

**Thermal insulation systems
for the entire building envelope**

FOAMGLAS®

The whole picture

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FOAMGLAS[®]



A part of industrial history

Given its quality and environmental merits combined with its long-term performance history, FOAMGLAS® is increasingly in demand and used worldwide.



The manufacturing of glass foam as insulation was patented as early as 1935. Two years later, in 1937, the founding of the Pittsburgh Corning Corporation by two leading American companies in the glass industry – Pittsburgh Plate Glass Company and Corning Glass Works – followed.

The American corporate group has acquired tremendous know-how and the greatest possible skill in the industrial use of glass. The site of the first production plant was Port Allegany (USA).

In 1942 FOAMGLAS® reached market maturity as an industrial product. Applications as insulating material helped the product achieve its first successes rapidly. Starting in 1957 FOAMGLAS® products were exported to Europe. Because of the strong demand, the company established its own production plant in Europe. The factory in Tessenderlo (Belgium) went into production in 1965. The same year in Schmiedefeld (Germany) the brand name “Coriglas” was registered internationally for cellular glass products.

Pittsburgh Corning Europe (PCE) originated in 1969 from the earlier Pittsburgh Corning Belgium. It was the parent company of the companies that were gradually founded one after the other throughout Europe as regionally operating companies. In 2001 Pittsburgh

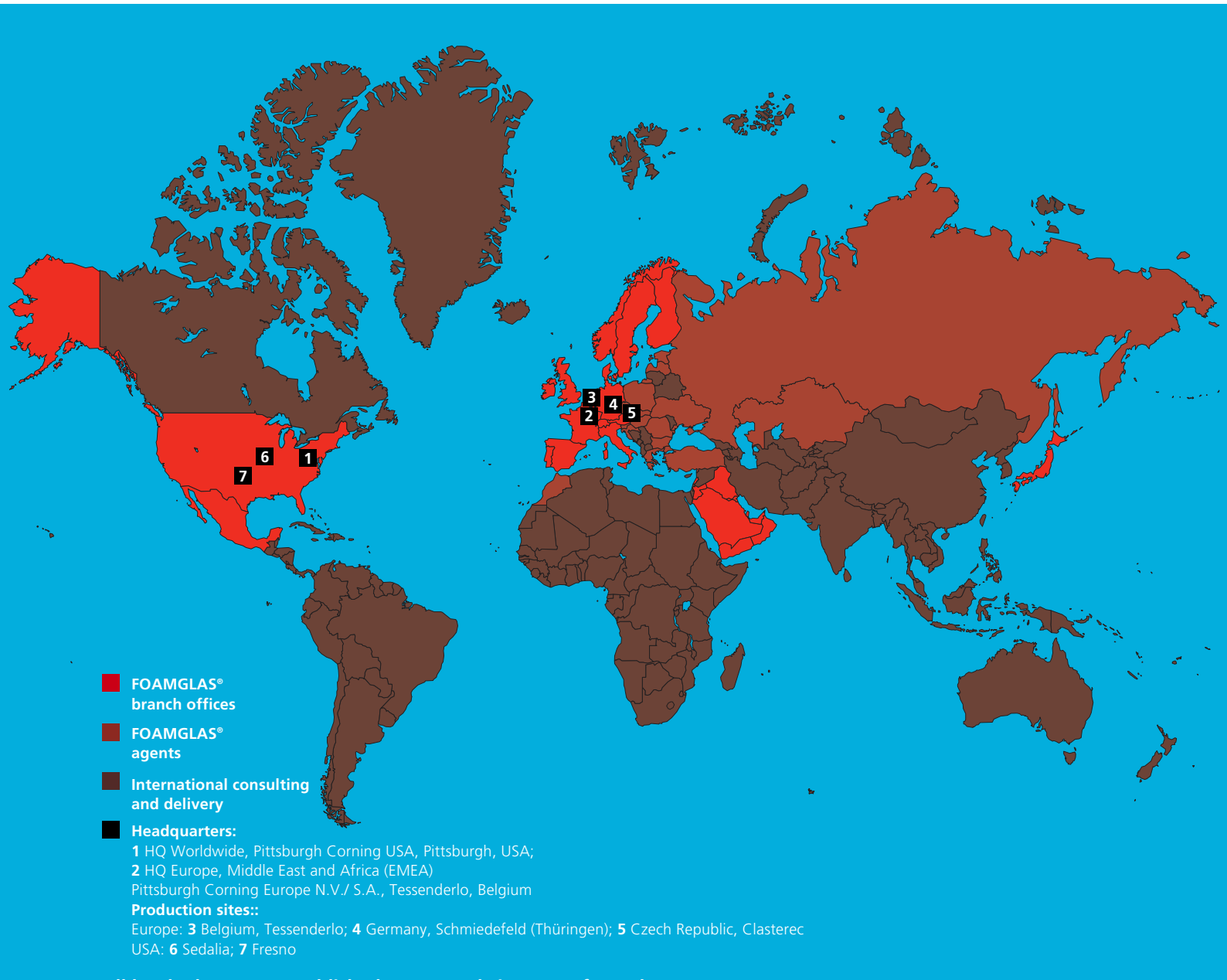
Corning Europe N.V. acquired the shares of the German cellular glass company. Coriglas products were adapted to the standard of the FOAMGLAS® products. Due to the increasing demand, in 2008 Pittsburgh Corning felt obliged to further expand the site in Klásterec (Czech Republic) for the manufacturing of FOAMGLAS® insulation products. A new technology, continuous belt foaming, revolutionised the manufacturing process. From this an increase in the production capacity and a further reduction of energy needs resulted.

Today Pittsburgh Corning is represented in all the major countries of Europe, in the Far East and in the USA. It employs around 700 people.

Local distribution offices, working together with the central technical department, are developing a wide variety of high-quality FOAMGLAS® system solutions for the insulation of the whole building envelope.

1 The FOAMGLAS® compact roof system became one of the most famous application.

FOAMGLAS®



All local addresses are published on our website www.foamglas.com

Global presence

FOAMGLAS® enjoys increasing demand world-wide.

Today FOAMGLAS® insulation is available throughout the world. There are locally operating distribution offices in Europe, the USA, Asia and also in the Far East. In Europe production takes place at three sites. In the USA two further production plants are available. The constant high quality standard is guaranteed world-wide by appropriate foreign materials monitoring. The rising demand for the economical and sustainable FOAMGLAS® insulation systems is leading to a continuous expansion of production capacities.



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Regional distribution offices with trained sales departments provide comprehensive service for the planning and implementation of high-quality system solutions. Our sales engineers give advice concerning the overall and detailed planning for building physics and energy certificates, with examples for thermal insulation calculations. Tendering texts, work-sheets, gradient falls planning as well as detailed drawings can be obtained for all FOAMGLAS® application areas. The people involved in a building are supported with general building supervision approvals, test certificates, expert reports, installation instructions and references.

The FOAMGLAS® Building Division is devoted to applications in the area of structural engineering. Technical plants such as process engineering and petro-chemical are handled by the FOAMGLAS® Industry Division.

- 1 Guggenheim Museum,
New York. architect
Frank Lloyd Wright
- 2 Museum of Islamic art,
Doha – Qatar, architect
I. M. Pei.
- 3 Reichstag, Berlin, architect
Sir Norman Foster

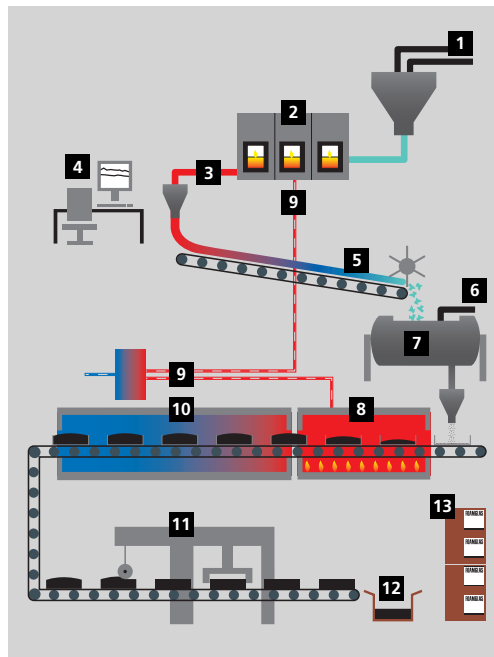
FOAMGLAS®



Sustainable production

FOAMGLAS® inorganic insulation contains no propellants harmful to the ozone layer, no flame retardants and no binding agents.

FOAMGLAS® is a high-quality thermal insulation material for structural engineering and for technical operating plants. The insulation is manufactured primarily from recycled glass (>66 %) and natural raw materials that occur almost without limit in nature. With the recycling of glass, FOAMGLAS® makes an important ecological contribution.



Raw materials and the manufacturing process determine the unique combination of properties of this unusual insulation. First from a fusion of recycled glass, sand, dolomite, lime, iron oxide etc. a glass with precisely defined properties is obtained. In a further part of the process the glass is ground, mixed with a small amount of carbon and put in high-grade steel moulds. The moulds then pass through a furnace in which the glass foam powder is expanded.

A material structure emerges with thin cellular glass walls, which are retained in a controlled cooling process. Due to the cell structure, millions of the smallest possible hermetically sealed glass cells give the material extraordinary compressive strength, waterproofness and good insulation values.

- 1 Mixing and batching of the raw materials: Recycled glass, feldspar, sodium carbonate, iron oxide, manganese oxide, sodium sulphate, sodium nitrate
- 2 the melting furnace has a constant temperature of 1250°C.
- 3 molten glass is drawn out of the furnace.
- 4 control room for monitoring the production.
- 5 The glass is drawn off and falls onto the conveyor band where it cools down before entering into the ball mill.
- 6 Addition of "carbon black".
- 7 ball mill grinds all ingredients into a fine powder before putting into stainless steel moulds
- 8 the filled moulds pass through a cellulating oven (Foaming furnace) with a temperature of 850° C. This is where the material gains its unique cell structure
- 9 energy recovery of heat
- 10 The FOAMGLAS® blocks passes through an annealing oven to allow carefully controlled cooling of the block without thermal stress.
- 11 The blocks are cut to size and sorted by batch. Production Waste returns back into the process.
- 12 FOAMGLAS® slabs are then packaged, labelled and palletized.
- 13 Finished FOAMGLAS® products are stored and prepared for transport.

Manufacturing facilities in Europe:

- 1 Tessengerlo (Belgium)
- 2 Schmiedefeld (Germany)
- 3 Klášterec nad Ohří (Czech Republic)

FOAMGLAS®



Major contribution to environmental protection

FOAMGLAS® is environmentally neutral and harmless in terms of building biology.

FOAMGLAS® insulation systems not only saves the client from unpleasant surprises like high heating costs or insulation losses resulting from moisture ingress, it also protects the environment in several other respects. On the one hand it enables significant energy savings, on the other FOAMGLAS® is ecologically irreproachable and neutral in terms of building physics. When the building is dismantled, the insulation can be recycled or used as filler, for example in road construction.



Due to process optimisation in the manufacturing and the drawing of energy from hydro and wind power, FOAMGLAS® performs well in the relevant ecological indicators, especially in the areas of air emissions and the use of energy and resources. Currently the amount of non-renewable energy used for the manufacturing of FOAMGLAS® T4+ amounts to 4,24 kWh/kg. Consequently FOAMGLAS® is at the leading edge ecologically, and need not shy away from any comparison with its competitors. The insulating material does not contain any propellants harmful to the ozone layer (CFCs, HFCs, HCFCs etc.), flame retardants or binding agents.

The raw materials used for manufacturing are exclusively mineral and consequently quite safe. The main raw material consists of recycled glass, obtained from defective automobile windscreens and windows. The proportion of recycled glass is currently approx. 66 percent.

Long service life and sensible recycling

FOAMGLAS® and the system accessories fulfil the requirements for an environmentally compatible cycle to a high degree. FOAMGLAS® insulation systems have a long service life. The service life of the insulation potentially matches that of the building. After the usage phase, cellular glass can be re-used optimally as crushed stone (e.g. bedding in road construction) or filler for acoustic protection walls. Dimensionally stable, environmentally neutral, inorganic, non-rotting and without risk for the groundwater, FOAMGLAS® is outstandingly suited for this area of use. FOAMGLAS® residues that are not recycled can be stored in inert material landfills (Landfill class I).

- 1 High-grade recycled glass.
- 2 FOAMGLAS® can be used as filler material in road building or for acoustic protection walls at the end of the service life.



FOAMGLAS®



Passive fire protection

**FOAMGLAS® is
A1 non-combustible
(EN 13501).**

In spite of having legally fulfilled the fire protection conditions, many buildings do not withstand the effects of fire and the enormous development of heat. After fires, heated discussions about responsibility and fire protection are often ignited. Here the question of insulating materials plays a central role. Scientific investigations clearly show: FOAMGLAS® can contribute significantly to passive fire protection. The insulation is not only absolutely incombustible, it also does not develop any toxic smoke or gases. Smouldering fires are ruled out.



It doesn't always have to be a "flaming hell", when fire disasters are spoken of. One is reminded for instance of the disasters at Düsseldorf airport (1995) with 17 victims, or the Mont Blanc tunnels (1999), in which 39 people lost their lives. In both cases toxic gases from insulation materials used in the construction played a deadly role in terms of the human cost (polystyrene in Düsseldorf, polyurethane at Mont Blanc). FOAMGLAS® however does not develop either thick smoke or toxic gases. In matters of fire protection FOAMGLAS® is not comparable with any other so-called "incombustible" insulation.

Structural fire protection in the roof structure is especially important. Flames spreading through the roof construction are often the cause of major fire disasters. Combustible insulating materials with vapour barriers increase the fire load to the roof and offer the fire rich fuel – vapour barriers and insulating materials melt and burn. Once the fire has penetrated the construction it can quickly spread. A total loss can be prevented only with difficulty. Not so with FOAMGLAS®. The FOAMGLAS® Compact Roof prevents the propagation of fire over the roof and keeps the roof from burning through from above. The delayed progress of the fire

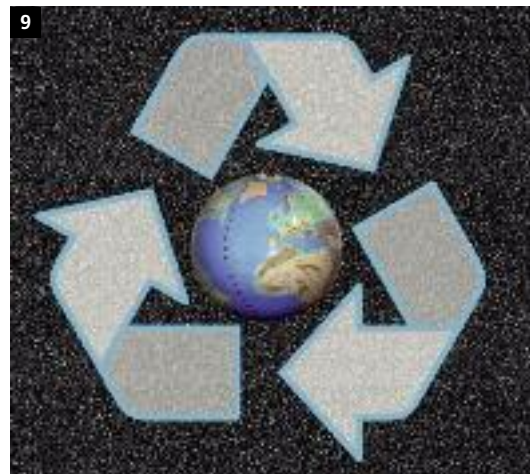
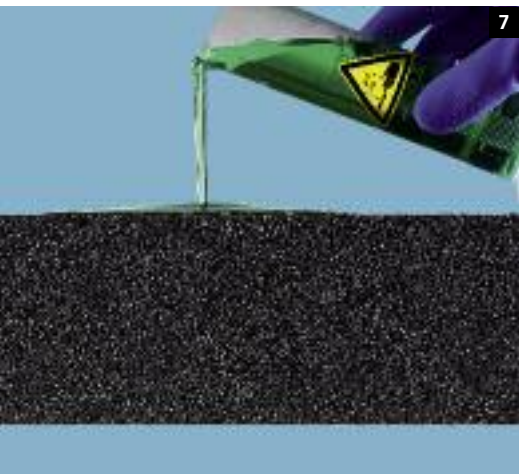
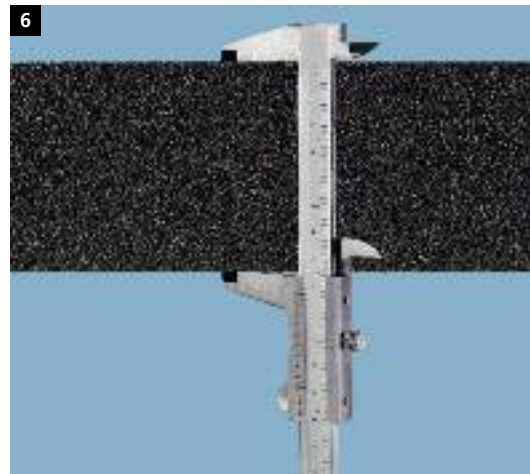
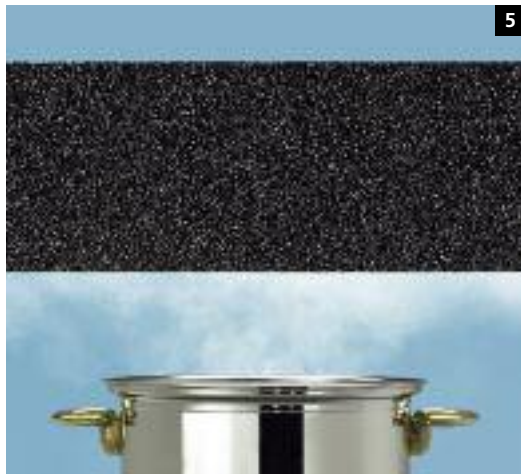
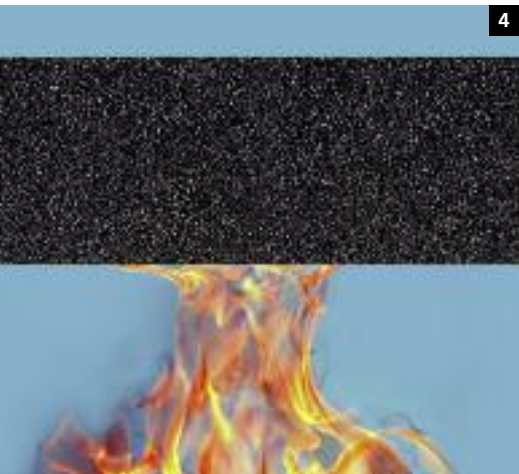
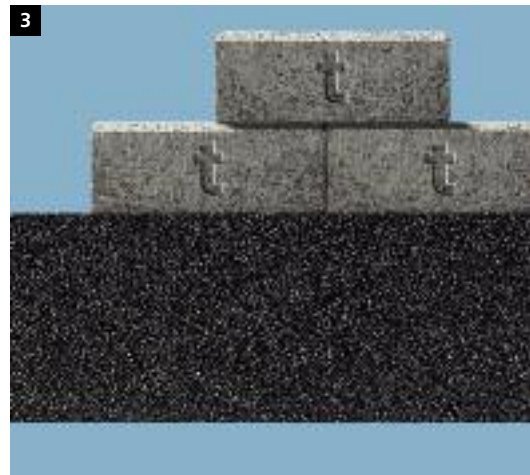
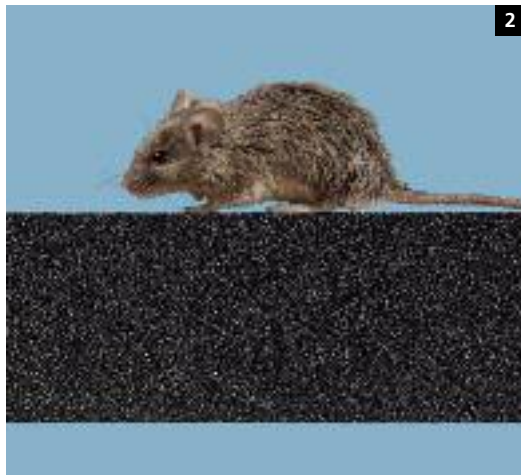
often enables a significant savings in time for fighting the fire. The material damage remains limited, and more time remains to evacuate the people who are endangered.

Smouldering fires are particularly dangerous. They usually propagate from the inside of the building structure and therefore often remain unnoticed for a long time. It is not rare for insulating materials of fibre products to be affected by this due to their physical and chemical properties. With FOAMGLAS® this danger does not arise. Due to the closed cellular structure of the insulation, no oxygen reaches the source of the fire. In addition, FOAMGLAS® is non-combustible, with a melting point of more than 1000 °C.

Various fire tests also verify that cellular glass has outstanding fire protection properties. Relevant test certificates can be requested from Pittsburgh Corning. Through the choice of suitable building materials, planners and clients can make a significant contribution to preventive fire protection.

- 1 In the event of a fire, FOAMGLAS® does not produce any toxic gases.
- 2 FOAMGLAS® melting point > 1000 °C (cf DIN 4102-17).
- 3 FOAMGLAS® protects the building structure.

FOAMGLAS®



Unique product properties

Unique properties make FOAMGLAS® an incomparable insulation.

Thanks to its special properties, FOAMGLAS® fulfils even the most stringent requirements for building physics. FOAMGLAS® offers outstanding system advantages that achieve a very favourable cost-benefit ratio over the service life of a building. Due to its hermetically sealed cell structure, cellular glass is extremely in-compressible, absolutely waterproof and sealed against vapour diffusion, and does not absorb any moisture. FOAMGLAS® is the only insulating material in which the vapour barrier, due to its material structure, is already "built in".



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1 Waterproof FOAMGLAS® is waterproof because it consists of pure glass. **Advantage:** does not absorb any moisture and does not swell.

2 Pest-proof FOAMGLAS® cannot rot and is pest-proof because it is inorganic. **Advantage:** insulation without risk, especially in the base area and the soil. No basis for nesting, breeding or seed germination.

3 Compression-proof FOAMGLAS® is extraordinarily in-compressible even with long-term loads due to its cell geometry without deformation. **Advantage:** use as load-bearing thermal insulation without risk.

4 Incombustible FOAMGLAS® cannot burn because it consists of pure glass. Fire behaviour: Classification according to EN 13501: A1. **Advantage:** storage and processing not hazardous. No propagation of flames in the event of fire (chimney effect) in ventilation space.

5 Vapour-tight FOAMGLAS® is vapour-tight because it consists of hermetically sealed glass cells. **Advantage:** cannot soak through and already contains the vapour barrier. Constant thermal insulation value over decades. Prevents the penetration of radon.

6 Dimensionally stable FOAMGLAS® is dimensionally stable because glass neither shrinks nor swells. **Advantage:** no dishing, contracting or creep. Low coefficient of expansion, nearly equal to that of steel and concrete.

7 Acid-resistant FOAMGLAS® is resistant to organic solvents and acids because it consists of pure glass. **Advantage:** no destruction of the insulation by aggressive mediums and atmospheres.

8 Easy to work with FOAMGLAS® is easy to work with because it consists of thin-walled glass cells. **Advantage:** with simple tools like a saw blade or hand saw, FOAMGLAS® can be cut to any desired measurement.

9 Ecological FOAMGLAS® is free of environmentally damaging flame retardants and propellants, no relevant eco-toxic components. **Advantage:** After generations of use as thermal insulation, FOAMGLAS® can be used again: as filler in landscaping or thermally insulating granulate. Ecologically sensible recycling through re-use.

- 1 FOAMGLAS® product range
2 FOAMGLAS® cell structure: Millions of tiny glass cells give the insulating materials incomparable characteristics.

FOAMGLAS[®]



Floor insulation, compression-free and stable

**FOAMGLAS® is
compression and
deformation free.**

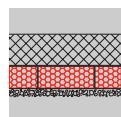
Thermal insulation is meant to enclose the whole building free of gaps. In addition to the roof and the walls, the building components in contact with the soil must also be thermally insulated. Thermal insulation in the floor can be arranged over or under the floor slab. FOAMGLAS® may be used in accordance with building supervision approval under foundation slabs as load-bearing thermal insulation, even with rising water pressure.



Thermal insulation in floors in contact with the soil requires especially stringent detailing. This is true above all because this part of the building is hardly accessible again – or only at great expense – throughout the whole service life of the building. Therefore floor insulation must guarantee suitability for use without damage, a long service life and appropriate stability. FOAMGLAS® fulfils these criteria without problems, and may be used in accordance with building supervision approval even as load-bearing thermal insulation.

FOAMGLAS® may also be used in areas with constant water pressure (groundwater). For floors with a high surface, point or rolling load, FOAMGLAS® is the ideal insulation. Resistant to rodents and insects, micro-organisms, roots and humic acid, with a high load capacity and deformation-free – these are the unsurpassed advantages of FOAMGLAS® for lasting thermal and moisture protection of structural elements in contact with the soil.

FOAMGLAS® Slabs or Boards are used in these applications. FOAMGLAS® Slabs are installed in the proven compact method of construction. All layers are adhered compactly, i. e. over the whole surface and all the joints. FOAMGLAS® Boards are installed using the dry construction method in a bed of sand or chippings, or in fresh concrete. FOAMGLAS® Slabs and Boards are absolutely vapour diffusion proof and waterproof, and do not absorb water either in liquid form or through interior diffusion flows. Thus the insulation value is retained during the entire service life of a building. Stability and ability to function are guaranteed with FOAMGLAS®.



- 1 Residential building, Brixen (I)
- 2 ARAG insurance, Munich (D)
- 3 Linde Agora, Munich (D)

FOAMGLAS®



Perimeter insulation protects against moisture and water penetration

FOAMGLAS® perimeter insulation is approved even with rising water pressure.

Exterior wall insulation in the soil makes stringent demands of the insulation. It must resist pressure, moisture, rotting, rodents, insects and humic acid. FOAMGLAS® fulfils this stringent profile of requirements without problems. It protects basement rooms against heat losses and, with appropriate waterproofing, protects against moisture ingress.



For economic reasons, cellar levels are being used more and more frequently for residential or business purposes. Walls in contact with the soil must therefore be insulated with special care taken in order to prevent moisture damage and, costly reparation. FOAMGLAS® offers convincing systems that provide reliable and lasting protection for building components in contact with the soil.

FOAMGLAS® insulating materials can be used for all moisture stresses. A general building supervision approval has been granted for thermal insulation on the outside of building surfaces in contact with the soil under stresses due to damp soil up to groundwater.

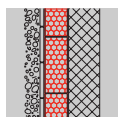


FOAMGLAS® Slabs or FOAMGLAS® Boards are used. In perimeter insulation with FOAMGLAS® Slabs all layers are securely bonded under each other and over the whole surface and all the joints of the load-bearing structure. Even with water pressure, water penetration of the FOAMGLAS® insulation with uncontrolled cooling of the exterior wall is ruled out. Insulation on the outside of the cellar walls requires compression-proof, water-proof insulation. In combination with the bitumen adhesive, FOAMGLAS® forms an additional system that offers moisture protection for the building.

Keeping the building dry is guaranteed by waterproofing membranes for the building in line with the respective stress. An additional plus point: FOAMGLAS® offers the safe-operating exterior insulation system that does not necessitate any additional drainage measures (pay attention to building waterproofing).

Safety in the event of flooding:
Even when fully immersed in water the product remains un-affected.
FOAMGLAS® perimeter insulation is vapour-proof and does not absorb water, either in liquid form or through interior condensation.

- 1 Office building Kia Motors headquarter Europe, Frankfurt Main (D)
- 2 Best Western Hotel, Usedom (D)



FOAMGLAS®



Facade insulation, innovative and economical

**FOAMGLAS®
defies wind and
weather as well
as pests.**

With modern façade architecture, buildings must be protected against fire, wind and weather. To these are added the legislative requirements such as thermal protection, fire protection and designs to avoid thermal bridges. The discriminating profile of requirements demands a material with remarkable properties. FOAMGLAS® makes technologically safe solutions available for facades and walls that guarantee protection of the substrate that will last for the service life of the building. The result is a solution that meets the planning, safety and sustainable requirements of the new-building or renovation and reduced operating costs.



1

Often at first glance the way it looks behind the visible, outer cladding of a façade cannot be clarified. Only professionals know how to assess how reliably substructures, fastenings and other hidden structural layers executed in the wall cross-section work and interact with each other.



2

With curtain wall ventilated facades, especially with open-joint structures, a considerable deterioration of insulation value can occur. This happens due to convection, direct wind loads on the insulating material over the joints, or water penetration of the thermal insulation. The most serious heat losses are caused by thermal bridges in the substructure. Usually mechanical fasteners that penetrate the insulation layer are at fault. Thermography images bring such weaknesses caused by the system to light.

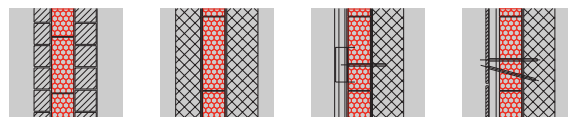


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With FOAMGLAS® innovative systems are available that also solve the thermal bridge problem convincingly. By installing the fastening level for the substructure and cladding in front of the thermal installation – by means of pressed in claw plates – a structure with minimal thermal bridges is achieved. Putting the cladding directly on top of the insulating layer is possible and fulfils the building physics requirements. Full-surface and compact bonding of the insulation layer guarantees that the system is completely air-tight. Ventilation spaces become superfluous. From this a low thickness of the structure and a substantial space gain result at the same time as high insulation performance. FOAMGLAS® is dimensionally stable. Subsidence or dishing of the insulation layer is ruled out.

FOAMGLAS® facade insulation systems are suitable for practically all types of cladding. As a result there are almost no limits to the choice of material and the freedom of design.

- 1 Church in Sierate (I).
- 2 Residential building, Luzern (CH).
- 3 Office building with grid curtain, Fa. Edelmann, Heidenheim (D)



FOAMGLAS[®]



Interior insulation, effective and flawless in terms of building physics

Complex building physics requirements fulfilled.

If exterior walls in new builds or facades of existing buildings require thermal improvement or energy savings “from the inside”, then special building physics requirements must be complied with. With improperly executed interior insulation, condensation will form in the wall cross-section and propagate the development of mould and the associated consequences. FOAMGLAS® convincingly solves this problem. It is an insulating material and vapour barrier in one. As a result moisture can be avoided and water vapour diffusion from the inside to the outside is interrupted. Surface temperatures rise and provide an ideal climate inside the rooms.



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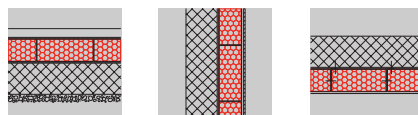
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Multi-layered structures with adhered vapour barriers are subject to errors and can easily lead to water penetrating through the building fabric. This often remains unnoticed for a long time. There are simpler solutions for interior insulation which are suitable for professional installation and operate over the long term. The basis is FOAMGLAS® cellular glass insulation, which, together with vapour-proof bonding, already contains the vapour barrier. Even when gaps are made in the insulation with a cutting tool, for example for electrical installations, it retains its full ability to function and therefore prevents the formation of condensation water. FOAMGLAS® is easy for installers to work with, and is suitable as interior insulation for new buildings and renovation.

FOAMGLAS® interior insulation systems make it possible to change the use of rooms. In this way basement and attic storeys as well as rooms in existing or even historical buildings are experiencing a renaissance. This increases the value of property, protects the building fabric from moisture and provides sustainable energy savings. Since FOAMGLAS® does not contain any harmful substances and is flawless ecologically, clear room air is guaranteed that provides a constant climate that is neutral in terms of building biology. It is no accident therefore that in many public buildings such as museums, hospitals, churches and schools, but also in private residential building, FOAMGLAS® interior insulation systems are increasingly being used.

Due to the varied design finishes required in modern interiors, contemporary features can easily be emphasised. Any materials used for interior building, from plasterboard and plastering systems to high-quality panelling, can be combined with the cellular glass insulation.

- 1 Museum of art, Liechtenstein Vaduz FL
- 2 The Home of Fifa, (CH)



FOAMGLAS®



Flat roof insulation, long-lasting and compact

**The FOAMGLAS®
Compact Roof is
infiltration-proof.**

The flat roof is one of the most important application areas for FOAMGLAS® insulation. On concrete roof surfaces the FOAMGLAS® Compact Roof has successfully proven itself even under the most stringent conditions for over 50 years. In this system all layers of the roof build-up are bonded to each other and combined with the load-bearing structure over the whole surface. The advantages: a high degree of safety and a long service life.



In the FOAMGLAS® Compact Roof all layers are homogeneously bonded to each other. Water flow within the layers is impossible as a result. Soaking through of the insulation layer and water infiltration are therefore excluded by the system. This has a very significant effect on the service life of the roof.



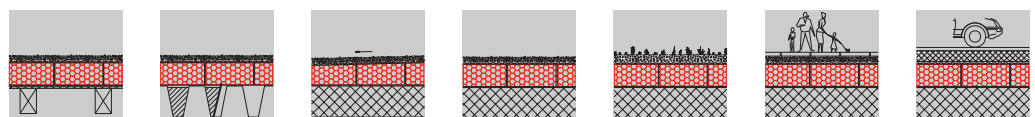
On the FOAMGLAS® Compact Roof any surface can be executed. Depending on the use planned, terraces safe for walking, green-roofs, roofs for driving on or gravelled or freely weathered roofs can be implemented. Later changes in use are possible without problems because the insulation system fulfils the necessary pre-conditions. For variable gradient roofs we offer a bespoke design service using a Tapered Roof System with FOAMGLAS® Slabs with a fall represent an option that is advantageous economically and in terms of insulation technology. Screeds are either eliminated or reduced, and the insulation value rises at the same time.



On steel deck surfaces FOAMGLAS® READY BOARDS can be applied for normal building physics stresses. FOAMGLAS® Slabs are bonded either with hot bitumen using the edge dipping procedure, or adhered to the steel deck section with cold bituminous adhesive. Ready Boards are bonded to the sheet metal upper section with cold bituminous adhesive.

In the application of the first of waterproofing layer, during the thermal activation of the coating there is sufficient bitumen bonding the materials to back fill dry installed butt joints. As a result additional bracing of steel sheet metal roofs is achieved by insulating with FOAMGLAS®.

- 1 Nursery school Maria Rast / St. Michael, Eppan (I).
- 2 Elementary school, Neckarbischofsheim (D).
- 3 Office building, Siemens, Berlin (D).



FOAMGLAS®



Metal roof insulation, aesthetic and safe

Advantage:
Fastening system free
of thermal bridges

The FOAMGLAS®-Compact Roof is also suitable as a load-bearing and highly insulating deck substrate. All types of coverings can be executed free of thermal bridges, safely in terms of building physics and economically. As a result architects and clients are given almost unlimited possibilities for implementing aesthetically and technically demanding buildings with safely insulated metal roof structures with a long service life.



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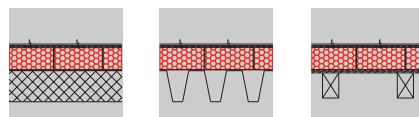
Many types of coverings can be executed using the metal roofing technique or with self-supporting industrially prefabricated sections. Metal rails bonded in the insulation or special claw plates form the necessary fastening points – free of thermal bridges. Full resistance to wind suction is ensured.

The bracing and stabilising effect of the compact adhered FOAMGLAS® does not allow any insulation migration to appear on the steel sheet metal sections, the roof waterproofing is not subject to any changes in shape from oscillation or structural movement.

Dimensionally stable FOAMGLAS® protects the adhering waterproofing and as a result supports a long service life of the whole roof system. Additional mechanical fastening is not necessary with FOAMGLAS®. In addition, the FOAMGLAS® Compact Roof builds up a waterproofing membrane under the metal covering eliminating the effects of Freeze/Thaw.

Due to the compact bonded insulation system, heating losses as a result of thermal bridges are ruled out. Furthermore: Every penetration by a fixing presents a potential problem in the area of the waterproofing, but also as a possible path for condensation on the fixings on the warm side of the construction. As a further consequence of condensation on exposed and cut metal surfaces, corrosion can appear. With the intelligent FOAMGLAS® fastening system these kinds of flaws caused by the system are excluded.

- 1 Head office TIF in Padua (I)
- 2 Roof refurbishment, theater Ingolstadt (D)
- 3 Office building, Beiersdorf, Hamburg (D)



Economic feasibility also means sustainability

Successful investors act with a long range view. They do not construct a structure that is cheapest in the short term, but build what is most favourable in the long term, and in this way obtain the optimum returns. This means that they invest in the quality of the building envelope and design in flexible use of the interior of the building. Energy consumption over the lifetime of the building is an important factor and demands an insulating material that remain constant over the whole service life of the building. FOAMGLAS® supports this maxim with system solutions that are oriented toward the service life of the building. This means economic feasibility and sustainability at the same time.



- 1 New Acropolis Museum, Athens, Greece: Tapered compact roof and terrace system
- 2 Colonia Pablo Iglesias, Madrid, Spain: Renovation of flat roof and façades
- 3 AOA Metrogiprotrans, Moscow, Russian Federation: Firebreak belts under the arch, roof and underground insulation
- 4 Puppet Theatre, Kiev, Ukraine: Standing seam roof and terrace

BG BULGARIA

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