

Peri-D-Fence-L1 Perimeter Security

Background

Increased requirements for perimeter security systems are a challenge to overcome. The company Peri-D-Fence (PDF) designed two patent-protected detection systems against **penetration** and **surmount**. This is combined with high detection security and low rates of undesirable alarm indications under all possible weather conditions during the year.

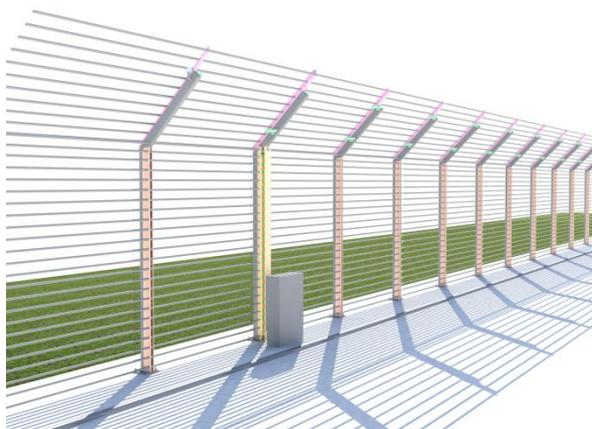
Westinghouse Electric Company is a worldwide exclusive sales partner of Peri-D-Fence for this detection system, which is qualified for nuclear facilities.

Description

In a perimeter security system, which is designed as a fence, both detection systems (penetration and surmount) are combined.

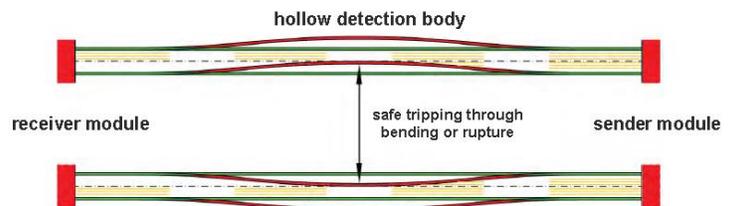
In principle, the application of the hollow detection bodies is possible on walls, ceilings, floors, fences and in front of openings.

The load cells can also be used with weighing plates on ceilings and floors as well as detection of climbing on a building, e.g. by using a ladder.



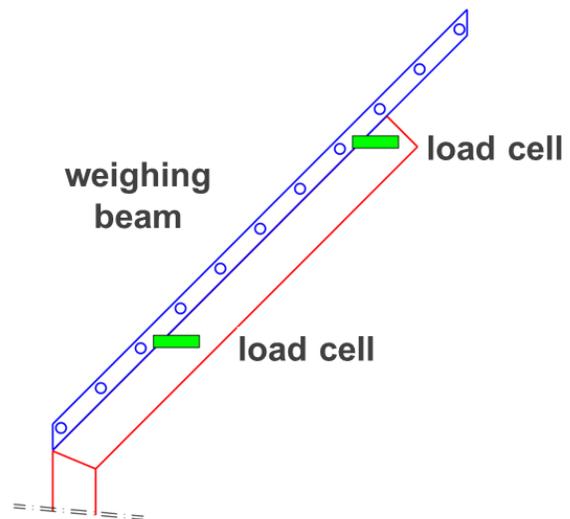
Penetration Detection

The hollow detection bodies are monitored by an electromagnetic wave against bending or rupture.



Surmount Detection

The load cell is detecting the material stretch via strain gauges without changing the weighting beam.



Benefits

The advantages of the system compared to previous perimeter protection systems are:

- Detection and localization of all forms of penetration and surmount
- Detection of manipulation or attempt of deception on the sensors
- Detection of attempt of sabotage
- No functional limitations due to weather conditions and visibility
- No false alarms due to small animals
- No limitations due to form, temperature, color or speed of the attacking objects
- Reduce patrolling
- Upgrading possible in case of increased requirements
- Can be used as drive-through protection for lighter vehicles
- Meets the new requirements of the German plant security guideline, SEWD-RL.

Deliverables

The system consists of a combination of two detection systems against penetration and surmount. The length of the fence system can be chosen as desired with a subdivision into detection sections (each 30m consisting of detection elements with evaluation unit).

The system fulfills the following requirements for system components, periodic inspections and maintenance and interfaces:

System Components

- Design of all components according to environmental conditions
- Use of components with a long lifetime and operational reliability
- Concealed installation of the electrical components
- No recognizable cable routing, labeling or marking

Periodic Inspections and Maintenance:

- Evaluation of individual errors on modules or components in case of collective fault messages
- Automation of periodic inspection by system-specific program sequence
- Use of identical and similar standard components

Interfaces (connection to alarm system):

- Reaction-free interface
- Connection of two alarm messages per detection section ("penetration" - "surmount")
- Sabotage message per detection area
- Fault messages (e.g. in the case of defective components or sensors)

Experience

The Westinghouse Plant Security group, with more than 30 years of experience, provides periodic verification of plant security by utilizing combined safety and security competencies as a one-stop shop to decrease customer efforts and costs.



The benefits as listed are the result of the regulatory qualification process in combination with an extensive testing on a 1:1 scale test-installation for a one year period for the PDF-L1.