

New fire and blast resistant facade for Rubis Terminal

Version 30/3/2021



The expansion of Rubis Terminal with four storage tanks close to the office building necessitated additional security in the Rotterdam Botlek area, the Netherlands. By a curtain wall of steel, the building is now protected against external dangers. The west facade is both fire and blast resistant, and gas tight.



The additional storage tanks -four tanks of 6.300m³ each- are situated 40 meters from the existing office building. Therefore, the French storage and distribution company has taken measures to guarantee the safety of her employees in case of an emergency. "First we investigated whether the building is able to resist explosion. After that we found a solution to lead the forces of the facade to the floorlevel", according to Berend Groeneveld, CCO/ founder of InterDam.

InterDam has been responsible for both design and implementation of the project. The facade of the 20-years old office of 35x15 meters, consists of prefabricated concrete and brick. The facade consists of a steel structure of horizontal beams, vertical hollow sections and a curtain wall. This wall consists of 50mm panels; prefabricated panels of steel with a calcium silicate core. "The panels are tested by TNO to the resistance of fire and explosion. The test showed that the panels can resist fire much longer than the prescribed one hour."

The 42mm glasspanes are specially designed for this project, "the lower line of the glass is 1.4 meters above floorlevel, to minimize the chance of injuries by flying debris while the office remains accessible to daylight". All panels and glasspanes are installed with fire resistant kit and all building elements are isolated with EPDM seals.

The 7.5m facade is able to handle extreme situations due to the taken measures. The facade is computed on 140 millibar overpressure, but any blast overpressure can be considered. The control room is also situated in the building. "It can be put under pressure and will stay in operation at least one hour after calamities." According to Mr. Groeneveld, "the project specific security requirements are perfectly met by our standardized solutions in a project specific combination enabling us to act fast and within budget."

"We take care of all aspects of safety and we used as much as certified products as possible. All the other components are extensively tested.

Several options have been considered, however this appeared to be the most efficient, fast and commercial attractive solution."

Please contact our office for queries about your fire and blast resistant project. InterDam: your one stop shop for fire and blast resistant solutions.

Project: Rubis Terminal
Design & Implementation: InterDam - Orbital
Construction company: InterDam
Project timescale: October 2009 - March 2010
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Work under progress: support structure installed and part of blast resistant panels installed



Detail of support structure



Side view during installation process



InterDam G21 Blast resistant door



The blast resistant facade completed