

Summary of Applicable Green Star Credits for Armstrong Ceiling Products

Environmental



This verification report was developed independently by Environmental Assurance after a comprehensive assessment of Armstrong Ceiling products for the purpose of the Good Environmental Choice label and Green Star performance attributes.

		BIOGUARD Acoustic	DUNE	DUNE Max	DUNE Second Look	ERIS	FINE FISSURED	FINE FISSURED Ceramaguard	FINE FISSURED High Acoustic	FINE FISSURED Second Look	PRIMA FINE FISSURED	PRIMA SAHARA	TEXTURA	ULTIMA	ULTIMA OP
Office Design v3															
Management															
Waste Management	Man-7	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Indoor Environment Quality															
Daylight	IEQ-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Internal Noise Levels	IEQ-12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy															
Conditional Requirement	Ene -	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy Improvement	Ene-2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Office Interiors v1															
Management															
Waste Management During Tenancy Fitout	Man-6	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Indoor Environment Quality															
Daylight	IEQ-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Internal Noise Levels	IEQ-10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy															
Conditional Requirement	Ene -	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy Improvements	Ene-2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Education Pilot															
Management															
Waste Management	Man-7	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Indoor Environment Quality															
Daylight	IEQ-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Internal Noise Levels	IEQ-11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Volatile Organic Compounds	IEQ-12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy															
Conditional Requirement	Ene -	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy Improvement	Ene-1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Materials															
Recycled-Content & Reused Products & Materials	Mat-11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Health Pilot															
Management															
Waste Management	Man-7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Indoor Environment Quality															
Daylight	IEQ-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Internal Noise Levels	IEQ-12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy															
Conditional Requirement	Ene -	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy Improvement	Ene-1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Materials															
Recycled-Content Products & Materials	Mat-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ceilings, Walls & Partitions	Mat-10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shopping Centre Design Pilot															
Management															
Waste Management - Construction	Man-7	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Indoor Environment Quality															
Daylight	IEQ-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Internal Noise Levels	IEQ-7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy															
Conditional Requirement	Ene -	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy Improvement	Ene-1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Materials															
Recycled-Content Products & Materials	Mat-9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note:

* Armstrong ceiling products do not directly contribute to Waste Management Credit points however, Armstrong's product take back programme can support support a contractor to meet this credit.



Detailed Summary of Green Star Credits – Education Pilot

Environmental Impact Category	Credit Title	Credit No	Available Credits	Credit Contribution	Compliance Requirements
Management	Waste Management	Man-7	2	<p>This credit is about contractor Waste Management Plans to reduce construction waste.</p> <p>Whilst Armstrong Ceiling tiles do not directly contribute credits points for this criteria, the Armstrong product take-back program will support a contractor to satisfy the compliance requirements for this credit.</p> <p>1 point where 60% of waste by weight is reused or recycled; 2 points where 80% of waste by weight is reused or recycled;</p>	Armstrong can provide a contract for the collection and recycling of ceiling waste.
Indoor Environment Quality	Daylight	IEQ-4	3	<p>If 100% of ceiling systems used are Armstrong Ceilings*, use of these systems may contribute to the achievement of up to 3 credit points.</p> <p>Compliance to this credit will involve integration of Armstrong ceilings* into the design solution.</p> <p>The design solution must demonstrate compliance to 2.5% daylight factor across a percentage of the UFA (Useable Floor Area) as follows: 1 point = 30% of the UFA; 2 points = 60% of the UFA; 3 points = 90% of the UFA.</p> <p>All submissions must demonstrate through Daylight modelling and calculations that the Credit criteria has been met.</p> <p>A description of the building model includes values of reflectance and transmittance used for the glazing, ceiling, walls and floor.</p>	<p>Armstrong has published technical data for values of reflectance for its ceiling materials.</p> <p>As a general guidance, the general reflectance of surfaces should be middle to high and light in colour including walls and ceilings.</p>
	Internal Noise Levels	IEQ-11	2	<p>If 100% of ceiling systems used are Armstrong Ceilings*, use of these systems may contribute to the achievement of up to 2 credit points.</p> <p>Compliance to this credit will involve integration of Armstrong ceilings* into the design solution.</p> <p>For 95% of the building's UFA, the design achieves ambient internal noise levels in accordance with AS/NZS 2107:2000, as follows: <i>Building Services Design</i> 1 point is awarded where the building services noise meets the recommended design sound levels provided in Table 1 of AS/NZS 2107:2000. <i>Overall Building</i> 1 point is awarded where it is demonstrated that: - The UFA design sound levels measured in LAeq and reverberation times, for each functional space are provided in accordance with the lower values in Table 1 of AS/NZS 2107:2000; and - All partitioning between adjoining academic offices or classrooms is constructed to achieve a Sound Transmission Class (STC) rating of at least 45 between spaces in order to minimise cross talk. A noise Design Report is required from a qualified acoustics consultant to demonstrate compliance to criteria.</p>	Armstrong has published technical data for acoustic properties for its ceiling materials.
	Volatile Organic Compounds	IEQ-12	4	<p>This credit is about setting low VOC benchmarks for materials used in interior fit-outs.</p> <p>1 point is awarded where 95% of all painted surfaces are low-VOC emitting (per EN 13419) or no paint is used.</p> <p>Whilst Green Star Office Interiors does not currently specify a requirement for low-VOC Ceiling panels, many panels are factory painted and may emit VOC's.</p> <p>GECA certified Armstrong ceiling panels are finished with protective coatings that have a total VOC Content below the maximum required for painted surfaces by Green Star Education Pilot Tool IEQ-12.</p>	Armstrong has independent laboratory test reports from CTEC confirming total VOC levels of its Ceiling Panels.
Energy	Energy	Ene-	Conditional Requirement	<p>If 100% of ceiling systems used are Armstrong Ceilings*, use of these systems may contribute towards achievement of the conditional requirement (The high light-reflectance of the ceiling will help reduce office lighting demand.)</p> <p>Compliance to this credit will involve integration of Armstrong ceilings* into the design solution. Design solution must demonstrate compliance to a min. 110 kgCO2/m2 per year. An energy modelling report to ABGR Validation protocol for use of computer simulations is required; Design brief, specifications and design drawings that demonstrate that all modelling data used reflects the current design. (Modelling outputs are variables that influence the modelling results that must be documented and these include internal conditions and materials among others.)</p>	<p>Armstrong has published technical data for values of reflectance for its ceiling materials.</p> <p>As a general guidance, the general reflectance of surfaces should be middle to high and light in colour including walls and ceilings.</p>
	Energy Improvement	Ene-1	15	<p>If 100% of ceiling systems used are Armstrong Ceilings*, use of these systems may contribute towards achievement of further reductions in green house gas emissions as per credit criteria in the Education Pilot tool. (The high light-reflectance of the ceiling will help reduce office lighting demand.)</p> <p>Compliance to this credit will involve integration of Armstrong ceilings* into the design solution. Design solution must demonstrate that the building's greenhouse gas emissions have been further reduced below the conditional requirement. <u>No evidence is required in addition to that submitted for Ene – Conditional Requirement.</u></p>	<p>Armstrong has published technical data for values of reflectance for its ceiling materials.</p> <p>As a general guidance, the general reflectance of surfaces should be middle to high and light in colour including walls and ceilings.</p>
Materials	Recycled-Content & Reused Products and Materials	Mat-11	1	<p>If 100% of ceiling systems used are Armstrong Ceilings*, use of these systems may contribute towards achievement of 1 point.</p> <p>Compliance to this credit will involve demonstrating that materials selected for building construction representing at least 2% of the project's total contract value have a post consumer recycled content of at least 20% or are reused from the existing or any other building.</p>	<p>Armstrong Ceiling Panels and systems have a recycled content ranging between 42% and 77%.</p> <p>GECA certified Armstrong Ceiling panels contain at least 15% post consumer recycled content typically newspaper and other recycled paper content.</p>