Author	**EnviroSpec** *Verification Services*
Document type	Green Star NZ compatibility analysis
Document code	**ES-GSNZ-09-11d**
Validity	Created on 08/09/2009– Valid only for the following Green Star NZ tools: - Office V.1 - Office 2009 - Interiors 2009 - Education 2009 - Industrial 2009
Client	**Forman Building Systems**
Product name	**Armstrong RH99 Ultima Ceiling Tiles**
Product description	Armstrong RH99 Ultima is a high absorption acoustic ceiling panel for suspended ceiling grid which combines a high level of acoustic absorption with exceptional impact and scratch resistant because of the factory applied paint finish over an acoustically transparent Durabrite tissue. The smooth non-directional visual and a wide variety of grid options enables a wide range of uses in private and public sector projects. Ultima combines HumiGuard Plus no sag performance with BioBlock paint to inhibit surface growth of mold and mildew. Armstrong RH99 Ultima is certified by Good Environmental Choice Australia. 

Manner in which the product may contribute towards points in Green Star NZ	**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 included in the design in accordance with Green Star NZ requirements (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** This product can contribute towards the outcome but many other products or factor influence that same outcome (E.g. Potable Water Calculator)	○

Green Star NZ tool	Credit category	Points available[1]	Contribution symbol	Contribution Potential (points)[1]	Detail
Office V.1	IEQ - 5	3	○	Contributing factor	This credit rewards buildings that maximize daylight. Armstrong Ultima Ceiling tiles have a Light Reflectance Value of 90% (average) which may help improve the floor area with a daylight factor above 2.5%.
	IEQ - 12	2	○	Contributing factor	This credit rewards buildings that maintain adequate noise levels. Armstrong Ultima Ceiling tiles have a CAC of 35 and NRC of 0.70 which may assist in maintaining suitable noise levels.
	ENE- 5	3	○	Contributing factor	This credit rewards design options that lessen lighting energy consumption while maintaining adequate lighting levels. Armstrong Ultima Ceiling tiles have a Light Reflectance Value of 90% (average) which may assist in reducing the lighting output required to obtain a given lighting level in a space.
Office Design and Built 2009	IEQ - 3	5	✓	2	Certain items within this credit reward 1 point for the use of low VOC ceiling tiles and 1 point for the use of low formaldehyde ceiling tiles and composite timber boards. Armstrong Ultima Ceiling tiles are low VOC and low Formaldehyde in accordance with Greenguard, thus satisfying both requirements applicable to this product.
	IEQ - 8	3	○	Contributing factor	This credit rewards buildings that maximize daylight. Armstrong Ultima Ceiling tiles have a Light Reflectance Value of 90% (average) which may help improve the floor area with a daylight factor above 2.5%.
	IEQ - 11	3	✓○	2 (Contributing factor)	This credits rewards for good visual comfort and lighting design. To achieve 2 point or more, the light reflectance of Ceilings must be minimum 75%. Armstrong Ultima Ceiling tiles have a Light Reflectance Value of 90% (average), thus satisfying this requirement. The remaining items in this credit are based on lighting design and are not product-dependent.
	IEQ - 13	2	○	Contributing factor	This credit rewards buildings that maintain adequate noise levels. Armstrong Ultima Ceiling tiles have a CAC of 35 and NRC of 0.70 which may assist in maintaining suitable noise levels.
	ENE- 4	3	○	Contributing factor	This credit rewards design options that lessen lighting energy consumption while maintaining adequate lighting levels. Armstrong Ultima Ceiling tiles have a Light Reflectance Value of 90% (average) which may assist in reducing the lighting output required to obtain a given lighting level in a space.
Education 2009	IEQ - 3	5	✓	2	Certain items within this credit reward 1 point for the use of low VOC ceiling tiles and 1 point for the use of low formaldehyde ceiling tiles and composite timber boards. Armstrong Ultima Ceiling tiles are low VOC and low Formaldehyde in accordance with Greenguard, thus satisfying both requirements applicable to this product.
	IEQ - 8	4	○	Contributing factor	This credit rewards buildings that maximize daylight. Armstrong Ultima Ceiling tiles have a Light Reflectance Value of 90% (average) which may help improve the floor area with a daylight factor above 2.5%.
	IEQ - 11	3	✓○	2 (Contributing factor)	This credits rewards for good visual comfort and lighting design. To achieve 2 point or more, the light reflectance of Ceilings must be minimum 75%. Armstrong Ultima Ceiling tiles have a Light Reflectance Value of 90% (average), thus satisfying this requirement. The remaining items in this credit are based on lighting design and are not product-dependent.
	IEQ - 13	2	○	Contributing factor	This credit rewards buildings that maintain adequate noise levels. Armstrong Ultima Ceiling tiles have a CAC of 35 and NRC of 0.70 which may assist in maintaining suitable noise levels.
	ENE- 4	N/A	N/A	N/A	N/A

Industrial 2009	IEQ - 3	5	✔	2	Certain items within this credit reward 1 point for the use of low VOC ceiling tiles and 1 point for the use of low formaldehyde ceiling tiles and composite timber boards. Armstrong Ultima Ceiling tiles are low VOC and low Formaldehyde in accordance with Greenguard, thus satisfying both requirements applicable to this product.
	IEQ - 8	4	○	Contributing factor	This credit rewards buildings that maximize daylight. Armstrong Ultima Ceiling tiles have a Light Reflectance Value of 90% (average) which may help improve the floor area with a daylight factor above 2.5%.
	IEQ - 11	3	✔○	1 (Contributing factor)	This credits rewards for good visual comfort and lighting design. To achieve the first point, the light reflectance of Ceilings must be minimum 65%. Armstrong Ultima Ceiling tiles have a Light Reflectance Value of 90% (average), thus satisfying this requirement. The remaining items in this credit are based on lighting design and are not product-dependent.
	IEQ - 13	2	○	Contributing factor	This credit rewards buildings that maintain adequate noise levels. Armstrong Ultima Ceiling tiles have a CAC of 35 and NRC of 0.70 which may assist in maintaining suitable noise levels.
	ENE- 4	N/A	N/A	N/A	N/A
Office Interiors 2009	IEQ - 3	5	✔	1	Certain items within this credit reward 1 point for the use of low VOC and low Formaldehyde ceiling tiles. Armstrong Ultima Ceiling tiles are low VOC and low Formaldehyde in accordance with Greenguard, thus satisfying the requirements for this product.
	IEQ - 8	3	○	Contributing factor	This credit rewards projects that maximize daylight. Armstrong Ultima Ceiling tiles have a Light Reflectance Value of 90% (average) which may help improve the floor area with a daylight factor above 2.5%.
	IEQ - 11	3	✔○	2 (Contributing factor)	This credits rewards for good visual comfort and lighting design. To achieve 2 point or more, the light reflectance of Ceilings must be minimum 75%. Armstrong Ultima Ceiling tiles have a Light Reflectance Value of 90% (average), thus satisfying this requirement. The remaining items in this credit are based on lighting design and are not product-dependent.
	IEQ - 13	2	○	Contributing factor	This credit rewards projects that maintain adequate noise levels. Armstrong Ultima Ceiling tiles have a CAC of 35 and NRC of 0.70 which may assist in maintaining suitable noise levels.
	ENE- 4	3	○	Contributing factor	This credit rewards design options that lessen lighting energy consumption while maintaining adequate lighting levels. Armstrong Ultima Ceiling tiles have a Light Reflectance Value of 90% (average) which may assist in reducing the lighting output required to obtain a given lighting level in a space.

[1] Points available and points achieved are considered pre-weighting. Final Green Star NZ category weightings for each tool still apply.

Grid Face	Edge Profile	Item Number	Dimensions		Acoustics NRC/Alpha W	Acoustics CAC/Dncw	Anti-Mold/ Mildew	Sag Resist	Light Reflect	Installed Cost
Ultima† 19mm										
15mm	Beveled Tegular	1912M BP9843M4C*	600 x 600 x 19mm	□	0.70/0.70H	35/36			0.90	$$$
		1915M BP2735M4A*	600 x 1200 x 19mm	▭	0.70/0.70H	35/36			0.90	$$$
24mm	Beveled Tegular	1911M BP9538M4C*	600 x 600 x 19mm	□	0.70/0.70H	35/36			0.90	$$$
		1914M BP2734M4A*	600 x 1200 x 19mm	▭	0.70/0.70H	35/36			0.90	$$$
24mm	Square Lay-in	1913M BP9537M4C*	600 x 1200 x 19mm	▭	0.70/0.70H	35/36			0.90	$$$
32mm	Top Hat Grid	K2C2 Edge with Concealed Spline*	400 x 1200mm 450 x 1350mm 500 x 1500mm Other		0.70/0.70H	/40			0.90	$$$