavin is a leading supplier and manufacturer of smart water technologies from stormwater to plastic pipes and fittings. We offer comprehensive design services for managing water on-site.

Visit wavin.us to learn more about how we can support your next project. Whether you're curious about features or want a demo – we're ready to answer any and all of your questions.



Wavin is part of Orbia, a community of companies working together to tackle some of the world's most complex challenges. We are bound by a common purpose: To Advance Life Around the World.

Orbia's Building and Infrastructure business Wavin is an innovative solutions provider for the global building and infrastructure industry. Backed by more than 60 years of product development experience, the business is tackling some of the world's toughest challenges through pioneering in water and sanitation management, indoor climate control technologies and durable, adaptable and efficient countryside and urban infrastructure solutions for climate resilient cities and communities.

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