

GARDENING AND-  
LANDSCAPING

MAKE SURFACE MODELLING

SIMPLIFIED WITH GEOCELL®

THE WEIGHT-SAVING  
DRAINAGE-BULK MATERIAL  
FOR GARDENING AND  
LANDSCAPING



A HIGH QUALITY RECYCLED GLASS PRODUCT

**GEOCELL**  
FOAM GLASS GRAVEL



A photograph of a water playground at the Water Tower in Vienna, Austria. In the foreground, a large, dark, fish-shaped sculpture is partially submerged in a pool of water, with water spraying from its mouth. To the right, a wooden platform with a red rope barrier is in the water, where several children are playing. In the background, a large, green, grassy hill rises, topped with a tall, white, lattice-structured tower. The sky is blue with scattered white clouds.

**GEOCELL®:**

**THE PERFECT LIGHTWEIGHT AGGREGATE  
FOR GARDENING & LANDSCAPING**

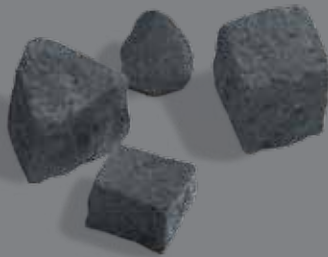
**REFERENCE**

**LIGHTWEIGHT BULK MATERIAL**

Water playground at the water tower in Vienna/Austria – over insulation of a potable water reservoir and modelling of a water landscape with aqueduct, watercourse and lagoon.

Picture: MA 42 – Wiener Stadtgärten © Schaub-Walzer

## AN ALL-ROUNDER WITH MANY BENEFITS



Is there an insulation material, which is lightweight, at once load bearing, moisture resistant, totally thermal insulating and rot proof? Suitable for almost any type of terrain and easy to process? A building material that is both economically and environmentally sound?

**The answer is yes!** Geocell foam glass gravel is a high quality insulation material made of 100% recovered glass, meeting all requirements of a lightweight aggregate with the best characteristics. Geocell foam glass gravel takes over the draining function, is load bearing and functions simultaneous as a thermal insulation for covered construction components.

**The brilliant and simple bulk material for gardening and landscaping application!**



# 4 APPLICATIONS

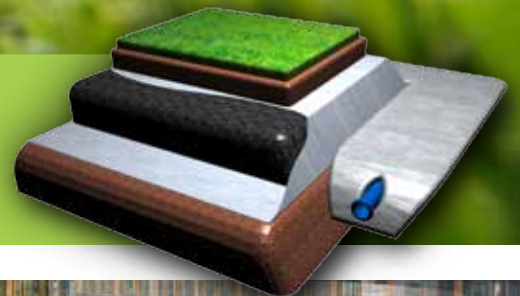
## DRAINING LAYER FOR SPORTS GROUND



### APPLICATION:

a light and drainage-capable insulation below the lawn

Picture:: Kybunpark Fußball-Arena St.Gallen | Switzerland © FC St. Gallen Event AG



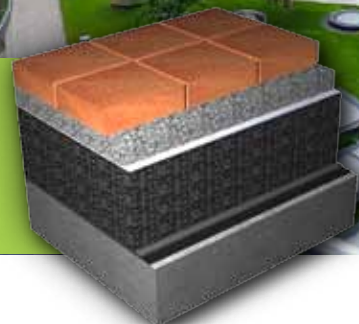
## RELIABLE LIGHTWEIGHT AGGREGATE



### APPLICATION

Lightweight aggregate for encounter zones above an underground parking area

Picture: Erste Campus in Vienna | AUSTRIA © Erste Group /Toni Rappersberger, Auböck+Kárász, Pfau\_Lorberg





## SLOPE STABILIZATION



### APPLICATION:

Reduces soil pressure and stabilizes slopes

Picture: Slope Stabilization in Weiningen | Switzerland © Ganz Baumaterial, St. Gallen

## MOLDABLE LIGHTWEIGHT AGGREGATE



### APPLICATION:

light surface layer for tunnel

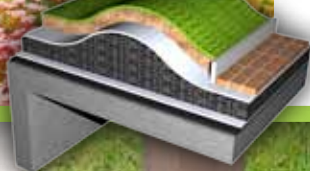
Picture: Koralmbahntunnel in 9131 Althofen | AUSTRIA

© Gebr. Haider Bauunternehmung, ÖBB/Eisenberger, ÖBB/Deopito, ÖBB/Pachoinig



# GEOCELL®: THE FUNDAMENTALLY BETTER BULK MATERIAL

## REFERENCE



### LIGHTWEIGHT AGGREGATE

Picture: © Optigrün

APPLICATION:  
light roof structure with GEOCELL



AN ALL-ROUNDER WITH MANY BENEFITS



- **EXTREME LIGHT AND STABLE WEIGHT**  
with only 150 kg/m<sup>3</sup>, GEOCELL® enables an enormous weight relief
- **DRAINAGE - WATER RESISTANT**  
GEOCELL® lets water run off and remains dry in its core.
- **STATIC LOAD CAPACITY AND MOLDABLE**  
GEOCELL® interlocks itself, distributes weight evenly and can be modelled perfectly
- **PERMANENTLY STABLE, NON COMBUSTIBLE**  
Durable, rot resistant, antibacterial, frost resistant. Also resistant to acids, moisture and rodents.
- **ENVIRONMENTALLY FRIENDLY**  
GEOCELL® does not present any health hazards, is harmless to soil and energy efficient in manufacturing
- **SAVING TIME AND MONEY**  
GEOCELL® is quicker to install than conventional methods cutting construction time and cost
- **EXCELLENT INSULATING VALUES**  
declared thermal conductivity : 0,080 [W/m·K]

## POSSIBILITIES FOR DELIVERY AND INSTALLATION

### DELIVERY OF BULK MATERIAL WITH A WALKING FLOOR TRUCK

This form of delivery is suitable for construction sites which can be reached easily. A walking floor truck cannot tilt, but rather barges the material with its moving floor from back to front.

Typical dimensions: LxBxH = 18 x 4 x 2,8 m  
Loading capacity: 85 - 95 m<sup>3</sup> depending on type of truck  
Non steerable axles!



### DELIVERY OF BULK MATERIAL WITH A CONTAINER TRUCK

This form of delivery is suitable for narrow access roads. The bulk material is divided into the towing vehicle and a trailer. Therefore the material can be brought step by step. Please note: Through the minimized quantity and the additional expense, we charge an extra container surcharge.

Typical dimensions towing vehicle: LxBxH = 9 x 4 x 2,8 m;  
Loading capacity: 76 - 80 m<sup>3</sup> depending on type of container truck



### DELIVERY PACKED IN BIG BAGS

We also offer the material in packaged form (disposable packaging):

GEOCELL® BigBag 1,5 m<sup>3</sup>  
GEOCELL® BigBag 2 m<sup>3</sup>  
GEOCELL® BigBag 3 m<sup>3</sup>



### INSTALLATION WITH A DISPENSATION-TOWEL

Especially for stepped, impassable areas, there is the possibility to install the bulk material with the help of a dispensation-towel. The material is conveyed from the walking floor truck into the towel, spread on the ground with a capacity of 12 m<sup>3</sup>. The dispensation-towel can be moved with a crane. The distribution of the material happens through the utricular outlet spigot. We gladly provide the dispensation-towel for a daily fee.





## RECOMMENDED EQUIPMENT FOR INSTALLATION OF GEOCELL® FOAM GLASS GRAVEL

### SMALLER AREAS



lightweight vibratory plate with a strong propulsion

### LARGER AREAS



moderate, non-self-propelled and self-propelled rollers

### EXTENSIVE INSTALLATION



vibration plate

The proposed equipment just presents a selection of various machines.  
Especially the manual operation plate vibrator is significant for an appropriate propulsion and result in good compaction.

PLEASE DO NOT HESITATE TO CONTACT YOUR GEOCELL CONSULTANT FOR THE BEST DELIVERY OR  
THE BEST COMPACTION MACHINE FOR YOUR CONSTRUCTION SITE!

Delivery on schedule, direct discharge at the installation site and precise installation  
without transshipment as well as the correct selection of equipment saves  
time and money.

Germany: +49 (4405) 91 73 72  
Austria: +43 (7735) 67 220

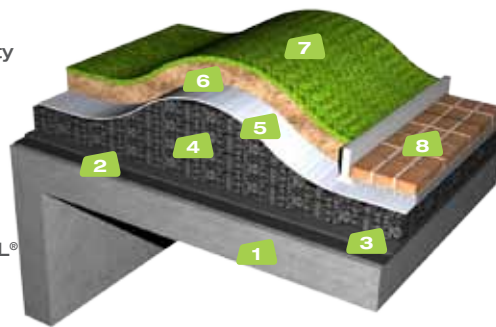
**TIP**

## LANDSCAPING LEIGHTWEIGHT AGGREGATE

Whether on hilly landscape above an underground car park, steep slopes or passable lightweight aggregate: GEOCELL® foam glass gravel always remain perfectly in shape. GEOCELL® interlocks itself, does not roll and therefore can be installed at inclined surfaces up to 15°. A modelling of slopes up to 45° is possible without any problems due to the high friction angle.

### ADVANTAGES

- **EXTREMELY LIGHTWEIGHT:** with a density of 150 kg/m³ GEOCELL® enables an enormous weight relief
- **MOLDABLE:** GEOCELL® interlocks itself and does not roll. Modelling is possible at slopes up to 45°
- **DRAINING - WATERRESISTANT:** GEOCELL® lets water run off and remains dry to its core
- **HIGH THERMAL INSULATION:** GEOCELL® insulates the component beneath



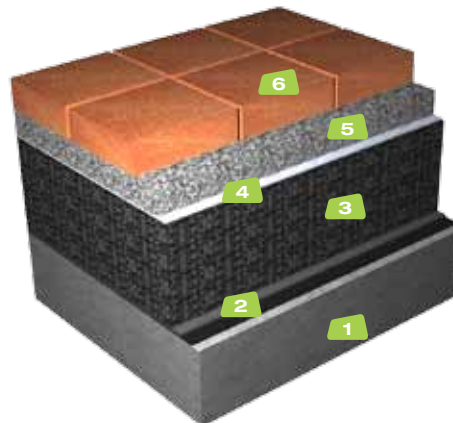
- 1 Concrete roof/tunnel/car park
- 2 Sealing
- 3 Geotextile
- 4 GEOCELL® foam glass gravel
- 5 Geotextile
- 6 Substratum
- 7 Vegetation
- 8 Pavement

## LANDSCAPING LOAD BEARING CONSTRUCTION

GEOCELL® not only reduces the applied load, it is also load bearing. Pavement for paths and roads can be laid directly in a levelling layer on the compacted GEOCELL. Due to the lightness of the material, there are hardly any restrictions for the creative landscape architect.

### ADVANTAGES

- **EXTREMELY LIGHTWEIGHT:** with a density of 150 kg/m³ GEOCELL® enables an enormous weight relief
- **HIGHER COMPRESSIVE STRENGTH:** Compared to other materials, an easy and cost-effective installation technique
- **NON COMBUSTIBLE:** classified as an A1 by DIN EN 13501-1
- **EASY PROCESSING:** fast and independent of the weather



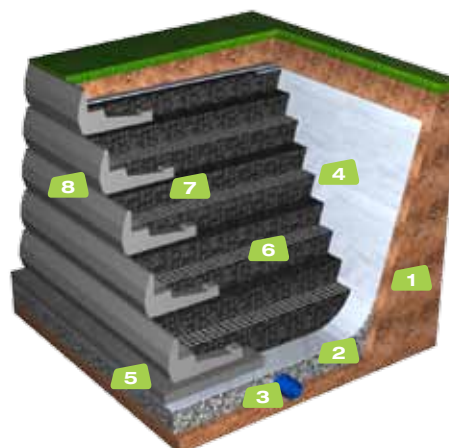
- 1 Building ground/underground car park ceiling
- 2 Protectiv mat/sealing if necessary
- 3 GEOCELL® foam glass gravel
- 4 Geotextile
- 5 Weight-smoothing layer
- 6 Surface covering: artificial stone/vegetation, natural stone or wooden floor

## LANDSCAPING SLOPE STABILISATION

GEOCELL® foam glass gravel is around twenty times more lightweight than common gravel. It remains stable, because the foamed grains are closed-cell and thus do not absorb any water. The material interlocks itself, is resistant to pressure and therefore reduces the slope pressure. At the same time, sloping water can drain off easily due to the high cavity proportion.

### ADVANTAGES

- **EXTREMELY LIGHT AND STABLE:** with only 150 kg/m³ GEOCELL® enables a stabilisation of difficult floors
- **DRAINING - WATER RESISTANT:** GEOCELL® lets water runoff and remains dry in its core
- **REDUCTION OF SLOPE PRESSURE:** GEOCELL® interlocks itself and therefore reduces slope pressure



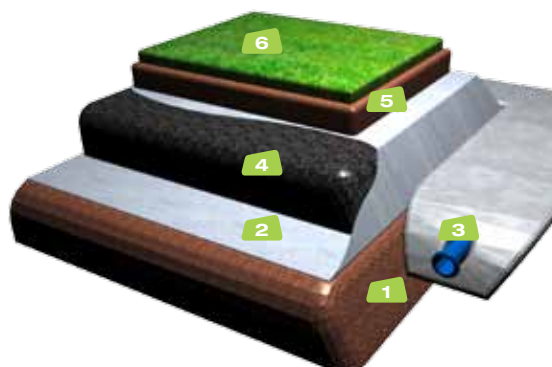
- 1 Soil/vegetation
- 2 Draining material (bulk material, GEOCELL®)
- 3 Draining pipe
- 4 Separation fleece
- 5 Lean concrete base
- 6 Plastic mesh
- 7 GEOCELL® foam glass gravel
- 8 Slope brick



Especially the perfect infiltration characteristics, combined with the low weight and the excellent thermal insulation makes GEOCELL® unbeatable in this application. Through the perfect lengthwise and cross drainage, the space dries much faster and is playable quicker after precipitation. The pressure-resistant GEOCELL® foam glass stabilizes the soil and does not burden the underground due to its low weight..

## ADVANTAGES

- **PERFECT DRAINING:** GEOCELL® lets water runoff vertically as well as horizontally and remains dry even in its core
- **EXTREMELY LIGHT AND STABLE:** with only 150 kg/m³ GEOCELL® reduces the load
- **EASY PROCESSING:** fast and independent of the weather
- **HIGH THERMAL INSULATION:** GEOCELL® insulates the underlying components



- 1 Topsoil/substructure
- 2 Geotextil
- 3 Draining pipe
- 4 GEOCELL®
- 5 Substratum
- 6 Lawn/vegetation

## TOP PERFORMANCE IN EVERY ASPECT

### AUTHORIZATION

CE EN-13055-2

### THERMAL CONDUCTIVITY

Declared thermal conductivity  $\lambda$  0,080 [W/m·K]  
 Rated value of thermal conductivity (DIBt moist)  $\lambda$  0,110 [W/m·K]

### LOAD CAPACITY

Design value of compressive strength ( $\sigma_{cd}$ ) 275 [kN/m²] at compaction factor 1,3 : 1  
 Compressive strength 570 [kN/m²] with prevented lateral expansion by DIN 826  
 Constrained modulus of thermal insulation layer 13.700 [kN/m²]  
 Friction angle 36°

### GENERAL DATA

Forms of delivery loose material or packed in BigBag's  
 Granular size 10 - 60 mm  
 Bulk weight loose material approx. 150 kg/m³  
 Bulk material compacted (1,3:1) approx. 185 kg/m³  
 Void ratio of compacted fill (1,3:1) approx. 30%  
 Water absorption (core surface) < 10 Vol%  
 Coefficient infiltration of compacted material (1,3:1)  $K_f = 2,5 \cdot 10^{-4}$   
 Capillarity anti-capillarity against rising water  
 Freeze-thaw frost resistant according DIN 52104-1  
 Diffusion properties diffusible  
 Fire resistant/ gassing with heat incombustible category A1, no gas emission  
 Environmental impact considered as unpolluted excavation, eluat test complied  
 Resistant to environmental influences durable, rodent-, bacteria- and rot-resistant

## GEOCELL® FOAM GLASS GRAVEL

THE ECOLOGICAL ALTERNATIVE FOR ALL FOUNDATIONS.

CE EN-13055-2

LABELED WITH THE  
AUSTRIAN ECOLOGIC LABEL

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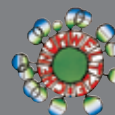
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