

GREENTECSTYLE

Green wall composite





GREENTECSTYLE



Looking for more information
or want to discuss a project with us?
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greentecstyle.eco



GreenTecStyle®

GreenTecStyle® by Sioen is a patent-pending flexible textile composite for creating in- and outdoor ecosystems. GreenTecStyle® allows to introduce living green elements in a vertical environment. It is the all-in-one solution for greening urban spaces and offices. GreenTecStyle® is lightweight and easy to mount and plant with its pre-cut plant pockets. This durable performance product is the first flexible solution for green walls on the market.

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**VBO Business Award for the environment 2018
Bronze award**

The importance of green(ery)

There are plenty of scientific reports that emphasise the importance of greenery in our daily lives. We are convinced that GreenTecStyle® will play an important role in the cities and public buildings of tomorrow. Studies have shown that integrating green in cities, offices and public spaces has numerous advantages.



THE BENEFITS OF GREEN WALLS



The infographic features a dark green background with a detailed line-art illustration of various types of leaves and plants. A white diagonal line runs from the bottom left towards the top right, with eight white rectangular boxes placed along it. Each box contains a benefit of green walls. The boxes are arranged in a descending staircase pattern from top to bottom.

Reducing heat stress

Improving the mental health of people

Biodiversity

Provide insulation and visual barriers

Greater usage of public green spaces

Economic advantages

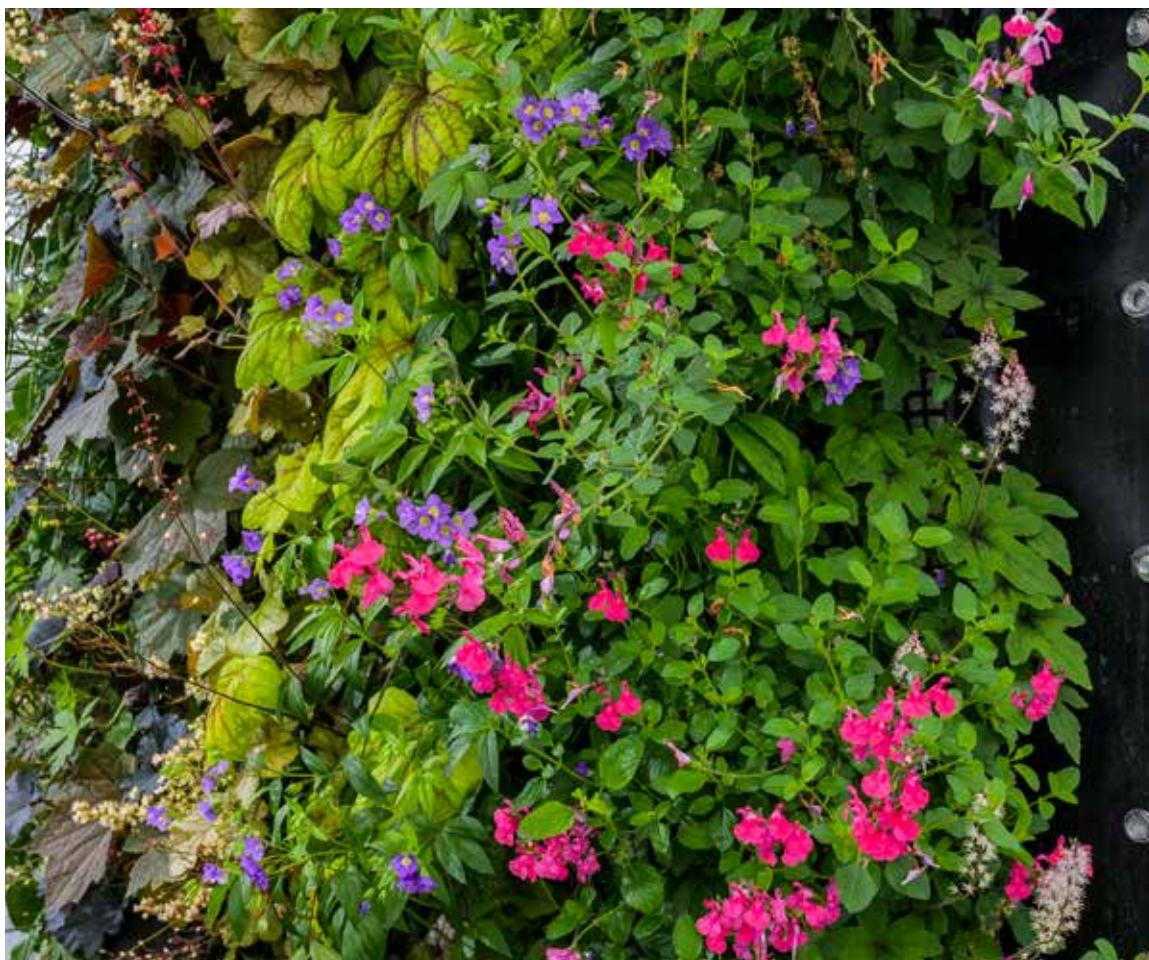
Improving climate and air quality



Reducing heat stress

Planting of vegetation is one of the main strategies to mitigate the urban heat island (UHI) effect. GreenTecStyle® has two modes of action to reduce heat stress, passive and active. First, it acts as a building skin preventing the walls from being hit with sunlight and thus reducing the heat walls will build up. Secondly, the use of irrigation will allow GreenTecStyle® and its plants to evaporate water, which in turn will provide some cooling effect compared to conventional walls.





Improving the mental health of people

Outdoor: GreenTecStyle® can create a peaceful, aesthetically pleasing environment. Green walls increase the quality of life by introducing natural elements, insects and potentially small wildlife into the urban environment. GreenTecStyle® creates a more enjoyable working and living environment due to the introduction of plants which in turn may improve one's sense of wellbeing

Indoor: GreenTecStyle® creates a peaceful and aesthetically appealing environment, improve one's mindfulness, increase the indoor air quality and mitigate noise pollution.

GreenTecStyle® can help create a more enjoyable working and living environment through the concept of biophilia. This concept represents our inclination to be drawn to other living things, which leads to a reduction in stress and improved social interactions.

Studies show that exposure to greenery improves the attention levels and cognitive functioning of children at school. For office workers, a green view from their window and plants inside of the office provide micro-restorative opportunities, resulting in greater effectiveness and satisfaction at work.

Biodiversity

When installed outdoors, GreenTecStyle® walls are beacons of life: flowers attract pollinators such as bees, bumblebees, and butterflies.



Provide insulation and visual barriers

GreenTecStyle® and the plants that thrive on it provide acoustic and thermal insulation, keeping the houses/apartments/offices/buildings cool in summer and holding the heat of the radiators inside in winter. The GreenTecStyle® composite and its plants can disperse and dampen sound waves, making the composite an interesting solution for sound barriers in offices, homes, and along roads.

Green walls (created with the GreenTecStyle®) can serve as a barrier to screen unwanted views or block (in any case considerably reduce) noise from e.g. busy highways.

Greater usage of public green spaces

It is known that green spaces bring people together. By providing a cool micro-climate in urban surroundings, the vertical ecosystem created with GreenTecStyle® encourage greater usage of public green spaces. Communities come together to bond and enjoy recreational activities in green areas. This reduces social isolation and improves social connections in a city. In summer, green spaces are cooler and hence more pleasant compared to conventional (=grey) urban environments. GreenTecStyle® walls have been shown to cool the surrounding environment by up to 5°C.



Economic advantages

The GreenTecStyle® (vertical) eco-systems, may generate savings in energy costs for cooling and heating and increase the values of homes/buildings with well-maintained landscapes and green accents up to 20%.

Improving climate and indoor air quality

All of the above and the fact that plants reduce carbon dioxide from the atmosphere could make GreenTecStyle® part of an effective solution against global warming.





GreenTecStyle[®], a smart solution

GreenTecStyle[®] combines nature and technology in a smart way. An engineered composite made out of fleeces, grids and tarpauline provides a habitat for plants and insects where normally no greenery would survive. The light weight structure ensures an ergonomic solution and allows fast installation.



GREENTECSTYLE

FLEXIBLE TEXTILE ECOSYSTEM

Is a textile composite

Has pre-cut pockets

Has pre-fabricated watering sleeves

With or without keders slide attach into frame

Has standard or modular solutions

Is easy to install

Is ultra-thin and lightweight

Can be freeformed

For indoor or outdoor use

Textile composite

GreenTecStyle® is a textile composite consisting of lightweight, yet strong and durable textiles.

GreenTecStyle® consists of a waterproof flame retardant backing with layers of water-retaining and root-permeating felts. The two mesh layers respectively hold the plant firmly in place and provide a structural reinforcement of the complex.





Pre-cut pockets for plants and sensors

Our ready-to-use pocket system has a size of 15 by 15 cm. The plant density is homogenously distributed over the textile composite. The smart pocket system allows you to rapidly plant ± 45 plants in 1 m² of GreenTecStyle® in 10 minutes or less.

The pockets are (15 cm x 15 cm) compatible with the conventional humidity and temperature sensors. Sensors allow you to monitor the status of the wall and watering system remotely via a dedicated application.



Pre-made watering sleeves

GreenTecStyle® products are foreseen with premade watering sleeves designed to uniformly fertigate the system. The sleeves easily fit one to two 16 mm drip tubes.

The pressure-compensated watering hoses required for fertigation of the plants can be rapidly installed using the foreseen sleeve. Hoses can be removed for inspection and maintenance.





Standardized mounting system

Keders can be added to the contours of the GreenTecStyle® composite for cost-efficient installation and proper weight distribution. The use of keders allows the complex to be easily tensioned using the standardized mounting system. Other types of finishing include rings for bolting the complex or water impermeable side flaps to guide the water along the edges.



Standard delivered width and length

GreenTecStyle® is produced on a standard width of 185 cm, smaller versions can easily be tailored to your specific requirements.

GreenTecStyle® products are available on rolls of 25 meters. One standard roll can thus cover a 45 m² area. With a total weight of one standard roll of approximately 150 kilos, The textile keder-system along the composite slides fluently into the lightweight aluminum keder-profiles while unrolling.





Tailored variations are possible

Our manufacturing experts can pre-cut the complex in any shape with straight or rounded edges. They can add keder joints or insert rings as you please. With more than 100 years of textile tradition and specialised expertise in tensile architecture (for tents, solar shadings, façade elements, ...) we can tailor the GreenTecStyle® entirely to your needs.





Easy and very fast installation

GreenTecStyle® can be rapidly installed using dedicated keder profiles or bolted to a structure via O-rings. For larger walls, the keder system is recommended as it allows the composite to be tensioned for the best result.



Mounting to the wall

GreenTecStyle® can be mounted directly to load-bearing walls, it can be mounted on a load-bearing support structure, or mounted on a free-standing frame. The composite is lightweight and flexible, allowing few workers easy and fast installation in any desired shape or position.

GreenTecStyle® can be used for greening vertical walls and pitched roofs. In both setup styles the pockets can be used and fertigation is required.

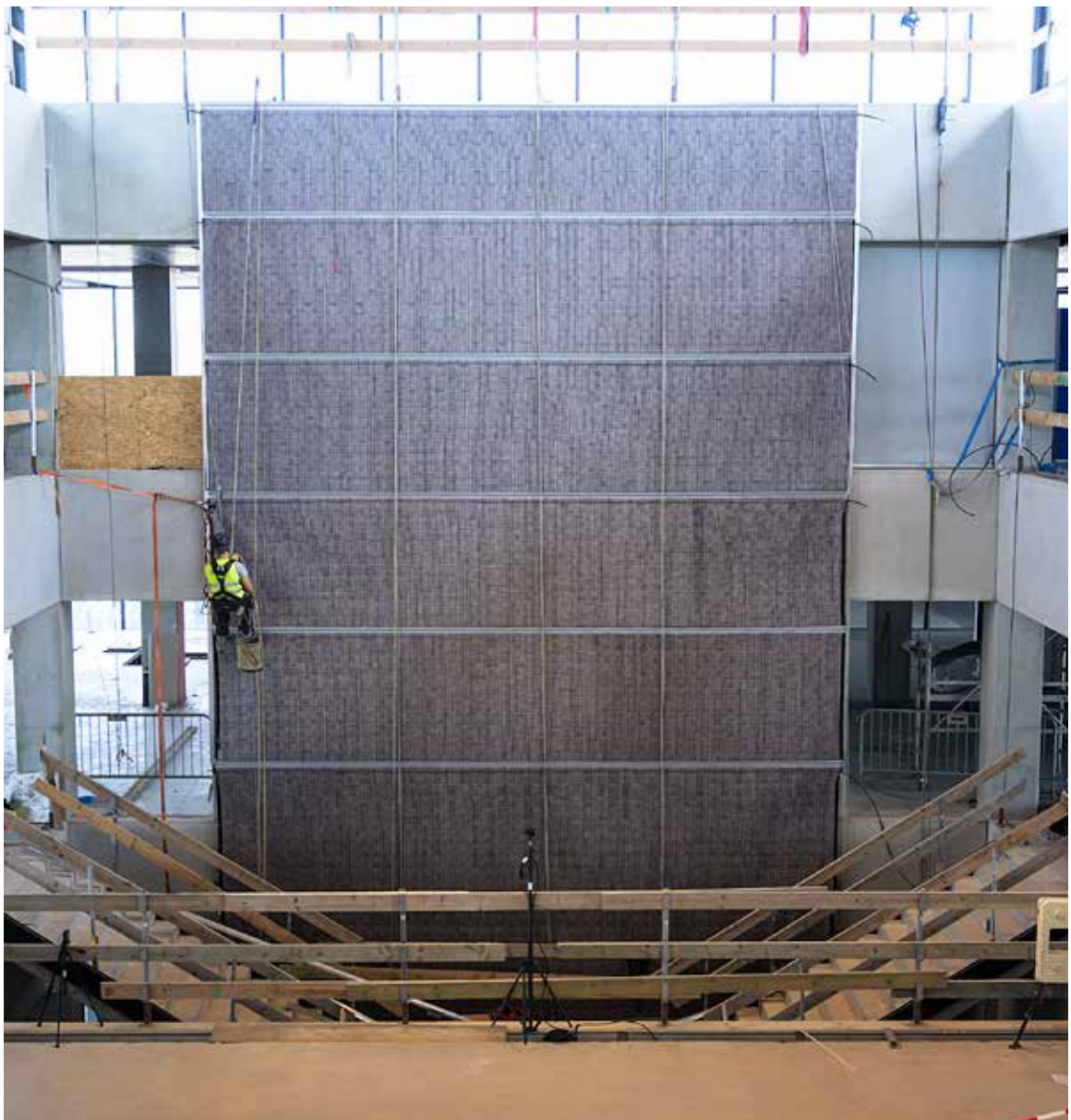
Ultra-thin and Lightweight

With a thickness of about 1.5 cm, Sioen's GreenTecStyle® is thin and flexible, allowing it to be used for curved wall designs and/or room separators.

GreenTecStyle® is ultra-lightweight (3,3 - 3,5 g/m²). Completely saturated with water and including plants, the GreenTecStyle® substrate weighs approximately 12 kg/m².

The total weight of the GreenTecStyle® composite including potting substrate, plants and under typical irrigation regimes weighs approximately 10-30 kg/m².

When the pockets are filled to their maximum capacity of potting substrate and the system is completely saturated with water, the maximum weight can go up to 60 kg/m² illustrating its water holding capacity in different configurations.





Freeform

A composite that can follow the shape of a building, a rooftop, a city green space even if this is curved or unconventionally shaped.

Flame retardant and waterproof

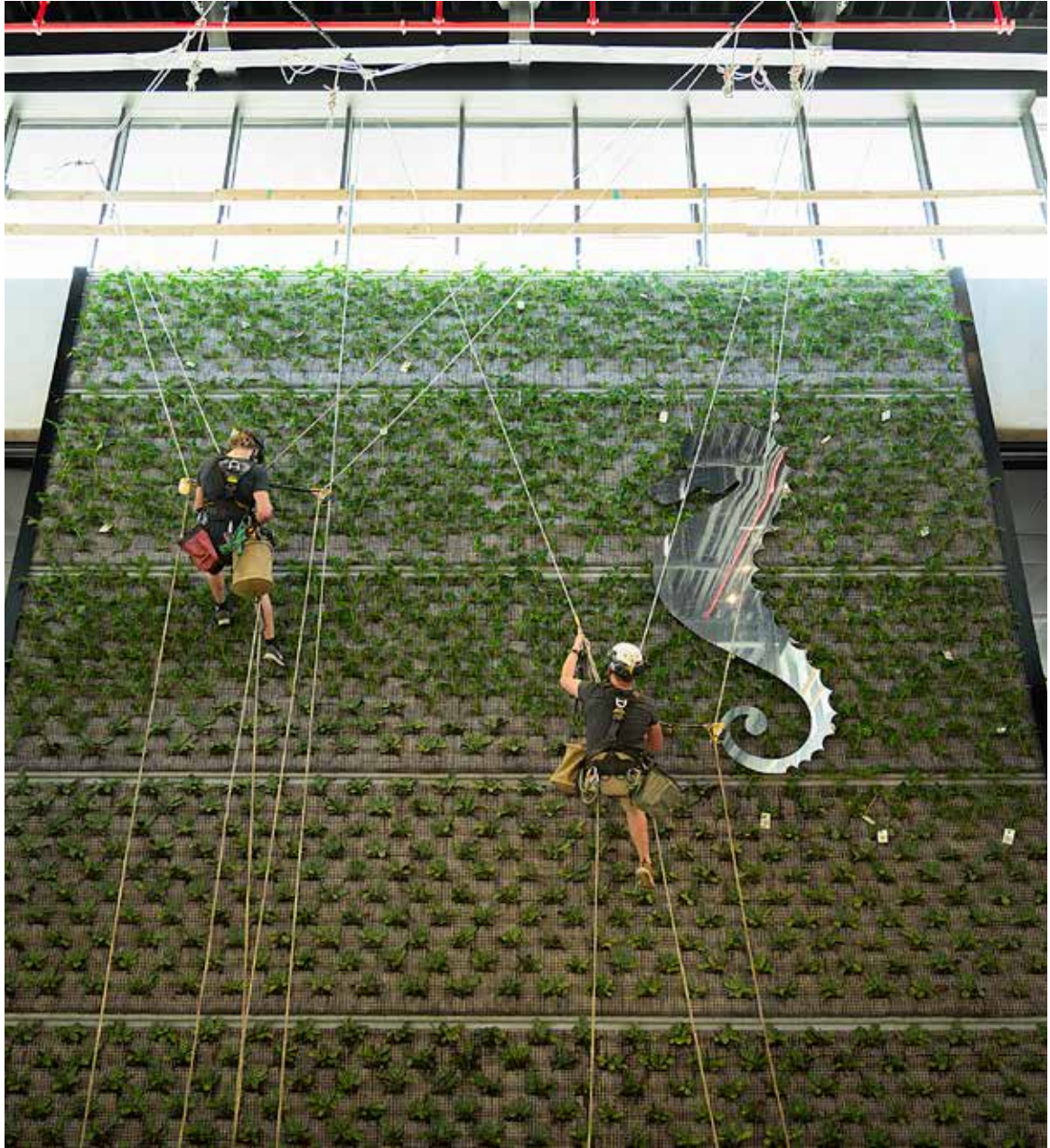
The waterproof backing of the GreenTecStyle® complex allows installation without compromising the wall/ area behind it.



For outdoor use

Use GreenTecStyle® outdoor as façade cover, visual screen, sound barrier and/or aesthetic element in urban surroundings and along motorways.





For indoor use

GreenTecStyle® used indoor generates green spaces and oases of tranquillity. In (semi-)public spaces such as airports, stations, offices, hotels and hospitals amongst others, the GreenTecStyle® can be incorporated in benches and resting areas or as vertical ecosystem attached to or in front of a wall.





GreenTecStyle[®], reference projects

At Sioen, we develop revolutionary textile solutions for many markets. The key to success is thorough testing. From 2015 onwards, we have been testing both indoor and outdoor with great results.



SOME OF OUR REFERENCES

TechTextil tradeshow 2017

Tradeshow 2019

Van Marcke HQ

Sioen HQ

ISEN Yncréa Lille

Coatex NV

PCS

TechTextil tradeshow 2017

Where

- ~ Messe Frankfurt
- ~ Germany
- ~ Indoor

What

- ~ 16 m² GreenTecStyle®
- ~ Standalone with attachment keder
- ~ 598 plants
- ~ 9 varieties

Installation specifics

- ~ Installed May 2017
- ~ 0.5 day installation
(all in: frame, GreenTecStyle®, irrigation system, plants)
- ~ Standalone on steel frame and wooden platform
- ~ Manual irrigation

Partners

- ~ Substrate by:
GreenTecStyle® by Sioen
- ~ Frame profiles by:
Sioen Industries NV
- ~ Watering system by:
Sioen Industries NV
- ~ Plants by:
Denis Plants BVBA
- ~ Installation by:
Aktual BVBA
- ~ Engineering by:
Coatex, part of Sioen
- ~ Maintenance by:
Sioen Industries NV





Tradeshow 2019

Where

- ~ Messe Frankfurt
- ~ Germany
- ~ Indoor

What

- ~ 3,5 m² GreenTecStyle®
- ~ In frame with keder
- ~ 280+ plants
- ~ 20+ varieties

Installation specifics

- ~ Installed January 2019
- ~ 0.5 day installation
- ~ Aluminium frame, stand alone on a waterproof wooden platform, serves as a mobile bench
- ~ Automated irrigation with filtration & recirculation

Partners

- ~ Substrate by:
GreenTecStyle® by Sioen
- ~ Frame profiles by:
Vermako NV
- ~ Watering system by:
Mastop BV
- ~ Plants by:
Denis Plants BVBA
- ~ Installation by:
Aktual BVBA
- ~ Engineering by:
Vermako NV
- ~ Maintenance by:
Sioen Industries NV





Van Marcke HQ

Where

- ~ Van Marcke HQ
- ~ Aalbeke, Belgium
- ~ Indoor

What

- ~ 105 m² GreenTecStyle®
- ~ standardized GTS mounting system
- ~ 2000 plants
- ~ 3 types =
Schefflera (upper),
Ctenanthe (middle),
Spathiphyllum (bottom)

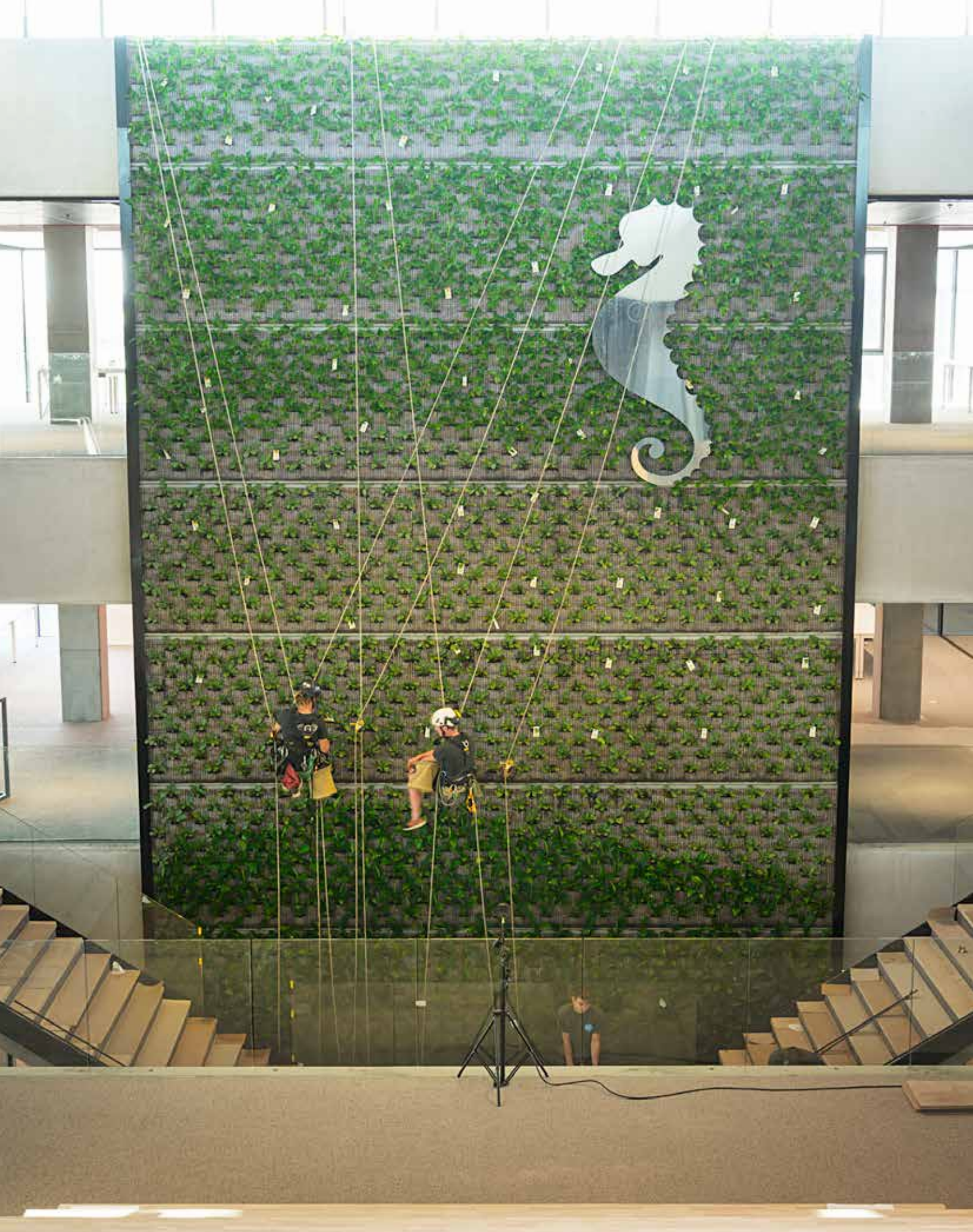
Installation specifics

- ~ Installed June 2019
- ~ 5 day installation
- ~ Standard mounting GreenTecStyle® composite
- ~ Directly mounted to a solid concrete wall
- ~ With climbers (due to limited space availability)

Partners

- ~ Substrate by:
GreenTecStyle® by Sioen
- ~ Frame profiles by:
Vermako NV
- ~ Watering system by:
Mastop BV
- ~ Plants by:
Denis Plants BVBA
- ~ Installation by:
Abtec BVBA
- ~ Engineering by:
Vermako NV
- ~ Maintenance by:
Van Vlierden
Daktuinen BVBA





Sioen HQ

Where

- ~ Sioen HQ
- ~ Ardooie, Belgium
- ~ Outdoor

What

- ~ 80 m² GreenTecStyle®
- ~ With attachement keders
- ~ 3000 plants
- ~ 29 plant varieties

Installation specifics

- ~ Installed April 2016
- ~ 4 day installation (all in: frame, GreenTecStyle®, irrigation system, plants)
- ~ In front of the wall, using a support system
- ~ Installed using an aerial work platform

Partners

- ~ Substrate by:
GreenTecStyle® by Sioen
- ~ Frame profiles by:
Tapes & Banners BVBA
- ~ Watering system by:
Vanhoutte Industrial BVBA
- ~ Plants by:
Denis Plants BVBA
- ~ Installation by:
Tapes & Banners BVBA
- ~ Engineering by:
Sioen
- ~ Maintenance by:
Vanhoutte Industrial BVBA
& **Tuinen Broeckart BVBA**





ISEN Yncréa Lille

Where

- ~ ISEN Yncréa Lille
- ~ Outdoor
- ~ France

What

- ~ 9 m² GreenTecStyle®
- ~ In frame without keder (on waterproof wooden panel)
- ~ 250 plants
- ~ 5 plant varieties

Installation specifics

- ~ Installed August 2018
- ~ 0.5 day installation
- ~ Directly attached to brick wall
- ~ Watering system by rainwater only

Partners

- ~ Substrate by:
GreenTecStyle® by Sioen
- ~ Frame profiles by:
Vert-Tica
- ~ Plants by:
Vert-Tical
- ~ Installation by:
Vert-Tical
- ~ Engineering by:
Vert-Tical
- ~ Maintenance by:
Yncréa Lille



At installation



After one year

Coatex NV

Where

- ~ Coatex NV
- ~ Poperinge, Belgium
- ~ Outdoor

What

- ~ 6,5 m² GreenTecStyle®
- ~ In frame with Coatex keder

Installation specifics

- ~ Installed June 2019
- ~ 0.5 day installation
- ~ Directly attached to concrete industrial panel

Partners

- ~ Substrate by:
GreenTecStyle® by Sioen
- ~ Frame profiles by:
Vermako NV
- ~ Watering system by:
Mastop BV
- ~ Plants by:
Denis Plants BVBA
- ~ Installation by:
Vermako NV
- ~ Engineering by:
Vermako NV & Coatex NV
- ~ Maintenance by:
Coatex NV





PCS

Where

- ~ Ornamental Plant Research Centre, PCS
- ~ Destelbergen, Belgium
- ~ Outdoor

What

- ~ 5 m² GreenTecStyle®
- ~ In frame with keder
- ~ 400 plants
- ~ 20+ varieties

Installation specifics

- ~ Installed March 2019
- ~ 0.5 day installation
- ~ In frame, attached to concrete wal

Partners

- ~ Substrate by:
GreenTecStyle® by Sioen
- ~ Frame profiles by:
Vermako NV
- ~ Watering system by:
PCS
- ~ Plants by:
Denis Plants BVBA
- ~ Installation by:
PCS
- ~ Engineering by:
Sioen
- ~ Maintenance by:
PCS





SIOEN

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