

Fire protection for building complex at the Eggbühl site in Zürich-Seebach



The new building complex at 12 - 26 Eggbühlstrasse in Zürich-Seebach offers housing for 135 tenants and ground-floor commercial space for various business operators. EBP completed the planning for the building's comprehensive fire protection measures. After being assigned a Quality-Assurance Rating of 1, the building complex now meets all of the fire-protection requirements established by the Association of Cantonal Fire Insurance Providers (VKF).

Designed by the Pool Architectural Firm, which submitted the winning development proposal in 2015, the combined residential and commercial building complex on Eggbühlstrasse is U-shaped, with its open end situated across from existing commercial buildings. Accessible from the north and south side of the site, the complex's landscaped inner courtyard provides ample space and appropriate features to encourage both adults and children to spend time outdoors.

Fire protection measures for the inner courtyard

Access to the main stairways is gained from Eggbühlstrasse and via the large inner courtyard. This helps to establish a lively meeting place for residents and visitors in the agreeable space defined by the courtyard. The complex's commercial space is accessed directly from the outside.

The buildings in the complex consist of two underground levels and seven above-ground stories. The envelope for the buildings was conceived as a non-flammable 2-layer wall. This made it unnecessary to provide an additional access route for the fire department to the façades of the inner courtyard.

Client

Diethelm Keller Holding AG

Facts

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|--------------------------|--------------------------|
| Period | 2015 - 2021 |
| Project Country | Switzerland |
| Quality-Assurance Rating | 1 |
| Average floor area | 2,470 m ² |
| Air-flow rate (SHEVS) | 77,300 m ³ /h |

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Smoke exhaust system for the underground garage

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An entrance-exit ramp gives access to the underground garage on the first underground level. Offering 3,474 m² of useable space, the garage accommodates 128 vehicles. EBP developed several smoke-exhaust models for the underground garage. In the end, the developers decided in favor of a mechanical smoke and heat ventilation system (SHEVS), with fresh air being supplied via air ducts from three locations on the ground floor and entrance ramp. With an 8-fold air-exchange capacity, the system's ventilator can reach a flow rate of 77,300 m³/h. The overall SHEVS includes a separate smoke-exhaust system that was developed by EBP and approved by the Zürich Building Insurance Company.

Fire protection measures for surrounding buildings

Given that the distance between the proposed complex and a transformer station on the north side of the site fell short of the minimum distance specified by the VKF, EBP joined forces with the station's operator, the Zurich Power Company (ewz), to develop special fire-protection measures for the station. These included retrofit fire-resistance covers and the relocation of ventilation openings.

Safe stairways and rescue routes

Wherever necessary, we made provision for safety lighting and rescue signs, especially in the rescue stairways, horizontal rescue routes and at appropriate locations in the underground garage. Moreover, proper smoke exhaust for the stairways was established via skylights.

The ventilation systems are also outfitted with smoke detectors that automatically stop the flow of air to prevent any smoke from spreading.





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