

USG Australasia



Creating interiors that require
fewer natural resources to build,
operate and maintain

Environmental Sustainable Design



As an industry leader with a proud heritage spanning more than 100 years, USG understands the need to safeguard the world around us and protect the vital natural resources we all share. Long before conservation became a mainstream concern, USG was finding innovative ways to reduce waste, operate efficiently and transform manufacturing by-products into valuable new resources.

Working with the Environment

USG Australasia's philosophy is to be the regional leader in providing, through USG's various global manufacturing operations, interior building product options that minimise the impact on the environment.

In addition to being members of both the Australian and New Zealand Green Building Councils, USG Corporation was a founding member of the United States Green Building Council in 1993.



green building council australia
MEMBER



Working with the Environment



Sustainable design seeks to create structures that require fewer natural resources to build, maintain and adapt to future uses. Key strategies include choosing quality, lasting materials and creating flexible, multifunctional spaces.

Consumers have become increasingly aware of the need to conserve energy, manage raw materials, reduce waste and safeguard against pollutants. In response, many developers and owners now demand buildings that will help save energy, preserve the integrity of surrounding land and assure a clean, healthy indoor environment.

Sustainable Solutions

USG has long supported sustainable building by emphasising innovation, from the ingredients and resources we use to the manufacturing processes we employ. To help deliver this information we are pleased to introduce *greenusg.co.nz*, a micro site that contains details about the many sustainable qualities of USG ceiling panels, and Sheetrock interior finishes.

Take a closer look at the advantages that let you choose USG products with confidence.

Recycled and Renewable Materials

Recycled and renewable raw materials reduce consumption of energy and resources without diminishing the long-term performance of our products. Many USG ceiling products contain:

Synthetic mineral wool. We convert nearly 150,000 tons of slag, a waste product of steel making, to mineral wool every year, eliminating the need to mine and process raw materials and reducing landfill waste.

Recycled paper. USG ceiling panels contain paper recovered from both pre-consumer (cuttings from corrugated box manufacturing) and post-consumer (newspapers) use.

Corn and wheat starch binders. These renewable agricultural materials are an environmentally sound alternative to traditional binders derived from petroleum-based chemicals.

Recycled metal. Several of our metal specialty ceilings and ceiling and drywall suspension systems are made of steel and aluminium that includes recycled content. Aluminium offers additional benefits in that it can be fully re-purposed by re-melting and salvaging the metal.

For more information about recycled content in USG products, see the Product Selection details on page 8.

Responsible Manufacturing

Careful production methods are good for the environment and increase efficiency. Our practices include:

Using clean fuels. We use natural gas and low-sulphur oil whenever possible and conserve energy with heat-exchange processes throughout manufacturing operations.

Treating and recycling water. Managing water use saves more than 28 million gallons every day and reduces effluent discharges into municipal treatment systems.

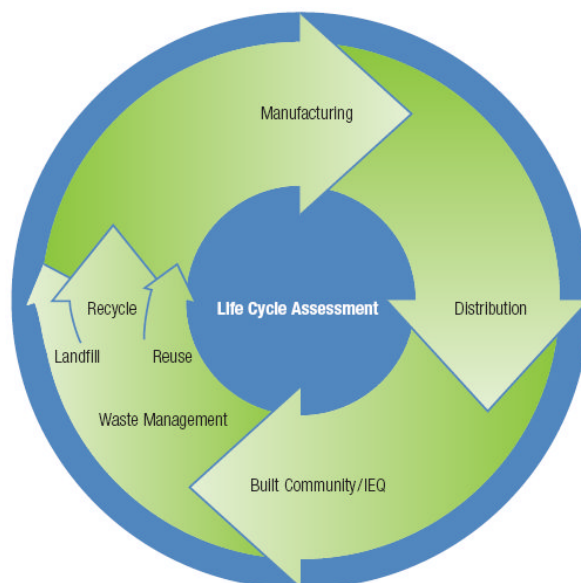
Reducing waste. Waste from the production line and panels chipped or broken during processing are returned to the manufacturing cycle, keeping them out of landfills.

Offering specialised ceiling panels. Non-directional products such as RADAR™ ClimaPlus™ ceiling panels allow more efficient use of material by reducing waste during installation.

High-durability acoustical panels extend the useful life of ceilings and reduce operating and replacement costs. Panels with high light reflectance can enhance indirect lighting, reducing the number of light fixtures needed and lowering energy consumption. For more information about the light reflectance of USG ceiling panels, see page 8.

Recycling Old Ceiling Panels. In the USA, USG can take back approved ceiling panels and recycle them into new building products. Reclaiming this waste can help meet the needs of a growing world and preserve natural resources.

Product Life Cycle. USG's commitment to health, safety and environmental responsibility is evident at every stage in the life cycle chain.



Industry Leadership

New Zealand Green Building Council

The most widely accepted national guidelines for environmentally conscious building is the Green Star NZ (Environmental Rating System for Buildings) developed by the New Zealand Green Building Council (NZGBC).

Formed in 2005, the NZGBC is a national, not-for-profit organisation that is committed to developing a sustainable property industry for New Zealand by encouraging the adoption of green building practices. It is positively supported by many building related businesses throughout the country.

Green Star NZ is a comprehensive, national, voluntary environmental rating scheme that evaluates the environmental design and achievements of buildings.

Green Star NZ was developed for the property industry in order to:

- Establish a common language;
- Set a standard of measurement for green buildings;
- Promote integrated, whole-building design;
- Recognise environmental leadership;
- Identify building life-cycle impacts; and
- Raise awareness of green building benefits.

As a member of the NZGBC, the Green Building Council of Australia and a founding member of United States Green Building Council (USGBC) in 1993, USG is committed to helping architects and builders create structures that efficiently meet the needs of occupants while also protecting the surrounding environment.

Green Star Categories Green Star NZ covers a number of categories that assess the environmental impact that

is a direct consequence of a projects site selection, design, construction and maintenance. The nine categories included within the Green Star NZ rating tool are:

- Management
- Indoor Environment Quality
- Energy
- Transport
- Water
- Materials
- Land Use & Ecology
- Emissions
- Innovation

These categories are divided into credits, each of which addresses an initiative that improves or has the potential to improve environmental performance. Points are awarded in each credit for actions that demonstrate that the project has met the overall objectives of Green Star NZ.

Where USG products may assist in gaining Green Star NZ points

Green Star NZ Category	Credit Name	USG Product Group	Products that May Assist in Qualifying or Credit
Indoor Environmental Quality	Indoor Air Quality	USG Acoustical Ceiling Systems	All USG products are low emitters of VOCs and formaldehyde and meet the most stringent requirements for emission.
	Daylight, electrical lighting levels,	USG Acoustical Ceiling Systems	Using high Light Reflectance (LR) ceiling materials such as USG's acoustical ceiling panels (LR of .76 to .89) can reduce required luminaries of design space, therefore energy consumption, and improve the quality and quantity of natural light.
	Internal noise levels	USG Acoustical Ceiling Systems	USG manufacture high performance acoustical ceilings tiles that deliver high NRC – Noise Reduction Coefficient (related to the reverberation time of a material) levels, while maintaining excellent CAC – Ceiling Attenuation Class (measurement of the sound transmission of a material) values. These tiles can assist acoustics engineers to maintain the correct acoustic level.
Energy	Lighting	USG Acoustical Ceiling Systems	Ceiling panels with high light reflectance (LR) can reduce the number of light fixtures needed, curbing energy consumption.
Materials	Shell and core or integrated fitout, and	USG Acoustical Ceiling Systems	USG Donn Brand suspension system with its patented Quick Release Clip (QRC) makes it easy to disassemble and reuse.
	Ceilings, and		When used with a durable cast acoustical ceiling tile you have a system that can be reused in the future.
	Recycled Content & Reused Products		
	Steel	USG Ceiling Suspension Systems	USG Donn Brand suspension system with its patented Quick Release Clip (QRC) makes it easy to disassemble and reuse.
		USG Steel Stud Partitions	USG Steel Studs are manufactured locally using NZ Steel, can be demounted and re-used and are fully recyclable
Green Star NZ Tools	<p>Currently, the Green Star NZ rating tools are:</p> <ul style="list-style-type: none"> - Office 2009 - Office Interiors 2009 - Education 2009 - Industrial 2009 - Performance (under development) - Residential (under development) <p>For more detailed information on how USG can help achieve points on this specific tool, refer to the corresponding guide available from www.greenusg.co.nz , www.nzgbc.org.nz or by contacting your local USG representative.</p>		

Where USG products help with a Holistic Approach to ESD

Area	Title	USG Product Group	Products In Keeping With ESD Principals
Indoor Environmental Quality	Volatile Organic Compounds (VOC)	USG Acoustical Ceiling Systems	All USG products are low emitters of VOCs and meet the most stringent requirements for emission.
		USG Steel Stud Partitions	No emissions from steel compared to treated timber
	Formaldehyde Minimisation	USG Acoustical Ceiling Systems	USG offers a wide selection of standard ceilings that satisfy stringent IEQ requirements and guidelines related to VOC and formaldehyde emissions. More than 20 ceiling families deliver zero- or low-emissions performance.
		USG Steel Stud Partitions	No emissions from steel compared to treated timber
Mould Prevention		USG Acoustical Ceiling Systems	USG address the issue of mould and microbial growth by providing acoustical ceiling tiles treated with a USG-patented antimicrobial treatment that provides broad spectrum control for mould/mildew.
		USG Steel Stud Partitions	Steel does not support mould or mildew growth if subjected to damp or wet conditions
Materials	Recycled Content	USG Acoustical ceiling Systems	USG Ceiling products are high in recycled content, while maintaining a high durability index or life expectancy.
		USG Steel Ceiling Suspension and Steel Stud Systems	USG steel products are manufactured locally using primarily local manufactured NZ Steel, can be demounted and re-used and are fully recyclable
		USG Fiberock (branded in NZ as GIB Toughrock)	USG Fiberock wall linings have 85% post-industrial/10% post-consumer content, and can be de-installed and re-used. Due to their paperless face off-cuts can be re-used thereby minimizing site waste.
	Reuse	USG Steel Ceiling Suspension and Steel Stud Systems	USG steel products can be de-installed and re-used in other areas where practical





New Zealand Sustainability Table

Relationship between Green Star NZ Credits and USG Products

Green Star NZ Credits	Indoor Environmental Quality (IEQ)			Energy (ENE)	IEQ		Material (MAT)					USG ESD Advantages	IEQ	Material				
	Indoor Air Quality				Lighting	Internal Noise Levels	Shell & Core or Integrated Fitout	Steel	Walls, Partitions and Joinery	Ceilings	Recycled Content & Reused Products			Mould Prevention	Recycled Content	Reused Products & Materials	PVC Min	Design for Disassembly
	IEQ-3	IEQ-8	IEQ-11	ENE-4								IEQ-13	MAT-1					
Office 2009	✓	✓	✓	✓	✓	✓	✓	✓	N/A	N/A	N/A							
Interiors 2009	✓	✓	✓	✓	✓	✓	✓	N/A	✓	✓	N/A							
Education 2009	✓	✓	✓	N/A	✓	N/A	✓	✓	N/A	✓								
Industrial 2009	✓	✓	✓	N/A	✓	✓	✓	✓	N/A	N/A	N/A							
Substrate	Product Family:			LR	NRC	CAC (min.) or STC/Rw	Can contribute to points	Can contribute to points	Can contribute to points	Can contribute to points	Can contribute to points		Anti-Mold & Mildew	Post Ind.	Post Cons.	Can be re-used	PVC Content	Can be disassembled for re-use
	VOC's *																	
	Emission Levels	PPB	mg/m ³															
Acoustical Ceiling Tiles*																		
Cast Mineral Fiber	FROST <i>ClimaPlus</i>			0.83	0.70	35 / 40	✓	N/A	N/A	✓	✓		●	72%	0%	✓	0%	✓
	SANDRIFT <i>ClimaPlus</i>			0.83	0.70	38	✓	N/A	N/A	✓	✓		●	72%	0%	✓	0%	✓
	BRIO <i>ClimaPlus</i>			0.81	0.70	35	✓	N/A	N/A	✓	✓		●	72%	0%	✓	0%	✓
	FRESCO <i>ClimaPlus</i>			0.83	0.70	35	✓	N/A	N/A	✓	✓		●	72%	0%	✓	0%	✓
X-Technology-Mineral Fibre	ECLIPSE <i>ClimaPlus</i>			0.86	0.70	35	✓	N/A	N/A	✓	-		●	76%	0%	-	0%	-
	MARS <i>ClimaPlus</i>			0.89	0.75/0.80	35	✓	N/A	N/A	✓	✓		●	74%	0%	✓	0%	✓
	MILLENNIA <i>ClimaPlus</i>			0.87	0.70	30 / 35	✓	N/A	N/A	✓	-		●	74%	0%	-	0%	-
Water-Felted Mineral Fibre	IMPRESSIONS <i>ClimaPlus</i>			0.84	0.55	33 / 35	✓	N/A	N/A	✓	-		●	31%	13%	-	0%	-
	RADAR <i>ClimaPlus</i>			0.84	0.55	33 / 35	✓	N/A	N/A	✓	-		●	31%	13%	-	0%	-
	RADAR <i>ClimaPlus</i> High NRC			0.84	0.70	35	✓	N/A	N/A	✓	✓		●	51%	1%	✓	0%	✓
	RADAR <i>ClimaPlus</i> High CAC			0.84	0.55	40	✓	N/A	N/A	✓	✓		●	51%	1%	✓	0%	✓
	RADAR Ceramic <i>ClimaPlus</i>			0.82	0.50	40	✓	N/A	N/A	✓	✓		●	-	41%	✓	0%	✓
	OLYMPIA Micro <i>ClimaPlus</i>			0.87	0.50/0.55	30 / 35	✓	N/A	N/A	✓	-		●	47%	7%	-	0%	-
	ROCK FACE <i>ClimaPlus</i>			0.86	0.55	35	✓	N/A	N/A	✓	✓		●	44%	3%	✓	0%	✓
Suspension Systems	USG Donn Brand DX and DXT Centricitee Exposed Grid			N/A	N/A	N/A	✓	✓	N/A	✓	✓		N/A	12%	0%	✓	N/A	✓
	USG Drywall Grid Plasterboard Suspension System			N/A	N/A	N/A	✓	✓	N/A	✓	✓		N/A	12%	0%	✓	N/A	✓
	USG ScrewFix Plasterboard Suspension System			N/A	N/A	N/A	✓	✓	N/A	✓	✓		N/A	12%	0%	✓	N/A	✓
	USG ScrewFix Ceiling Battens			N/A	N/A	N/A	✓	✓	N/A	✓	✓		N/A	12%	0%	✓	N/A	✓
Partition & Walls	USG Steel Stud System			N/A	N/A	N/A	✓	✓	✓	N/A	✓		N/A	12%	0%	✓	N/A	✓
	USG Fiberock (branded in NZ as GIB Toughrock)			N/A	N/A	43 - 68	✓	N/A	✓	N/A	✓		10 ^	85%	10%	✓	0%	✓

USG Ceiling Systems

Many USG acoustical ceiling panels contain mineral wool derived from slag, a byproduct of steel-making, which reduces the need to mine and process raw materials and minimizes landfill waste. Many panels also contain recycled paper. Binders are derived from corn and wheat starch, renewable agricultural resources. USG acoustical ceiling panels contain low VOCs. Non-directional ceiling panels such as RADAR™ allow more efficient use of material, reducing waste during installation. The steel in several of our metal ceiling and drywall suspension systems includes recycled content. Steel offers additional benefits in that it can be fully re-purposed by re-melting and salvaging the metal.

* TVOC Emissions and USG Ceiling Panels:

USG Acoustical Ceiling Panels are low VOC emitters per standards established by the Collaborative for High-Performance Schools (CHPS), following California Specification 01350 testing methods. Low-emitting is defined as having less than 13.5 ppb (0.017 mg/m³). Free is defined as having less than 1.6 ppb (0.002 mg/m³).

* Please check with your local USG representative on availability and lead times for products

● CLIMAPLUS Superior Performance:

Features a lifetime-warranted, high-performance antimicrobial treatment to the panel face and back surfaces with USG's patented, broad-spectrum antimicrobial formulation, to provide resistance against the growth of mold/mildew. Treated panels achieved a 10 rating (signifying "no mold growth") when tested to ASTM D3273-00 and D3274-94

○ CLIMAPLUS Inherent Performance:

Totally inorganic product resistance to the growth of mold, mildew and bacteria.

^ Achieved a 10 rating (signifying "no mold growth") when tested to ASTM D3273-00 and D3274-94

