

**GAIA**FILL  
CLSM



# Precision Filling for Infrastructure Projects

Ultra-flowable back-filling material for sustainable  
and resilient infrastructure



## Technological Excellence in Infrastructure Backfilling

INTERBETON, with a steadfast commitment to innovation and technological excellence, has developed GAIAFILL—an ultra-flowable, cementitious filling material that redefines standards in infrastructure and utility works. It is an industrially manufactured material with precisely controlled composition, providing backfill that is durable, safe, and offers measurable savings in time, cost, and environmental impact.

GAIAFILL is produced at INTERBETON’s fully automated ready-mix plants, which are equipped with state-of-the-art quality control laboratories, to ensure consistent properties and reliable performance even under the most demanding site conditions. It is accompanied by an Environmental Product Declaration (EPD\*).

## Sustainability with Transparency and Performance

GAIAFILL is a sustainable, technically robust solution for any project that requires reliable, durable backfill. It provides the ideal foundation for durable infrastructure, ensuring safety, stability, and efficiency at every stage of application. Its industrial production and certified environmental performance offer technical reliability and ease of use, setting new standards in sustainable infrastructure construction.



GAIAFILL does not fall under the provisions of the Hellenic Concrete Technology Regulation. Due to its rheological behavior, proper preparation of the placement area is necessary to prevent leakage. In utility network backfilling, pipe securing is essential to prevent displacement caused by buoyancy during placement.



## Key BENEFITS

### Reduced structural loads & improved thermal performance

Its lightweight nature (1,600–1,800 kg/m<sup>3</sup>) reduces dead loads. Controlled density and thermal conductivity ( $\lambda \approx 0.80$  W/mK) provide improved thermal behavior compared to conventional backfilling. Stable thermal conductivity enhances the thermal protection of underground networks and reduces thermal stresses, ensuring a consistent operating environment and longer service life.

### Fast, clean installation

With a placement capacity of over 200 m<sup>3</sup>/day and walkability within 24 hours, GAIAFILL significantly reduces construction time. Its rheological properties and industrial production ensure a cleaner, more efficient, and safer worksite.

### Sustainability & long-term stability

Industrial manufacturing, reduced resource consumption, and low environmental footprint ensure GAIAFILL fully aligns with circular-economy principles, providing durability and consistent performance over time.

\* EPDs (Environmental Product Declarations) are certified documents that provide transparent reports on a product’s environmental performance throughout its lifecycle—including CO<sub>2</sub> emissions, energy consumption, raw materials, and other indicators in accordance with international standards.

## Unmatched Technical Performance

GAIAFILL is a ready-mix, ultra-flowable material with controlled rheological properties and consistent production quality. In its fresh state, it behaves like fluid soil. It outperforms conventional aggregate-based backfilling and is the ideal solution for filling channels, trenches, utility networks, excavations, and underground voids such as tanks, pits, and more.

### Technical Characteristics

GAIAFILL is available in three types—using fine or coarse aggregates and offering different strength levels to cover a wide range of technical applications.

#### 28-day compressive strength per type:

- GAIAFILL:  
Fine sand aggregate  
~0.8 MPa compressive strength  
Easily re-excavatable with mechanical means
- GAIAFILL G:  
Fine gravel aggregate  
~1.2 MPa compressive strength  
Easily re-excavatable with mechanical means
- GAIAFILL 10:  
Fine gravel aggregate  
~10 MPa compressive strength  
Not re-excavatable — suitable for permanent high-capacity fillings

#### Common characteristics of all types:

- High pumpability for easy, fast placement
- Controlled composition and consistent quality from fully automated INTERBETON plants



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



### Range of GAIAFILL Ready-Mix Concretes

	GAIAFILL	GAIAFILL G	GAIAFILL 10
Maximum aggregate size 16.0 mm		●	●
Maximum aggregate size 4.0 mm	●		
Compressive strength (MPa)	0,8	1,2	10
Shrinkage Δ1	0,06%	0,08%	0,08%
Pumpability			●
Dry density (kg/m <sup>3</sup> )	1600-1800	1600-1800	1600-1800
Walkability (hours)	16	14	12
Re-excavatability (manual)	●	●	

All GAIAFILL mix designs are accompanied by certified environmental performance documentation.

## Durability as a Driver of Sustainability

Using GAIAFILL significantly reduces environmental impact and improves the sustainability of infrastructure projects. As an industrially produced filling material with controlled composition, it ensures technical reliability, efficient resource use, and lower CO<sub>2</sub> emissions—fully aligned with circular-economy principles.

GAIAFILL enhances the sustainability of a project at every level:

- Avoids repairs and construction failures, significantly reducing environmental and energy-related costs.
- Enables thinner excavation and complete volume filling without staged compaction or heavy machinery, reducing raw material use and transportation needs.
- Encases utility lines evenly, eliminating voids and stress points, enhancing long-term network durability.
- Eliminates energy-intensive processes such as mechanical compaction, reducing CO<sub>2</sub> emissions on-site.
- Minimizes site disruption for both workers and users.
- Can be produced with well-graded recycled aggregates, supporting circular-economy practices and reducing embodied CO<sub>2</sub>.



## Fields of Application

GAIAFILL is ideal for backfilling in:

- Trenches and excavations for utility networks, fiber optics, and roadworks
- Pits, underground tanks, and other voids
- Construction of blinding layers, channel formations, and corridors (GAIAFILL 10)
- Applications requiring complete filling with low strength and high stability.

For applications requiring compressive strengths above 1.2 MPa, INTERBETON offers GAIAFILL 10 (10 MPa). GAIAFILL 10 is ideal for blinding concrete, channel shaping, corridors, sidewalks, and more.

## On-Site Advantages

GAIAFILL offers immediate performance and reliability on-site:

- Fast, easy placement without mechanical compaction
- Homogeneous and thorough filling of voids
- Material reliability and long-term stability—no re-compaction or repairs needed
- Full compliance with project specifications through consistent production and dosage control
- Uniform filling remains effective even in rainy conditions—its consistency repels standing water
- Minimal risk of settlement, cracking, pipe displacement, or other failures
- Rapid strength development and walkability, lowering accident risks and site disruption
- Reduced excavation cross-sections and minimized damage to existing utilities
- Reduced worker exposure—minimal or no work inside trenches, no need for mechanical compaction
- Lower construction costs (fewer workers, fewer hours, less equipment, fewer layers)
- Future maintenance-friendly—low strengths allow easy interventions and repairs
- Reduced waste and failures through to easy re-excavation without burdening the project



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

[main@interbeton.gr](mailto:main@interbeton.gr)

The Company assumes no responsibility for the correct application, placement, curing, or final use of the product. Any information provided in the Company's brochures and technical descriptions concerning the application and final use of the product is given in good faith and based on the Company's current knowledge and experience with the product. Under no circumstances shall such information constitute any liability on the part of the Company for potential deficiencies in the application, placement, curing, or final use of the product. Reproduction or reprinting, in whole or in part, of this document in any form is strictly prohibited without the prior written consent of INTERBETON.

**INTERBETON**  
22A Halkidos Str.  
11143 Athens  
T. +30 210 2591 111  
[interbeton.gr](http://interbeton.gr)

