

GLACERA

Eco-friendly advanced material

GLACERA



Presenting pleasant spaces
ABEX co. Ltd.

チャレンジ
未来が変わる。
日本が変わる。 25 

Inorganic porous material

GLACERA



As the world began to enter into its phase of highly considerable environmental situation, Global warming, energy problem, deforestation and many other problems have come to the surface not only in Japan but all over the world. It has come to the time we must face this problem fully and think about the limited resources on Earth.

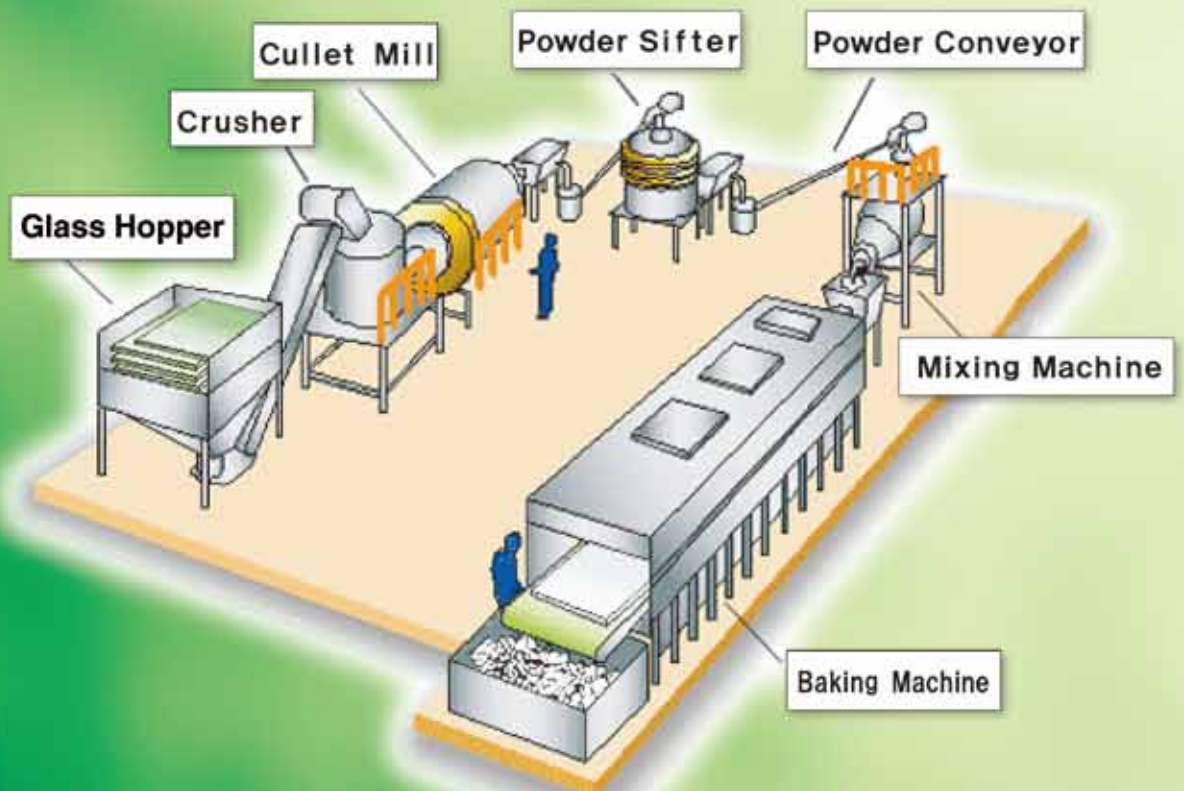
We have paid attention to creating new material using waste glass, which will be highly necessary in building recycling society, to be used in many different fields. We will also like to consider its utility value as the raw material, apart from being only used as our product.

The products name is GLACERA,

which name is originated from having both Glass and Ceramic's characteristics.

This product's specific gravity and water absorption can be determined from its manufacturing process, considering its use. Owing its great characteristics like light weight, water holding, breathability, fire resistance, adiabaticity, deodorization and such, it is used in variety of fields and purposes, farming, tree planting, water quality improvement, deodorization, and much more.

About 70% of constituent from the glass are Silicon (SiO_2) which are contained in soil. Other constituents of this product like Sodium (Na_2O) and Calcium (CaO) are also used in our daily supplies, so to speak safe materials and are nontoxic.



Characteristics and standards of GLACERA



High performance in permeability, water holding and breathability.

By blending the product in the soil, the porous bubble will bring in air inside which will stimulate the microbe and allows the soil to recover. (Aggregated structure)

It can also be put inside water tanks or lakes to purify its water, or as a way of using rain water. It also shows high performance in deodorization, so it can be used a substitute for activated charcoal.

Nonflammable

It does not burn because it is inorganic mineral, and will not cause toxic gas.
It is also effective in moisture retention and sound proofing.

Stabilized quality

Carefully screening the main raw material glasses, we can deliver safe and stabilized products.

Eco-friendly

Main raw material glasses are made of sands, and our products are restored to its original sand form, treated as same as surplus soil.

Very light. Determine specific gravity and water absorption depending on its use.

Depending on the products use, fields and requests, we have several options regarding its specific gravity, water absorption and such particle diameters.

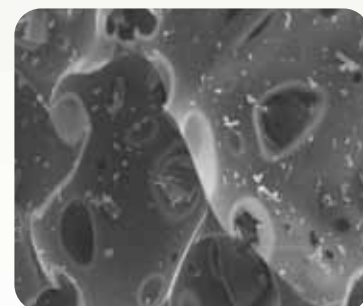
Standard	Absolute specific gravity	Water absorption rate	Characteristics	Use purposes
G1	0.3~0.6	30% or higher	High water holding capacity, open cell type, light weight material	Tree planting: Light soil Farming: Soil modifier Landscape gardening: Soil modifier Gardening: Improving bed rocks of flowerpot
G2	0.4~0.5	30% or lower	Above lightness, closed cell type, light weight material	Civil engineering: Light landfill material, retaining wall backfilling material, lighten soil Farming: Underdrainage material
G3	0.5~1.0	10% or lower	Mostly closed pore, closed cell type material	Gardening: Hydroculture Pets: Cat litters material
G4	1.0~1.6	5% or lower	Slightly heavier than water, closed cell type material	Water quality: Filtering material Water tanks: Filtering material Civil engineering: Light landfill material use around waterfront.
G5	0.7~1.1	30% or higher	Absorpes water and sinks, New open cell type material	Landscape gardening: Soil modifier Pets: Watertank filters Rainwater: Underground storage systems Gardening: Hydroculture

[Ingredients and safety of GLACERA]

About 70% of constituent from the glass are Silica sand which are contained in many parts of soil in Japan. Other 30% constituents of this product like Sodium (Na₂O) and Calcium (CaO) are also used in our daily supplies. All constituents are nontoxic and the products dust does not have fibrous shape like Asbestos.

By strictly identifying raw material glasses, we prevent heavy metals like Lead and Arsenic from the bottles to be mixed together. This is high quality and safe product.

	Constituent	Content %
Silicon dioxide	SiO ₂	69.77%
Sodium oxide	Na ₂ O	14.02%
Calcium oxide	CaO	10.40%
Magnesium oxide	MgO	3.54%
Aluminum oxide	Al ₂ O ₃	1.65%
Potassium oxide	K ₂ O	0.62%



Product macrophotograph

『GRACELA』 products line up



GLACERA

『GRACELA』 series

Civil engineering and construction material

Our product have been qualified as Inorganic solid modifier and light landfill material by the Ministry of Land, Infrastructure, Transport, and Tourism of Japan, in their new technology information system (NETIS) as "Supersol". It has been showing high performance in public constructions and others, owing to its lightness. Improvement of its workability, seismic resistance, reduction of soil pressure to buildings, preventing buildings from subsiding on soft grounds, and other characteristics are admitted.



Farming, tree planting, and gardening material

For farming use, by blending the product into the soil, it brings healthy growth to the plants, prevents pests, improves quality of crops, and diversified edaphones. These features improve breathability, drainage, and water-holding capacity of the field, making the soil soft and aggregated structured, and leads to rise of crop yields.

For gardening use, by blending the product into the soil and laying them on the bottom of the pot, it improves the breathability and drainage efficiency, preventing root decay and improves the growth of plants. This product can also be used as a material for roof gardenings.



Improving and purifying water quality material

By preparing the environment for microbes to propagate, microfilms breeds fast, and it will improve purifying effect highly inside water tanks or water area. It is also effective for improving water quality purposes.

Using this effect, it can also be effectively used with rain water utilization, and drain purification.



Deodorization and filtration material

Our product has similar effects with activated charcoal like deodorization and filtration. By bedding our product on under floor, it will get rid of moisture and mould odors. It is used on top of the soil deodorization floors.



Crime preventing gravel and weed preventing effect

Stepping on crime preventing gravel causes about 70dB of sound. 70dB is about the same sound level as phone ring-tones. Generally, humans can live comfortably being surrounded with about 40 to 50dB of sound level. By graveling our products near your windows, gardens, and blind spots from the neighbors for example, will work sufficiently as preventing crime tool.

Apart from preventing crime, it has been demonstrated to work in preventing weeds, temperature rise in summer times, and pets waste and others.



Industrial material

By mixing our product with plastics and paints for example, it will create product with high heat resistance property. Plastics will also be improved in its strength. When mixed with detergents, it can be washed and cleaned easily without using any toxic chemicals, and it will not damage the environment by any means when washed with water.

It is also used to prevent harden slag on the pan to enter in the product when used to make moisturizer from chaff ashes. It can be used in many different industrial fields and purposes as well.



Heat island resistant effect

By having both permeability and water-holding characteristics, it has same effects as holding rain water of Guerrilla rainstorm temporally, and sprinkling water on pavements(Uchimizu) to keep away from the temperature rise. It will not be damaged by freezing as well.

Temperature rise resistant effect

With EARTH GUARDs water holding capacity, maximum of 25°C of temperature resistance can be seen from dense grade asphalt concrete. Uchimizu also have similar effect to this. Moreover, this product itself is porous and has high insulation effect.

High water-holding capacity

EARTH GUARD can hold about 13 to 14 liters of water in a centare. In addition, using EARTH GUARD BASE together with it, it can hold more than 30 liters of water in a centare. (Total thickness about 10cm)

By building underwater storage tank, you can secure living water in case of an emergency.



Nature panel

NATURE PANEL is a new material using GLACERAs powder as its main raw material. It has absolute nonflammable, light weight, fireproof, and soundproof as its characteristics and accommodated for buildings and cars wall plate for its high safety. Even at the worst case of an emergency, it does not cause any smoke or toxic gas, so it can prevent additional accidents.

This material can be reused, and is nice for both human and the environment.



Nature Stone

NATURE STONE is light weighted ceramic cast stone designed to reproduce the texture of genuine stone. It has high design quality and has both weatherproof and smooth operability.

It has fireproof, soundproof and fire resistance effects as its characteristics.



Nature Tile

NATURE TILE is double layered structure with its surface of clear flat glass and the back side of Pumice form Foam glass.

It is a new type of multi-layered glass tile fusing glass powder with special additive and flat glass together.





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