

# Fire protection for vertical greening

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Case Study – Fire protection solutions for indoor & outdoor concepts



# Urban greening

## Collaboration between Vertiko and Frenzelit



### Urban greening with Vertiko:

Vertiko is committed to helping improve living conditions in cities. They have specialized in **indoor and outdoor vertical greening** – i.e. areas that go largely unused and are neither aesthetically appealing nor have any other function than being a “wall”, “roof” or “barrier”. This is where Vertiko comes in. All of this space translates into tremendous potential that is just waiting to be utilized to enhance the quality of life for city-dwellers.

<https://www.vertiko.de/>

### Green spaces for enhanced quality of life:

- ✓ Improve the urban climate by absorbing CO<sub>2</sub> and cleaning the air of (fine) dust particles and pollutants
- ✓ Create a habitat for flora and fauna
- ✓ Ensure temperature compensation in building air conditioning → Thermal insulation in winter/cooling in summer
- ✓ Beautify private and urban living spaces in an emotionally and aesthetically pleasing way
- ✓ Improve the water balance with a high water retention capacity
- ✓ Save space and create a visually appealing, living privacy fence

Consequently, stepping up urban greening efforts not only enhances the quality of life for all forms of life, it also helps save energy, which in turn protects the environment and saves money!



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# Challenges for the carrier system

## Vertical greening – indoor and outdoor concepts

### Fire protection requirements for vertical greening carrier systems:

Vertical greening must not increase the fire load in the event of a fire!

### Additional requirements for the carrier system:

- It must be resistant to environmental influences, such as heavy rain, storms, UV radiation, etc.
- Plants must be able to grow uninhibited in the carrier system material → Biocompatibility
- The carrier must be able to store water
- The carrier system itself must be aesthetically pleasing during the growing out phase of plants and completely cover the subsurface → Surface coating

### SOLUTION:

Frenzelit needlemat based on incombustible glass fibers



# Frenzelit fire protection solution

## Vertical greening – indoor and outdoor concepts



### Fire protection features of the carrier system:

- ✓ Incombustible, coated needlemat made of glass fibers

### Additional features our carrier system offers:

- ✓ Mechanical stability:
  - Purposeful combination of different product types, such as nonwoven and woven fabrics
- ✓ The coated carrier system material supports plant growth:
  - Water storage capacity thanks to the capillary effect of the nonwoven
  - Biocompatible and breathable special coating
- ✓ Aesthetics:
  - Dark green colored special coating that prevents the white nonwoven fabric from shining through until plants completely cover the surface



The image shows the result after a fire test.

# How to reach us!

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