

Product Name	Pittsburgh Corning Foamglas Insulation
Document Type	Green Building Rating Compatibility Analysis
Document Code	ES-GSNZ-09-11d
Client	Forman Building Systems

FOAMGLAS® cellular glass insulation contains no organic or inorganic binders. Used FOAMGLAS® insulation is inert and can be used as loose fill material at the end of its life. No blowing agent is used in the manufacturer of FOAMGLAS®, the cells are approximately 2/3rd vacuum and 1/3rd CO2 and this is a natural formulation caused by a small element of carbon and the oxygen in the glass meeting to form millions of hermetically sealed glass cells, and for this gas, the Ozone Depleting Potential (ODP) = zero.



Green Star Design & As Built NZ (V1)	Credit 13	0 points
	Credit 20	0 points
	Credit 21	Sustainability Factor (SF) = 0
Green Star Interiors NZ (V1)	Credit 12	0 points
	Credit 20	0 points
	Credit 21	Sustainability Factor (SF) = 0
Green Star Performance NZ (V1)	Credit 21	0 points
Green Star NZ (V3) Education V3.0 / Office / Industrial / Interiors + Education V3.1	EMI-3	1 point
	EMI-3	1 point



Homestar V4	MAT-1	0 points
	MAT-2	0 points
Homestar (V2 and V3)	EHC - 6	Contribution potential
	EHC - 7	Contribution potential



WELL Building Standard® V1	Feature 04	Fail
WELL Building Standard® V2	Feature X11	Fail



Living Building Challenge V3	Imperative 8	
	Imperative 10	
	Imperative 12	
	Imperative 13	
Living Building Challenge V4	Imperative 10	
	Imperative 13	
	Imperative 14	
	Imperative 15	

Manner in which the product may contribute towards points	Legend of Symbols in EnviroSpec
Products must meet specific criteria (e.g. Paint VOC emissions, carpets, etc)	✓
Products may help achieve points by their very nature, if they are specified and installed (e.g. bicycle racks)	●
Products may help achieve an outcome but they must be used in a specific manner (e.g. lighting control and zoning systems) OR The nominated product(s) can contribute towards the outcome but many other products or factor influence that same outcome (E.g. Potable Water Calculator)	○
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Rating Tool	Credit / category	Points available	Requirements	Contribution symbol	Contribution Potential	Details of compliance
Green Star Design & As Built NZ (V1)	Credit 13	2	<p>This credit rewards the use of low VOC and low formaldehyde interior products and finishes that safeguard occupant health through the reduction in internal air pollutant levels.</p> <ul style="list-style-type: none"> - 1 point is available where at least 95% of all internally applied paints, adhesives, sealants and carpets meet stipulated 'Total VOC Limits', or, where no paints, adhesives, sealants or carpets are used in the building. - 1 point is available where at least 95% of all engineered wood products meet stipulated formaldehyde limits or no new engineered wood products are used in the building. 	✓	0 points	The nominated product(s) do not meet the requirements for this credit.
	Credit 20	3	<p>This credit rewards projects that achieve a reduced environmental impact in the sourcing of steel, timber and PVC.</p> <p>Steel - 1 point is available where 95% of the building's steel (by mass) is sourced from a Responsible Steel Maker (manufacturer) ; and</p> <p>For steel framed buildings - at least 60% of the fabricated structural steelwork is supplied by a responsible steel fabricator/steel contractor.</p> <p>For concrete framed buildings - at least 60% (by mass) of all reinforcing bar and mesh is produced using energy-reducing processed in its manufacture holds Environmental Choice EC-41-15 certification.</p> <p>Timber - 1 point is available where at least 95% (by cost) of all timber used in the building and construction works is either certified by a recognised forest certification scheme, or is from a reused source.</p> <p>PVC - 1 point is available where 90% (by cost) of all permanent formwork, pipes, flooring, blinds and cables in a project are either PVC free, or meet the GBCA's Best Practice Guidelines for PVC.</p>	✓	0 points	The nominated product(s) do not meet the requirements for this credit.
	Credit 21	3	<p>This credit rewards the selection of products that meet transparency and sustainability requirements. Points are awarded based on the Project Sustainability Value (PSV*) and comparing it with the Project Contract Value (PCV).</p> <p><u>Benchmarks are:</u></p> <ul style="list-style-type: none"> - 1 point is awarded if PSV > 3% of PCV - 1 point is awarded if PSV > 6% of PCV - 1 point is awarded if PSV > 9% of PCV <p><i>The Project Sustainability Value is the sum of all the compliant product's "Product Sustainability Value" (PSV).</i></p> <p><i>The PSV = Sustainability Factor x cost of product</i></p>	✓	Sustainability Factor (SF) = 0	The nominated product(s) do not meet the requirements for this credit.

Rating Tool	Credit / category	Points available	Requirements	Contribution symbol	Contribution Potential	Details of compliance
Green Star Interiors NZ (V1)	Credit 12	6	<p>This credit rewards the use of plants, as well as low VOC and low formaldehyde interior products and finishes that safeguard occupant health through the reduction in internal air pollutant levels.</p> <ul style="list-style-type: none"> - 2 points are available where at least 95% of all internally applied paints, adhesives, sealants and carpets meet stipulated 'Total VOC Limits', or, where no paints, adhesives, sealants or carpets are used in the building. - 2 points are available where at least 95% of all engineered wood products meet stipulated formaldehyde limits or no new engineered wood products are used in the building. - 2 points are available where indoor plants are distributed across the nominated area and are regularly maintained. 	✓	0 points	The nominated product(s) do not meet the requirements for this credit.
	Credit 20	2	<p>This credit rewards projects that achieve a reduced environmental impact in the sourcing of timber and PVC.</p> <p>Timber - 1 point is available where at least 95% (by cost) of all timber used in the building and construction works is either certified by a recognised forest certification scheme, or is from a reused source.</p> <p>PVC - 1 point is available where 90% (by cost) of all permanent formwork, pipes, flooring, blinds and cables in a project are either PVC free, or meet the GBCA's Best Practice Guidelines for PVC.</p>	✓	0 points	The nominated product(s) do not meet the requirements for this credit.
	Credit 21	19	<p>This credit rewards the selection of products that meet transparency and sustainability requirements. Points are awarded based on the Project Sustainability Value (PSV*) and comparing it with the Total Materials Cost (TMC).</p> <p><u>Benchmarks are:</u></p> <ul style="list-style-type: none"> - 3.8 points are awarded if PSV > 20% of TMC - 7.2 points are awarded if PSV > 40% of TMC - 11.4 points are awarded if PSV > 60% of TMC - 15.2 points are awarded if PSV > 80% of TMC - 19 points are awarded if PSV = 100% of TMC <p><i>The Project Sustainability Value is the sum of all the compliant product's "Product Sustainability Value" (PSV).</i></p> <p><i>The PSV = Sustainability Factor x cost of product</i></p>	✓	Sustainability Factor (SF) = 0	The nominated product(s) do not meet the requirements for this credit.
Green Star Performance NZ (V1)	Credit 21	3	<p>This credit rewards the measurement and reduction of the environmental impacts of materials in building operations, maintenance and upgrades.</p> <p><u>Benchmarks are:</u></p> <ul style="list-style-type: none"> - 1 point is awarded for developing a sustainable procurement framework - 1 point is awarded where the top 3 consumable materials are purchased in accordance with the procurement framework - 1 point is awarded where refurbishment and maintenance materials are purchased in accordance with the procurement framework. <p><u>Refurbishment materials</u> - This includes at a minimum :</p> <ul style="list-style-type: none"> - Paints adhesives, sealants and carpets (to comply with Green Star V3 "Low emitting materials"), - Concrete (to comply with Green Star V3 "Concrete and Aggregate"), - Steel (to comply with Green Star V3 "Steel"). <p><i>* Note: This credit can, if desired, be extended to include doors, wall finishes and paneling, wall and roof insulation, carpet, floor tiles, ceiling tiles, light fixtures and any other building component owned by the building owner (e.g. roof replacement, built in furniture and joinery, etc)</i></p> <p><i>This only applies if the refurbishment work is > \$5/m2, otherwise the credit is deemed N/A</i></p>	✓	0 points	The nominated product(s) do not meet the requirements for this credit.

Rating Tool	Credit / category	Points available	Requirements	Contribution symbol	Contribution Potential	Details of compliance
Homestar (V2 and V3)	EHC - 6	15	This credit rewards the good thermal performance of the overall building design, encompassing insulation, glazing, orientation, ventilation and massing.	○	Contribution potential	Thermal insulation products are strongly encouraged in the walls, ceilings (and under floor) to level that are higher than required by Building Code to help achieve a better thermal performance of the building.
	EHC - 7	4.5	This credit rewards the minimisation of moisture accumulation and condensation within the property. Minimum levels of insulation are required to pass the mandatory requirements.	○	Contribution potential	Assuming the floor has an R value of at least R1.5, using Foam Glass insulation can easily help achieve at least R 1.5 final construction value for walls and ceiling which provides 0.5 points.
Homestar V4	MAT-1	10	This credit rewards the use of eco-preferred and responsibly sourced materials. Insulation products are one of thirteen possible material categories eligible for 2 points each.	-	0 points	This product has not been assessed against this criteria.
	MAT-2	4	This credit rewards the use of low VOC and low formaldehyde interior products and finishes. Insulation products are one of four material categories eligible for 1 point each.	-	0 points	This product has not been assessed against this criteria.
WELL Building Standard® V1	Feature 04	Pass/Fail	<p>Any newly installed items from the below product groups must meet prescribed low emissions criteria and/or equivalencies.</p> <p>PART 1: Interior Paints and Coatings PART 2: Interior Adhesives and Sealants PART 3: Flooring PART 4: Insulation (excluding duct insulation) PART 5: Furniture and Furnishings</p> <p>For detailed compliance criteria and acceptable equivalencies please refer to WELL V1 Standard</p>	✓	Pass	This insulation product holds...
WELL Building Standard® V2	Feature X11	3	<p>PART 1: Furniture and Furnishings</p> <ul style="list-style-type: none"> • 1 point is available if >50% by cost of newly installed furniture and furnishings meet VOC emission thresholds. • 2 points are available if >90% by cost of newly installed furniture and furnishings meet VOC emission thresholds. <p>PART 2: Flooring and Insulation</p> <ul style="list-style-type: none"> • 1 point is available if all newly installed flooring and thermal and acoustic insulation (excluding duct insulation) inside the building meet the following VOC emission thresholds. <p>For detailed compliance criteria and acceptable equivalencies please refer to WELL V2 Standard</p>	✓	Pass	This insulation product holds...

Passivhaus	Exterior Building Component -Opaque	Pass/Fail	<p>Passivhaus accreditation requires the building to abide by 5 principles:</p> <ul style="list-style-type: none"> • good levels of insulation • minimal thermal bridges • passive solar gains and internal heat sources • excellent level of airtightness • good indoor air quality, provided by a whole house mechanical ventilation system with highly efficient heat recovery. <p>Opaque external building elements in a passive house must meet certain minimum U-value criteria depending on climate zone.</p> <p>NZ North Island is assigned "warm" climate zone (U-value required < 0.50) and NZ South Island is assigned "warm temperate" Climate Zone (U-value required < 0.25).</p>	○	Contribution potential	Compliance with this imperative is dependent on the nominated product(s) meeting the requirements.

Living Building Challenge V3	Imperative 8	Pass/Fail	<p>Projects must create a Healthy Interior Environment Plan nominating:</p> <ul style="list-style-type: none"> • Compliance with the current version of ASHRAE 62, or international equivalent • Smoking must be prohibited within the project boundary • Results from an Indoor Air Quality test before and nine months after occupancy • Compliance with the CDPH Standard Method v1.1-2010 (or international equivalent) for all interior building products that have the potential to emit VOCs • Dedicated exhaust systems for kitchens, bathrooms, and janitorial areas • An entry approach that reduces particulates tracked in through shoes • An outline of a cleaning protocol that uses cleaning products that comply with the EPA Design for the Environment label (or international equivalent) 	-	-	This product has not been assessed against this criteria.
	Imperative 10	Pass/Fail	This imperative restricts the use of products that contain Red List chemicals as nominated by the Living Building Challenge.	-	-	This product has not been assessed against this criteria.
	Imperative 12	Pass/Fail	This imperative encourages responsible industry when sourcing product and materials by rewarding the use of FSC certified timber and/or products that have Declare ingredients label.	-	-	This product has not been assessed against this criteria.
	Imperative 13	Pass/Fail	LOCAL SOURCING	-	-	This product has not been assessed against this criteria.

Living Building Challenge V4	Imperative 10	Pass/Fail	<p>This imperative focusses on IAQ. Projects must:</p> <ul style="list-style-type: none"> • Provide the results from an IAQ test, or readings from an approved continuous IAQ monitor system. • >90% of potentially VOC emitting interior building products must comply with CDPH Standard Method v1.1-2010 (or international equivalent) • Implement a cleaning protocol that uses cleaning products that comply with the EPA Safer Choice label (or international equivalent) <p>-----</p> <p>In addition, all projects must provide 95% of occupants access to views and daylight, with at least two of the following:</p> <ul style="list-style-type: none"> • Sufficient operable windows to provide natural ventilation for at least six months of the year. • Ability for the occupants to influence their local airflow and temperature through direct input or controls. 	○	Contribution potential	Compliance with this imperative is dependent on the nominated product(s) meeting the requirements.
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FORMAN

Pittsburgh Corning Foamglass Insulation

***** Certified Range

- Green Building Summary Sheet -



	systems.		• Flexible options for working and learning such as sit/stand options.			
	Imperative 13	Pass/Fail	This imperative restricts the use of products that contain Red List chemicals as nominated by the Living Building Challenge.	-	-	This product has not been assessed against this criteria.
	Imperative 14	Pass/Fail	This imperative encourages responsible industry when sourcing product and materials by rewarding the use of FSC certified timber and/or products that have Declare ingredients label.	-	-	The nominated product(s) does not hold a valid Declare label.
	Imperative 15	Pass/Fail	LOCAL SOURCING	-	-	This product has not been assessed against this criteria.
SBN Circular Economy Office Model V1.1	New Materials Framework	Pass/Fail	The manufacturer/supplier must provide an end of life solution ensuring all major components (>5% by weight) are reutilised or recycled.	-	-	This product has not been assessed against this criteria.

LEGACY GREEN STAR NZ TOOLS

Tool	Credit category	Points available	Requirements	Contribution symbol	Contribution Potential	Details of compliance
Green Star NZ Education (V3)	EMI-3	1	This credit rewards the use of Insulation products that contain no Ozone Depleting Substances in their content or manufacture.	✓	1 point	This credit rewards the use Insulations products that contain no Ozone Depleting Substances in their content or Manufacture. FoamGlas Insulation satisfies these criteria.
Green Star NZ Office V3.0 + Education V3.1 + Industrial V3.0 + Interiors V3	EMI-3	1	This credit rewards the use of Insulation products that contain no Ozone Depleting Substances in their content or manufacture.	✓	1 point	This credit rewards the use Insulations products that contain no Ozone Depleting Substances in their content or Manufacture. FoamGlas Insulation satisfies these criteria.