

ENVIRA

Permeable Concrete



The innovative permeable concrete for sustainable urban infrastructure

Innovation in concrete, with respect for the environment
and sustainability



Innovative permeable concrete for sustainable cities

INTERBETON, a member of the TITAN Group, develops concrete solutions that meet the highest performance standards of today and tomorrow. Guided by sustainability and technological innovation, it creates solutions that improve the quality, safety, and long-term performance of construction projects.

ENVIRA is an innovative permeable ready-mix concrete, designed for outdoor cast-in-place pavements. Its porous structure—achieved through carefully graded aggregates, cement, specialized admixtures, and water—allows water to pass through its mass, reducing flood risk and lowering the thermal load of urban surfaces. It offers environmental and functional benefits, making it an excellent choice for sustainable urban infrastructure. ENVIRA has a VESTA™ A rating, confirming its outstanding environmental performance.

Key BENEFITS

Effective stormwater management

Its high porosity allows water to infiltrate into the ground, reducing flood risk and relieving drainage systems.

Urban microclimate improvement

Its reflective and permeable surface helps lower temperatures and mitigate the urban heat island effect.

Sustainable resource use

Enhances groundwater recharge, reduces the need for costly drainage systems, and holds VESTA™ A certification.



Smart solution for sustainable infrastructure

ENVIRA is an ideal solution for managing stormwater runoff, as its composition significantly reduces the hydrological and thermal load on urban infrastructure. Compared with conventional materials such as asphalt, ENVIRA supports environmental protection, improves microclimates, and promotes resilience in urban design. INTERBETON can develop tailor mix designs on a project-by-project basis to meet specific technical requirements.

INTERBETON has developed the VESTA™ system, a certified tool for evaluating the environmental performance of its concretes based on CO₂ emissions, recyclability, and the use of local raw materials. VESTA™ has been applied since 2022 and is verified by BQV, an independent body accredited by ESYD.



Unmatched Technical Performance

ENVIRA combines mechanical strength with water permeability, offering dual durability—both structural and environmental. Its composition enables stormwater absorption, reducing hydrological and thermal stress on urban infrastructure. It is ideal for outdoor applications, ensuring stable performance with minimal maintenance, and can be adjusted to the technical needs of each project.

Technical Characteristics

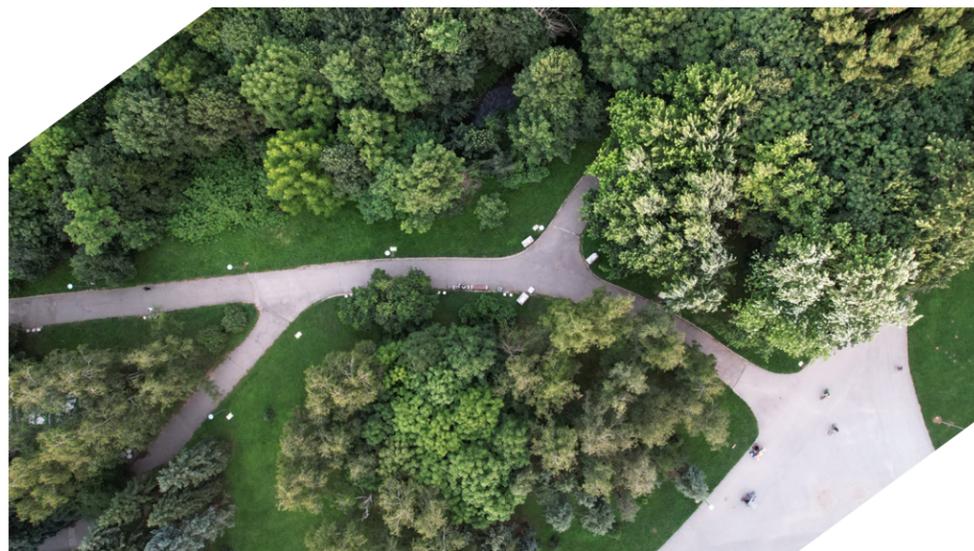
- 28-day compressive strength: up to 15 MPa. Despite being permeable, ENVIRA maintains structural stability, allowing pedestrians and light vehicles to circulate without failures. This mechanical strength, combined with functional water absorption, ensures dual durability.
- Maximum aggregate size: 16 mm
- Dry density: 1,850–2,000 kg/m³
- Slump / flow class: Not defined
- Permeability (K): Determined per project:

Void content 20–25%

Permeability up to 800 L/min/m² (25% voids)
up to 500 L/min/m² (20% voids)

- Depending on design requirements, ENVIRA can be supplied via pumping.

INTERBETON provides customized mix design services so that ENVIRA can meet the technical specifications of projects with special requirements.

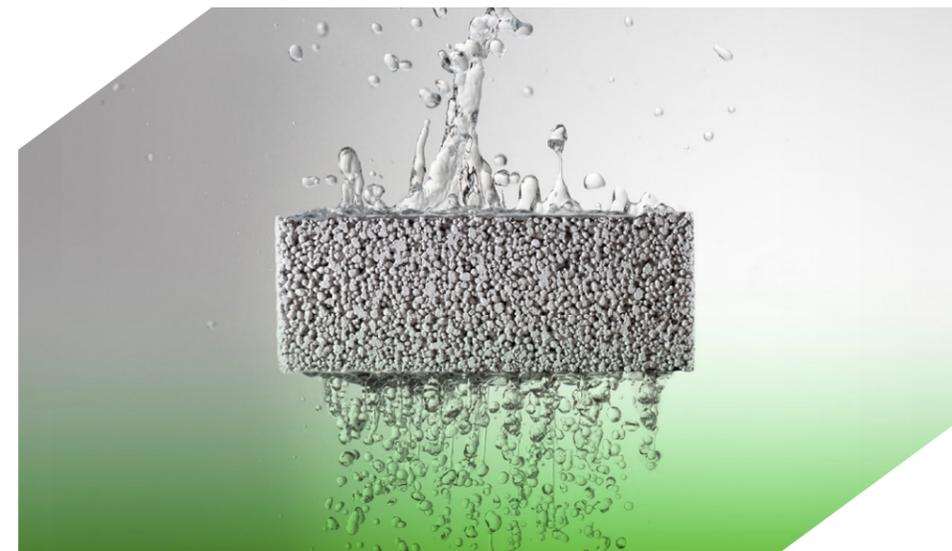


Advantages of Using ENVIRA

ENVIRA is more than just a permeable concrete—it's a comprehensive system that combines mechanical durability, functionality, and environmental performance. Its unique formula offers efficient stormwater management, long-term stability, and a high-quality aesthetic finish, making it an ideal solution for sustainable urban infrastructure.

- High porosity allows water infiltration, ensuring effective stormwater control and reducing stress on urban infrastructure.
- Excellent durability over time, with surfaces remaining functional due to proper water management.
- Permeability stays active and effective when paired with an appropriate subbase and proper maintenance, ensuring long-term performance.
- Faster water runoff into the ground and quicker construction, lowering drainage infrastructure costs and operational water-management expenses.
- High reflectivity with a clean, uniform, eco-friendly surface finish.
- Improves natural groundwater recharge, offering significant environmental benefits.

ENVIRA is a durable and efficient solution that works both as a structural material and a stormwater management system—completely aligned with the principles of sustainable urban planning.



For more information, please refer to the ENVIRA Technical Description brochure.

Sustainability in Practice

ENVIRA is an advanced concrete solution that combines structural durability with notable environmental benefits. As a small-scale material with broad advantages, it improves urban infrastructure sustainability by reducing flood peaks and heat island effects, while also helping to replenish groundwater. INTERBETON, with steadfast commitment to innovation and sustainability, offers ENVIRA as a versatile and effective tool for projects that require both technical excellence and environmental responsibility.

Reduced stormwater infrastructure & cost

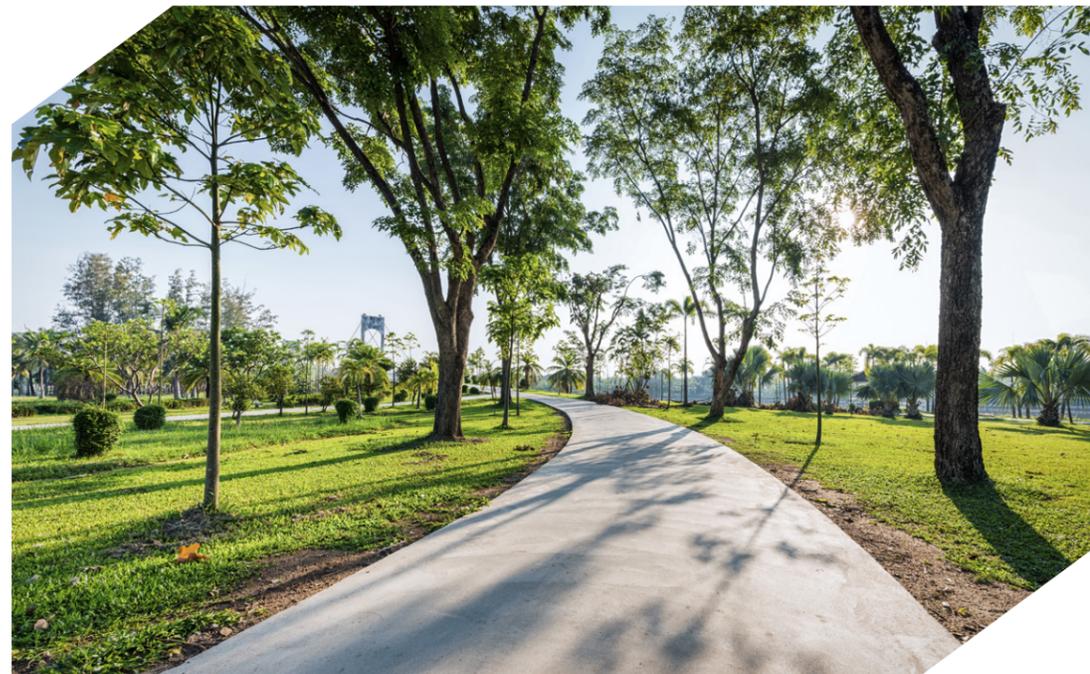
ENVIRA reduces—or even eliminates—the need for complex, energy-consuming, and expensive stormwater management systems (such as catch basins, pipes, and pumps), decreasing material consumption, CO₂ emissions, and overall operational and investment costs.

Mitigation of urban heat island effect

Thanks to its high reflectivity, ENVIRA helps lower surface temperatures compared to asphalt, enhancing the microclimate in areas with human activity such as parks, courtyards, and walkways.

Groundwater recharge

Its porous structure lets water seep into the subsoil, improving natural water recycling, decreasing runoff to drainage systems, and reducing flood peaks in urban areas.



Fields of Application

- Outdoor parking areas
- Sidewalks
- Residential courtyards
- Walkways
- Greenhouse floors
- Recreational parks
- As a subbase for sports facilities



On-Site Advantages

Ease of placement & clean finish

Despite its structure, ENVIRA provides a consistent, flat, high-quality surface. It is simple to install by following specific guidelines for joints and curing, without the need for complex equipment.

Synergy with the substrate for added durability

ENVIRA works integrally with the subbase, improving cohesion and long-term durability of the pavement.

Long-term stability with minimal maintenance

Simple maintenance, like removing debris, keeps ENVIRA performing efficiently without needing reconstruction or decontamination, unlike other materials with filters or absorbent layers.

Best Practices

For proper construction and long-term performance of ENVIRA pavements:

- Joint cutting is crucial and must adhere to the supervising engineer's instructions concerning timing and spacing.
- Subbase quality is critical:
Must provide good drainage.
Sediments should be prevented from entering the pavement surface as they negatively affect permeability.
- For impermeable subgrades (e.g., clay soils), a permeable layer should be installed beneath ENVIRA to ensure proper drainage and permeability.
- Proper curing is essential: because of its porous texture, ENVIRA dries rapidly. To preserve the necessary moisture during the initial critical hours of curing, the surface should be covered with clean polyethylene sheeting.



Contact our team for more information
on how ENVIRA can support your project.

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