GLAVEL

FOAM GLASS GRAVEL®

Residential Construction

-Technical Guide-

This guide empowers residential builders and DIY homeowners to seamlessly integrate Glavel into projects. You'll find a comprehensive overview of our company and values, a look at how Glavel is manufactured, technical specifications, step-by-step installation guidance, delivery logistics, and answers to frequently asked questions. Whether you're new to foam glass gravel or integrating it into your next high-performance build, this guide is your go-to resource for confident specification.

This guide is intended for general informational and consultative purposes only. Every construction project is unique, and you should consult with a licensed professional engineer or qualified design professional to ensure compliance with applicable codes and suitability for your specific conditions.

Glavel, Inc. | 50 Lakeside Avenue, Suite 861, Burlington VT 05401 | (802) 540-0843 | **glavel.com**

Company Overview

Glavel is a Vermont-based foam glass gravel manufacturer with a deep commitment to providing low carbon construction solutions. Foam glass gravel is a lightweight, insulating aggregate that replaces traditional board insulation, enabling construction teams to reduce their carbon emissions by providing an environmentally-safe alternative to carbon-intensive insulation materials.

Glavel was founded with a mission to decarbonize the built environment by transforming recycled glass into high-performance, cost-competitive foam glass gravel with low embodied carbon, manufactured using renewable energy.

Glavel is proud to lead the industry with North America's first Environmental Product Declaration and Declare Label for foam glass gravel, offering builders transparent data to support low-carbon design and material selection.

How it's Made

Processed glass aggregate is milled into a superfine powder and combined with a foaming agent before being heated in a kiln to 1,600°F. The glass softens at that temperature and sinters into a foam glass slab while the foaming agent off-gases and creates a network of closed cell micropores. The foam glass slab exits the kiln and fractures into pieces due to thermal stress from temperature change.

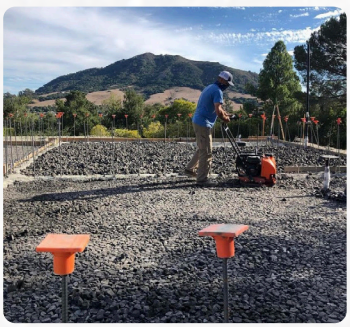
Foam glass gravel kilns are traditionally powered by natural gas. Glavel has electrified its production processes and sourced renewable energy to power manufacturing operations, contributing to a low embodied carbon material.

Installation

Site Prep
Lay a geotextile in the base of the area where Glavel will be installed or prepare an even stone subbase. A 4oz/yd nonwoven geotextile with 120 grab tensile strength is recommended. This keeps Glavel separated from other materials.

Move Glavel Into Place
Lay Glavel into the specified area. Bags can be moved around site with an excavator and emptied directly into the specified area. Avoid driving machinery over Glavel to prevent overcompaction.

Level Glavel
Depending on the size of the specified install area, Glavel should be leveled by small machinery or by hand with rakes. Leveling the area will ease compaction. Installation should be phased in 15” precompacted lifts to ensure even compaction is achieved.



Compact Glavel
Compaction is done with a lightweight vibratory plate (<200lbs). Glavel is compacted at a 25% ratio, which can be achieved with 4-5 full compaction passes. Additional compaction will increase material consumption but will not change Glavel’s material properties. Even compaction achieves a grade of ±1”. Work with a design professional to identify compaction requirements for bearing capacity.

Cover with Geotextile and Vapor Barrier
Complete the installation by wrapping the top and sides of the installed Glavel with a geotextile and vapor barrier.

Foam glass gravel must be installed in accordance with site-specific engineering, code requirements, and manufacturer guidelines, and its performance is not guaranteed under improper conditions or installation practices.

Delivery

Glavel is delivered in 3 cubic yard supersacks on a flatbed trailer or box truck. Customers are responsible for unloading bags themselves and specifying delivery drop off locations. Excavators are commonly used for unloading. Customer pickup can also be arranged from our manufacturing plant in Essex, Vermont. You must schedule in advance and bring a vehicle rated for the weight and volume. We'll assist with loading.

Box truck delivery, 33CY per truck

Flatbed delivery, 72CY per truck

Facility pickup, CY varies based on hauling equipment

Frequently Asked Questions

Is Glavel's R-value affected by moisture?
Glavel is a closed-cell material, so it does not absorb water. The R-value remains stable in damp conditions.

Are there Glavel distributors?
Glavel is only available directly through the manufacturer.

How do I order Glavel?
You can place an order by calling or emailing our sales team. We'll walk you through quantity estimates, shipping options, and delivery timing.

What quantity should I order?
Glavel is ordered in 3 cubic yard increments. Use your project's square footage and assembly depth to calculate volume. Take the 25% compaction ratio into account when calculating volume.

What payment methods are accepted?
We accept check, ACH, and credit card. Payment is due at the time an order is placed.

What are typical lead times?
Lead times depend on the size of a project and the time of year a project occurs. During peak construction season, lead times can be up to 6 weeks for larger residential projects.

How do delivery windows work?
We provide a 2–4 hour delivery window. Exact timing depends on the freight provider's schedule and traffic. While we coordinate closely with transportation carriers, we have limited control over arrival time once a load is dispatched. Box truck deliveries come with a pallet jack and liftgate to help unload bags.

Who is responsible for unloading the delivery truck?
Unloading is the customer's responsibility. You'll need an excavator, skid steer with forks, or similar equipment. Customers are typically able to unload trucks in an hour.

Can Glavel be picked up at the manufacturing facility?
Pickups can be arranged from our facility in Essex, Vermont. You must schedule in advance and bring a vehicle rated for the weight and volume. We'll assist with loading. Bulk pickups are offered on a project-by-project basis. Check with our sales team to see if that is an option for your project.

Can radon systems be integrated into a Glavel layer?
Yes, Glavel supports passive radon systems. We recommend wrapping radon pipes with geotextile to maintain airflow. Active systems may slightly impact thermal performance and should be reviewed with your energy modeler if insulation levels are critical.

Can Glavel be used underneath footings?
It depends. Some engineers will allow footings to bear directly on Glavel, but it must be evaluated case-by-case. Always consult your structural engineer for load-bearing applications.

Do you accept returns?
We do not accept returns.

Technical Data

Density (Unit Weight)
Uncompacted dry bulk density (ASTM C29).....9 - 10pcf

Estimated Dry Density
1.1 Compression Ratio (10% compaction of each lift).....10 - 11pcf
1.25 Compression Ratio (25% compaction of each lift).....11.25 - 12.5pcf

Compressive Strength (EN 1097-11)
20% compaction.....100-110psi
25% compaction.....110-125psi

Typical Gradation Characteristics (uncompacted) (ASTM C136 / ASTM C117)
Measured in sieve size
4”.....100%
2”.....85-100%
3/8”.....0-15%

Physical Characteristics
Hydraulic conductivity (ASTM D2434-68).....0.086 cm/s
Moisture content
Volumetric.....0.47%
Gravimetric (ASTM C566).....0.62%
Particle Specific Gravity (ASTM C127).....0.54

Soundness
Sodium sulfate (ASTM C88).....4.7% - 5.3% loss

Impurities
Clay lumps (ASTM D4791).....0
Organic impurities (ASTM C40).....0

Chemical Characteristics
Sulfates (AASHTO T 290).....<10ppm
Chlorides (AASHTO T 291).....<10ppm
TCLP (SW 846).....Non-leaching

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