

# BREEAM

The following BREEAM 2014 credit summary has been developed to support the design, specification and installation of Armstrong suspended ceiling systems in a wide range of buildings.

Supporting evidence is contained in the Armstrong Green Building Rating Tool performance tables on page 2 of this document and further details can be downloaded on the [Armstrong website](#).

Category	Credit	BREEAM Credit	Credits	Armstrong Contribution
Recycling Programme	Wst 01	Construction Waste Management Minimum Standard for New Construction	NC - 4 R & FO - 7	<ul style="list-style-type: none"> <li>NC - Construction resource efficiency and diversion of resources from landfill: Add ceilings to Resource Management Plan to increase diversion % from landfill. <b>Armstrong off-cut and end-of-life recycling programmes contribute to resource efficiency and diversion from landfill.</b> <a href="#">More details on Armstrong website.</a></li> <li>R &amp; FO - Pre-refurbishment audit; Reuse and direct recycling of materials; Resource efficiency and diversion of resources from landfill: <b>Armstrong off-cut and end-of-life recycling programmes contribute to all elements of this credit.</b> <a href="#">More details on Armstrong website.</a></li> </ul>
Recycling Programme	Wst 04	Speculative Floor and Ceiling Finishes	NC - 1 R & FO - 1	<ul style="list-style-type: none"> <li>Avoid unnecessary waste of materials by specifying ceiling finishes to meet specific occupant needs. <b>Armstrong's end-of-life recycling programme can help avoid unnecessary waste if ceiling finishes do not meet occupant needs.</b> <a href="#">More details on Armstrong website.</a></li> </ul>
Lighting	Hea 01	Visual Comfort	NC - 1 R & FO - 1	<ul style="list-style-type: none"> <li>Internal and external lighting levels, zoning and control: <b>Choose Armstrong ceilings with light reflectance greater than 85%. E.g. ULTIMA+.</b></li> </ul>
Formaldehyde & VOC Emissions	Hea 02	Indoor Air Quality	NC - 4 R & FO - 4	<ul style="list-style-type: none"> <li>Chose <b>low or zero VOC emission ceiling products classified as E1 for Formaldehyde emissions.</b> <a href="#">More details on Armstrong website.</a></li> </ul>
Acoustics	Hea 05	Acoustic Performance	NC - 3 R & FO - 3	<ul style="list-style-type: none"> <li>Reverberation time - <b>Ceilings contribute to a reduction in reverberation time by adding absorption.</b> Education, healthcare, offices, retail and public buildings all have specific reverberation time requirements. Select OP ceiling products. <a href="#">More details on Armstrong website.</a></li> </ul>
Life Cycle Impacts and Environmental Product Declarations	Mat 01	Environmental Impact of Materials	R & FO - 4	<ul style="list-style-type: none"> <li>Environmental performance information: <b>Armstrong third party certified environmental product declarations conforming to ISO 14025.</b> Additional points awarded for Armstrong self declared recycled content to ISO 14021. <a href="#">More details on Armstrong website.</a></li> </ul>
Responsible Sourcing	Mat 03	Responsible Sourcing of Materials	NC - 4 R & FO - 4	<ul style="list-style-type: none"> <li>Route 1: Lowest responsible sourcing certification scheme point score: Armstrong metal tile manufacture is carried out under an <b>ISO 14001 Environmental Management System.</b> Certificates provided on request. <a href="#">More details on Armstrong website.</a></li> <li>Route 2: Proportion of materials responsibly sourced: Input quantity of Armstrong metal ceiling tiles into Mat 03 calculator tool for higher score and credits.</li> </ul>
Recycled Content	Mat 06	Material Efficiency	NC - 1 R & FO - 1	<ul style="list-style-type: none"> <li><b>Recycled content and Armstrong off-cut and end-of-life recycling programmes contribute to this credit.</b> <a href="#">More details on Armstrong website.</a></li> </ul>
Adaptation to Climate Change	Wst 05	Adaptation to Climate Change	NC - 1 R & FO - 1	<ul style="list-style-type: none"> <li>Responding to adaptation to climate change: <b>Armstrong CoolZone</b> can contribute to the awarding of an exemplary credit. Link with Hea 04 Thermal comfort; Ene 01 Reduction of energy use and carbon emissions and Ene 04 Low carbon design. <a href="#">More details on Armstrong website.</a></li> </ul>
Energy Performance	Hea 04	Thermal Comfort	NC - 3 R & FO - 3	<ul style="list-style-type: none"> <li>Thermal modelling; Adaptability for a projected climate change scenario; Thermal zoning and controls: <b>Armstrong CoolZone</b> as an option to reduce energy consumption. <a href="#">More details on Armstrong website.</a></li> </ul>
Energy Performance	Ene 01	Reduction of Energy Use and Carbon Emissions Minimum Standard	NC - 12 R & FO - 12	<ul style="list-style-type: none"> <li>Thermal modelling; Adaptability for a projected climate change scenario; Thermal zoning and controls: <b>Armstrong CoolZone</b> as an option to reduce energy consumption. <a href="#">More details on Armstrong website.</a></li> </ul>
Passive Design	Ene 04	Low Carbon Design	NC - 3 R & FO - 3	<ul style="list-style-type: none"> <li>Passive design and free cooling: <b>CoolZone phase change material as part of a passive design strategy</b> using exposed thermal mass co-ordinated with free night time cooling provided by natural ventilation systems. <a href="#">More details on Armstrong website.</a></li> </ul>

NC = New Construction  
R & FO = Refurbishment and Fit Out

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# Armstrong Green Building Rating Tool performance tables

CI/SfB

(35) | Xy |  
05/2017

Certificates and resources can be downloaded on [Armstrong website](#).

	Sustainability					Acoustics				Indoor Air Quality			
	Armstrong Recycling Programme	Cradle to Cradle	Environmental Product Declaration EN ISO 14025	Recycled content (%) EN ISO 14021	Light reflectance (%)	$\alpha_w$	Class	NRC	Attenuation (3) Dnfw (dB)	ISO	VOC	Formaldehyde	
LEED Credit	MRp2 / MRc6	MRc4 BD&C MRc5 ID&C	MRc1 BD&C MRc2 ID&C	MRc3 BD&C MRc4 ID&C	EQc6	----- EQc9 -----			-	EQc2	-		
BREEAM Credit	Wst1 / Wst4	-	Mat 01	Mat 06	Hea 01	----- Hea 05 -----			-	-	Hea 02		
Ska	D13 / P03 / P04 / D09 / D19	M10	M10 / D19 / D21	D21 / D19	P10 / D01 / D04 / D30	----- D29 -----			D21 / D19 / D63	D63	D63		
Mineral	ULTIMA+	✓	✓	✓	50	87	≤ 0.75(H)	C	≤ 0.75	≤ 40	ISO 5	A+	E1
	ULTIMA+ dB	✓	✓	✓	64	87	0.60(H)	C	0.65	≤ 43		A+	E1
	ULTIMA+ OP	✓	✓	✓	36	87	1.00	A	0.95	25	ISO 5	A+	E1
	OPTIMA	✓			77	87	≤ 1.00	A	≤ 1.00	24		A	E1
	PERLA	✓		✓	50	86	0.65(H)	C	0.70	35	ISO 5	A+	E1
	PERLA dB	✓		✓	64	86	≤ 0.60(H)	≤ C	≤ 0.65	≤ 43	ISO 5	A+	E1
	PERLA OP 0.95	✓	✓	✓	≤ 52	85	0.95	A	0.90	≤ 27	ISO 5	A+	E1
	PERLA OP 1.00	✓		✓	36	85	1.00	A	0.95	25	ISO 5	A+	E1
	DUNE SUPREME	✓		✓	44	≤ 85	≤ 0.55	C	≤ 0.50	35		A	E1
	DUNE dB	✓			59	84	0.60	C	0.55	39		A	E1
	DUNE MAX	✓			46	84	0.65	C	0.60	35		A	E1
NEVADA	✓			20	82	≤ 1.00	A	≤ 0.95	≤ 27		A	E1	
SIERRA OP	✓			51	84	0.95	A	0.85	≤ 29	ISO 5	A+	E1	
PLAIN	✓			≤ 40	87	0.20(L)	E	0.20	35		A	E1	
Metal	Ultra Microperforated Rg 0501	*	✓	✓	≤ 30	83	0.45(L)	D	0.55	18		A+	E1
	Extra Microperforated Rg 0701 (1)	*	✓	✓	≤ 30	80	0.55(L)	D	0.65	21		A+	E1
	Microperforated Rd 1522 (1)	*	✓	✓	≤ 30	65	0.70	C	0.70	16		A+	E1
	Standard Perforated Rg 2516 (1)	*	✓	✓	≤ 30	70	0.75(L)	C	0.80	18		A+	E1
	Plain (Unperforated)	*	✓	✓	≤ 30	85	0.10(L)	-	0.10	44	ISO 3 / ISO 5 (2)	A+	E1
	Premium B15	*			40	depends on perforation	≤ 0.65	C	≤ 0.60	≤ 47		A	E1
	Premium OP19	*			34		≤ 1.00	A	≤ 0.90	≤ 31		A	E1
Wood	WOOD Veneers				≤ 57	≤ 0.65(L)	≤ C	≤ 0.70	41		≤ A+	E1	
Specific Solutions	BIOGUARD ACOUSTIC	✓	✓	✓	42	85	0.60(H)	C	0.60	36	ISO 5	A+	E1
	BIOGUARD PLAIN	✓			≤ 40	87	0.20(L)	E	0.20	35	ISO 5	A+	E1
	METAL BIOGUARD Extra Microperforation Rg 0701+B15	*			40	80	0.65	C	0.60	40	ISO 5	A	E1
	METAL BIOGUARD PLAIN	*	✓	✓	≤ 30	85	0.10(L)	-	0.10	44	ISO 3 (2)	A+	E1
	PARAFON HYGIEN	✓			20	82	0.95	A	0.95	-	ISO 5	A	E1
	CLEAN ROOM FL	✓			39	78	0.15	E	0.10	36	ISO 5	A	E1
	CERAMAGUARD	-			37	79	0.55(MH)	D	0.60	39		A+	E1
	HYDROBOARD	✓			20	82	0.95	A	0.90	22		A	E1
COOLZONE	*				85	0.25	E	0.20	40		A	E1	
Suspension systems	PRELUDE 15/24/35/SIXTY <sup>2</sup>	*			25							A+	E1
	INTERLUDE HRC	*			≤ 63							A+	E1
	SILHOUETTE	*			25							A+	E1
	AXIOM	*			25							A+	E1

(1) Typical values for product with fleece acoustic inlay. For other acoustic solutions, see metal technical pages.

(2) Valid for Q-Clip (ISO 3) and R-Clip F (ISO 5).

(3) Some values will be Dncw. Although superseded by Dnfw, Dncw test results continue to be valid.

\* Steel can be easily recycled and processed into new products.

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