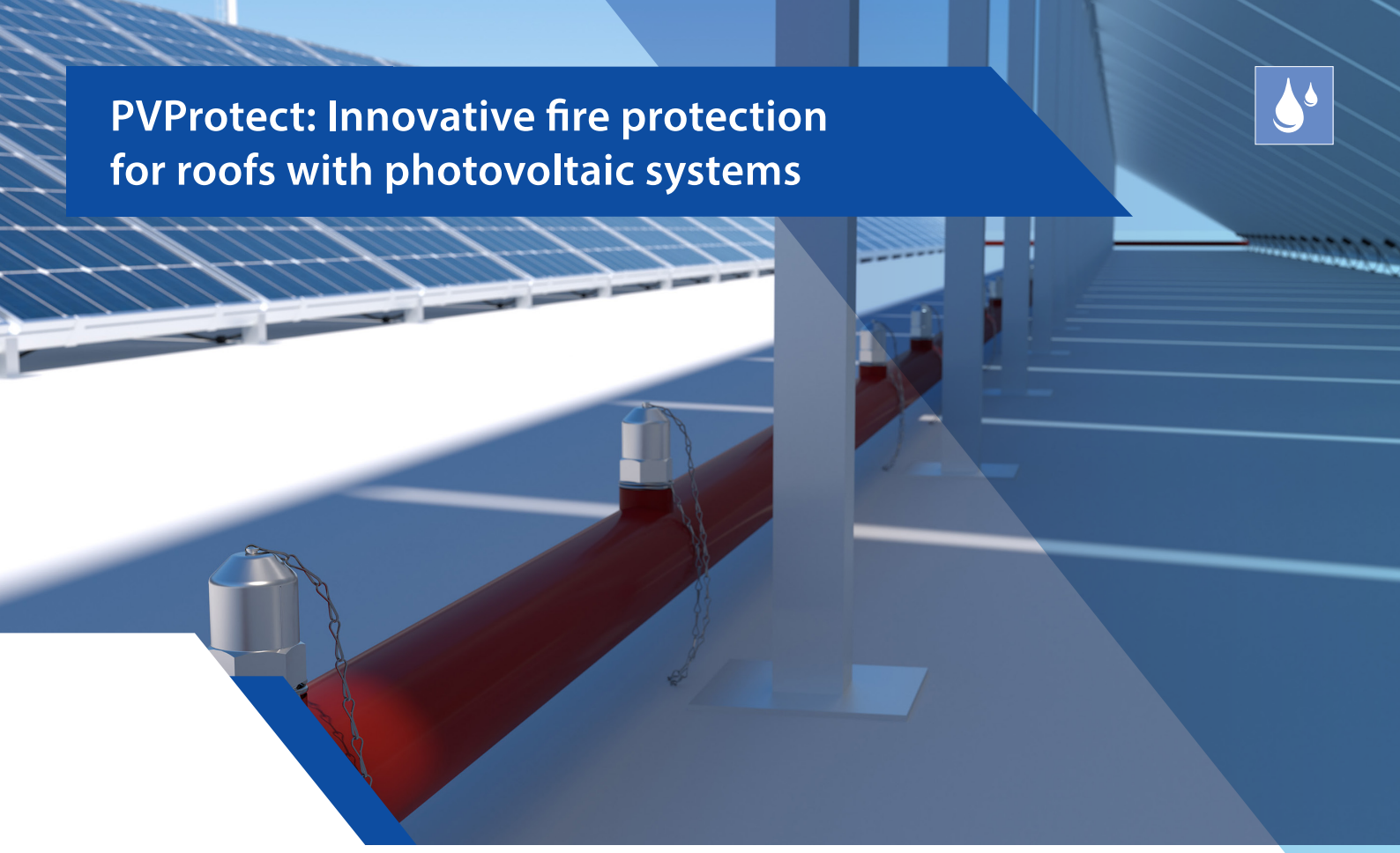
PVProtect: Innovative fire protection for roofs with photovoltaic systems



No more hidden dangers in your roof

Many industrial and commercial buildings are currently having their roofs equipped or retrofitted with photovoltaic systems to harness solar power. If a failure to these systems occurs and the roofing catches fire, it can spread quickly along the entire roof structure. Because the smoke is easily dispersed by wind and the flames are difficult to make out from below, such fires are often detected only at a late stage. The result can be serious damage to the facilities and high costs due to operational downtime, repairs and replacements, if not complete destruction of the building. PVProtect uses a holistic protection concept to shield lives and property:

- Linear heat detectors monitor the area below the photovoltaic modules for unusual temperature increases.
- If a fire is detected, PVProtect locates it and automatically initiates suppression in the affected area of the roof. Water flows into the pipework and is evenly distributed via special PV nozzles.
- The system alerts emergency services and distributes a warning signal to ensure safe evacuation of on-site personnel.

KEY ADVANATGES

- **Effectively protects against extensive fire damage to the roof structure**
- **Helps to minimize serious follow-up costs caused by operational downtime and lost turnover**
- **Particularly suitable for combustible insulation materials**
- **Can be integrated into existing sprinkler systems**
- **Improves the overall insurability of buildings with photovoltaic systems**

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VIKING

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Why protect your roof?

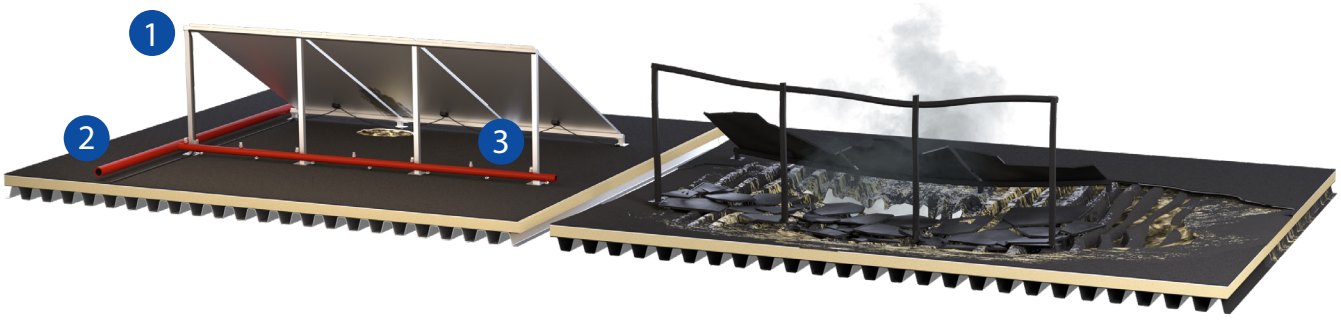
PVProtect was specifically developed to protect roofs with photovoltaic systems, especially those equipped with combustible insulation materials. This makes it the first system approved by VdS Schadenverhütung with automatic fire suppression.

PVProtect was tested for effectiveness in full-scale fire tests, and both the system as a whole as well as individual components have been approved by VdS Schadenverhütung.

Additionally, PVProtect is also recommended by insurance companies, because it is an effective countermeasure against the increased fire risk brought on by the installation of a phtovoltaic system. Cables, connectors and electrical components of a photovoltaic system are potential ignition sources because they are constantly exposed to weather conditions and thus may age, wear out or damage more quickly. The high currents that flow through these components can create electrical arcs which can easily ignite a fire. If not suppressed in time, it can spread throughout the entire roof and cause serious damage.

PVProtect is designed to detect fires early on, suppress them using specially developed PV nozzles, and at the same time alert the emergency services and people on site. The system therefore helps to prevent the flames from spreading further and thus assists to reduce the damage which the fire may cause.

Typical fire damage of a roof with and without PVProtect



1 Heat detection cable

2 Pipework

3 PV nozzle

Fire spread with PVProtect

- Sensors in the heat detector cable identify the incipient fire
- Automatic fire supression is initiated immediately
- PV nozzles distribute water evenly across roof surface
- Fire damage and subsequent downtime are reduced significantly

Fire spread without PVProtect

- The incipient fire remains undetected
- It can spread across the roof and within the insulation, resurfacing in unexpected locations
- This may result in large-scale damage, long downtimes and high costs for repairs and business interruptions

PVProtect makes the difference

- First VdS-approved fire supression solution for roofs with photovoltaic system
- Detects and suppresses incipient fires automatically
- Allows for cost-effective integration into existing fire fighting systems

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