



FOAMGLAS[®] HLB 1200 INSULATION



HIGH-LOAD-BEARING CELLULAR GLASS INSULATION ASTM C552 GRADE 12

FOAMGLAS[®] HLB 1200 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.

Features

- Constant insulating efficiency
- Noncombustible
- Nonabsorbent
- Impermeable to water and water vapor
- Corrosion/chemical resistant
- Long-term dimensional stability
- Vermin resistance
- High compressive strength

Standards, Code Compliance and Approvals

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

- ASTM C552 "Standard Specification for Cellular Glass Thermal Insulation" (Grade 12)
- 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 E84), UL R2844; also classified by UL of Canada
- GreenSpec[®] listed, www.greenspec.com
- FOAMGLAS[®] Insulation is identified by Federal Supply Code for Manufacturers (FSCM 08869)

Applications

- Cold and cryogenic tank bases
- Hot and high temperature tank bases
- Load-bearing pipe supports
- Secondary containment corner protection
- Special load-bearing applications

FOAMGLAS[®] HLB 1200 BLOCK DIMENSIONS

		SI	ENGLISH
STANDARD FORMAT	WIDTH & LENGTH	450 x 600 mm	18 x 24 in
	THICKNESS	50–175 mm (25 mm increments)	2–7 in (1 in increments)
XL FORMAT	WIDTH & LENGTH	600 x 900 mm	24 x 36 in
	THICKNESS	100–125 mm (25 mm increments)	4–5 in (1 in increments)

Contact a representative for regional availability.

Physical and Thermal Properties^{1,2}

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, $9.0 \times 10^{-6}/K$	75 to 575°F, $5.0 \times 10^{-6}/^{\circ}F$
		-170 to 25°C, $6.6 \times 10^{-6}/K$	-274 to 75°F, $3.7 \times 10^{-6}/^{\circ}F$
Combustibility	E136	Noncombustible	
Composition	–	Soda-lime glass. Inorganic. No fibers or binders.	
Compressive Strength	C165/C240/C552	$LSL_{lot\ avg} = 1200\text{ kPa}$	$LSL_{lot\ avg} = 174\text{ lb/in}^2$
		$LSL_{ind} = 827\text{ kPa}$	$LSL_{ind} = 120\text{ lb/in}^2$
Corrosion, Water Soluble Ions, and pH	C871 C692 C1617	Acceptable for use with stainless steel Pass < DI Water	
Density ($\pm 15\%$)	C303	140 kg/m ³	8.7 lb/ft ³
Dimensional Stability	–	Excellent – does not shrink or swell	
Flexural Strength	C203/C240	LSL = 386 kPa	LSL = 51 lb/in ²
Hygroscopicity	–	No increase in weight at 90% relative humidity	
Modulus of Elasticity, Approximate ($\nu = 0.25$)	C623	1358 MPa	$2.0 \times 10^5\text{ lb-in}^{-2}$
Service Temperature	Without Load	-268 to 482°C	-450 to 900°F
	With Load	-268 to 400°C	-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 ²	W/m K (BTU in/hr °F ft ²)	0.086 (0.60)	0.074 (0.51)	0.062 (0.43)	0.052 (0.36)	0.050 (0.35)	0.048 (0.33)	0.043 (0.30)	0.040 (0.28)	0.036 (0.25)	0.033 (0.23)	0.030 (0.21)	0.027 (0.19)	N/A
FOAMGLAS® HLB 1200 INSULATION ³	W/m K (BTU in/hr °F ft ²)	0.083 (0.58)	0.071 (0.49)	0.059 (0.41)	0.049 (0.34)	0.047 (0.33)	0.045 (0.31)	0.041 (0.28)	0.037 (0.26)	0.034 (0.23)	0.031 (0.21)	0.028 (0.20)	0.026 (0.18)	0.025 (0.17)

1 Values represent typical physical and thermal properties.

2 Type 1 Block (Grade 12) limit values, where applicable, are specified by ASTM C552 Standard Specification for Cellular Glass Thermal Insulation.

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

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

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Industrial & Commercial Sales

Americas
+1 800 327 6126

Asia-Pacific
Singapore: +65 9635 9184
China: +86 (0) 21 6101 7179
Japan: +81 3 6365 4307

Europe, Middle East & Africa
+32 13 661 721

Technical Services

Americas & Asia-Pacific
+1 800 327 6126
foamglastechnical@owenscorning.com

Europe, Middle East & Africa
+32 13 611 468
industry.tech@owenscorning.com



PITTSBURGH CORNING, LLC
ONE OWENS CORNING PARKWAY
TOLEDO, OHIO 43659 USA

Toll Free + 1 800 327 6126
For web-based Sales and Technical Service inquiries, please visit **www.foamglas.com**.