

Green Acoustic Facade

A multidisciplinary team consisting of landscape architects, agronomists, HVAC engineers, architects, interior designers, and a ceramic artist conceptualized and defined the living conditions required for vertical gardens. This new generation of green frameworks serves as a vertical infrastructure that supports rich vegetation growth. Similar to a pumice stone, it features a surface suitable for direct seeding on or within it, allowing plants to take root and firmly establish themselves. Rather than just a vertical garden, it represents a broader process of urban greening.

The development encompasses a system of panels crafted from a porous yet durable material that functions as an open matrix. It is filled with a mineral substrate where seeding and germination take place. The porosity allows seeds to germinate, while the open structure enables air and water to circulate freely, prompting roots to seek moisture and nutrients within the mineral medium. Furthermore, the material's structural integrity protects the building's facade and is engineered to provide sufficient support for climbing and clinging plants, while preventing the establishment of woody vegetation—such as trees and shrubs—whose roots could jeopardize the building's structural safety.



Porous Materials

The panels can be easily stacked or installed side-by-side. They are available in various structural forms—such as concrete blocks, bricks, or interconnected panel systems—and can be engineered with dual porous sides.

The porous material, which also serves as the growing substrate, features a customizable width tailored to client specifications. The water resources are fully self-sustained, and plant species are selectively curated to thrive according to the substrate's capacity, local climate, orientation, vertical angle, and water availability. Conducted within our specialized fields of expertise, this research demonstrates the immense green potential of this system:

Biodiversity Enhancement	Water free
Urban Microclimate Improvement	Building Thermal Insulation
Vegetation Production	Air Quality Improvement
Acoustic Performance	



Water Free

Testing the Living Wall

The future lies in establishing a collaborative manufacturing approach in partnership with industr

Porous Materials with Vegetation

