



# FOAMGLAS<sup>®</sup> HLB 800 INSULATION



## HIGH-LOAD-BEARING CELLULAR GLASS INSULATION ASTM C552 GRADE 8

FOAMGLAS<sup>®</sup> HLB 800 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<sup>®</sup> Insulation can be certified to conform to the requirements of:

- ASTM C552 "Standard Specification for Cellular Glass Thermal Insulation" (Grade 8)
- 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<sup>®</sup> listed, [www.greenspec.com](http://www.greenspec.com)
- FOAMGLAS<sup>®</sup> 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<sup>®</sup> HLB 800 BLOCK DIMENSIONS

		SI	ENGLISH
STANDARD FORMAT	WIDTH & LENGTH	450 x 600 mm	18 x 24 in
	THICKNESS	50–180 mm (25 mm increments)	2–7 in (1 in increments)
XL FORMAT	WIDTH & LENGTH	600 x 900 mm	24 x 36 in
	THICKNESS	100–150 mm (25 mm increments)	4–6 in (1 in increments)

Contact a representative for regional availability.

## Physical and Thermal Properties<sup>1,2</sup>

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 <sup>-6</sup> /K	75 to 575°F, 5.0 x 10 <sup>-6</sup> /°F
		-170 to 25°C, 6.6 x 10 <sup>-6</sup> /K	-274 to 75°F, 3.7 x 10 <sup>-6</sup> /°F
Combustibility	E136	Noncombustible	
Composition	–	Soda-lime glass. Inorganic. No fibers or binders	
Compressive Strength	C165/C240/C552	LSL <sub>lot avg</sub> = 800 kPa	LSL <sub>lot avg</sub> = 116 lb/in <sup>2</sup>
		LSL <sub>ind</sub> = 552 kPa	LSL <sub>ind</sub> = 80 lb/in <sup>2</sup>
Corrosion, Water Soluble Ions, and pH	C871 C692 C1617	Acceptable for use with stainless steel Pass < DI Water	
Density (±15%)	C303	120 kg/m <sup>3</sup>	7.5 lb/ft <sup>3</sup>
Dimensional Stability	–	Excellent – does not shrink or swell.	
Flexural Strength	C203/C240	LSL = 310 kPa	LSL = 45 lb/in <sup>2</sup>
Hygroscopicity	–	No increase in weight at 90% relative humidity	
Modulus of Elasticity, Approximate (ν = 0.25)	C623	1110 MPa	1.6 x 10 <sup>5</sup> lb-in <sup>-2</sup>
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)
<b>ASTM C552<sup>2</sup></b>	<b>W/m K (BTU in/hr °F ft<sup>2</sup>)</b>	0.084 (0.58)	0.072 (0.50)	0.059 (0.41)	0.049 (0.34)	0.046 (0.32)	0.045 (0.31)	0.040 (0.28)	0.036 (0.25)	0.033 (0.23)	0.029 (0.20)	0.026 (0.18)	0.025 (0.17)	N/A
<b>FOAMGLAS® HLB 800 INSULATION<sup>3</sup></b>	<b>W/m K (BTU in/hr °F ft<sup>2</sup>)</b>	0.080 (0.55)	0.067 (0.47)	0.056 (0.39)	0.046 (0.32)	0.045 (0.31)	0.043 (0.29)	0.037 (0.26)	0.034 (0.23)	0.030 (0.21)	0.027 (0.19)	0.025 (0.17)	0.022 (0.15)	0.022 (0.15)

1 Values represent typical physical and thermal properties.

2 Type 1 Block (Grade 8) 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](http://www.foamglas.com)

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