



FOAMGLAS®

Pittsburgh Corning

Protecting Companies and Their People Worldwide™

INDUSTRIAL PIPE & EQUIPMENT INSULATION

FOAMGLAS® ONE™ insulation is a lightweight, rigid material composed of millions of completely sealed glass cells. FOAMGLAS® ONE™ insulation is manufactured by Pittsburgh Corning in a block form and then fabricated into a wide range of shapes and sizes to satisfy industrial and commercial insulation requirements.

BENEFITS

CONSTANT INSULATING EFFICIENCY

FOAMGLAS® ONE™ insulation has a homogeneous, closed cell glass structure that resists moisture in both liquid and vapor forms and results in long term, constant insulating efficiency.

NONCOMBUSTIBLE

FOAMGLAS® ONE™ insulation is 100% glass and contains no binders or fillers – it cannot burn. It will not absorb flammable liquids or vapors. If a facility fire occurs, FOAMGLAS® ONE™ insulation can help protect people and equipment by aiding in the containment or suppression of the flames.

CORROSION RESISTANT

FOAMGLAS® ONE™ insulation is unaffected by common chemicals and by most corrosive atmospheres. It does not promote metal corrosion and its moisture resistance will help keep water from reaching equipment and piping.

LONG TERM DIMENSIONAL STABILITY

FOAMGLAS® ONE™ insulation is not affected by temperature differentials and humidity. It will not swell, warp, shrink or otherwise distort. The integrity of the insulation remains intact even at the extremes of cryogenic service.

VERMIN RESISTANCE

FOAMGLAS® ONE™ insulation is resistant to vermin, as well as microbes and mold.

HIGH COMPRESSIVE STRENGTH

FOAMGLAS® ONE™ insulation can withstand loads which crush most other insulating materials. In a properly designed piping system, it eliminates the need for special treatment at pipe cradles. It provides a fire base for roof membranes, jacketing or vapor retarders, and can prolong their life.

ECOLOGICALLY FRIENDLY, SUSTAINABLE

FOAMGLAS® ONE™ insulation is free of CFC's and HCFC's and has been formally recognized as an ecologically friendly, sustainable construction material.

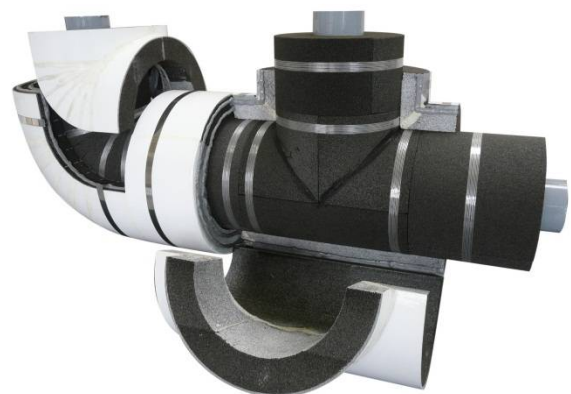
WORLDWIDE TECHNICAL SERVICE

Pittsburgh Corning's Technical Service Staff provides product, application and materials testing; standardized and customized application specifications; and onsite customer assistance and installation guidance.

FOAMGLAS® ONE™ INSULATION SYSTEMS FOR INDUSTRIAL AND COMMERCIAL APPLICATIONS

Pittsburgh Corning insulation systems provide solutions for a wide range of piping and equipment applications at operating temperatures from -268 to 482 °C (-450 to 900 °F).

- Cryogenic systems
- Low temperature pipe, equipment, tanks and vessels
- Medium and high temperature pipes and equipment
- Hot oil and hot asphalt storage tanks
- Heat transfer fluid systems
- Hydrocarbon processing systems
- Chemical processing systems
- Above ground and underground steam and chilled water piping
- Commercial piping and ductwork



STANDARDS, CERTIFICATIONS* AND APPROVALS

FOAMGLAS® ONE™ Insulation is the only cellular glass that can be certified to conform to the requirements of:

- ASTM C 552 "Specification for Cellular Glass Thermal Insulation"
- ASTM C 1639 "Standard Specification for Fabrication of Cellular Glass Piping and Tubing Insulation"
- EN 14305 Thermal insulation products for building equipment and industrial installations. Factory made cellular glass (CG) products.
- Military Specification MIL-DLT-24244D (SH), with Special Corrosion and Chloride Requirement"
- Nuclear Regulatory Guide 1.36, ASTM C 795, C 692, C 871
- Flame Spread Index 0, Smoke Developed Index 0 (UL 723, ASTM E 84), UL R2844; also classified by UL of Canada
- ISO 9001: 2008
- UL 1709
- For a listing of UL Through Penetration Fire Stop Approved Systems, please search the UL Database at <http://www.ul.com>. Once on this page click on CERTIFICATIONS on the left hand side. Under General Search click on UL FILE NUMBER and type in R15207 and then SEARCH.
- Board of Steamship Inspection (Canada) Certificate of Approval No. 100 / FI-98
- General Services Administration, PBS (PCD; 15250, Public Building Services Guide Specification, "Thermal Insulation (Mechanical)"
- New York City Department of Buildings, MEA #138-81-M FOAMGLAS® insulation for piping, equipment, walls and ceilings
- New York State Uniform Fire Prevention and Building Code Department of state (DOS) 07200-890201-2013
- City of Los Angeles General Approval RR22534
- Der Norske Verita Type Approval
- Lloyd's Register
- USGS Approval for Non-combustible Inspections
- GreenSpec® Listed. www.greenspec.com

FOAMGLAS® ONE™ insulation is identified by Federal Supply code for Manufacturers (FSCM 08869)

* Written request for certification of compliance must accompany order.

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



BCCA ISO 9001:2008



PHYSICAL AND THERMAL PROPERTIES OF FOAMGLAS® ONE™ INSULATION

PROPERTY	METHODS		VALUES	
	ASTM	EN ISO	SI	ENGLISH
ABSORPTION OF MOISTURE	C 240	EN 1609 EN 12087	< 0.2% by Vol WS, WL ≤ 0.5 kg m ⁻² **	< 0.2% by Vol
WATER VAPOR PERMEABILITY	E 96 Wet Cup	EN 12086 EN ISO 10456	0.00 ng·Pa ⁻¹ ·s ⁻¹ ·m ⁻¹ MU (μ = ∞)**	0.00 perm-inch
CHEMICAL RESISTANCE	Impervious to common acids and their fumes.			
CAPILARITY	None			
COMBUSTIBILITY & REACTION TO FIRE	E 136 E 84	EN ISO 1182	Non Combustible Flame Spread Index 0 Smoke Development Index 0 Euro Class A1**	
COMPOSITION	Soda lime glass. Inorganic. No fibers or binders.			
CORROSION, WATER SOLUBLE IONS AND PH	C 871 C 692 C 1617	EN 13468	Acceptable for use with Stainless Steel Pass (0 Coupon Cracked) < DI Water CL2**	
COMPRESSIVE STRENGTH, BLOCK AVG	C 165 C 240 C 552	EN 826 (Method A)	620 KPa CY 600**	90 lbs-in ⁻²
DIMENSIONAL STABILITY	Excellent – does not shrink or swell (DS 23, 90)**			
FLEXURAL STRENGTH, BLOCK AVG	C 203 C 240	EN 12089	480 KPa BS 450**	70 lbs-in ⁻²
HYGROSCOPICITY	No increase in weight at 90% relative humidity.			
COEFFICIENT OF LINEAR THERMAL EXPANSION, AVG	E 228	EN 13471	25 to 300 C 9.0 x 10 ⁻⁶ K ⁻¹ -170 to 25 C 6.6 x 10 ⁻⁶ K ⁻¹	75 to 575 F 5.0 x 10 ⁻⁶ F ⁻¹ -274 to 75 F 3.7 x 10 ⁻⁶ F ⁻¹
SERVICE TEMPERATURE			-268 to 482 C ST(-)-265** ST(+)-430**	-450 to 900 F
MODULUS OF ELASTICITY, APPROXIMATE	C 623		900 MPa	1.3 x 10 ⁻⁵ lbs-in ⁻²
THERMAL CONDUCTIVITY (λ), AVG BLOCK***	C 177 C 518 C 335	EN 12667 EN 12939	W·m ⁻¹ ·K ⁻¹ 0.040 @ 10 C 0.042 @ 24 C	BTU-in·hr ⁻¹ ·ft ⁻² ·F ⁻¹ 0.28 @ 50 F 0.29 @ 75 F
SPECIFIC HEAT			0.84 kJ·kg ⁻¹ ·K ⁻¹	0.20 BTU·lb ⁻¹ ·°F ⁻¹
THERMAL DIFFUSIVITY			4.2 x 10 ⁻⁷ m ² ·s ⁻¹	0.016 ft ² ·hr ⁻¹

Declared with respect to conformity with EN 14305 * Contact Pittsburgh Corning for declared design polynomials (λ_s) for block and curved segments.

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