

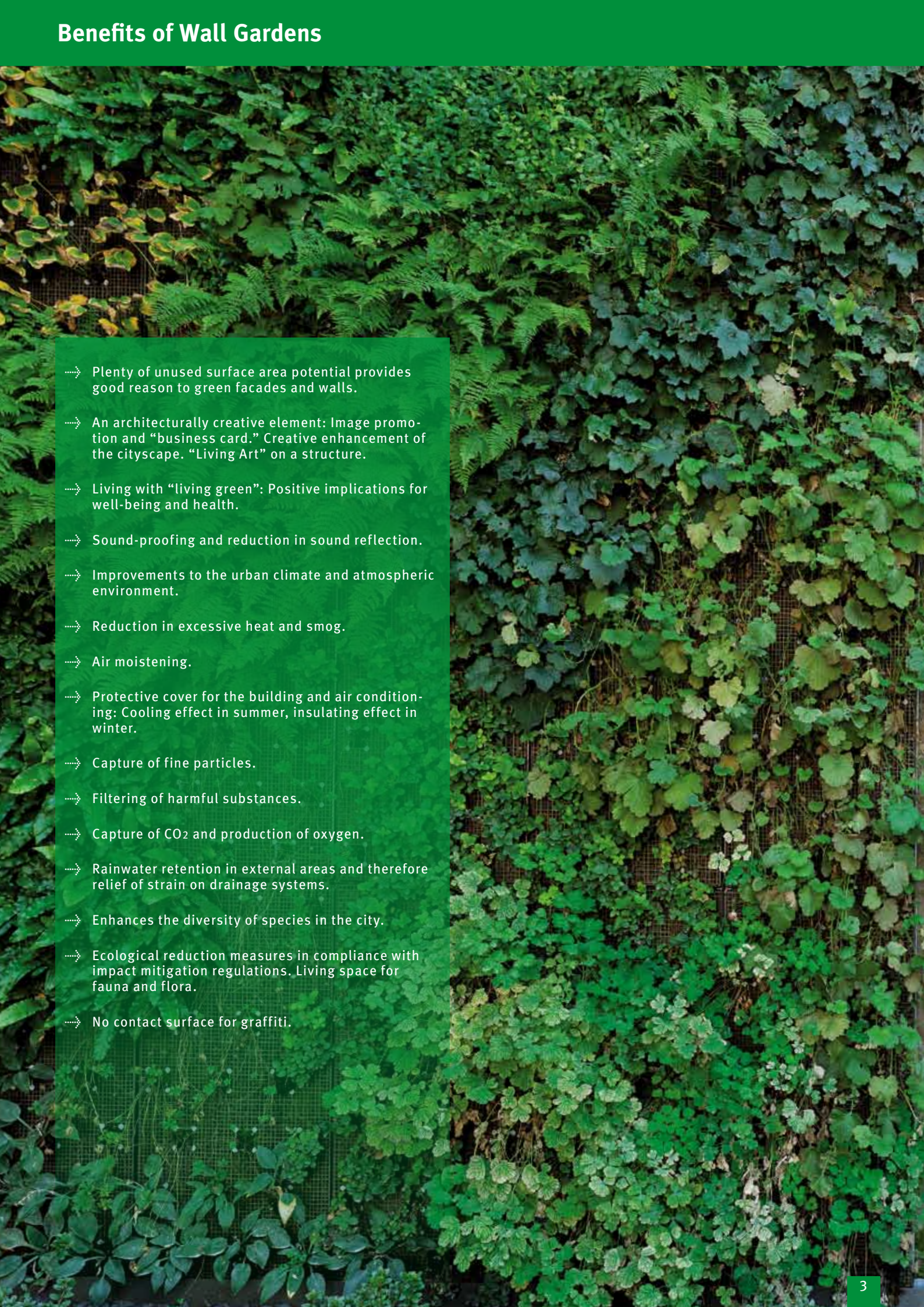
Wall Garden

simple – beautiful – elegant



The new patent-pending Optigreen “Wall Garden” system solution enables facades and walls on and in buildings to “green” simply and sustainably, creating a particular eye-catcher with many alternative designs.

Benefits of Wall Gardens

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- Plenty of unused surface area potential provides good reason to green facades and walls.
 - An architecturally creative element: Image promotion and “business card.” Creative enhancement of the cityscape. “Living Art” on a structure.
 - Living with “living green”: Positive implications for well-being and health.
 - Sound-proofing and reduction in sound reflection.
 - Improvements to the urban climate and atmospheric environment.
 - Reduction in excessive heat and smog.
 - Air moistening.
 - Protective cover for the building and air conditioning: Cooling effect in summer, insulating effect in winter.
 - Capture of fine particles.
 - Filtering of harmful substances.
 - Capture of CO₂ and production of oxygen.
 - Rainwater retention in external areas and therefore relief of strain on drainage systems.
 - Enhances the diversity of species in the city.
 - Ecological reduction measures in compliance with impact mitigation regulations. Living space for fauna and flora.
 - No contact surface for graffiti.

Optigreen System Solution “Wall Garden”

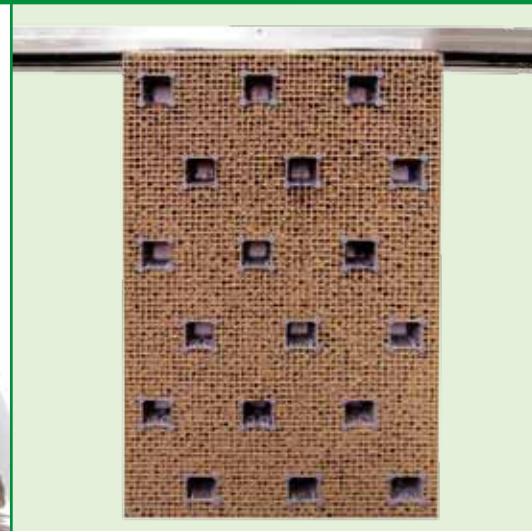


The “Wall Garden” system solution is a facade-mounted greening system on a substrate basis without ground connection. The core unit of the Optigreen “Wall Garden” system solution is a high-grade, substrate-filled aluminium cassette system (Optigreen Facade Element) that can be delivered filled and, upon request, ready-planted. The horizontal suspension rails must be bolted onto the substructure before the prepared facade element can be attached to them.

The following characteristics distinguish the Optigreen “Wall Garden”:

- High flexibility in top surface colour and fill of the aluminium facade element: in natural aluminium as standard, lava-brown or in all RAL colours. As an example the fill can be pumice stone (white), lava (brown), tuff (beige-brown) or brick chippings (red). All of these amount to a wide range of different design options.
- Visually attractive appearance even without greening (as at the start or in the dormant period). The facade element is encased in an aluminium frame to create an attractive “Wall Garden” appearance.
- In addition to the standard size of facade elements there are also custom-made designs to accommodate specific structural circumstances.
- Appreciation in value of property.
- Extremely weather-proof against UV radiation, frost and wind influences.
- Non-flammable.
- The substructure to hold the facade element is to be mounted by the facade fitter.
- Simple fitting of facade element and quick assembly.
- A substrate culture with many advantages: improved frost-resistance of plants, increased water retention and moisture buffering.
- Planted facade elements in precultures are possible, but not absolutely essential, therefore higher flexibility.
- Larger diversity of species of proven plants. These can be planted before delivery (on request in accordance with a planting plan).
- The facade elements, the plants and the drip irrigation in the facade can be removed and replaced independently of each other.
- The irrigation system can be replaced from the side if fitted in empty conduits.
- Suitable for internal and external greening.
- Also suitable as a partition element, screen and garden border.





Technical data for Optigreen "Wall Garden" system solution

Material	Aluminium
Colour	Natural, lava-brown, resp. RAL
Height*	1000 mm
Width*	600 mm
Depth*	60 mm (plus 3 cm suspension rail)
Weight*	50 kg (0.5 KN)/Cassette**
	83 kg (0.83 KN)/m ² **

* Measurements and weight of standard element.
Other building-related dimensions possible.

** Saturated

Fixing system

Attachment to horizontal aluminium mounting rails pre-fitted by the building owner to structurally suitable facades and walls

Special suction and capillary fleece

For water storage and distribution

Filling

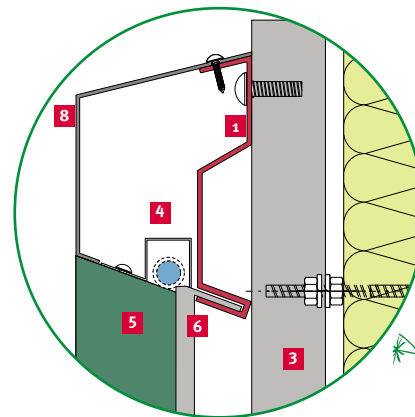
Special substrate for Wall Garden with 20 litres/m² water storage. The top layer colour can be varied with the use of different coloured granular materials. Ready-made planting space for root-penetrable plant containers.

Plants

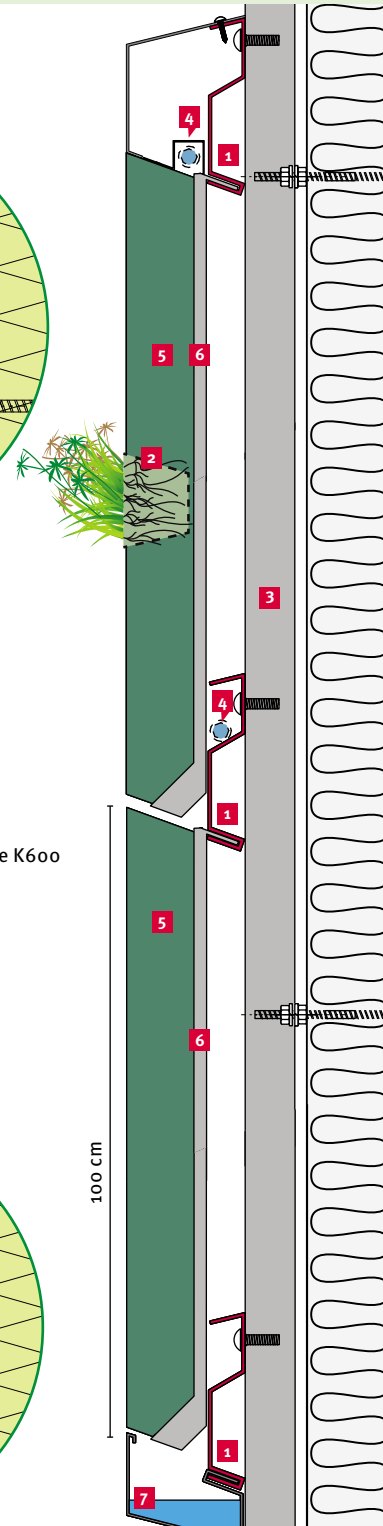
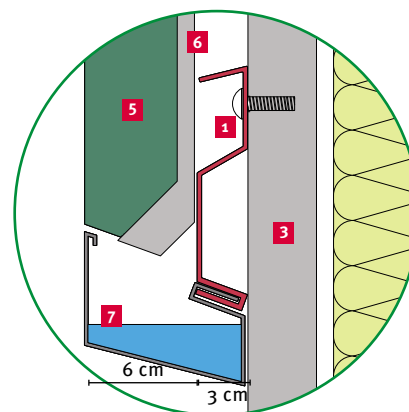
Suitable types from the Optigreen product range for external greening with and without planting plan.

Irrigation system and nutrient supply

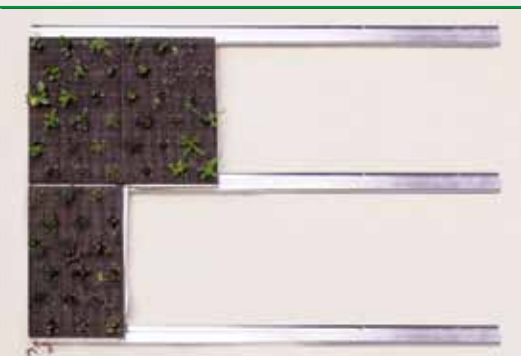
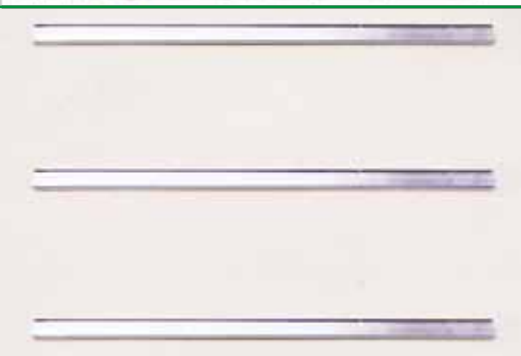
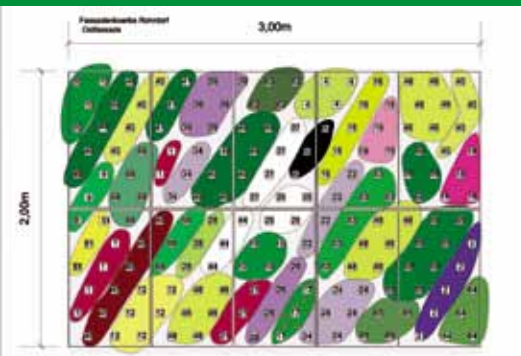
Commercial irrigation system with building-related design is required. Electronic remote control of irrigation equipment optional.



- 1 Suspension rail
- 2 Plant pot
- 3 Bearing rail
- 4 Drip irrigation
- 5 Facade cage
- 6 Suction and capillary fleece K600
- 7 Drainage channel
- 8 Aluminium frame



Assembly, Planning Criteria and Maintenance



Structural requirements and fixing system

The basic prerequisite for a permanently secure installation of the Optigreen “Wall Garden” system solution is a structurally suitable facade or wall construction (with and without insulation) capable of bearing an additional load of 80 kg/m². The Optigreen suspension rails will be mounted and aligned using fixings approved for construction purposes. The Optigreen suspension rails can, when structurally feasible, be mounted directly onto the wall. If this is not possible because of, for example, the height of the Wall Garden and the associated structural requirements, then bearing rails should be provided. The Optigreen suspension rails will be affixed to the bearing rails.

Optigreen provides ready-to-use (i.e. substrate-filled) Wall Garden elements with plant containers. The elements can be delivered with or without plants depending on requirements. The Optigreen “Wall Garden” system solution is quickly and easily installed once the design and structural prerequisites are met and the horizontal suspension rails have been mounted.

You can design your Wall Garden within the scope of a plant selection suitable for your location with spring and summer bloomers or evergreen plants to create your ideal “green look”.

Building services (power and water supplies) with a sufficient capacity in the form of an automatic irrigation system should be provided for the Wall Garden. Refer also to the “Notes for Maintenance.”

Maintenance of the Wall Garden can be carried out by trained Optigreen partner companies.

Naturally, facade gardens undergo a constant change of appearance through the changes in seasons.

Details for Maintenance (building services and monitoring)

Because there is no ground connection, facade-based greening systems require a needs-oriented permanent water and nutrient supply source. Optigreen offers an irrigation system with an integrated nutrient supply source that is suitable for the “Wall Garden” system solution. Computer-assisted circulation systems have a proven track record for keeping fresh water consumption down to a minimum. They use humidistats to measure the degree of humidity of the substrate, allowing the supply of water via drip hoses when required and shutting it off when it is not needed. Excess water will be collected in the Optigreen Facade elements drainage channel, discharged efficiently and unnoticed into a collection tank and reused. Rainwater from roof surfaces can also be used for irrigation purposes given appropriate advance planning and suitable structural circumstances.



Maintenance measures stretch beyond the supply of water and nutrients to pruning and the replacement of individual plants when required. The degree of maintenance depends on the types of plants, the seasons and associated plant growth.

Multiple Solutions for small and large Facades



After installation



After 2 months



After 6 months

The Optigreen international AG Enterprise

Headquartered in Krauchenwies, Germany, Optigreen is one of the market leaders in the branch of building greening and has for many decades been active in the German and, in the meantime, worldwide market as a franchise company. Trained specialists (Optigreen partner specialists) guarantee a professional and cost-effective installation of Optigreen system and product solutions. Optigreen has its roots in roof greening, which is still a focal point of the company. Once steep roofs with pitches of more than 45° had been greened successfully and effectively and the demands of constructors and designers for specific Wall Garden methods became ever louder, Optigreen decided to develop its own facade-based greening system.

“Wall Garden” system solution – our service, our features

Optigreen offers not only a well thought-out system solution for facade-based greening but also many service features to support designers and contracting companies. These include, among other things, consulting services, the preparation of layout and planting plans as well as training for contractors. A detailed layout plan as well as planting recommendations will be offered free of charge when an order is placed.

Areas of application

The Optigreen “Wall Garden” system solution is intended for designing external facades as well as interior building walls. Extensive experience is available from applications in Central Europe. The standard construction should not exceed a maximum installed height of 15m and should give particular consideration to wind conditions. There are no restrictions for internal greening; we recommend retaining the services of a specialist for internal greening, as lighting and ambient air conditions require particular attention to detail.

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I would like further information:

- Personal advice
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technical brochure

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Post Code, City

Telephone

Email

Date / Signature