

## Frequently Asked Questions

### 1. What is Geocell made of ?

Glass bottles in small pieces are made into an extremely fine powder. This material is blended and baked creating a rigid and highly porous foam with the desired physical properties. Once done baking at close to 900°C, the "foam glass cake" comes out of the kiln on the conveyor belt to cool down. As soon as it reaches room temperature, the product cracks into smaller chunks.

### 2. How long has it been in use ?

Geocell light-weight insulating gravel has been used in both German and Austrian markets for over 6 years now.

### 3. Where is it manufactured ?

Geocell light-weights insulating gravel is manufactured in both Germany and Austria.

### 4. Why would you use Geocell light-weight insulating gravel ?

You would use it because of its outstanding characteristics:

- *Light-weight* (Density = 150 kg/m<sup>3</sup>)
- *Compressive strength* (>570 kN/m<sup>2</sup>, 60 tonnes per square metre)
- *Insulation properties* (certified thermal conductivity of 0.08 W/mK)
- *Non-porous & Breathable* (Geocell is a closed cell structure which does not absorb moisture and facilitates the percolation of water without capillary action)
- *Inert material* (Recycled product, no petrochemicals or pyrite)

### 5. What are the benefits of using Geocell light-weight insulating gravel ?

- *Speed of Installation* Due to its weight, the material can be quickly and easily poured into position, compacted and ready for the pouring of the concrete slab. The material comes in 3 cubic metre bags with discharge shoots to enable swift installation.  
  
Due to the products compressive strength, it can be travelled upon during Foundation slab installation. Thus reducing the perimeter access Required in insulating board foundations.
- *Ease of Installation* The material weight and dimensions allow it to be easily and quickly manipulated in and around services in a foundation.
- *No Wastage* Unlike traditional insulation boards, there is no product wastage.
- *Un-damaged by Vermin* Geocell gravel is immune to damage from vermin.
- *Reduced Excavation Depth* Geocell gravel performs structurally as well providing insulation.

**6. What are the various applications where Geocell light-weight insulating gravel can be used ?**

■ <i>New Build Foundations</i>	Ground-bearing slab, Raft, Strip Footing and other variations
■ <i>Basement</i>	Renovations – especially in areas of restricted access
■ <i>Water Tanking</i>	Improved Drainage with low imposing loads
■ <i>Underground Pipework</i>	Frost Protection
■ <i>Period Buildings</i>	Breathable, reduced depth of dig with low imposing loads
■ <i>Passive House</i>	Breathable, recycled product, excellent insulation properties
■ <i>Pyrite Replacement Infill</i>	Inert, stable with low imposing loads
■ <i>Landscaping</i>	Roof gardens, Soil Stabilisation, Sport Turf, Gabions, Pool Infill
■ <i>Rail &amp; Bridge</i>	Low imposing loads

**7. Is Geocell light-weight insulating gravel certified ?**

Yes Geocell light-weight insulating gravel is CE certified.

**8. Has Geocell light-weight insulating gravel been tested on a real site over time ?**

Yes Geocell light-weight insulating gravel is annually certified by the German authority DIBt. Here the material is tested to ensure that during the life of a building it maintain its characteristics, ensuring continued strength and insulating properties.

**9. How does Geocell light-weight insulating gravel arrive at site ?**

The gravel arrives in 3 cubic metre bags. Other sizes can be arranged.

**10. How is Geocell light-weight insulating gravel installed ?**

The soil is excavated to the appropriate depth to create mounds on the perimeter of the foundation. A geotextile membrane is installed and the gravel poured into position. An initial layer is poured into position and compacted. Pipework and other services can then be positioned prior to the final layer of Geocell gravel being installed. Once studded, the foundation concrete slab can be poured.

**11. How is the Geocell gravel compacted ?**

The compaction ratio is 1 – 3:1. This can be done using a standard vibrating plate compactor.

**12. How far beyond the concrete slab edge should the Geocell gravel be laid ?**

We recommend that the Geocell gravel should be laid at a minimum of 150 mm past the slab edge. The geotextile membrane can then be folded around this edge under the slab stuffer.

**13. Can Geocell gravel be used in “bad” ground ?**

Each site would need to be assessed by an engineer, but yes Geocell can be used where ground conditions are not ideal. The Geocell gravel can be laid in a biscuit formation, in layers separated with a Geotextile membrane. These layers accommodate the loads spread across the foundation.

**14. Can Geocell gravel be used in situations where moisture is an issue ?**

Yes. Geocell gravel has a “wet” and a “dry” thermal conductivity. Thus during wet conditions you still achieve an insulation value and this improves as the material dries out. As Geocell gravel does not absorb moisture, this promotes the drying effect.

**15. Does Geocell gravel need to be compacted to achieve the stated insulation values ?**

No. Geocell gravel does not require compaction and can be installed as loose fill.

**16. Is Geocell gravel fire resistant ?**

Yes. Geocell gravel is classified as incombustible class A1.

**17. Is using Geocell gravel more cost-effective than using traditional insulation boards ?**

Yes. Geocell gravel is a more cost effective way to insulate your building. These savings can be seen in the following areas’ in your foundation system:

- *Reduced cost versus hardcore (SR21) and insulation board costs combined*
- *No Wastage*
- *No Damage on site*
- *Speed of Installation*
- *Less Resources required*
- *Reduced Excavation*