

Calla® Templok® Ceiling Panel

High Performance Mineral Fiber

Committed to Sustainability

Armstrong World Industries leads in delivering solutions that meet today's most stringent industry sustainability standards. We are committed to environmental responsibility in all aspects of our business, and carbon reduction is part of our 2030 Company goals and ambitions.

We were one of the first companies to create and publish the Environmental Product Declaration (EPD) in the ceiling industry. We have over a decade of experience using Life Cycle Assessment (LCA) to evaluate environmental impacts of our products starting with design, to raw materials, and through our operations. We are constantly working to optimize our operations and products to reduce their environmental impact. We believe the use of LCA and our commitment to transparency of our products' carbon footprint is critical to contributing to decarbonization of the built environment.

Contents:

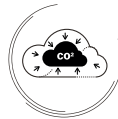
- Performance features like acoustics, light reflectance, and durability
- Product application and use
- Product ingredients and their sources
- How the product is produced
- LCA results, including global warming potential and primary energy usage
- Total impacts over the product life cycle

For more information visit

armstrongceilings.com/transparency

Life Cycle Impact Categories (A1-A3) for 1 ft²

Cradle-to-Gate environmental impacts for 1 ft² of Calla® Templok® Ceiling Panels



Embodied Carbon (GWP) (including biogenic carbon)

7.34E-01 kg CO₂ eq.



Acidification Potential

1.11E-02 kg SO₂ eq.



Photochem Ozone Creation Potential

4.97E-09 kg O₃ eq.



Eutrophication Potential

3.86E-04 kg N eq.



Ozone Depletion Potential

3.72E-02 kg CFC 11 eq.



Primary Energy

1.30E+00 MJ, LHV




Calla® Templok® Ceiling Panels with Suprafine® XL® Suspension System



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1. CONTENT OF THE EPD

EPD PROGRAM AND PROGRAM OPERATOR NAME, ADDRESS, LOGO, AND WEBSITE	ASTM International – 100 Barr Harbor Drive, West Conshohocken, PA, 19428, USA
GENERAL PROGRAM INSTRUCTIONS AND VERSION NUMBER	ASTM Program Operator for Product Category Rules (PCR) and Environmental Product Declarations (EPDs), General Program Instructions, Version: 8.0, Revised 04/29/20
MANUFACTURER NAME AND ADDRESS	Armstrong World Industries 2500 Columbia Avenue Lancaster, PA 17603
DECLARATION NUMBER	EPD 781
DECLARED PRODUCT & DECLARED UNIT	0.093m ² (1ft ²) of installed ceiling panel, with a product reference service life (RSL) of 30 years.
REFERENCE PCR AND VERSION NUMBER	UL Environment PCR for Building-Related Products & Services – Part A (Dec. 2018, v.3.2), UL Environment PCR Part B: Non-Metal Ceiling Panel & Wall Panel System (April 2021, v.2.0)
DESCRIPTION OF PRODUCT'S INTENDED APPLICATION AND USE (AS IDENTIFIED WHEN DETERMINING PRODUCT RSL)	Calla® Templok® Ceiling Panels, High Performance Mineral Fiber
PRODUCT RSL DESCRIPTION (IF APPL.)	30 Years
MARKETS OF APPLICABILITY	Commercial and Residential Interior Furnishing
DATE OF ISSUE	July 31, 2024
PERIOD OF VALIDITY	5 years
EPD TYPE	Product-Specific
DATASET VARIABILITY	Industry Average Only
EPD SCOPE	Cradle to Grave
YEAR(S) OF REPORTED MANUFACTURER PRIMARY DATA	2023
LCA SOFTWARE & VERSION NUMBER	Sphera FE 24.1
LCI DATABASE(S) & VERSION NUMBER	Sphera FE version 10.8.0.14 (Schema 8007)
LCIA METHODOLOGY & VERSION NUMBER	TRACI 2.1
The sub-category PCR review was conducted by:	EPD Review Panel Chair Lindita Bushi EPD@ul.com
This declaration was independently verified in accordance with ISO 14025: 2006. The UL Environment “Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report,” serves as the core PCR. <input type="checkbox"/> INTERNAL <input checked="" type="checkbox"/> EXTERNAL	 Thomas Gloria, Industrial Ecology Consultants
This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by:	Armstrong World Industries, Inc.
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Thomas Gloria, Industrial Ecology Consultants
LIMITATIONS	

Environmental declarations from different programs (ISO 14025) may not be comparable.

Comparison of the environmental performance of Metal Ceiling and Wall System Products using EPD information shall be based on the product's use and impacts at the building level, and therefore EPDs may not be used for comparability purposes when not considering the building energy use phase as instructed under this PCR.

Full conformance with this PCR allows EPD comparability only when all stages of a life cycle have been considered. However, variations and deviations are possible. Example of variations: Different LCA software and background LCI datasets may lead to differences in results for upstream or downstream of the life cycle stages declared.

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2. GENERAL INFORMATION

2.1 DESCRIPTION OF ORGANIZATION

Armstrong World Industries, Inc. (AWI) is a leader in the design and manufacture of innovative commercial and residential ceiling, wall and suspension system solutions in the Americas. At home, at work, in healthcare facilities, classrooms, stores, or restaurants, Armstrong World Industries offers interior solutions that help to enhance comfort, save time, improve building efficiency and overall performance, and create beautiful spaces.

2.2 PRODUCT DESCRIPTION

Smooth texture mineral fiber ceiling combines exceptional acoustical performance, energy savings and enhanced thermal comfort using advanced Phase Change Material (PCM) technology (UNSPSC Code 30161601 and CSI 09 51 00).

2.2.1 Product-Specific EPD

Calla® Templok® ceiling panels are manufactured by Armstrong World Industries in Pensacola, Florida (32505).

2.2.2 Product Identification

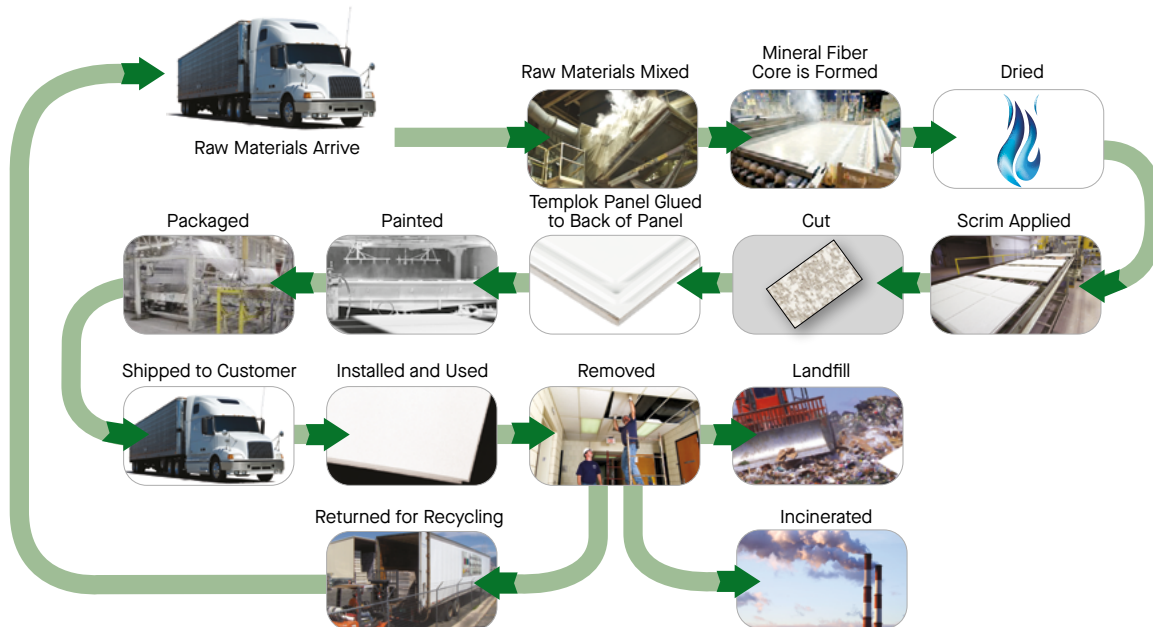
Calla® Templok® smooth-textured mineral fiber panels are washable, impact- and scratch-resistant, with exceptional acoustical performance. This product also features a Templok® panel adhered to the back containing advanced Phase Change Material (PCM) technology, which helps regulate indoor temperatures and improve thermal comfort for building occupants.

2.2.3 Product Specification

These products generally fall under ASTM E1264 Section 5.2 designation as Type III – Mineral base with painted finish.

2.2.4 Flow Diagram

Calla® Templok® ceiling panels are made in a wet-formed process which is shown in the flow diagram below.



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2.3 PRODUCT AVERAGE

2.3.2 Product-Specific EPD

This EPD is specific to Calla® Templok® ceiling panels. A weighted average approach was applied. Inputs were developed based on 2023 production volumes and weights for Calla® products.

2.4 APPLICATION

The products covered by this EPD are designed to be installed in a suitable metal grid system.

2.5 MATERIAL COMPOSITION

Major raw materials used in ceiling panel manufacturing are summarized in the table below.

TABLE 1. MATERIAL COMPOSITION

Material	Calla® Templok® Ceiling Panels
Mineral Wool	35-40%
Salt	35-40%
Perlite	5-10%
PVC	1-5%
Corn Starch	1-5%

2.6 TECHNICAL REQUIREMENTS

TABLE 2. TECHNICAL DATA

Property	Test Method	Calla® Templok® Ceiling Panels
Sound absorption coefficient (NRC)	ASTM C423	0.85
Interzone attenuation of open office components (AC)	ASTM E1111, ASTM E1110	170
Sound Transmission Class (STC)	ASTM E413, ASTM E90	-
Sound attenuation between rooms sharing a common ceiling plenum (CAC)	ASTM E1414, ASTM E413	39
Light reflectance	ASTM E1477	0.85
Flame spread/smoke development	ASTM E84, ASTM E1264	Class A

2.7 PROPERTIES OF DECLARED PRODUCT AS DELIVERED

The final EPD is available on the Armstrong website (armstrongceilings.com/epd) and is under the Finish category in the EC3 Tool (buildingtransparency.org).

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3. METHODOLOGICAL FRAMEWORK

This study provides life cycle inventory and environmental impacts relevant to Armstrong® suspended ceilings. The LCA follows an attributional approach as outlined in ISO 21930 Section 7.1.1 – see also PCR Part A-6.

3.1 DECLARED UNIT

The declaration refers to the declared unit of 0.093 m² (1 ft²) of installed ceiling panel, as defined by the PCR.

3.2 FUNCTIONAL/DECLARED UNIT PROPERTIES

TABLE 3. FUNCTIONAL OR DECLARED UNIT PROPERTIES

Product	Declared Unit m ² (ft ²)	Declared Thickness cm (in)	Surface Weight kg/0.093 m ² (lb/ft ²)	Density kg/m ³ (lb/ft ³)
Calla® Templok® Ceiling Panels	0.093 (1)	3.175 (1.25)	1.02 (2.25)	346.0 (21.6)

3.3 SYSTEM BOUNDARY

The scope of the study includes production, installation, and end of life. Production of capital equipment, facilities, and infrastructure required for manufacture are outside the scope of this assessment. Details of inclusions and exclusions from the system boundary are listed below.

TABLE 4. ELEMENTS INCLUDED IN THE CRADLE TO GATE WITH OPTIONS STUDY

Includes	Excludes
<ul style="list-style-type: none"> – Raw material acquisition and processing for both the product and its packaging (A1) – Inbound transport of raw materials to production facility (A2) – Manufacturing energy of ceiling panels (A3) – Energy production (A3) – Manufacturing waste disposal (A3) – Packaging of final products (A3) – Outbound transport of products to job site (A4) – Installation and installation waste (A5) – Use stage considered, but no impact (B1-B7) – End of life, including transport, deconstruction, waste processing, and disposal (C1-C4) – Benefits and loads beyond the system boundary (D) 	<ul style="list-style-type: none"> – Overhead facility energy (heating, lighting, etc.) of manufacturing facilities (A3) – Construction of capital equipment and other infrastructure flows – Maintenance and operation of support equipment – Human labor and employee transport – Manufacture and transport of packaging materials not associated with final product

3.4 PRODUCT-SPECIFIC CALCULATIONS FOR END-OF-LIFE PHASE (MODULES C1-C4)

At this time, there is no industry consensus for product-specific assumption behind reported scenarios for information in modules C1-C4. Armstrong facilitates ceiling panels recycling through our Takeback program. The recovery data is based on internal averages for commingled ceiling panels that arrived at Armstrong factories from the construction and demolition site at end of product life. Remaining panels were assumed to be landfilled as per standard industry practice.

3.5 REFERENCE SERVICE LIFE AND ESTIMATED BUILDING SERVICE LIFE

In accordance with the PCR, the Reference Service Life (RSL) for this study was assumed to be 30 years.

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3.6 ALLOCATION

Allocation at the manufacturing plant was based on production volume. Allocation of background data (energy and materials) taken from the GaBi databases.

3.7 CUT-OFF RULES

No known flows are deliberately excluded from this EPD. The system boundary was defined based on relevance to the goal of the study. For the processes within the system boundary, all available energy and material flow data have been included in the model. In cases where no matching life cycle inventories are available to represent a flow, proxy data have been applied based on conservative assumptions regarding environmental impacts.

3.8 DATA SOURCES

Primary data for this study was collected from the manufacturing facility for 2023 and datasets for materials upstream from manufacturing were obtained from the GaBi database version 10.8.0.14

3.9 DATA QUALITY

The data quality ranges from good to very good. The temporal quality of the data is very good with both manufacturing-specific data and GaBi background data from 2024.1. Because primary and secondary data were collected specifically to the location of manufacture when possible, geographical representativeness is considered to be good.

3.10 PERIOD UNDER REVIEW

All the primary data in the scope of this analysis was collected from Armstrong manufacturing facilities during 2023.

3.11 COMPARABILITY AND BENCHMARKING

We do not have any data on comparable non-competitive products to report.

3.12 ESTIMATES AND ASSUMPTIONS

The datasets for materials upstream from manufacturing are from the GaBi database. When inventories were not available for materials, conservative proxy datasets were chosen based on similarity of material. Additionally and consistent with the PCR, the following assumptions in Table 5 related to transport, installation, and deconstruction procedures were made.

TABLE 5. TRANSPORT, INSTALLATION, AND DECONSTRUCTION PROCEDURES

Product transport from point of manufacture to building site	Mode: Diesel-powered truck/trailer Distance: 800 km
Product transport from building site to waste processing	Mode: Diesel-powered truck/trailer Distance: 35 km
Installation & deconstruction procedures	Manual (no operational energy use)

3.13 UNITS

Units commonly used in the North American market are included in addition to the required SI units.

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4. TECHNICAL INFORMATION AND SCENARIOS

All data is reported as a North American weighted average across our ceiling plant locations. The majority of Armstrong® Ceiling products are distributed within 500 miles of the respective manufacturing plants. The same distribution trucks that take material to distribution centers backhaul post-consumer recycled ceiling panels to the manufacturing plants as part of our closed loop recycling program. If product is not recycled, disposal transportation at end of life is assumed to be 50 miles. Transportation emissions and fuels throughout the life cycle phases are included. All transportation associated with raw materials reflect the actual modes of transportation and mileage.

4.1 MANUFACTURING

The manufacturing process has been described in a simple flow chart in Section 2.2.4.

4.2 PACKAGING

Armstrong® ceiling panels are well packaged in a variety of wooden panels, rigid corrugate, and stretch wrap. Stacks of material are banded to wooden pallets for shipping.

4.3 TRANSPORTATION

The following information specifies any transport after the manufacturing gate. Details of type of transport, type of vehicle, distance, type, and amount of energy carrier are listed. These values are consistent with industry standard assumptions.

TABLE 6. TRANSPORT TO THE BUILDING SITE (A4)

Material	Unit	Calla® Templok® Ceiling Panels
Liters of fuel (Diesel)	L/100km/m ³	0.00314
Transport distance	km	805
Capacity utilization (including empty runs)	%	67
Gross density of products transported	kg/m ³	464.45
Capacity utilization volume factor	–	1

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4.4 PRODUCT INSTALLATION

The ceiling system must be installed in accordance with Armstrong Ceilings installation guidelines. Our ceiling system installation brochure, "Installing Suspended Ceilings", is a general application overview, covering essential steps of a basic suspended ceiling installation. You can reference this document at armstrongceilings.com/installationinstructions.

TABLE 7. INSTALLATION INTO THE BUILDING (A5)

Name	Calla® Templok® Ceiling Panels	Unit
Ancillary materials	0	kg
Net freshwater consumption specified by water source and fate (X m ³ river water evaporated, X m ³ city water disposed to sewer)	0	m ³
Other resources	0	kg
Electricity consumption	0.19	kWh
Other energy carriers	0	MJ
Product loss per declared unit	0	kg
Waste materials at the construction site before waste processing, generated by product installation	0	kg
Output materials resulting from on-site waste processing	0	kg
Mass of packaging waste specified by type		
Plastic	0.005	kg
Metal	0.000	kg
Cardboard	0.010	kg
Wood	0.005	kg
Biogenic carbon contained in packaging	-0.029	kg CO ₂
Direct emissions to ambient air, soil and water	-	kg
VOC emissions	≤ 0.5	mg/m ³

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4.5 USE

A product's RSL depends on the product properties and reference in-use conditions. The default RSL assumed in this PCR is 30 years for both ceiling and wall products.

4.6 DISPOSAL

End of Life

The end-of-life phase for the ceiling panels was included in the study. End-of-life impacts include landfill disposal of ceiling panels.

TABLE 8. END OF LIFE (C1-C4)

Name		Calla® Templok® Ceiling Panels	Unit
Collection process (specified by type)	Collected separately	0	kg
	Collected with mixed construction waste	0	m ³
Recovery (specified by type)	Reuse	0	kg
	Recycling	0.000	kWh
	Incineration	0	MJ
	Incineration with energy recovery	0	kg
	Energy conversion (specify efficiency rate)	0	kg
Disposal (specified by type)	Product or material for final disposal	1.001	kg
Removals of biogenic carbon (excluding packaging)		0.000	kg

4.7 REUSE PHASE

TABLE 9. REUSE, RECOVERY, AND/OR RECYCLING POTENTIALS (D), RELEVANT SCENARIO INFORMATION

Name	Value	Unit
Net energy benefit from energy recovery from waste treatment declared as exported energy in C3 (R>0.6)	0	MJ
Net energy benefit from thermal energy due to treatment of waste declared as exported energy in C4 (R<0.6)	0	MJ
Net energy benefit from material flow declared in C3 for energy recovery	0	MJ
Process and conversion efficiencies	-	
Further assumptions for scenario development	-	

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5. ENVIRONMENTAL INDICATORS DERIVED FROM LCA

5.1 LCA RESULTS FROM LCIA

The Life Cycle Assessment (LCA) was performed according to ISO 14040 guidelines and follows the specific PCR instructions. The cradle-to-gate with options LCA consists of raw material production, transport of raw materials to production facility prior to processing, manufacturing of ceiling and wall panels, packaging; transportation to job site and installation, and end of life including disposal or recycling to Armstrong factories.

TABLE 10. DESCRIPTION OF THE SYSTEM BOUNDARY MODULES*

(X = INCLUDED IN LCA; MND = MODULE NOT DECLARED)

EPD Type	Production			Construction		Use							End Of Life				Benefits and Loads Beyond System Boundary	
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
	Raw material supply	Transport	Manufacturing	Transport to site	Assembly/Install	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Deconstruction	Deconstruction	Transport	Waste processing	Disposal	Reuse, Recovery, Recycling Potential	
						B6 Operational Energy Use of Building Integrated System During Product Use												
						B7 Operational Water Use of Building Integrated System During Product Use												
Cradle to Gate with Options	X	X	X	X	X	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	MND	

* Results for modules A1-A3 results are aggregated, as described in the PCR.

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5.2 LCA RESULTS FROM LCIA

Life cycle impacts reported below are based on TRACI 2.1 methodology. All the results are provided in reference to the declared unit, and for convenience of the reader we have included additional grouping across the system boundaries and provided conversion in SI unit. For the other impact categories, results are presented in the tables below using the EN15804 standard and for the declared unit. Also for readers convenience conversions are provided in each table to SI units.

TABLE 11. TRACI 2.1 IMPACT ASSESSMENT FOR 0.093 M² (1 FT²) OF CALLA® TEMPLOK® PANELS*

Calla® Templok® Ceiling Panels								
Parameter	Unit	A1	A2	A3	A4	A5	C2	C4
GWP, excluding biogenic	kg CO ₂ eq.	4.68E-01	7.79E-02	1.88E-01	3.90E-02	2.66E-03	6.32E-03	1.04E-01
ODP	kg CFC 11 eq.	4.96E-09	2.25E-16	5.31E-14	1.16E-16	2.40E-16	1.89E-17	1.19E-15
AP	kg SO ₂ eq.	8.96E-03	6.79E-04	1.50E-03	1.71E-04	8.31E-07	1.79E-05	4.55E-04
EP	kg N eq.	3.18E-04	3.95E-05	2.82E-05	1.55E-05	1.37E-06	1.88E-06	5.47E-05
SFP	kg O ₃ eq.	1.85E-02	1.41E-02	4.65E-03	3.92E-03	1.90E-04	4.04E-04	3.13E-03
FFD	MJ Surplus	8.70E-01	1.46E-01	2.82E-01	7.40E-02	4.87E-03	1.20E-02	4.64E-02

* Modules C1 and C3 are null

5.3 LCA RESULTS FROM LCI

TABLE 12. LCA RESULTS – RESOURCE USE FOR 0.093 M² (1 FT²) OF CALLA® TEMPLOK® PANELS*

Calla® Templok® Ceiling Panels								
Parameter	Unit	A1	A2	A3	A4	A5	C2	C4
RPre	MJ, LHV	1.83E+00	3.94E-02	1.18E+00	2.30E-02	1.74E-01	3.74E-03	4.65E-02
RPRm	MJ, LHV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRPRE	MJ, LHV	8.41E+00	1.02E+00	4.20E+00	5.21E-01	4.28E-02	8.46E-02	3.63E-01
NRPRM	MJ, LHV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRDF	m ³	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE	MJ, LHV	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m ³	3.73E-03	1.28E-04	1.62E-03	7.65E-05	5.14E-06	1.24E-05	6.88E-05

* Modules C1 and C3 are null

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TABLE 13. LCA RESULTS - OUTPUT FLOWS AND WASTE CATEGORIES FOR 0.093 m² (1 FT²) OF CALLA® TEMPLOK® PANELS*

Calla® Templok® Ceiling Panels									
Parameter	Description	Unit	A1	A2	A3	A4	A5	C2	C4
HWD	Hazardous waste disposed	kg	8.78E-07	1.38E-10	1.34E-09	7.02E-11	2.21E-10	1.14E-11	4.24E-10
NHWD	NHWD Non-hazardous waste disposed	kg	1.36E-02	9.50E-05	5.44E-02	5.19E-05	1.03E-02	8.43E-06	1.03E+00
RWD	Radioactive waste disposal	kg	4.28E-04	3.05E-06	6.12E-04	1.57E-06	2.46E-06	2.55E-07	4.94E-06
HLRW	High-level radioactive waste, conditioned, to final repository	kg	5.11E-07	3.62E-09	7.32E-07	1.86E-09	2.59E-09	3.02E-10	5.61E-09
ILLRW	Intermediate- and low-level radioactive waste, conditioned, to final repository	kg	4.28E-04	3.05E-06	6.11E-04	1.57E-06	2.46E-06	2.55E-07	4.93E-06
CRU	Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	Materials for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.46E-03	0.00E+00	7.71E-03
MER	Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE	Recovered energy exported from the product system	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

* Modules C1 and C3 are null

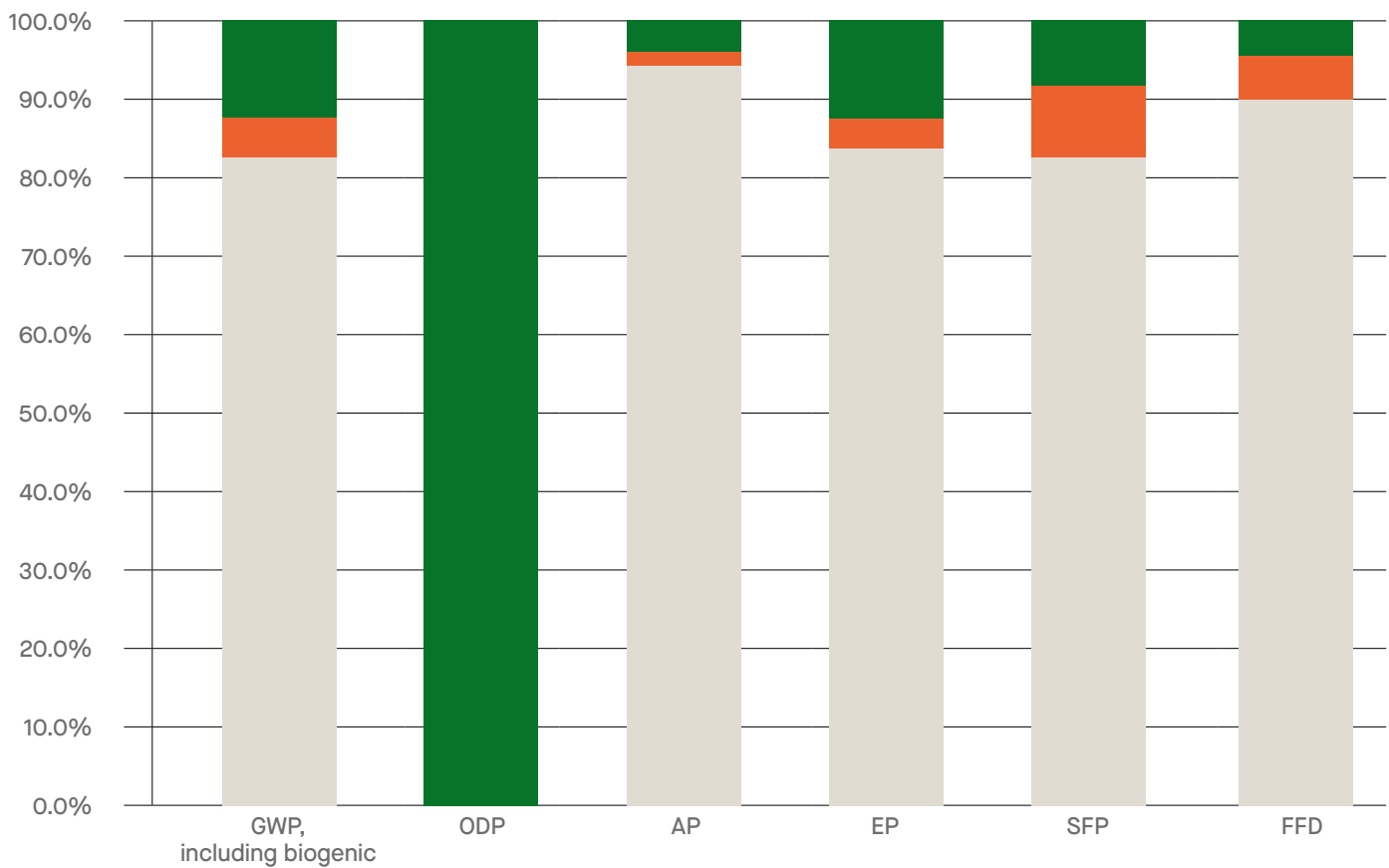
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6. LCA: INTERPRETATION

The ceiling life cycle covered in this study concluded that the ceiling panel manufacturing process and raw materials in the ceiling panel have the greatest impact on “carbon footprint” as represented by Global Warming Potential [GWP].

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KEY

- Product (A1-A3)
- Construction (A4-A5)
- End of Life (C1-C4)

Life Cycle Impact Assessment of the ceiling panels' relative importance in percentage terms for the Production, Construction, and End-of-Life stages for the ceiling panel.

¹ Based on U.S. EPA TRACI 2.1 Impact Factors

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7. ADDITIONAL ENVIRONMENTAL INFORMATION

7.1 ENVIRONMENT AND HEALTH DURING MANUFACTURING

Armstrong World Industries has a comprehensive environmental, health, and safety management program. Risk reduction begins in the product design process. All products go through a safety, health, and environmental review prior to sale. Armstrong also has a long-standing commitment to the safety and health of all our employees.

Armstrong World Industries is equally committed to reducing our environmental impact. As with safety goals, each manufacturing facility has environmental initiatives focused on responsible use of energy and water, and on waste reduction.

7.2 ENVIRONMENT AND HEALTH DURING INSTALLATION

All recommendations shall be utilized as indicated by SDS and installation guidelines. Specific product SDS and installation instructions can be downloaded at: armstrongceilings.com/pdbupimages-clg/217521.pdf

7.3 ENVIRONMENTAL ACTIVITIES AND CERTIFICATIONS

All environmental certifications can be found at: armstrongceilings.com

7.4 FURTHER INFORMATION

Additional Information can be found at: armstrongceilings.com

8. PROJECT REPORT AND SUPPORTING DOCUMENTATION

This study provides life cycle inventory and environmental impacts relevant to Armstrong® suspended ceilings. This report is intended to fulfill the reporting requirements in Section 5 of ISO 14044 and Product Category Rules Guidance for Building-Related Products and Services UL® Environments (2021) Part B: Non-Metal Ceiling Panel EPD Requirements.

Armstrong World Industries has a robust internal Quality Assurance process that is based on industry-accepted best practices and is led by a team of quality professionals who have been certified by the American Society for Quality. The process involves several hundred different measures made throughout the manufacturing processes. In addition, our products are UL® labeled for fire and acoustical performance – a process which involves strict oversight by Underwriters Laboratories. The Armstrong Ceilings acoustical laboratory is ISO 17025 certified and is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

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9. REFERENCES

ASTM International General Program instructions, v8.0, April 29, 2020.

ISO 14025:2006 – Environmental labels and declarations – Type III environmental declarations – Principles and procedures

ISO 14040/Amd1:2020 – Environmental management – Life Cycle Assessment – Principles and framework

ISO 14044:2006/Amd2:2020/Environmental management – Life cycle assessment – Requirements and guidelines

ISO 21930:2017 – Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services

Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources using Environmental Chambers version 1.2, January 2017.

UL Product Category Rules for Building-Related Products and Services Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report, UL v3.2, December 2018.

UL Product Category Rules for Building-Related Products and Services Part B: Non-Metal Ceiling Panel EPD Requirements, UL 10010-26, v2.0, 2021.