



PROJECT REPORT PROFILON® ER1

Government building, Oslo (N)

The Security Concept

Between 2007 and end of 2010 company *Mil Sec* installed abt. 15,000 sqm of security film PROFILON® ER1 on behalf of the Norwegian Government. They in-stalled PROFILON® ER1 to the Government Buildings in the centre of Oslo. Installation of this high-efficiency film should reduce explosion effects in case of terrorist attacks. In this district with its high building density and many glass buildings it should also provide protection to persons against life-threatening fragmentation and splintering.

The Attack

In the afternoon of 22nd July, 2011 Oslo's Government district was almost completely destroyed by a heavy explosion of a car bomb. Eight people lost their lives, ten were seriously injured. The explosion took place between the Oil- and Energy Ministry and a 17-storey high-rise, where several ministries and the office of Prime Minister Jens Stoltenberg are placed. The bomb based on 950 kilos ANFO exploded in a VW Crafter. In a 1 kilometer radius the pressure wave destroyed building façades. There were fragments in the streets all around where the attack took place.

The Protective Function

In the bomb attack in the Norwegian Capital the security film PROFILON® E R1 has proved its protective function and reliability. Although there were some window frames completely pressed out of the reveals there was no life-threatening splintering thanks to the security film.

PROFILON® ER1 security film is used worldwide in buildings with a very high risk of terrorist attacks. The bomb blast resistant properties have been tested in the recognized shocktube test.

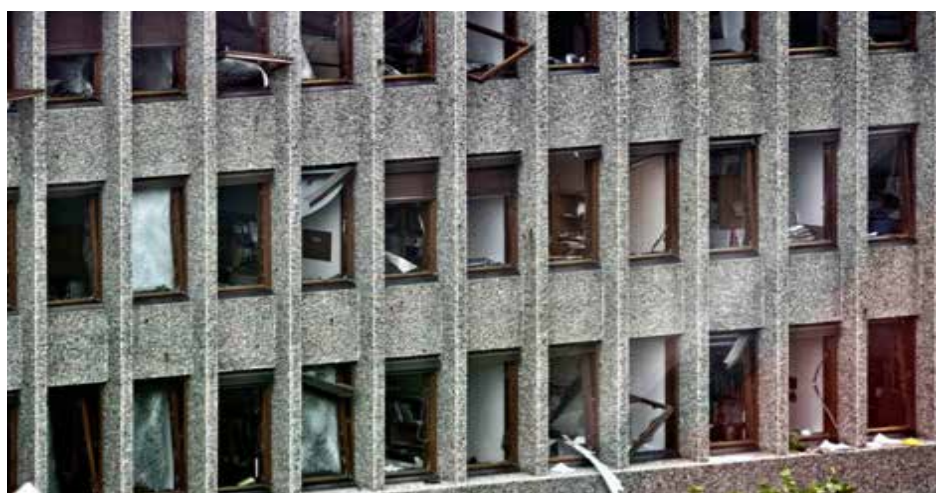
The multiply film laminate with strength of 475µ is installed from the inside to the window pane and is solidly connected to the frame by a special frame fixture. In addition the highly specialized technology of PROFILON® ER1 provides an impact resistance, a protection against fire penetration and it is flame retardant.



Execution of tests for security film PROFILON® ER1



Destructions of glass in Oslo's centre after bomb explosion.



Security film PROFILON® ER1 avoided any life-threatening fragmentation and splintering after the explosion in Oslo.

Contractor:

Norwegian Government

Security Requirements:

Retrofit of simple glass panes and window areas of Government buildings to reduce consequences in case of terrorist attacks (fragmentation and splintering)

Solution:

High-performance security film PROFILON® ER1

Total area:

> 15.000 sqm