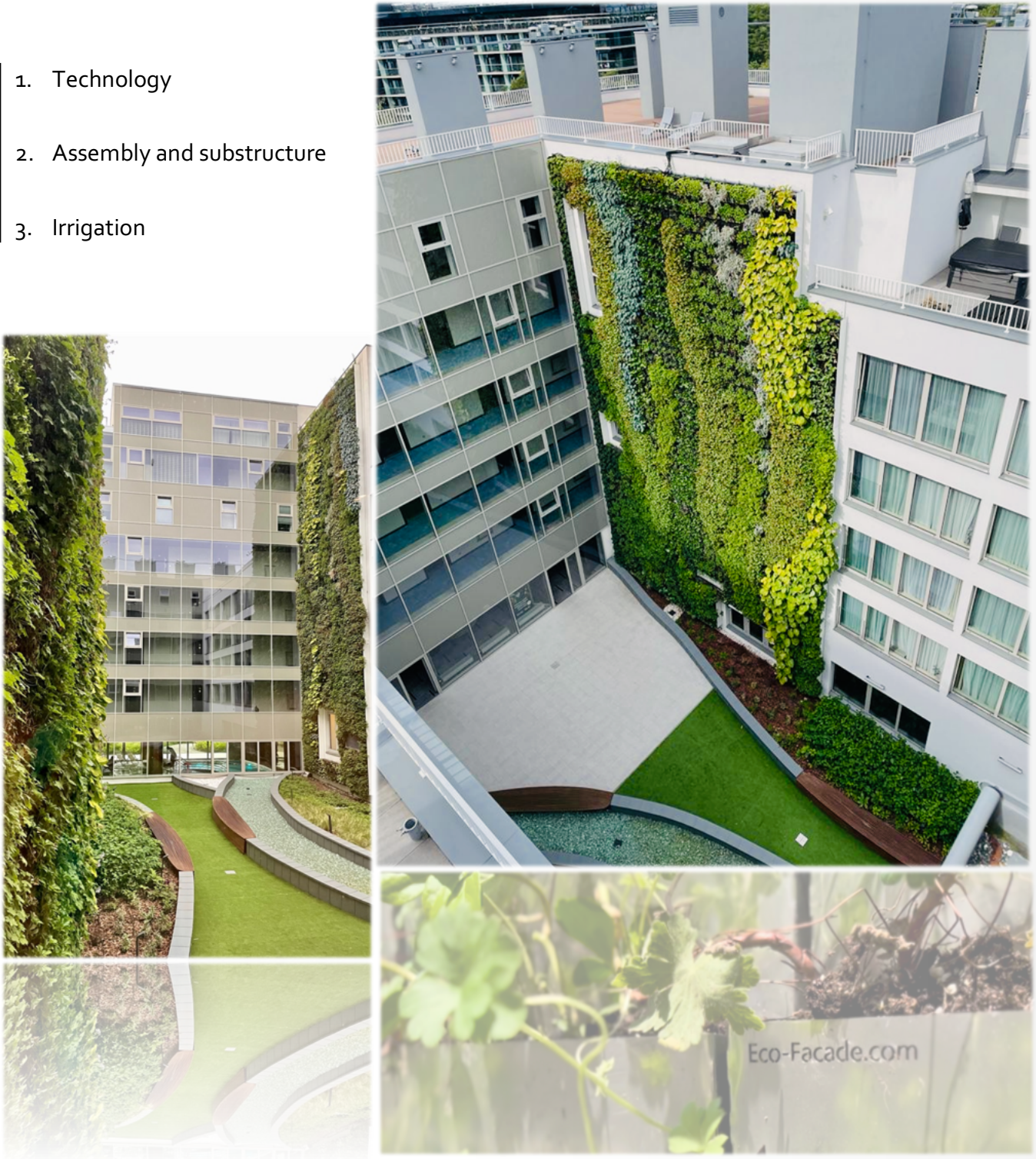
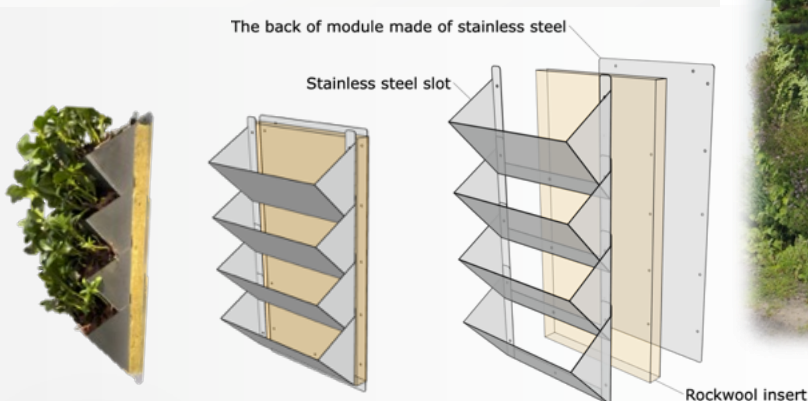


1. Technology
2. Assembly and substructure
3. Irrigation



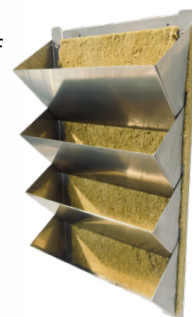
1. Technology

Eco-Facade is an innovative solution in the field of sustainable construction that enables the creation of living green facades. The system is based on modules made of stainless steel and rock wool, which ensures not only durability and efficiency but also fire safety. The Eco-Facade system meets European fire safety standards (EN 13501-1) and has been tested to achieve a non-flammable (NRO) classification under PN-B-02867:2013-06. The module represents a thoughtful combination of durability, efficiency, and aesthetics. It is designed with consideration for the needs of both the environment and its users. Below, we present the detailed features of our product.



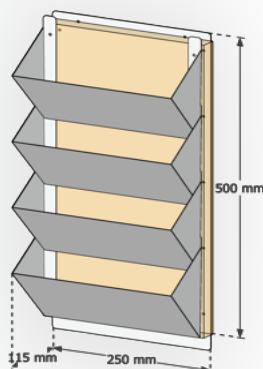
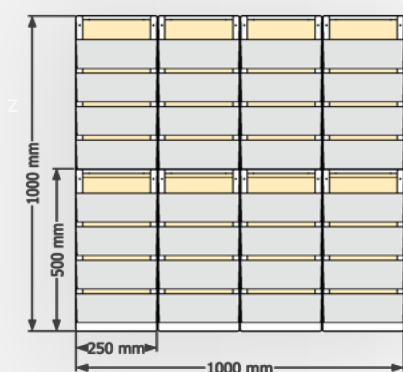
Austenitic Steel: The use of this type of stainless steel ensures exceptional corrosion resistance, which is crucial for the durability of the system. Austenitic steel is valued for its strength and durability, making it an ideal choice for outdoor use.

Rock Wool: As a growing medium, rock wool offers excellent properties for healthy plant development. It allows roots to grow optimally and ensures efficient air circulation, which is essential for maintaining the vitality of green walls.



Dimensions and Configuration:

A single module measures 25 cm in width x 50 cm in height, allowing for flexible design of walls in various sizes and shapes. The system accommodates 64 plants per square meter, ensuring a dense and aesthetically pleasing appearance of the green wall. The fully loaded modular system weighs 60 kg/m².



2. Installation and Substructure:

The construction and installation of the modular system is a process that combines innovative technologies with installation simplicity, ensuring durability and functionality of every component. For the installation of the façade vertical garden system, we utilize existing ventilated façade construction technologies (Fig.1).

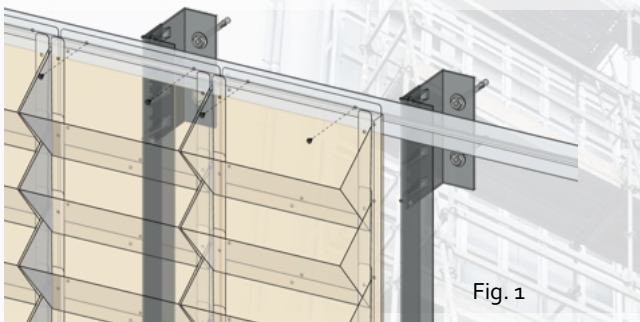


Fig. 1

The structure consists of load-bearing brackets, wind brackets, vertical profiles, and horizontal profiles. For attaching the brackets, we use chemical anchors or mechanical anchors depending on the type of substrate (Fig.2). The load-bearing bracket is designed to carry most of the load and is mounted at the very top, followed by the wind brackets mounted below. Vertical "L"-type profiles are attached to the brackets using self-drilling screws. Horizontal "Z"-type profiles are then mounted to the vertical profiles. The modular system is hung on the "Z"-type profiles and secured using self-drilling screws.

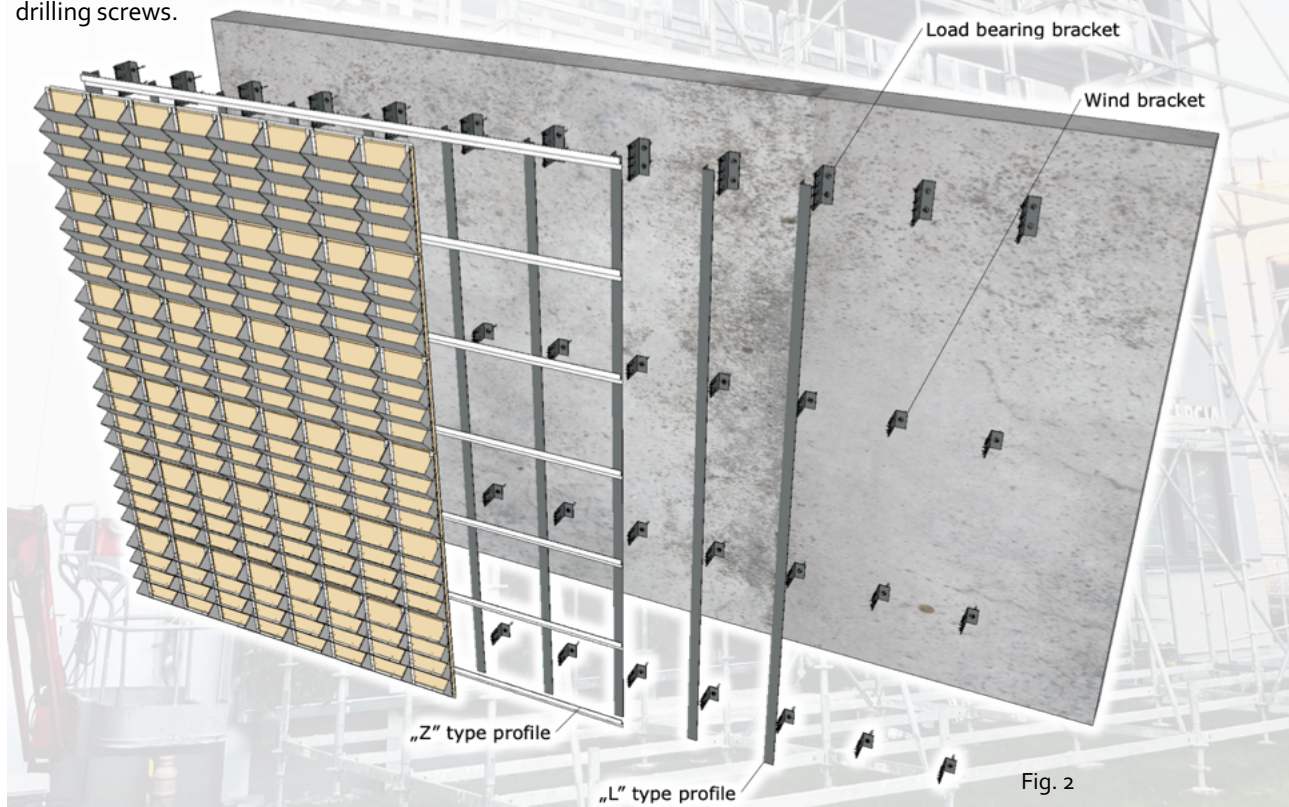


Fig. 2

3. Irrigation:

The system is irrigated using a drip line. Each level of modules has its own drip line (Fig.3). There are 16 drippers per square meter. The average watering time is about 5 minutes, which provides approximately 2.2 liters of water per cycle per square meter of the wall. Around 15% of the excess water flows back into the system.

Water flowing through the wool causes it to become saturated. The roots of the plants sense the moisture in the substrate and grow in search of it. This process is called hydrotropism (Fig.4, Fig.5).

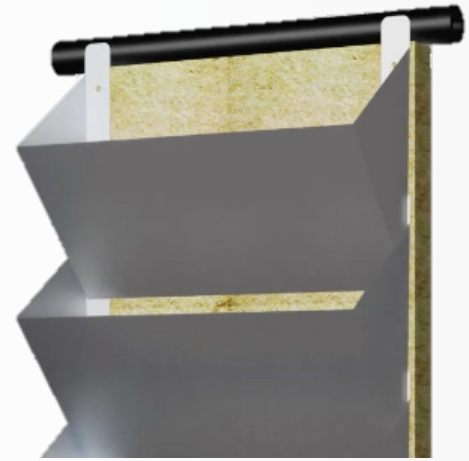


Fig. 3



Fig. 4



Fig. 5

Using rock wool has several benefits for plants, such as:

- Excellent water retention, ensuring plants have access to moisture for longer periods. At the same time, excess water drains easily, preventing overwatering and root rot.
- The structure of rock wool allows for free airflow around the roots, ensuring they are well-oxygenated, which promotes their development and health.
- Rock wool is chemically neutral, meaning it does not affect the pH of the substrate or release substances that could harm plants. This makes it easy to control plant nutrition through an irrigation system with added fertilizers.
- Rock wool is an inorganic material free of pathogens or pests, minimizing the risk of plant diseases and infestations. It is also resistant to mold and fungi, fostering a healthy growth environment.
- Rock wool also acts as an insulator, protecting plant roots from sudden temperature changes, which is especially important for outdoor green walls.
- The absence of module edges and the use of rock wool allow roots to spread sideways across the entire surface of the green wall.