

Reference report **Mercator One, Duisburg**



Picture: Carola Kohler



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Fire protection solutions in an elegant ambiance

History:

In early 2017, the bidding process to develop the 2,000 square meter area near the main train station in Duisburg was completed. Six applications were submitted to the process. The main focus of the bidding process was to create an architecturally sophisticated, exquisite new structure to serve as a prestigious gateway to the city. The top-class jury selected a draft from renowned architect Hadi Teherani. The investor for the building is Duisburg entrepreneur Torsten Toeller.

Initial situation:

The building designed by Hadi Teherani, which is approx. 100 meters long, 17 meters wide and 26 meters tall, is a highlight for the urban landscape. The charcoal façade is covered on all sides with large glass and aluminium elements. The two-storey garage has room for 135 passenger car

parking spaces. The flexible architecture can be used for different office applications on five upper floors.

Hadi Teherani Architects chose a sustainable material concept for this new office building, with materials such as aluminium, concrete, steel, glass, and ceramics.

Requirements:

The protective objectives of the fire protection concept needed to be harmonised with high visual and design standards, as well as sustainability considerations, within the framework of the sophisticated overall architectural concept. The smoke extraction flaps, inspection opening closures and fire protection closures used in the prestigious corridors and stairwells needed to fulfil these requirements.

Implementation:

The offices and restaurant area are characterized by generously-sized spaces, high-quality materials and a very appealing interior design. An excess pressure smoke extraction system was constructed as part of the fire protection concept, for the purpose of extracting smoke via the outflow shafts. The openings of the outflow shafts were sealed with large-format, fire-resistant smoke dampers. These are specially designed to seal off outflow shafts as part of a smoke protection pressure system. In case of a fire, the controller of the on-site smoke pressure system opens the smoke dampers automatically. The goal of using these is to keep safety stairwells free from smoke. In this building project, the smoke dampers were installed in the lift anteroom, an area which is particularly exposed.



Picture: Jörg Hempel

Flush-mounted inspection opening closures with a fire resistance of over 90 minutes, clad on site

Discreet installation accentuates design: In addition, T30 RS classified PRIORIT fire protection closures with glass cut-outs were used as passage doors to separate fire compartments. Inspection opening closures were installed to make different installation shafts easily accessible for retrofitting and inspection work. The closures, which were installed flush, have a fire resistance rating of over 90 minutes, and integrate discreetly with the existing structure.

The smoke dampers, inspection closures and fire protection closures are part of the "modular fire protection System 42," which makes it possible to combine different pro-

ducts and elements in a uniform design just 42 mm in width with a consistent surface.

Conclusion:

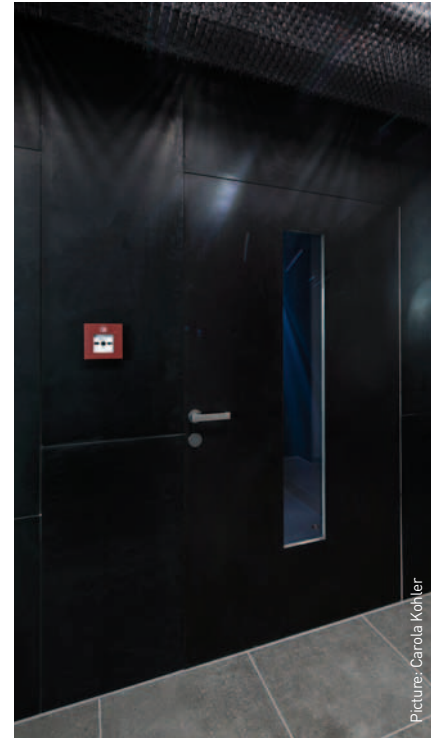
The newly constructed building offered a highly sophisticated exterior and interior design.

The smoke dampers, inspection closures and fire protection closures needed to be integrated both functionally and visually into this appealing and high-quality overall concept.

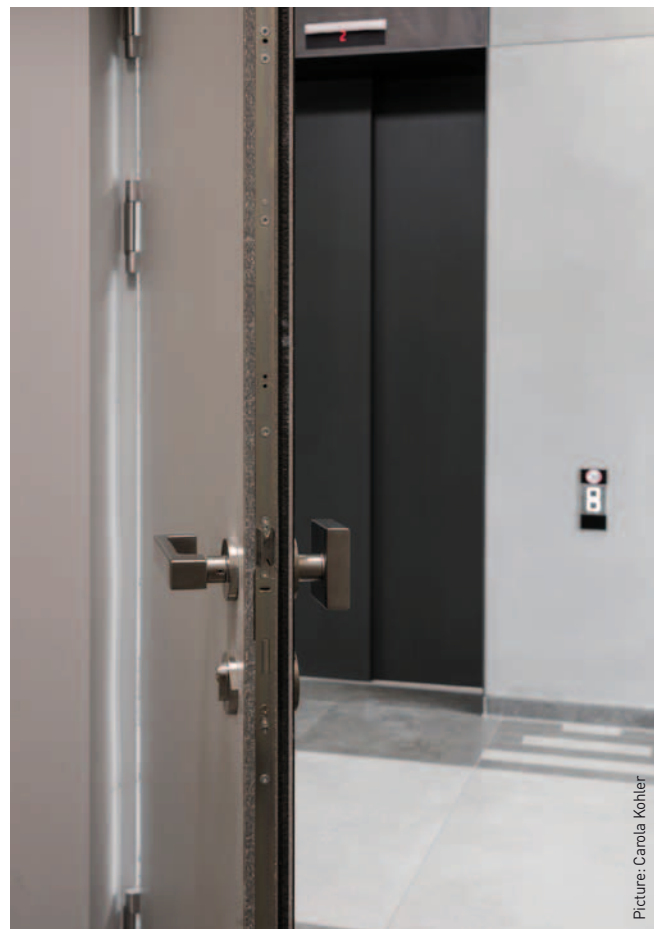
In contrast to the fire protection products often installed in these areas, PRIORIT offers products with an appealing visu-

al design. The smoke dampers impress both functionally, thanks to their large out-flow area, as well as for their high-quality construction. With different surface design options and flush installation of smoke dampers and inspection closures, it is possible to achieve either a discreet or accentuating effect.

In this project, the flaps, doors, and closures were covered on site to harmonise with a hanging cladding in black-coated metal. This created an impressive effect for the overall building.



Smoke extraction damper and fire protection closure installed within a wall and clad with black metal elements on site



Fire protection closure installed in a solid wall, with cladding applied on one side by the customer



Bild: Carola Kohler

Fire protection closure clad in uniform metal finish

Project data

Project location:	Duisburg
Building:	Mercator One, office building
Year of construction:	2020
Solution:	PRIODOOR RTX inspection closures; PRIODOOR RDA smoke extraction dampers; Fire protection closures PRIODOOR FSA
Material:	Non-combustible panel with surface coating, classification A2 – s1, d0
Fire-resistance rating:	30 minutes / 90 minutes
Protective target:	Fire-resistant separation of electrical distribution units; smoke extraction from escape routes, fire compartments
Special features:	PRIORIT elements were provided with a cladding of black-coated metal on site.
Developer:	Devorio Mercator One GmbH & Co. KG
Architect:	Hadi Teherani Architects
Photos:	Carola Kohler (7), Jörg Hempel (1)