

Data Sheet

GLT Products fabricates FOAMGLAS® Insulation for use in industrial and commercial applications. A lightweight, rigid material composed of millions of completely sealed glass cells. As an inorganic compound containing no binders and fillers it is ideal for both above ground and underground insulation systems. Manufactured in block form, the blocks are then cut, shaped and tapered into the fabricated pipe insulation fittings and covers.

Key Applications

- Cryogenic systems
- Low temperature pipe, tanks and vessels
- Piping
- Steam and chilled water piping
- Commercial piping and ductwork
- Direct burial/underground
- Heat transfer fluid systems
- Hot oil and asphalt storage tanks



TEMP RANGE: -450°F to 900°F

FOAMGLAS® ADVANTAGES

- Corrosion resistant
- Zero water vapor permeability
- Easy installation
- Long term dimensional stability
- Moisture resistant
- Fire resistant
- High compressive strength

Type	Form and grades available	Minimum compressive resistance (lbs/in ³)
I	Flat Block, Grades 1 and 2	20
II*	Pipe and Tubing, Fabricated, Grades 1 and 2	35
III	Special Fabricated Shapes, Grades 1 and 2	45
IV*	Board, Fabricated, Grade 2	22

*Most common types used in fabrication of pipe insulation.

COMPLIANCE DATA

ASTM METHOD
C240, E96, E84, E136, C871
C692, C1617, C165, C240, C177, C518, C335

FITTING TYPES

90° Elbows

45° Elbows

Tees

Pipe Covering

Segmented



Physical Properties

Physical and thermal properties are provided by Pittsburgh Corning.

PHYSICAL AND THERMAL PROPERTIES^{2,3}

PROPERTY	ASTM METHOD	SI	ENGLISH
ABSORPTION OF MOISTURE	C240	< 0.2% by Vol	< 0.2% by Vol
CAPILLARITY		None	
CHEMICAL RESISTANCE		Impervious to common acids and their fumes.	
COEFFICIENT OF LINEAR THERMAL EXPANSION	E228	25 to 300 °C , 9.0 x 10 ⁻⁶ / K -170 to 25 °C , 6.6 x 10 ⁻⁶ / K	75 to 575 °F , 5.0 x 10 ⁻⁶ / °F -274 to 75 °F , 3.7 x 10 ⁻⁶ / °F
COMBUSTIBILITY	E136	Noncombustible	
COMPOSITION		Soda lime glass. Inorganic. No fibers or binders.	
COMPRESSIVE STRENGTH	C165 / C240 / C552	AVG = 620 kPa LSL = 414 kPa	AVG = 90 lb / in ² LSL = 60 lb / in ²
CORROSION, WATER SOLUABLE IONS AND PH	C871 C692 C1617	Acceptable for use with stainless steel Pass (0 Coupon Cracked) < DI Water	
DENSITY (+/-10%)	C303	115 kg / m ³	7.18 lb / ft ³
DIMENSIONAL STABILITY		Excellent - does not shrink or swell.	
FLEXURAL STRENGTH	C203 / C240	AVG = 480 kPa LSL = 283 kPa	AVG = 70 lb / in ² LSL = 41 lb / in ²
HYGROSCOPICITY		No increase in weight at 90% relative humidity.	
MODULUS OF ELASTICITY, APPROXIMATE (ν= 0.25)	C623	900 MPa	1.3 x 10 ⁵ lb·in ⁻²
SERVICE TEMPERATURE		-268 to 482 °C	-450 to 900 °F
SPECIFIC HEAT	E1461	0.77 kJ / kg·K @ 25°C	0.18 BTU / lb·°F @ 77°F
SURFACE BURNING CHARACTERISTICS	E84	Flame Spread Index 0 / Smoke Development Index 0	
WATER VAPOR PERMEABILITY	E96 Wet Cup	0.00 ng / Pa·s·m	0.00 perm·inch

THERMAL CONDUCTIVITY (λ) VALUES AT SELECT TEMPERATURES (ASTM C518, C177)

TEMPERATURE	°C (°F)	204 (400)	149 (300)	93 (200)	38 (100)	24 (75)	10 (50)	-18 (0)	-46 (-50)	-73 (-100)	-101 (-150)	-129 (-200)	-157 (-250)	-165 (-265)
ASTM C552 ³	W/m K (BTU in/hr °F ft ²)	0.084 (0.58)	0.069 (0.48)	0.058 (0.40)	0.048 (0.33)	0.045 (0.31)	0.043 (0.30)	0.039 (0.27)	0.035 (0.24)	0.032 (0.22)	0.029 (0.20)	0.025 (0.17)	0.023 (0.16)	N/A
FOAMGLAS® ONE™ Insulation ⁴	W/m K (BTU in/hr °F ft ²)	0.078 (0.54)	0.065 (0.45)	0.054 (0.38)	0.044 (0.31)	0.042 (0.29)	0.040 (0.28)	0.036 (0.25)	0.032 (0.22)	0.028 (0.20)	0.025 (0.18)	0.023 (0.16)	0.020 (0.14)	0.019 (0.13)

²Values represent typical physical and thermal properties.

³Type I Block (Grade 6) limit values, where applicable, are specified by ASTM C552-15 Standard Specification for Cellular Glass Thermal Insulation.

⁴The values were determined by evaluating a polynomial at the insulation mean temperature. Contact Pittsburgh Corning for assistance applying our design polynomials to your application.

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For more information on GLT Products, please call toll-free at 800.874.1748 or visit us online at www.gltproducts.com.



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