



**Australian Green Star  
Multi Unit Residential  
v1 and  
USG Powerscape**

# GREENER gypsum board

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 byproducts into valuable new resources.

With a firm belief that health, safety and environmental well-being are compatible with economic prosperity, USG maintains a longstanding commitment with our employees, customers and communities to reduce environmental impact, use recycled materials whenever feasible and eliminate manufacturing waste. We have a solid history of environmental leadership and responsibility, and we are constantly seeking environmentally friendly product and manufacturing solutions.

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

USG emphasises innovation in our products, from the ingredients we choose to the processes we employ. Take a closer look at the advantages that let you choose USG products with confidence.



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Ref No.	Title	Aim of Credit	Credit Criteria Summary	USG Solution
Man-7	Waste Management	To encourage and recognise management practices that minimise the amount of construction waste going to disposal.	<p>Up to two points are awarded where:</p> <ul style="list-style-type: none"> <li>• The contractor implements a Waste Management Plan (WMP), retains waste records and submits quarterly reports to the building owner; and</li> <li>• A percentage (by mass) of all demolition and construction waste is re used or recycled as follows: <ul style="list-style-type: none"> <li>— One point for 60% of the waste; and</li> <li>— Two points for 80% of waste.</li> </ul> </li> </ul>	<p><b>USG Powerscape Health®</b> wall linings will assist with waste reduction as most sheet off-cuts can have rebates formed on them on site and then be used, rather than going to the dump.</p> <p>For more information on the wall systems design and acoustical performance refer to the USG Australian Sustainability Table at <a href="http://www.usg.com/au">www.usg.com/au</a> and the USG Powerscape Health® booklet USGH-FS-AU-0707-1-31208</p>
IEQ - 7	Internal Noise Levels	To encourage and recognise buildings that are designed to maintain internal noise levels at an appropriate level.	<p>Up to two points are awarded as follows:</p> <ul style="list-style-type: none"> <li>• One point is awarded where the internal noise level (combined building services noise and external noise intrusion), irrespective of building location, does not exceed: <ul style="list-style-type: none"> <li>- 35 dBLAeq(1 hour) in any bedroom in the building during the night time period 10pm to 7am; and</li> <li>- 40 dBLAeq (1 hour) in other habitable rooms (other than a garage, kitchen, bathroom or hallway) at any time.</li> </ul> </li> </ul> <p>Where operable windows are the primary method of ventilation, the criteria applies with these windows open.</p> <ul style="list-style-type: none"> <li>• One point is awarded where: <ul style="list-style-type: none"> <li>- The bounding apartment construction to habitable areas results in an airborne noise isolation standard of <math>R_w + C_{tr} \geq 55</math>; and</li> <li>- The floor construction above habitable rooms of adjacent dwellings (i.e. floor cover) results in an impact isolation standard of <math>L_{n,w} + C_I \leq 55</math>.</li> </ul> </li> </ul> <p>For either of the points to be achieved, an appropriately qualified acoustic professional has been appointed to assist the project team in the assessment and mitigation of external noise sources, through consultation at critical stages of the proposed development including at a minimum:</p> <ul style="list-style-type: none"> <li>• Design of the building;</li> <li>• Construction of the building; and</li> <li>• Post construction sign-off stage of the building.</li> </ul>	<p>The materials used within a space greatly assist in maintaining internal noise levels – particularly walls, floors and ceilings.</p> <p><b>USG Powerscape Health®</b> wall linings and wall system designs have documented sound transmission reduction ratings, compliant with the BCA (Building Code Australia). In most cases these are superior to the same thickness plasterboard due to the stiffness and mass of the Health® Linings.</p> <p>Example  <math>R_w + C_{tr} \geq 55</math> can be achieved with a two layers of Powerscape 16mm each side of a 64mm Staggered steel stud with insulation</p> <p><math>L_{n,w} + C_I \leq 53</math> can be achieved with 2 layers Powerscape® Peace™ Timber 10mm fixed to 19mm particleboard floor, floor joists 200mm at 450mm centres, cavity 240mm with glass wool insulating blanket, resilient ceiling mounts, ceiling battens, 2 layers plasterboard 13mm (12.2kg/m<sup>2</sup>).</p> <p>Refer pages 8 and 10 of this document for system details.</p> <p>For more information on acoustical performance refer contact your local USG representative</p>

Ref No.	Title	Aim of Credit	Credit Criteria Summary	USG Solution
IEQ – 8 IEQ-8.3	Volatile Organic Compounds	To encourage and recognise specification of interior finishes that minimise the contribution and levels of Volatile Organic Compounds in buildings.	<p>Up to five points are awarded as follows:</p> <p><b>Paints</b></p> <ul style="list-style-type: none"> <li>One point where at least 95% of all internal painted surfaces meet the Total Volatile Organic Compound (TVOC) Content Limits outlined in Table IEQ-8.1 or where no paint is used in the project.</li> </ul> <p><b>Adhesives and Sealants</b></p> <ul style="list-style-type: none"> <li>One point where 95% of all adhesives and sealants meet the TVOC Content Limits outlined in Table IEQ-8.2 (in the Technical Manual) or where no adhesives or sealants are used.</li> </ul> <p><b>Flooring</b></p> <ul style="list-style-type: none"> <li>One point where 95% of all coverings meet the TVOC emissions outlined in Table IEQ-8.3 (in the Technical Manual).</li> </ul> <p>Where no floor coverings have been installed in the project, the flooring point is 'Not Applicable' and is excluded from the points available used to calculate the IEQ Category Score. Type 'NA' in the 'No. of Points Achieved' column.</p> <p><b>Wall and ceiling coverings</b></p> <ul style="list-style-type: none"> <li>One point where at least 95% of all internal wall and ceiling coverings meet the TVOC Content Limits outlined in Table IEQ-8.4 (in the Technical Manual) or where no wall and ceiling coverings are used.</li> </ul>	<p><b>USG Powerscape Health®</b> products have no VOC emissions. The products are pre-coated in the factory with an acrylic sealer creating a surface suited for use with most low and non VOC paints and adhesives.</p> <p>Specifying USG Powerscape Health® will help meet the aim of this credit in the reduction of VOCs in the indoor environment.</p> <p>One point is possible where no carpet is installed and Powerscape 10mm or 6.5mm is used as an underlayment for low-VOC flooring.</p>
IEQ - 9	Formaldehyde Minimisation	To encourage and recognise the specification of products with low formaldehyde emission levels.	<p>One point is awarded where all engineered wood products (including exposed and concealed applications) either:</p> <ul style="list-style-type: none"> <li>Have low formaldehyde emissions, see table IEQ-9.1;</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>Contain no formaldehyde.</li> </ul> <p>If no engineered wood products are used within the project, this credit is 'Not Applicable' and excluded from the total number of points available to calculate the IEQ Category Score (type "na" in the 'No. of Points Achieved' column).</p>	<p><b>USG Powerscape Health®</b> products do not emit formaldehyde as they use an inorganic, rather than organic, binder, and normally use mechanical fixings rather than adhesives.</p> <p>For more information on the specific Formaldehyde levels of USG products refer to the table at the end of this document.</p>

Ref No.	Title	Aim of Credit	Credit Criteria Summary	USG Solution
Ene - 1	Greenhouse Gas Emissions	To encourage and recognise designs that minimise greenhouse gas emissions associated with operational energy consumption.	<p>Up to twenty points are awarded where it is demonstrated that the building's predicted greenhouse gas emissions (GGE) have been further reduced below that of the 'benchmark building'.</p> <p>The number of points achieved is determined as follows: For every 5% reduction in predicted GHG Emissions, one point is awarded. Zero net operating emissions = 20 points.</p> <p>The predicted greenhouse gas emissions of the 'proposed building' and the 'benchmark building' must be calculated in accordance with the Green Star – Healthcare v1 Greenhouse Gas Emissions Calculator Guide.</p>	<p><b>USG Powerscape Health®</b> The thermal mass of USG Powerscape Health® linings is approximately 1.1 kJ/kg. (iii) The USG Powerscape Health® linings has lower embodied energy than most concrete and fibre cement wall systems, and can also be better than plasterboard (particularly if product demounting and reuse is included).</p>
Mat - 3	Recycled Content & Re-used Products & Materials	To encourage and recognise designs that prolong the useful life of existing products and materials and encourage uptake of products with recycled content.	<p>Up to two points are awarded where it is demonstrated that materials selected for base building construction or integrated fitout works have a post consumer recycled content of at least 50% as follows:</p> <ul style="list-style-type: none"> <li>• One point where recycled materials represent at least 1% of the project's total contract value; and</li> <li>• Two points where recycled materials represent at least 2% of the project's total contract value.</li> </ul> <p>This credit excludes materials specifically addressed by other credits (i.e. steel, concrete, PVC, timber, flooring, joinery, loose furniture, ceilings, walls and partitions) and does not address the re-use of the original building(s) on the site (addressed in Mat-2 'Building Re-use'). Post-industrial recycled content is also excluded.</p>	<p><b>USG Powerscape Health®</b> wall linings are independently certified as being made from 95% recycled raw materials content.</p> <p>85% is post industrial gypsum, a waste product obtained from an electricity generator. No open cast or underground mining of gypsum is needed for the manufacture of USG HEALTH® linings.</p> <p>10% is post industrial cellulose, meaning no trees are harvested for the manufacture of USG HEALTH® linings.</p> <p>Points may not be allocated for this criterion as the aim is addressed in the materials calculator in Mat-14.</p>
Mat - 8	Design for Disassembly	To encourage and recognise designs that minimise the embodied energy and resources associated with demolition.	<p>One point is awarded where:</p> <ul style="list-style-type: none"> <li>• 50% (by area) of the structural framing, roofing, and façade cladding systems are designed for disassembly;</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• 95% of the total façade is designed for disassembly.</li> </ul> <p>If the material cost of the structural framing, roofing, and façade cladding systems represent less than 1% of the project's total contract value, this credit is 'Not Applicable' and is excluded from the points available used to calculate the Materials Category Score (type "na" in the 'No. of Points Achieved' column).</p>	<p><b>USG Powerscape Health®</b> linings can be demounted and removed during demolition, and then be reused again on another structure (something that is normally impossible with plasterboard and fibre cement). USG Health® lings can have new edge tapers machined in, making reuse both possible and practical.</p> <p>No points are allocated for this criterion as the aim is addressed in the materials calculator in Mat-14.</p>

Ref No.	Title	Aim of Credit	Credit Criteria Summary	USG Solution
Mat - 14	Ceilings, Walls and Partitions	To encourage and recognise the selection of ceilings, walls and partitions that have a reduced environmental impact.	<p>Up to two points are awarded where it is demonstrated that:</p> <ul style="list-style-type: none"> <li>• The ceilings, walls and partitions used in the fitout have a reduced environmental impact as determined by the following assessment categories in the Green Star Ceilings, Walls and Partitions Calculator: <ul style="list-style-type: none"> <li>- - Type of Flooring;</li> <li>- - Eco Preferred Content;</li> <li>- - Durability;</li> <li>- - Environmental Management System (EMS);</li> <li>- - Product Stewardship;</li> <li>- - Modularity; and</li> <li>- - Design for Disassembly</li> </ul> </li> </ul>	<p><b>USG Powerscape Health®</b> products are produced with a proprietary new manufacturing technology to achieve improved eco and health outcomes, versus regular plasterboard and fibre cement. The manufacturing process has many patents.</p> <p>Generally the GECA certified USG Powerscape Health® will make up over 90% or more (by mass) of the components in a steel framed internal wall.</p> <p>So in most cases, USG Powerscape Health® can achieve the maximum Product Score of 100% in the Walls and Partitions Calculator for Mat-14.</p> <p>Please refer to page 6 of this brochure for the required information to complete the Walls and Partitions Calculator required for Mat-14.</p>

**Note:** Use of the particular products/solutions listed in this table contribute toward the efforts to achieve Green Star points in these specific categories, however, use of these products/solutions alone does not guarantee achievement of point criteria or Green Star certification of a building.

# USG & Green Star - Multi-unit Residential v1 Mat-14 Ceilings, Walls and Partitions Calculator

Total Area of Walls, Ceilings  m<sup>2</sup>      Total Percentage Score:       Points Awarded for this

Item	Product Classification	Name of Ceilings, Walls and Partitions Products and Suppliers	Brief Description of Ceilings, Walls and Partitions	Area of Ceilings, Walls and Partitions (m <sup>2</sup> )	Resource Utilisation		Management				Reusability		Product Score (%)			
					Eco Preferred Content	Durability	EMS	EMS ISO 14001 Certified	EMS Includes					Product Stewardship	Modular	Designed for Disassembly
									Waste Minimisation	Energy	Emissions	Materials Minimisation				
1	Environmentally Innovative	USG Powerscape Gypsum Fiberock Linings	GECA certified Gypsum Fibre board containing 95% recycled content suitable for impact, wet area, fire and acoustical walls and flush ceilings										100			

**USG Notes:**

**Items 1**

Product Classification	Reason	USG Products GECA Certified
<b>USG Powerscape: Environmentally Innovative</b>	Generally the Powerscape will make up over 90% or more (by mass) of the components in a steel framed internal wall.	USG have the following products GECA certified: Powerscape Health 6.5mm, 10mm, 13mm and 16mm

**Item 3**



# Australian Sustainability Table

Relationship between Green Star Credits and USG Powerscape Fiberock

	Can Contribute Green Star AU Credits							Meets the aim of the Credit Criteria	Indoor Environmental Quality (IEQ)	Material		
	Management	Indoor Environmental Quality (IEQ)			Material (MAT)		Energy (EN)					
	Waste Management	Internal Noise levels	Thermal Comfort	Volatile Organic Compounds (Including Formaldehyde)			Recycled Content & Re-used Products and Materials	Ceilings Wall & Partitions Material Calculators	Greenhouse Gas Emissions	Mould Prevention	Recycled Content & Re-used Products and Materials	
Office Design & As Built v3	Man-7	IEQ-12	IEQ-9	IEQ-13 <sup>1</sup>			Mat-3	N/A	Ene-1	IEQ-15	N/A	
Office Interiors v1.1	Man-6	IEQ-10	N/A	IEQ-11			N/A <sup>2</sup>	Mat-3	Ene-2	N/A	N/A <sup>2</sup>	
Education v1	Man-7	IEQ-7	IEQ-5	IEQ-8			N/A <sup>2</sup>	N/A	Ene-1	N/A	N/A <sup>2</sup>	
Healthcare v1	Man-7	IEQ-7	IEQ-5	IEQ-8 <sup>1</sup>			N/A <sup>2</sup>	Mat-14	Ene-1	IEQ-10	N/A <sup>2</sup>	
Multi-unit Residential v1	Man-7	IEQ-7	IEQ-5	IEQ-8 <sup>1</sup>			N/A <sup>2</sup>	Mat-14	Ene-1	N/A	N/A <sup>2</sup>	
Retail Centre v1	Man-7	IEQ-7	IEQ-5	IEQ-8 <sup>1</sup>			Mat-3	N/A	Ene-1	IEQ-10	Mat-3	
Substrate	Product Family: Powerscape Gypsum Panels	Off-cuts reusable	Rw	Thermal Mass	VOC		Recycled Content	Eco Preferred Content (GECA cert)	Thermal Mass	◆ ASTM D3273 rating	Can be re-used	
					Emission Levels	ppb	mg/m <sup>3</sup>	Post Ind.				
Fiberock Gypsum Panel	POWERSCAPE HEALTH®	✓	*45 - 71	1.1 kJ/kg	Free	1.6ppb	0.002	95%		1.1 kJ/kg	10	✓
	POWERSCAPE HEALTH® Ultra-Mesh	✓	*45 - 71	1.1 kJ/kg	Free	1.6ppb	0.002	95%	-	1.1 kJ/kg	10	✓
	POWERSCAPE HEALTH® Go-Between	✓	*45 - 71	1.1 kJ/kg	Free	1.6ppb	0.002	95%		1.1 kJ/kg	10	✓

**Notes**

- 1: Applicable when 6.5mm or 10mm Powerscape Health is used as a tile underlay
- 2: No credits for this criteria as Powerscape is specially addressed in the materials calculator

**POWERSCAPE HEALTH® Panels**

Made of gypsum and post-consumer recycled cellulose fibres, these high-performance panels are in multiple applications including interior walls and floor underlayments. Engineered for strength and resistance to water and mould, these panels offer an excellent sustainable alternative to wood-based products, most notably lauan, which is harvested from endangered, old-growth forests. POWERSCAPE HEALTH Panels contain no VOCs.

**POWERSCAPE HEALTH® Panels Recycled Content**

- 95% of the raw materials for USG POWERSCAPE HEALTH® linings come from external waste systems.
- 85% is post industrial gypsum, a waste product obtained from an electricity generator. No open cast or underground mining of gypsum is needed for the manufacture of USG HEALTH® linings.
- 10% is post industrial cellulose, meaning no trees are harvested for the manufacture of USG HEALTH® linings.

**POWERSCAPE HEALTH® Panels and Internal Noise levels**

\* Dependent on wall systems specified. An Rw of 48 can be achieved with a single layer of 13mm Powerscape Health on both sides of a 92mm steel stud partition (partition to included thermal insulation).

Re the USG Powerscape Health® booklet USGH-FS-AU-0707-1-31208 for more information.

**◆ ASTM D3273-00(2005) Standard Test Method for Resistance to Growth of Mould on the Surface of Interior Coatings in an Environmental Chamber**

A "0" rating on D3273 means excessive disfigurement due to mould growth on gypsum wall or ceiling panel surfaces, while a "10" rating indicates that no mould grew on the panel. This grade is determined by inspecting the panel with a microscope and comparing the findings with standardized photographs of allowable growth for each score level. With this stringent method, a panel may not receive the top "10" rating even if mould growth is invisible to the naked eye.



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## USG Powerscape Apartment Wall Designs

For recommended wall designs for additional apartment types (e.g. timber frame), aged care, and other types of buildings, request a copy of the USG Powerscape Design Catalogue.

Apartment Walls - BCA Class 2,3	
All systems suited for both dry and wet area interior walls. All systems shown below are resistant to soft & hard body impact	<h3 style="margin: 0;">Apartments - 2, 3 or more Levels (BCA fire types A and B) Non-Loadbearing, No Sprinklers</h3>
USG Powerscape 16mm linings with PRS60DoB acoustic wall system used in this apartment building in Melbourne.	



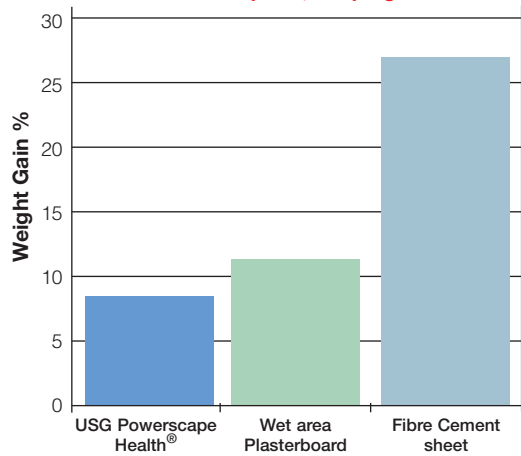
		TYPICAL	MINIMUM COMPLIANCE	PREMIUM
MAIN WALL SYSTEMS	 Acoustic & Fire Requirements	Resistant to Impact, Moisture, Mould, Joint Cracks, Fire and Sound	Very Thin Walls	As in 'Typical' plus intruder breakthrough resistance, and added mass
Type (i) Sole occupancy separation, other than as in (ii)	$R_w + C_r \geq 50$  - / 60 / 60	 PRS60DoB 16mm USG Powerscape® interior linings. R2.0 Insulation Slim wall - 204mm	 PRS60SiG 6.5mm, 13mm & 16mm USG Powerscape® interior linings. R2.0 Insulation.	 PRS90SiE 13mm USG Powerscape Ultra-Mesh and 16mm USG Powerscape interior linings. R2.0 Insulation
Type (ii) Sole occupancy habitable room from another occupancy bathroom/sanitary/laundry/kitchen/plant room and lifts	$R_w + C_r \geq 50$ discontinuous  - / 60 / 60	as in Type (i) above	as in Type (i) above	 PRS60SiE 13mm USG Powerscape Health® Interior linings (outer) and 13mm USG Powerscape® Ultra-Mesh (inner) linings. R2.0 Insulation. - / 60 / 60
Type (iii) Sole Occupancy to Corridors and lobby	$R_w \geq 50$  - / 60 / 60	 PRS60SiA 16mm USG Powerscape® interior linings. R2.0 Insulation	 PRS60SiE 6.5mm and 13mm USG Powerscape® interior linings. R2.0 Insulation.	 PRS90SiD 13mm USG Powerscape® Ultra-Mesh and 16mm USG Powerscape® interior linings. - / 90 / 90
Special Walls				
Type (iv) Sole occupancy to fire resistant stairways	$R_w \geq 50$  - / 90 / 90	 PRS90SiD 13mm and 16mm USG Powerscape® Interior linings. - / 90 / 90	 PRS90SiD 13mm and 16mm USG Powerscape® interior linings. - / 90 / 90	 PRS90SiD 13mm USG Powerscape® Ultra-Mesh and 16mm USG Powerscape® interior linings. - / 90 / 90
Type (iv) External walls Consider also wall designs incorporating cladding fire resistance contribution	Fire Resistance varies by distance from fire source - see BCA		 PRS60SiB 16mm USG Powerscape® interior linings - / 60 / 60 1.5 – 3.0 m	Line inside of wall with 13mm USG Powerscape® Ultra-Mesh.  >3.0 m

Care is taken in providing this information, but no liability is accepted for any incorrect interpretation of the BCA, or other errors. Not to take the place of professional design, fire, and acoustic advice. Ensure USG Powerscape full single page specifications are used when specifying.

## Resisting Moisture Absorption and Lingering Dampness



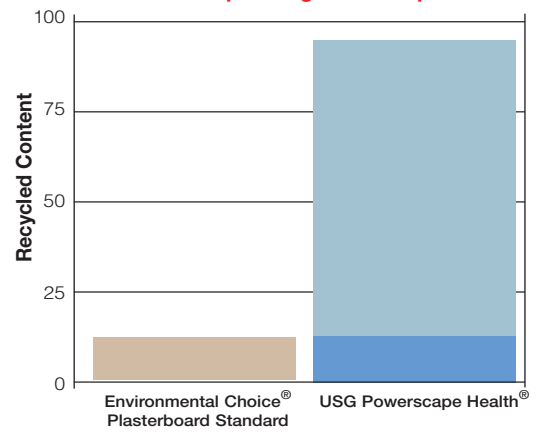
Weight gain % after 24 hour soak in water  
**USG Powerscape Health® resists severe water soak absorption, keeping home drier.**



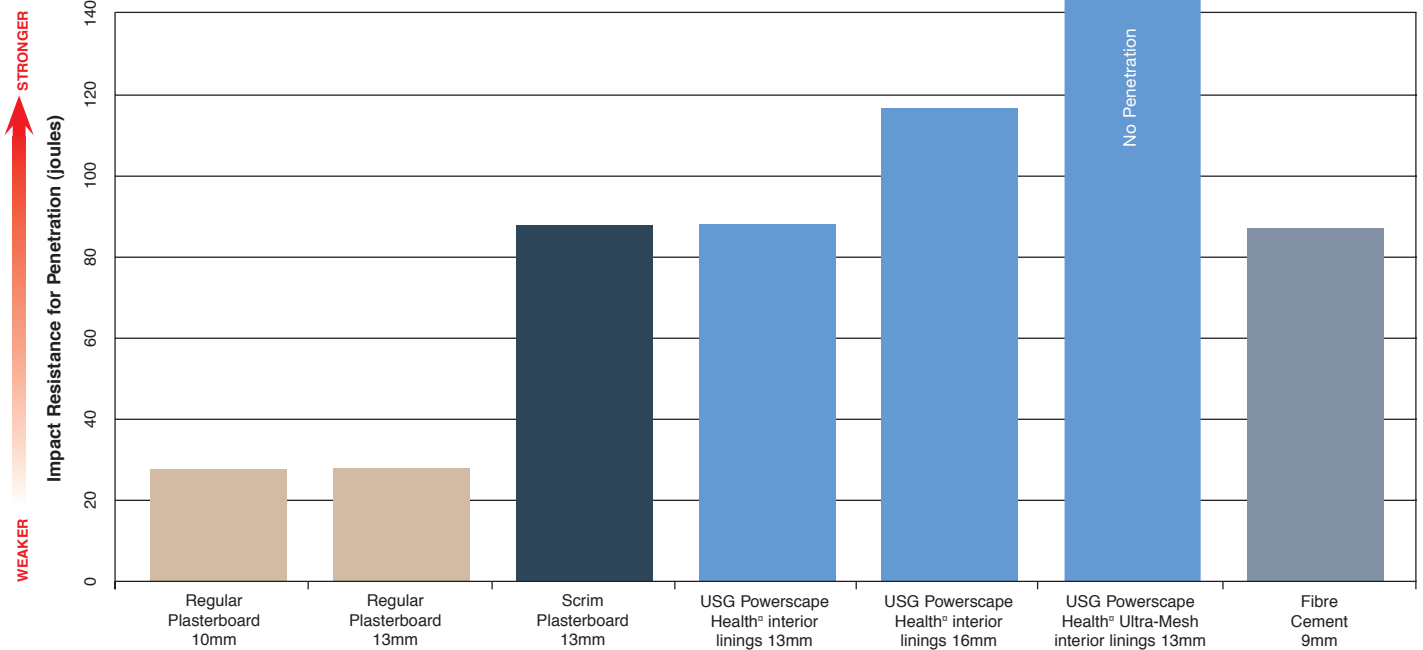
## Outstanding Recycled Content



Recycled Content of Gypsum Wallboard in Australia  
**USG Powerscape linings 'Clean-up' the field.**



Penetration, large hard body, steel frame  
**USG Powerscape Health® Ultra-Mesh, uniquely, could not be penetrated, even at 140 joules**



### Product Range, and Key Properties and Main Applications

The principle nominal properties of the range of USG Powerscape Health® products are documented below. Also shown are main applications for each product.

### USG Powerscape Health® Range & Applications

Product Name	Thickness mm	Size mm	Edge TE/SE	Density Kg/m	Weight Kg/m²		Main Applications (both dry and wet areas)
USG Powerscape Health®	13	1200 x 3000	TE	950	12	✓	Interior wall and ceiling linings - widely used in education, medical, aged care, institutions, office, and in quality residential.
USG Powerscape Health® Ultra-Mesh®	13	1200 x 3000	TE	950	12	-	Interior linings where ultra high impact resistance is needed - containment ceilings, institutional walls.
USG Powerscape Health®	16	1200 x 3000	TE	950	15	✓	Interior wall and ceiling linings - especially apartment tenancy & corridor walls.
USG Powerscape Health®	10	1200 x 2700	SE	1000	10	✓	Tile backer wall lining; Lining of eaves, and canopies; Acoustic underlay on framed floors (see Powerscape Peace® Timber brochure).
USG Powerscape Health® Go-Between®	6.5	900 x 1800	SE	1200	8	-	Inner layer lining for acoustic walls - especially aged care timber frame structures; Stabilizer layer on framed floors under tiles etc (see Powerscape Go-Between® brochure).

### Key Product Features - USG Powerscape Health®

- Four product thicknesses and suitable for interior linings in wet and dry areas.
- Exceptional impact resistance; USG Powerscape Health® is at least as strong as 9mm fibre cement and scrim reinforced plasterboard, and twice the strength of same thickness regular plasterboard. Powerscape Health® Ultra-Mesh, much stronger again, is in a class of its own.
- Joints easily to provide monolithic finishes.
- Screws, nails, glues and staples easily. Cut to size virtually dust free with multi-score and snap. Hand tools and powered standard wood working tools can also be used when using a dust mask.
- Two way fire rated systems up to 60 minutes (single layer) and 120 minutes (2 layers).
- High mass gives superior noise control, including inter-tenancy rated systems.
- Excellent substrate for paint and tiles, and a number of abrasion resistant coatings.



## Specification B: Enhanced Acoustic Comfort System

### Laboratory Tested System

Floor Structure Ceiling	Impact Sound		Airborne Sound	
	$L_{n,w} + C_1$ (lower is better)	IIC (higher is better)	$R_w + C_{tr}$ (higher is better)	STC (higher is better)
Ceramic Tiles, Powerscape® Peace™ Timber 10mm, particleboard floor 19mm, floor joists 200mm at 450mm centres, cavity 240mm with R2.5 glass wool insulating blanket, resilient ceiling mounts, ceiling battens, plasterboard 13mm (12.2kg/m <sup>2</sup> ).	53	54	56	60

#### Powerscape® Peace™ Timber – Double Layer

Nominal Thickness: 10mm  
 Nominal Mass per m<sup>2</sup>: 9.5kg  
 Nominal Sheet Size: 2700 x 1200

#### Acoustic Performance

This laboratory tested system exceeds the Building Code of Australia impact and airborne sound performance requirements for adjoining sole occupiers. Individual state requirements should be verified.

#### Flooring and Floor Framing

Minimum flooring shall be 19mm thick flooring particleboard or structural plywood fixed to the joists in accordance to the manufacturer's instructions. Gluing as well as screwing to the joists is recommended to reduce creaking. Joist size and spacing shall comply with AS1684. Either solid timber or timber I-joists may be used.

#### Ceiling Batten and Mount System

Tested system used Stud and Track ST001 acoustic resilient mounts. Fasten to the joists at 1200mm centres maximum (and no less than 900mm centres). Rondo ceiling battens of type 129 also used with the battens spaced at 600mm centres. Fix according to manufacturer's instructions.

#### Cavity Insulation

R2.5 glass wool or polyester insulation with 400 rays (or higher).

#### Ceiling Lining 13mm

Double layer of plasterboard with a minimum density of 12.5kg/m<sup>2</sup> each layer. Fix in accordance with the manufacturer's instructions for an acoustic ceiling system. If a fire rating is required, relevant plasterboard manufacturer's specifications to be included.

#### Perimeter

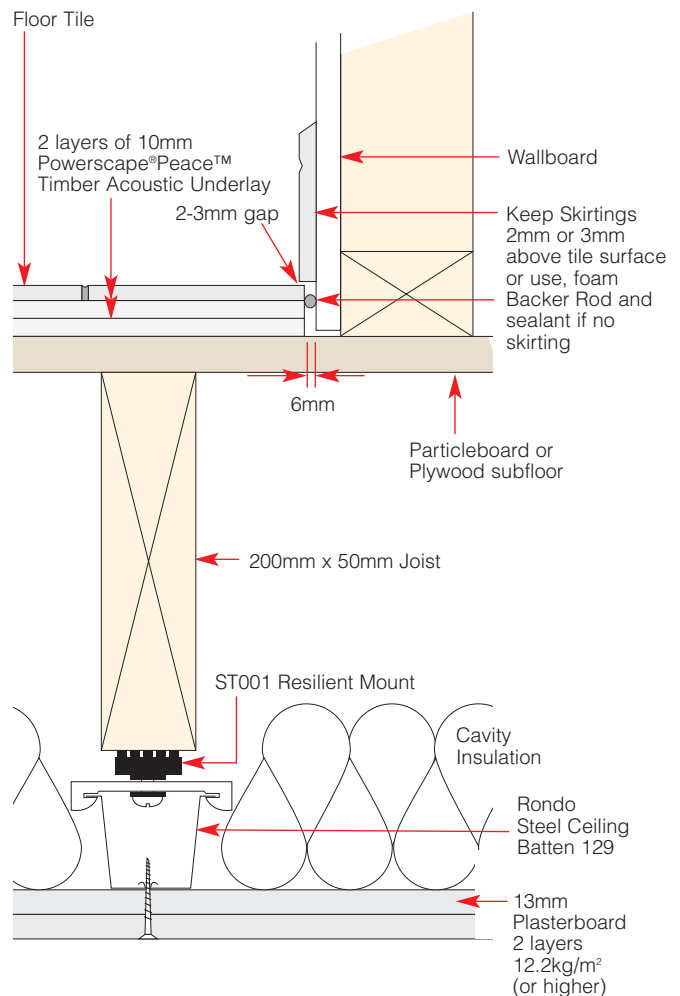
Where Powerscape® Peace™ meets a vertical building element (e.g. walls, columns) a 6mm expansion/acoustic gap must be left between Powerscape® Peace™ Timber and the vertical element. Some floor finishes or waterproof membranes may require that the perimeter gap be filled. If so, use either a flexible foam sealant or backing rod with flexible sealant.

#### Wet Areas

In wet areas and on outside decks fully cover with a waterproof membrane as detailed on page 6, and in Installation Instructions.

#### Control Joints

A control joint must be provided every 5 lineal metres, where control joints occur in the substrate, between rooms, as required by floor finish material, and where rooms change in direction.



#### Installation

Refer to the Powerscape® Peace™ Timber Floor Acoustic Underlay Installation Guide, and the Handling and Installation Summary of this book.

# 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.



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