

Warsaw Water Filters

WARSAW - POLAND

KEY FACTS

- 126-year old monument of Polish history and technology
- 5000 m² successfully waterproofed with IDROSILEX PRONTO, despite unfavorable conditions (low temperature and humid environment)



Warsaw Water Filters

WARSAW - POLAND

Let's present the project...

The Filter Station of the Central Waterworks Institution, situated in the area of Filtrowa, Krzywickiego, Koszykowa and Raszyńska streets square, started operating in 1886. Its construction began only three years prior to this fact, according to William Lindley's project. The project manager was the designer's son, William Heerlein Lindley. The Water Filters' construction was commissioned by the President of Warsaw Capital City, Sokrates Starynkiewicz, thereby he contributed to the creation of one of the most modern structures of this type in Europe.

The Waterworks system is composed of the slow filters which are operating incessantly from 126 years and rapid filters which came into existence between 1930 and 1933, basing on a project of two Canadian engineers: Charles des Bailleurs and Michael Morsen. As a result of continuous improvement of the filtration technology, in the seventies of the past century, another process line was developed with a chemical process of water treatment, the so called coagulation. Only two years ago, the construction of Indirect Ozoning and Activated Carbon Filters Station has been completed. The Central Waterworks Institute produces daily 530 000 m³ of clean water, supplying it to the half of capital city residents.

In the Filter Station zone, the 36 slow filters, divided into 6 groups, occupy the area of 82 000 m². Through a 135 cm-thick filter bed, the water runs with the speed of 10 cm per hour. The rapid filters are constituted of 20 filters and three-level pumps located in connected halls. The water is being purified by running through the sand with the speed equal to 5 m per hour. Between the halls, a decorative clock has been installed, equipped with 12 control lights, signaling that the filter is being rinsed.

The slow filters are made with humidity-resistant brick of the highest quality, granite slabs and sandstone. The structure has been crowned with impressing sail vaults. It consists a unique example of industrial architecture of the XIX century, whereas the rapid filters belong to the modernist style typical for the nineteen twenties and nineteen thirties. The Art Deco low reliefs decorate the west front facade. A half-naked man drinking water symbolizes thirst, while a bathing woman is a metaphor of purity. A low relief of the building's east wall pictures the Warsaw Mermaid. In the Warsaw Filters area, recognized in 2012 as a Monument of Polish History, there is a unique in Warsaw plane tree avenue. The Warsaw Filters consist an excellent example of monumental and practical architecture, a place which effectively links history with modernity. This area is accessible for visitors during summertime.

...and MAPEI contribution

Between 2010 and 2011 MAPEI undertook actions to solve the waterproofing issues referring to Warsaw Filters' potable water tanks. The tanks' walls and ceilings are made from bricks, whereas the bottom slab is entirely concrete-based. The waterproofing concerned exactly the bottom. Prior to the necessary procedure, the whole area of the bottom slab has been renovated with a new concrete layer. Such prepared surface had a cementitious mortar IDROSILEX PRONTO applied which serves for underground structures' and potable water tanks waterproofing. The use of this product allows to obtain an entirely waterproof insulation barrier. Because of the specificity of the Filters construction and low external temperatures, the works were performed in very unfavorable conditions (the temperature not far above +5 degrees and relative humidity close to 100%). These conditions, however, did not disturb the correct tasks' accomplishment (IDROSILEX PRONTO can be applied in temperatures between +5 and +35 Celsius degrees and in humid environment). **The total area of waterproofing executed with the support of MAPEI solutions amounts to 5000 m².**

MAPEI PRODUCTS: IDROSILEX PRONTO.





TECHNICAL DATA

- Name of building intervention: Warsaw Water Filters / Warsaw / Poland
- Type: INDUSTRIAL (CENTRAL WATERWORKS INSTITUTION)
- Period of construction: 1883 - 1886
- Designer: William Lindley
- Period of MAPEI intervention: 2010 - 2011
- Intervention by MAPEI: waterproofing
- Customer: Energotechnika Sp. z o.o.
- General contractor: Energotechnika Sp. z o.o.
- Site manager: Dorota Wyszynska
- MAPEI Coordinators: Krzysztof Pogan, Mikołaj Alexandrowicz.

MAPEI PRODUCTS	MATERIAL INSTALLED	SUBSTRATE	QUANTITY OF PRODUCT	SURFACE	INSIDE/ OUTSIDE	NEW/ RENOVATION	PRODUCT LINE
	DO NOT COMPLETE FOR BUILDING PRODUCTS						
IDROSILEX PRONTO			17 775 kg	5 000 M ²	INSIDE	RENOVATION	PRODUCTS FOR WATERPROOFING