

Cellular Glass Insulation

Foamglas® T4 as manufactured by Pittsburgh Corning is made exclusively of glass, there is no binder or other material in its composition. Foamglas® T4 is strictly non combustible and it does not absorb inflammable or dangerous liquids or gases. The product presents an excellent resistance towards water and is impervious to water vapour. Other Benefits include, No deterioration of thermal conductivity, Dimensional stability, Chemically Neutral, High compressive strength, Resistant to insects and rodents.



Product Characteristic:

Density	Nominal Dry Density 120kg/m ³
Appearance	Grey / Black Colour
Composition	Alumino silicated cellular glass with a specially elaborated composition; totally inorganic; contains no binders
Temperature Limits	From -260°C to +430°C
Softening point	Glass softening point: about 730°C
Water absorption	Zero, except for some temporary water retention on the surface
Hygroscopicity	Zero
Permeability	Zero
Resistance to water vapour transmission	$\mu = \infty$
Capillarity	Zero
Resistance to acids	Impervious to common acids and their fumes
Combustibility	Non-combustible
Dimensional stability	Perfect
Airborne sound transmission loss (average at normal frequency)	29dB for a 10cm thickness

www.IBSLGroup.co.uk

Product Information

Standard Length	600mm
Minimum Pipe Section O/D	17mm
Maximum Pipe Section O/D (R+B Lags supplied for sizes above)	406mm
Standard Thicknesses (Double & Triple layers also available)	25, 38, 50, 63, 75, 89, 100
Standard Packaging	Export Carton, shrink wrapped to pallet
Storage	A warm dry atmosphere, clear of ground

Product Range

- Flat Slab
- Pipe Section
- Radiused & Bevelled Lags
- Bends & Elbows
- Pipe Supports
- Dome End Segments
- Segments for Knuckles
- Flanges
- Valves
- Reducers
- Tees

Factory Applied Finishes

- Anti Abrasive Bore Coating
- VentureClad Covered
- Foil Backed
- Polyester Laminate Backed
- Canvas Covered

	M	SI
Specific weight (±10% tolerance)	120kg/m ³	120kg/m ³
Thermal Conductivity		
At -20°C (±5%)	0.030 kcal/mh°C	0.035 W/(m.K)
At 0°C (±5%)	0.033 kcal/mh°C	0.038 W/(m.K)
At +20°C (±5%)	0.034 kcal/mh°C	0.040 W/(m.K)
Compressive Strength (1) (average at break point)	7kg/cm ²	700kPa
Flexural Strength	4kg/cm ²	400kPa
Flexural Modulus of elasticity	8000kg/cm ²	400MPa
Coefficient of thermal expansion	9 x 10 ⁻⁶ /°C	9 x 10 ⁻⁶ /°K-1
Specific heat	0.20 kcal/kg°C	0.84 kJ/(kg.K)
Thermal diffusivity @ 0°C	4.2 x 10 ⁻³ cm ² /sec	4.2 x 10 ⁻⁷ cm ² /sec

Contact Details

Insulation & Buoyancy Services Ltd:

Unit 14D, Double Row
Delaval Trading Estate
Seaton Delaval, Northumberland,
NE25 0QT, England.

Tel: +44 (0)191 237 0444

Fax: +44 (0)191 237 3300

Email: Steve@ibslgroup.co.uk

Email: John@ibslgroup.co.uk



The information in this document is issued in good faith. IBSL Group can accept no responsibility for omissions, errors of content or errors of interpretation. All trade names and trade marks have been used with permission. Please consult with material manufacturer for detailed information.



Cellular Glass Insulation**Composition**

Chemical nature of the product: Inorganic foamed glass, without binder

Ingredient	CAS No.	EC No.	% by weight	Classification
Glass	65997-17-3	266-046-0	>99	-

Hazards Identification

Hazards to man: None

Hazards to the environment: None

First Aid Measures

Eyes	In case of irritation by glass dust, flush with water long enough keeping the eyelids open, and immediately consult an oculist
Skin	Wash with soap and water.
Ingestion	The physician must decide whether vomiting should be induced or not.
Inhalation	In case of headache, nausea during cutting in a small room, remove the victim to the fresh air, and call physician if necessary.

Exposure controls and personal protection

Additional information for the arrangement of technical installations. For the disposal of dust or of small quantities of hydrogen sulphide and carbon dioxide released when cutting FOAMGLAS® in a closed room, a normal extraction system with a dust filter is recommended. Only small quantities of glass dust, hydrogen sulphide and carbon dioxide are released when cutting FOAMGLAS®. The odour threshold for hydrogen sulfide (rotten eggs) is about 0.001 ppm.

Additional information on ingredients with limit values to be observed depending on the working place:

Ingredient	CAS No.	EEC No.	Value	Unit
Glass (fine dust)	65997-17-3	266-046-0	6	mg/m ³
Hydrogen sulphide	04/06/7783	04/06/7783	15	mg/m ³
Carbon dioxide	124-38-9	204-696-9	9000	mg/m ³

Personal Protection Equipment

Respiratory Protection: Not necessary (ventilation must be foreseen for cutting work in a closed room).

Hand Protection: Working gloves

Eye Protection: Protective glasses

Skin Protection: Working clothes with long sleeves

Hygiene Practices: Wash hands before breaks and after work

Physical and Chemical Properties

Shape:	Boards and prefabricated elements
Colour:	Grey-black
Odour:	No odour. A light odour of hydrogen sulphide when cut
pH value:	Not applicable
Change of state:	Softening from about 600 °C (according to DIN 52271)
Flash point:	Not applicable
Ignition temperature:	Not applicable
Explosion hazards:	Not applicable
Vapour pressure:	Not applicable
Density:	Apparent density 100 - 180 kg/m ³ (DIN 18174)
Viscosity:	Not applicable
Solubility:	Insoluble
Liposolubility:	Insoluble
Viscosity:	Not applicable
Solvent content:	None



www.IBSLGroup.co.uk

Tel: +44 (0)191 237 0444

Fire Fighting Measures

According to DIN 4102, Part 1, FOAMGLAS® is incombustible; it belongs to class A1. The FOAMGLAS insulation contains completely closed cells and does not induce fire propagation due to the absorption of inflammable products. Following the European fire classification (Official Journal of the European Communities No. L267/23 dated October 19, 1996), the FOAMGLAS® insulation is classified in "Euroclass A "No contribution to fire".

Accidental Release Measures

Absorb mechanically (avoid generation of dust).

Handling - No special measure required.

Storage - Store in a dry place.

Stability and Reactivity

Pyrolysis: will not occur

Hazardous decomposition products: none

Hazardous reactions: none

Toxicological Information

For hydrogen sulphide, LC50 = 673 pp (mouse/inhalation/1 h). To reach a TLV value of 15 mg/m³ (10 ppm) in an unventilated closed room of 5 x 5 x 3 = 75 m³, 4000 standard boards (type T4) should be cut in half, lengthwise. According to studies carried out by the FORSCHUNGSINSTITUT DER BERGBAU BERUFGENOSSENSCHAFT, the exposure to FOAMGLAS® fine dust does not cause any pulmonary disease due to the inhalation of quartz dust (silicosis).

Ecological Information

- FOAMGLAS® is an inorganic material, biologically neutral and inert.
- It is not harmful to the environment and it is compatible with it.
- It is factory made from natural raw materials.
- It is not harmful to ground waters, does not contain any fibres or foaming agents deteriorating the ozone layer.
- FOAMGLAS® can be recycled.

Disposal Considerations

Product (FOAMGLAS®) The disposal must be carried out according to the waste catalogue, taking the national regulations into account. It can be recycled (converted into filling material for road construction in concrete mills). Its disposal does not require any particular control.

Transport Information

- No special Considerations.
- Flashpoint: not applicable
- Labelling; not applicable

Regulatory Information

No marking is required in the decree on hazardous materials.