

# PREPRUFE<sup>®</sup> Unique Watertight Structural Solutions Protect the Warsaw Spire Construction

Distinctive office project relies on watertight structural solution

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Project	Warsaw Spire
Developer	Ghelamco
Engineer	Bakkala Consulting Engineers - Dublin
Architect	Jaspers & Eyers Architects - Brussels
General Contractor	Monting - Warszawa
Applicator	2 K Serwis - Warszawa
GCP Solution	Preprufe <sup>®</sup> waterproofing

## The Overview

### Building a landmark office center

Warsaw Spire is a unique office project under development in Warsaw's city centre. Created with the vision in which office space is harmoniously combined with a unique approach to modern urban space. The project lies at the epicenter of the capital, with modern office buildings and prestigious residential projects, as well as excellent transport, including trams, buses and a second metro line under construction.

The complex's structural design solutions include a 180-metre high tower building (48 levels) and 2 lower buildings, each of 55 metres in height (15 levels). Together, they will provide approximately 100,000 m<sup>2</sup> of office space equipped with the latest technical solutions. It's the largest office development currently under construction in Europe.

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*"GCP Applied Technologies has once again provided a proven, high performance waterproofing solution that will ensure this prestigious and ambitious construction project stands the test of time."*

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## The Challenge

### Finding intelligent structural solutions

With five levels of underground parking below the development, and foundations that reached a depth of 55 metres, the contractor had to come up with intelligent structural solutions and had to construct one of the deepest diaphragm walls in Poland. It required a high performance membrane to provide fully bonded waterproofing, zero water tracking, and exceptional concrete protection.

With the basement area subjected to 18 metres of hydrostatic water pressure, PREPRUFE® waterproofing membrane proved the ideal structural design solution, offering the perfect combination of outstanding water-tightness, proven performance and a simple application process. Its reliable, practical and unrivalled standards of below ground waterproofing protection made it the obvious choice.

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*"It is reliable, practical, and meets unrivalled standards, making it the obvious choice for below ground waterproofing protection."*

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# The Solution

## Selecting the most reliable waterproof solution

More than 13,000 m<sup>2</sup> of PREPRUFE®300R membrane were specified to complete a comprehensive waterproofing system for the basement. Three separate structures with infill sections made detailing intricate for the basement considering the structures are to settle independently.

Designed with a proprietary adhesive layer, the ADVANCED BOND TECHNOLOGY™ enables concrete to aggressively adhere to the PREPRUFE®membrane, forming a unique seal which prevents any water migration between the waterproofing layer and the structure to substantially reduce the risk of leaks. As a result, potential breaches are localised to prevent water tracking between the waterproofing membrane and the structure.

Unlike other structural solutions, the PREPRUFE®waterproofing membrane does not rely upon hydration processes or swell in contact with water, and can withstand a 70m head of water, therefore it is truly waterproof. It remains sealed to the structure, regardless of the ground settling, and is lightweight, flexible and versatile.

It can also be applied on wet substrates or in extreme heat and is immediately ready without protective layers to receive rebar installation, proving to be more than five times faster to install than a traditional loose-laid PVC system.

*Blue360<sup>SM</sup> Product Performance Advantage.*

*Because every project, large or small, deserves the best level of protection.*

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*"This lightweight, flexible solution remains sealed to the structure, regardless of the ground settling."*

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