



SIKA AT WORK

GRANARIA, ISLAND OF GRANES, GDAŃSK

SIKA TECHNOLOGY: insulation system SikaProof® A,
injection hoses: SikaFuco® VT-1, Sika Fuco® Eco-1,
intumescent materials: SikaSwell®,
injection resin: Sika® Injection-306

BUILDING TRUST



A MODERN URBAN CONCEPT RETAINING THE HISTORICAL ASPECT OF THE CITY

GRANARIA refers to the Latin word for the granary, as well as to the official name of one of the former districts of Gdańsk. It was here that the first granaries appeared more than 600 years ago, with as many as 340 of them at the peak of their greatest splendour. The project aims to preserve the remains of the historical granaries and, at the same time, create a new space with a rich offering for both the city's residents and visitors.

GRANARIA is designed in the spirit of New Urbanism as a comprehensive urban concept, which will include apartments, commercial and service facilities, an underground parking garage and a modern hotel with numerous conference rooms. The project will be completed by a public square and a new pedestrian bridge connecting it with the city centre.

Source: www.granaria.pl

PROJECT REQUIREMENTS

Ensuring the watertightness of the underground structure made by the ceiling method in diaphragm walls required waterproofing of approximately 6000 m² of foundation slab and sealing of all gaps, joints, construction joints and details. The location on the Mołtawa River itself shows a high level of groundwater, water pressure is max. about 8 m.



ENSURING THE WATERTIGHTNESS OF THE UNDERGROUND STRUCTURE NEAR THE RIVER

SIKA SOLUTIONS

The applied Sika solution includes a comprehensive approach to ensuring the tightness of the object. Besides using insulating membrane, it was also necessary to seal all joints, gaps, construction joints and details using complementary materials.

The underground part of the facility was performed by ceiling method. The location of the construction in the city centre and the river itself required the excavation work in the diaphragm walls. The whole building insulation system consists of the following elements:

- waterproofing under the foundation slab, made of **SikaProof® A** membrane,
- sealing of locks in the diaphragm wall with **Sika Fuco® Eco-1** injection hoses and **SikaSwel®-A** intumescent profiles,
- sealing the monolithic wall from the river side, adjacent to the excavation housing from the berliner wall with **SikaProof® A** membrane and sealing with **SikaFuco® VT-1** and **Sika Fuco® Eco-1** injection hoses,
- filling injection hoses in locks and construction joints with injection resin **Sika® Injection-306**,
- sealing of details, i.e. piles, temporary columns, drainage wells,

To ensure permanent watertightness and to prevent water from rising and migrating, the **SikaProof® A** system was used, which is based on a flexible membrane forming a composite insulation layer with freshly laid concrete. The basic element of the **SikaProof® A** insulation system is a three-layer insulating membrane made of polyolefin (FPO) matrix with self-adhesive longitudinal strips arranged in the form of a mesh, forming water-tight sections closed along the layer and a layer of polypropylene non-woven fleece.

The applied membrane **SikaProof® A-08** was cold laid before installation of reinforcement and concreting of the elements. The concrete mix laid directly on the membrane allows the nonwoven fleece to be embedded in fresh concrete. When the concrete mix completely moistens the nonwoven fleece, it gets direct contact with the adhesive, resulting in a durable, mechanical bond between the membrane and the hardening concrete over the entire insulated surface. In case of damage to the membrane, water is retained within one small compartment, which prevents the possibility of water penetration and migration between the membrane and the surface of hardened concrete.





PROJECT PARTICIPANTS

Owner / Investor: Immobil, Multibud, UBM

Designer: Studio Architektoniczne Kwadrat, RKW Architektura+

Main Contractor: Porr S.A.

Sub-contractor: JON Sp. z o.o. S.k.

Sika Poland: Krzysztof Śleszycki

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