

BGreen-it

Vertical

New generation
of living green
facades

Project: Porten, 2023

Product: BGreen-it Vertical

Architect/Contractor: Henning Larsen/Pihl & Søn

Installation: OKNygaard/BG Byggros

bq byggros

Joined Forces

When innovative experts join forces, merging professionalism and expertise, boundaries are pushed, transforming the building industry's mindset, perspective, and construction practices. Together, we lead the path towards living green buildings that define the future of architecture.





KOMPROMENT

Komproment specialises in facade solutions, displaying their expertise in creating aesthetic architecture made for disassembly.

Their meticulous approach and advanced techniques result in aesthetically pleasing cladding solutions with a focus on minimizing the environmental impact.

Komproment sets new standards in facade design, blending functionality with natural materials.

byggros

BG Byggros specialises in growth-based solutions for urban environments. With extensive expertise and knowledge gained over 25 years, BG Byggros is at the forefront of creating more sustainable and resilient green roofs and walls.

Their team revolutionises plant integration in construction, harnessing the natural benefits of vegetation to improve air quality and general well-being. Through extensive research, they excel in selecting and maintaining plant species suitable for diverse climates, ensuring thriving greenery that enhances the urban environment.

Through collaboration between leading companies with a diverse team of professionals including engineers, building constructors, architects, landscape architects, gardeners, and growers, we prioritize safety and quality in our work.

Our interdisciplinary team ensures high standards and comprehensive technical documentation, matching other ventilated facade systems, prioritizing safety and quality in areas such as fire, wind, building statics, and frost.



“Our extensive support team creates a safe experience by ensuring that you always have guidance and expertise close at hand”

Kamilla Aggerlund Landscape Architect,
DGNB consultant at BG Byggros, Senior Specialist, Vertical

Consulting process for BGreen-it Vertical

Total system solution - all included



Preliminary design

Design consultancy incl. technical options for the solution.

Detailed design

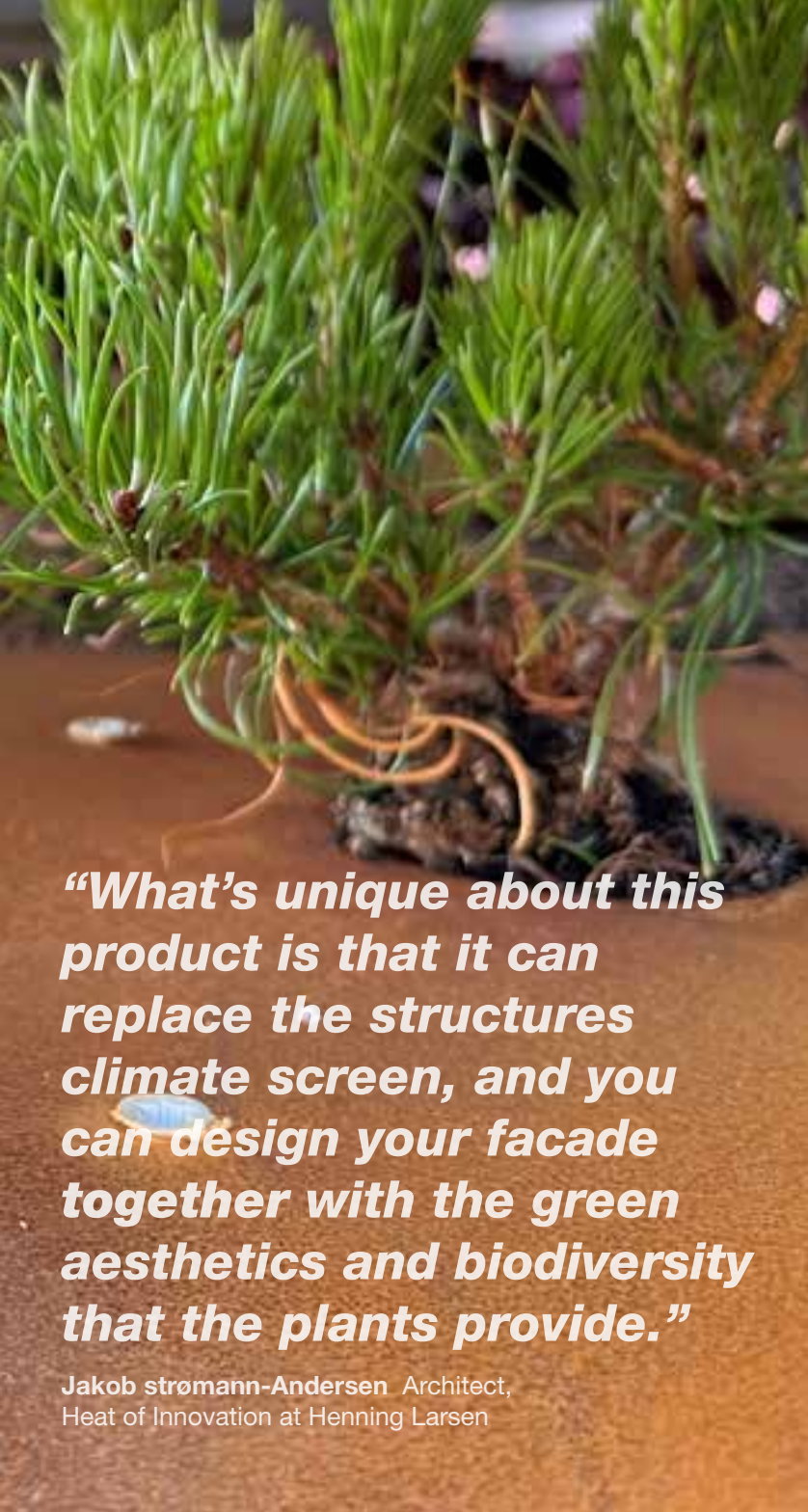
Detailed advice on a project-specific level. Planning of the BGreen-it Vertical solution incl. design options, plant concepts, front materials, technical installations, statics, irrigation techniques and supporting drawing material. BGreen-it Vertical consultant visit.

Production and installation

Production and assembly of project-specific elements in Denmark. Pre-growth of growth elements. Delivered and installed on the construction site incl. irrigation, technical cabinet, monitoring sensors and rainwater collection if desired. BGreen-it Vertical consultant visit.

Monitoring and maintenance

BG Byggros Backoffice monitors the condition of the green facade, irrigation and fertilizer levels and ensures action if needed. Professional maintenance is carried out by trained BGreen-it Vertical specialists.



“What’s unique about this product is that it can replace the structures climate screen, and you can design your facade together with the green aesthetics and biodiversity that the plants provide.”

Jakob strømann-Andersen Architect,
Heat of Innovation at Henning Larsen

The living green facade is an impressive scenery with a wealth of expression, as the plants follow nature’s cycle throughout the year. The front material therefore appears more or less visible throughout the seasons.





Concept

BGreen-it Vertical is a system solution consisting of a precast growth element, a front material, a plant composition and a suspension system.

Front material, plant composition and suspension system can be put together freely from our programme, and provide unimaginable possibilities for a unique, vibrant design and expression.

The growth element consists of a precast, specially constructed growth element made of natural materials, which has a high absorption capacity and capillary force, which ensures a fully uniform distribution of water for the benefit of the plants that grow in it.

The growth elements are assembled, so that they form one large continuous surface, in which the roots of the plants can spread out and find water and nourishment.

The front material can be chosen so that the facade material is continuous on the entire building, both with and without planting.

The plant compositions consist of carefully selected plant species that thrive in the system and in the urban environment. Compositions follow plant concepts with different themes and aesthetics.

- A symbiosis between
architecture and nature



Living facade of the future

A city for people and wildlife

The living facade system creates a whole new nature-based space for the benefit of increasing biodiversity in urban environments. It helps to lessen sounds, clean the air and absorb CO₂, while at the same time adding a green and vibrant dimension to the streetscape that contributes to greater well-being for the city's residents.

Water as a natural resource

The facade system supports the possibility of reusing rainwater for irrigation, which is a more sustainable way to save water resources and protect the environment.

Plante concepts

The plant concepts are designed and tested in the facade system by landscape architects and gardeners, with the overall focus of finding robust and healthy plant species for aesthetically pleasing and seasonally varying plantings.

With the help of a senior consultant for Vertical, the plant compositions are adapted to the project's individual lighting conditions within the following plant concepts:



Summer Bloom

Flowery and lush. A plant composition that radiates summer and sun in the warm months and really catches the eye. Predominantly perennials and a few grasses. Summer and winter will contrast with each other, as the plant composition will retreat into winter mode, exposing the selected front material.



Biodiversity Insect

Flora and fauna go hand in hand in this plant composition. Flowering and berry-bearing plant species that collectively provide a long flowering period, which ensures food for insects and berries for birds. Shrubs create natural nesting opportunities for songbirds. Biodiversity can be further supported with biodiversity-promoting elements such as nesting boxes, insect hotels, bat boxes etc.



Evergreen

High proportion of evergreen perennials, grasses, and shrubs. A facade with this concept will appear green and living all year round and will have a uniformly lush appearance throughout the year. Simple flowering and fruiting. Evergreen shrubs provide shelter and an opportunity for songbirds to nest. The plant composition will only expose front materials to a lesser extent in winter.



Grassland

Light and airy plant composition with grasses and perennials. The characteristic light grasses with swaying ears wave in the wind and create a natural and lively expression. Single flowers in the summer months, and ears of corn as winter stands.



Low maintenance

Simple and well-functioning with compact and robust perennials, shrubs, and grasses. Predominance of slow-growing evergreen species. Medium flowering in the summer months. The plant composition will only expose front materials to a lesser extent in winter.



Forest Edge

Extra green and lush, containing vibrant and visible leaf structures. The plant composition focuses on structure-forming leaf shapes, which draw the eye and create a calm expression. Ferns, large-leaved perennials, and small shrubs create the characteristic look.

Implement living green in your construction facade, or wrap the entire building in a living green structural facade

Front-material

Komproment's ventilated facade program offers a wide selection of front materials making it possible to integrate the green element into the rest of the building, regardless of whether you want to create contrast or harmony.

The extensive palette of materials is completely unique in combination with the plants. In the winter months, the beautiful slate or clay tiles will stand out more clearly, when the perennials that adorn the facade retire for the winter, to be covered again by new shoots that grow out in the spring.

The result is an integrated green facade that becomes a natural and harmonious part of the overall aesthetic design of the building.

Clay tile



White



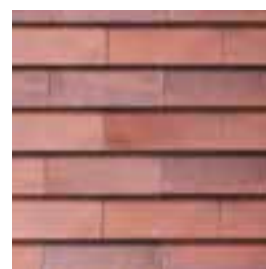
Black



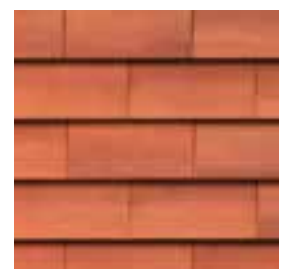
Grey



Blue



Nordic red



Dark red

The front material creates the architectural identity for the living green facade.



Natural slate



Dark grey



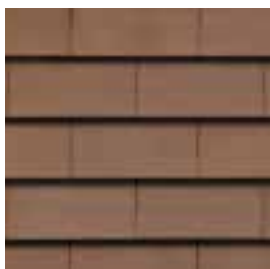
Silver white



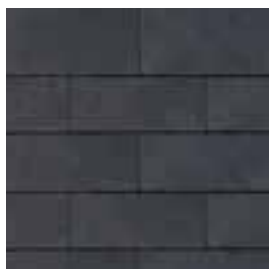
Clouded Bay



Barcelona Plain



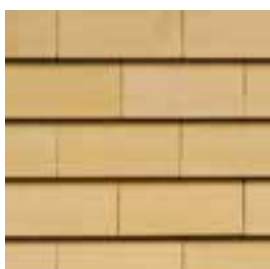
Brown



Diamond black



Autumn



Yellow

Specialised back-office team *- from design to fully functional facade*



Irrigation technique

All BGreen-it Vertical facades are delivered with custom made irrigation and technical cabinets, which are installed by our specialists along with the facade. They facilitate the right moisture and nutrient levels for the plants during the season and they keep our back-office team informed.

With our irrigation system, you can choose to reuse rainwater for irrigation, which is a sustainable way to save resources and protect the environment.

Operation and maintenance

BGreen-it Vertical comes with a detailed service agreement for operation and maintenance, in which the wall is closely monitored in relation to moisture and plant growth via built-in sensors. The sensors report to our back-office team, that monitors the health and condition of the wall.

The service agreement is specifically focused on securing the condition of the wall throughout the year. It takes all possible scenarios relating to moisture levels and freezing temperatures into consideration. This provides the builder and subsequently the owner of the wall, with a complete security in knowing that the wall is fully monitored, with no personal care and maintenance responsibilities.



***"We create lush, green,
sustainable and climate
robust building facades that
store CO₂ and support
biodiversity.***

***That is multifunctionality at
its best."***

Kamilla Aggerlund Landscape Architect,
DGNB consultant at BG Byggros, Senior Specialist, Vertical



BG Byggros A/S
Østbirkvej 2
DK-5240 Odense NØ
Tel.: +45 59 48 90 00
info@byggros.com
www.byggros.com