

FOAMGLAS® HIGH LOAD BEARING CELLULAR GLASS INSULATION

FOAMGLAS® HLB 1400 Insulation ASTM C552 Grade 14

FOAMGLAS® HLB 1400 Insulation is specially designed for high load bearing industrial applications. Its unique combination of high compressive strength and low thermal conductivity makes it ideal for a wide range of tank base construction and other industrial load bearing applications.

Applications

- Cold & cryogenic tanks bases
- Hot & high temperature tank bases
- Load bearing pipe supports
- Secondary containment corner protection
- Special loading bearing applications

FOAMGLAS® HLB Block Insulation is manufactured in a full range of standard grades and it is available in standard SI and Imperial formats.

TYPE I BLOCK DIMENSIONS		
	SI	ENGLISH
WIDTH & LENGTH	450 x 600 mm	18 x 24 in
THICKNESSES	50-175 mm 25 mm increments	2-7 in 1 in increments

Contact a representative for regional availability.

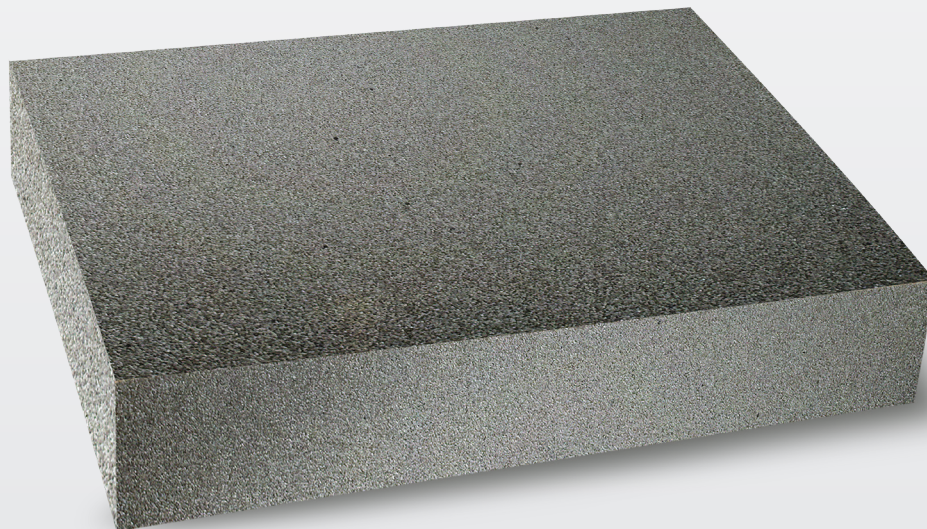
Attributes

- Constant insulating efficiency
- Noncombustible
- Non-absorbent
- Impermeable to water and water vapor
- Corrosion/chemical resistant
- Long term dimensional stability
- Vermin resistance
- High compressive strength
- Ecologically friendly, sustainable

STANDARDS, CERTIFICATIONS¹ AND APPROVALS

FOAMGLAS® Insulation can be certified to conform to the requirements of:

- ASTM C552 "Standard Specification for Cellular Glass Thermal Insulation" (Grade 14)
- I-QC-HLB / ISO 3951
- Military Specification MIL-DLT-24244D (SH), with Special Corrosion and Chloride Requirement"
- Nuclear Regulatory Guide 1.36, ASTM C795, C692, C871
- Flame Spread Index 0, Smoke Developed Index 0 (UL 723, ASTM E 84), UL R2844; also classified by UL of Canada
- UL 1709, Rapid Rise Fire Tests of Protection Materials for Structural Steel
- USGS Approval for Noncombustible Inspections
- GreenSpec® Listed. www.greenspec.com
- FOAMGLAS® insulation is identified by Federal Supply code for Manufacturers (FSCM 08869)
- Living Building Challenge RED LIST FREE product. Find our RED LIST FREE labels in the International Living Future Institute's database: FGL-0001 / FG-0002



¹Request for certification shall be included with valid order for FOAMGLAS® Insulation.

FOAMGLAS® HIGH LOAD BEARING CELLULAR GLASS INSULATION

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	LSL _{lot avg} =1400 kPa LSL _{ind} =970 kPa	LSL _{lot avg} =203 lb / in ² LSL _{ind} =140 lb / in ²
CORROSION, WATER SOLUBLE IONS AND PH	C871 C692 C1617	Acceptable for use with stainless steel Pass < DI Water	
DENSITY (+/-15%)	C303	150 kg / m ³	9.4 lb / ft ³
DIMENSIONAL STABILITY		Excellent - does not shrink or swell.	
FLEXURAL STRENGTH	C203 / C240	LSL = 434 kPa	LSL = 63 lb / in ²
HYGROSCOPICITY		No increase in weight at 90% relative humidity.	
MODULUS OF ELASTICITY, APPROXIMATE (ν=0.25)	C623	1503 MPa	2.2 x 10 ⁵ lb / in ²
SERVICE TEMPERATURE	Without Load With Load	-268 to 482 °C -268 to 400 °C	-450 to 900 °F -450 to 752 °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 MEAN 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)	0.088 (0.61)	0.075 (0.52)	0.063 (0.44)	0.053 (0.37)	0.052 (0.36)	0.049 (0.34)	0.045 (0.31)	0.040 (0.28)	0.037 (0.26)	0.035 (0.24)	0.032 (0.22)	0.029 (0.20)	N/A
FOAMGLAS® HLB 1400 Insulation ⁴	W/m K (BTU in/hr °F ft ²)	0.084 (0.58)	0.071 (0.49)	0.060 (0.42)	0.050 (0.35)	0.048 (0.33)	0.046 (0.32)	0.042 (0.29)	0.038 (0.26)	0.035 (0.24)	0.032 (0.22)	0.029 (0.20)	0.026 (0.18)	0.026 (0.18)

²Values represent typical physical and thermal properties.

³Type I Block (Grade 14) limit values, where applicable, are specified by ASTM C552 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.

For additional information on FOAMGLAS® HLB insulation or systems, please contact Pittsburgh Corning at any of our worldwide offices or visit us at www.foamglas.com.

Pittsburgh Corning Corporation
Global Industry Headquarters
800 Presque Isle Drive
Pittsburgh, PA 15239 USA

For web-based Sales and Technical Service inquiries, please visit www.foamglas.com

To contact by phone or email:
Industrial & Commercial Sales

Americas
+1 724 327 6100
+1 800 545 5001

Asia-Pacific
Singapore: +65 9635 9184
China: +86 (0) 21 6140 8002
Japan: +81 50 7554 0248

Europe, Middle East & Africa
+32 13 661 721

Technical Services

Americas & Asia Pacific
+1 800 327 6126
Foamglastechnical@pghcorning.com

Europe, Middle East & Africa
+32 13 611 468
Industrytechnical@foamglas.com

The information contained herein is accurate and reliable to the best of our knowledge. But, because Pittsburgh Corning Corporation has no control over installation workmanship, accessory materials or conditions of application, NO EXPRESSED OR IMPLIED WARRANTY OF ANY KIND, INCLUDING THOSE OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS MADE as to the performance of an installation containing Pittsburgh Corning products. In no event shall Pittsburgh Corning be liable for any damages arising because of product failure, whether incidental, special, consequential or punitive, regardless of the theory of liability upon which any such damages are claimed. Pittsburgh Corning Corporation provides written warranties for many of its products, and such warranties take precedence over the statements contained herein.