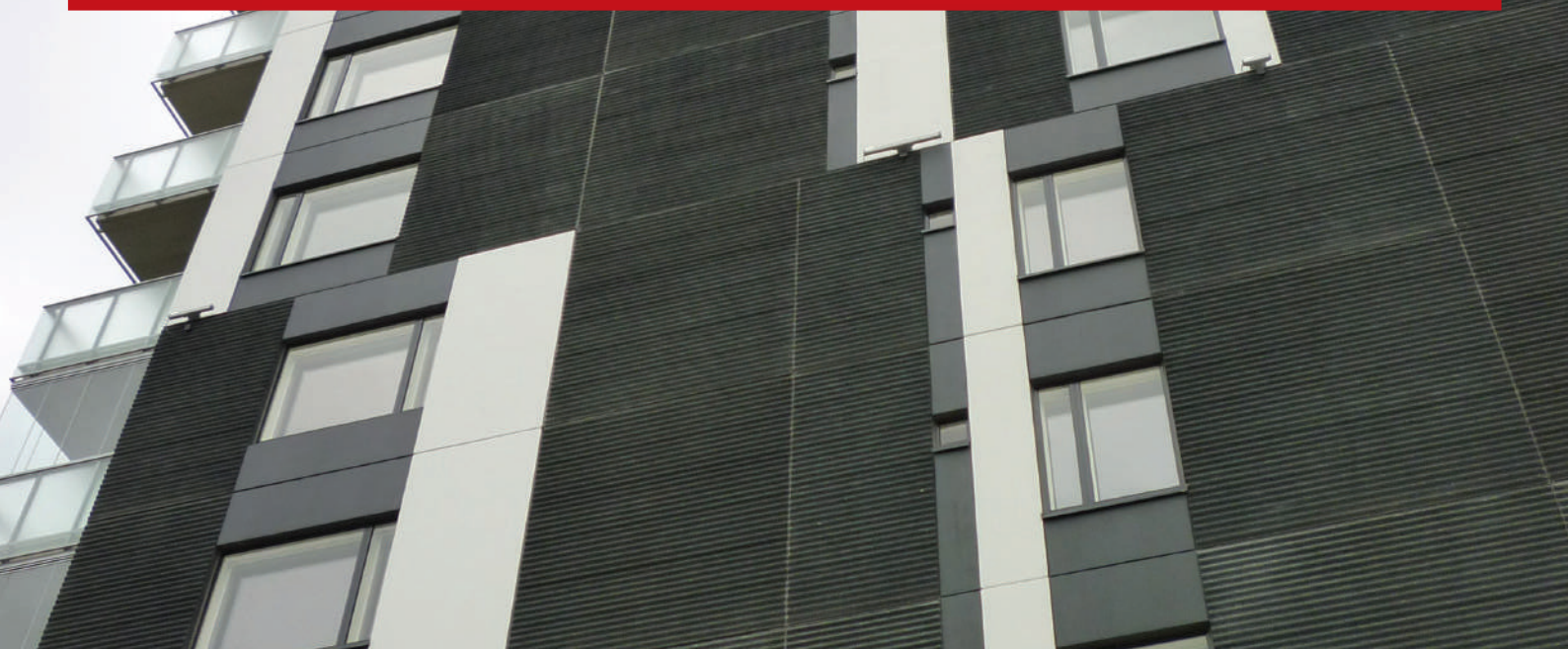


Case story | SEM-SAFE® high-pressure water mist system

Pirkka 6 in Finland

Student housing unit protected with SEM-SAFE® high-pressure water mist system for fire fighting

Danfoss Fire Safety A/S



Pirkka 6 is a 16-storey high-rise building constructed in Tampere, Finland, in 2011. The building was built using cast concrete and steel elements and serves as one of the new landmarks at the entrance of Hervanta Township, the home of Tampere University of Technology, the Police Academy, VTT Laboratories and various academic institutions.

History

The new housing unit was commissioned by TOAS (Tampere Student Housing Foundation) due to the increasing shortage of student housing in the area. The project was managed by the project owner YH Länsi Oy, a company specializing in commissioning senior care facilities and student housing units. The construction work was completed in 2011.

Building description

The housing unit consists of a single sixteen-storey residential tower, each floor having several apartments served by a lift and two staircases. The construction was based on cast concrete and steel elements. The total floor area of the building is approximately 8,000 m².



SEM-SAFE® high-pressure water mist system

The building was fitted with a SEM-SAFE® high-pressure water mist fire fighting system from Danfoss. The installation work commenced in December 2010 and was completed in September 2011. The installation was timed to coincide with the main construction work schedule.

The system consists of the SEM-SAFE® electric pump unit, 3,800 m pipes and 722 nozzle heads.

Approving authority

The system design was approved by Alarm Control Alco Oy Ab, one of the three inspection companies accredited by the Finnish Safety Technology Authority. The design was then inspected by the Pirkanmaa Provincial Fire Department. The final installation was tested and inspected by Alarm Control Alco Oy Ab. The fire test criteria were not needed due to a prior acceptance of the system's components.

**The main contractor and the commissioner of the building explain:**

- Water mist was chosen over conventional sprinklers due to:
 - Minimized water damage upon system activation
 - Aesthetic appearance compared to a sprinkler system
- The investment cost was lower than anticipated, and viewed to be within an acceptable range compared to a conventional sprinkler system.
- The same pump unit also supplies water to the neighboring 6-storey senior care service home, also fitted with a SEM-SAFE® high-pressure water mist system.

*SEM-SAFE® nozzles:*

- Architecturally attractive
- Aesthetic design
- Short installation time
- Efficient cooling

The SEM-SAFE® system for high-rise buildings offers several advantages:

- No need to place a large reservoir
- No need for large water supply reservoir
- No risk of pressure loss.

SEM-SAFE®

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