Environmental Product Declaration

AD Systems ExamSlide™



This EPD was created using a UL-verified EPD generator for Allegion's full product portfolio. For additional product specific EPDs, please contact Allegion at sustainability@allegion.com.

ALLEGION™
AD SYSTEMS™

Allegion is pioneering safety by protecting people where they live and work – and protecting our environment at the same time. We promote the health and safety of our employees, customers and local community members worldwide through our commitment to conducting business in a safe and environmentally responsible manner.

Additionally, Allegion recognizes the value of the Leadership in Energy and Environmental Design (LEED) rating system to building environmentally safe and sustainable structures. By using Life Cycle Assessment and Environmental Product Declarations, we aim to provide our customers with the information they need to make decisions regarding their own sustainable building concepts and green solutions.

At Allegion, we value the importance of a cleaner world and are committed to being a responsible member of our global communities.

UL CERTIFIED
ENVIRONMENTAL PRODUCT DECLARATION
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ENVIRONMENTAL PRODUCT DECLARATION

ALLEGION

Allegion plc
AD Systems ExamSlide™ Sliding Door System

According to ISO 14025:2006 and ISO21930:2017

EPD PROGRAM AND PROGRAM OPERATOR NAME, ADDRESS, LOGO, AND WEBSITE	UL Solutions www.ul.com 333 Pfingsten Rd, Northbrook IL 60062 www.spot.ul.com
GENERAL PROGRAM INSTRUCTIONS AND VERSION NUMBER	UL Solutions Program Operator Rules 2.7 2022
MANUFACTURER NAME AND ADDRESS	Allegion plc 7221 W 350N, Greenfield, IN 46140
DECLARATION NUMBER	4792354104.101.1
DECLARED PRODUCT & FUNCTIONAL UNIT	One ExamSlide™ Sliding Door System including door panel with operating hardware and hanging devices combined with a frame and other hardware accessories required to complete a 36" clear width door opening.
REFERENCE PCR AND VERSION NUMBER	UL PCR Part A 10010 Version 4.0 UL Part B Builders Hardware EPD Requirements 10010-13 v2.0
DESCRIPTION OF PRODUCT APPLICATION/USE	A sliding door system installed in a wall opening, providing passage between two spaces.
PRODUCT RSL DESCRIPTION (IF APPL.)	25 years
MARKETS OF APPLICABILITY	North America
DATE OF ISSUE	October 23rd, 2026
PERIOD OF VALIDITY	5 years
EPD TYPE	Product-specific
EPD SCOPE	Cradle to to grave
YEAR(S) OF REPORTED PRIMARY DATA	2024
LCA SOFTWARE & VERSION NUMBER	Sphera LCA for Experts (fka GaBi) 10.9
LCI DATABASE(S) & VERSION NUMBER	Sphera Managed LCA Content (fka GaBi) 2026.1
LCIA METHODOLOGY & VERSION NUMBER	IPCC AR5, TRACI 2.1, and CML 2001-Jan 2016

The PCR review was conducted by:	UL Solutions PCR Panel Review ul.pcr@ul.com
This declaration was independently verified in accordance with ISO 14025: 2006, ISO 21930:2017, and UL Solutions Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report. ☐ INTERNAL ☒ EXTERNAL	Cooper McCollum, UL Solutions
This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by:	WAP Sustianability, LLC
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	James Mellentine, Thrive ESG

LIMITATIONS

Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc.

Accuracy of Results: EPDs regularly rely on estimations of impacts; the level of accuracy in estimation of effect differs for any particular product line and reported impact.

Comparability: EPDs from different programs may not be comparable. Full conformance with a 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 results for upstream or downstream of the life cycle stages declared.

1. Product Definition and Information

1.1. Description of Company

At Allegion (NYSE: ALLE), we design and manufacture innovative security and access solutions that help keep people safe where they live, learn, work and connect. We're pioneering safety with our strong legacy of brands like CISA®, Interflex®, LCN®, Schlage®, SimonsVoss®, Von Duprin® and AD Systems™. Our comprehensive portfolio of hardware, software and electronic solutions is sold around the world and spans residential and commercial locks, door closer and exit devices, steel doors and frames, access control and workforce productivity systems. Allegion™ operates plants across the United States and internationally.

1.2. Product Description

The AD Systems ExamSlide™ Sliding Door System is a surface-mounted, top-hung, commercial sliding door system designed for healthcare and clinical environments where cleanability, accessibility, and reliable operation are required. Its enclosed header and roller assembly minimize debris accumulation and support easy cleaning and quiet performance. The LCA for this EPD is based on a representative ExamSlide Sliding Door System assembly providing a 36" clear opening width and includes basic door hardware options including back-to-back pulls and a soft-closer; glazing is excluded from the LCA as glazing is typically provided and installed by a glazing contractor.

The product is manufactured at Allegion's Everett, Washington facility. This EPD is a representative product based on the highest-sales model. This EPD is representative of manufacturing in the US and also accounts for relevant international supply chains.

Due to similar weights and materials, impacts for the following product options of ExamSlide in this size (see Table 4) do not vary by more than 10% from the representative product: all color finishes, back-to-back pulls, keyed locks, privacy locks, and soft-closers. The following options are excluded from the EPD: magnetic locks, electric strikes, automatic operators, self-closers, and automatic door bottoms.

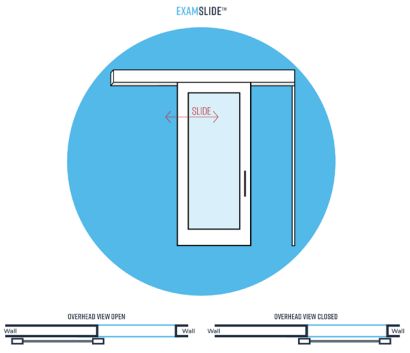


Figure 1: ExamSlide™ Commercial Sliding Door System

1.3. Technical Requirements

Table 1: Technical Details

PARAMETER	EXAMSLIDE™	UNIT
ANSI/BHMA	This product is designed to the requirements of ANSI/BHMA A156.43. Due to the recent development of the BHMA standard, testing is in progress and the technical data in the EPD will be updated once completed.	-
CSI Code	08 34 00	-

1.4. Application

This product is typically used in commercial and health care buildings.

1.5. Declaration of Methodological Framework and System Boundary

This EPD is cradle-to-grave, as represented by the flow diagram below. A summary of the life cycle stages can be found in Figure 2 and Table 10. The reference service life (RSL) is outlined in Table 7. The cut-off criteria are described in 2.3 Cut-off Criteria, and the allocation procedures are described in Section 2.7. No known flows are deliberately excluded from this EPD, except as described in 2.3.

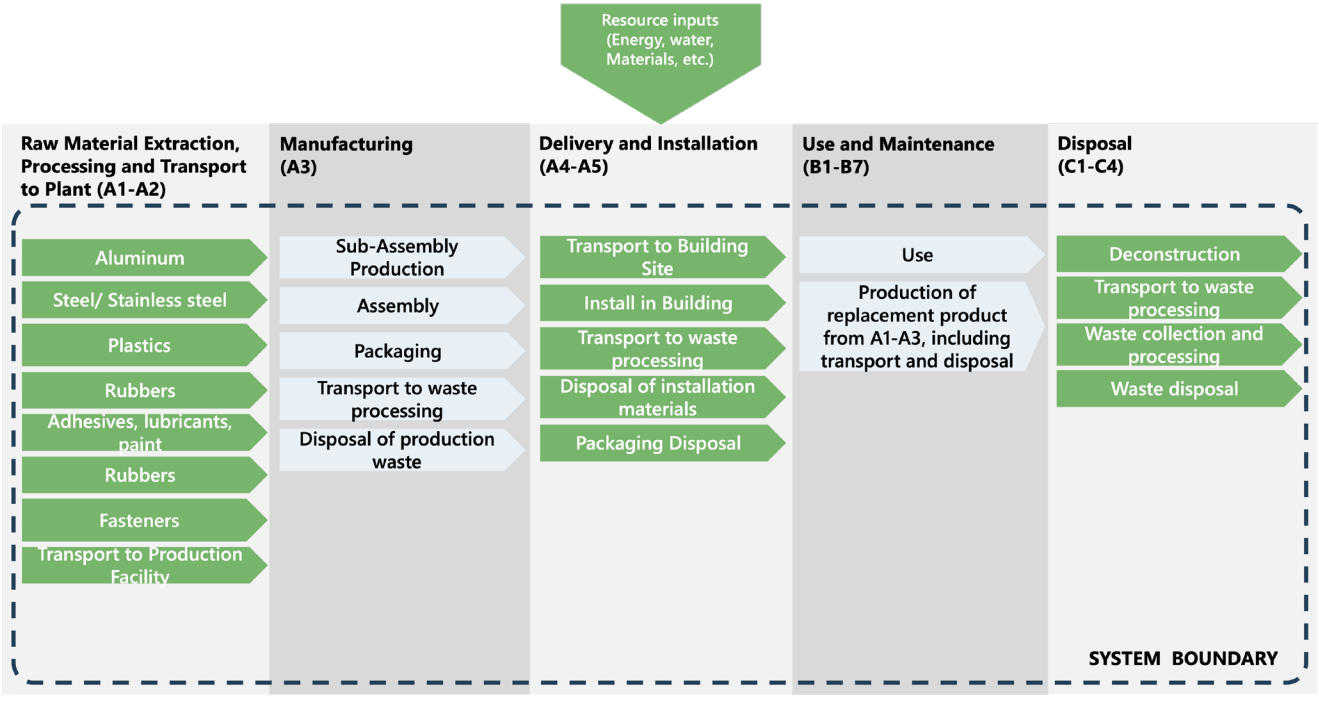


Figure 2: System Boundary Diagram

1.6. Material Composition

The materials that make up the products are indicated in Table 2 in percent mass. Recycled content is based on generic data from MLC secondary datasets and assumed to be pre-consumer recycled content. Mass percentage values may not add up to 100% due to rounding.

Table 2: Material Composition

Material	ExamSlide™	Recycled Content, Pre-Consumer %
Aluminum	93%	53%
Steel	2%	17%
Stainless steel	2%	84%
Finishes	1%	0%
Silicone	1%	0%
EPDM	1%	0%
Other	1%	0%

1.7. Properties of Declared Product as Shipped

For shipping, all of the extrusions are wrapped with a foam interleave to prevent damage during shipping. Then they are boxed up in cardboard boxes along with other components. The boxes are then put on wood pallets for shipping. As many as 20 boxes can be placed on a pallet.

1.8. Manufacturing

The AD Systems ExamSlide™ Sliding Door Systems are produced as Allegion's Everett, Washington plant. The plant produces the complete line of AD Systems sliding door systems.

Materials and prefinished aluminum extrusions are received in the warehouse from suppliers. Material and aluminum extrusions are pulled from the warehouse. Aluminum extrusions are cut to length on a saw and then sent to the second operation for CNC machining. Once this is completed the finished profiles are sent to a prep cell where gasket and hardware are installed and finally arriving at a boxing table where all components are put together and reviewed for quality prior to palletizing and shipment of the sliding door frame.

1.9. Packaging

Packaging utilized in the shipment of the product per declared unit is described in Table 3.

Table 3: Packaging

Material	ExamSlide™	Biogenic Carbon (kg C)
Cardboard	4.25E+00	2.34E+00
Wood	2.13E+00	8.44E-01
Kraft Board	3.70E-01	1.59E-01
PE	1.22E-01	0.00E+00

MATERIAL	EXAMSLIDE™	BIOGENIC CARBON (KG C)
LDPE	3.25E-02	0.00E+00
Paper	3.14E-02	1.35E-02
EPS	4.45E-03	0.00E+00

1.10. Transportation

It is assumed that all raw materials are distributed by truck and ship, based on global region. Distances were calculated based on the address of the major supplier of each material.

The transport distance to the end customers is assumed to be 1,000 km based on the PCR Part B. The transportation distance for production waste is assumed to be 32 km. In installation, product and packaging waste transport from building site to waste processing is based on the Part B PCR default distance of 200 km.

1.11. Product Installation

Detailed installation instructions are provided online at Allegion.com. Installation equipment is required though not included in the study as these are multi-use tools and the impacts per declared unit is considered negligible. Product waste is not typically generated during installation and is assumed to be 0%. Packaging waste is generated and disposed of in this stage. Packaging and installation waste disposal have been modeled as per guidelines in the Part A PCR.

Product should be installed by a professional and is subject to commercial building codes. Proper equipment, including protective equipment, should be used. Allegion products must be installed in full compliance with manufacturer's written instructions, which are included with each product.

1.12. Reuse, Recycling, and Energy Recovery

The product may be recycled or reused at the end of life. The LCA that this EPD is created from takes the conservative approach by assuming that all products are disposed of within the system boundary.

1.13. Disposal

It is assumed that the product is removed manually by unscrewing of fasteners before disposing according to guidelines in the Part B PCR. Waste is assumed to be transported 32 km from the building to treatment facilities. Disposal pathways in the EPD are modeled in accordance with disposal routes and waste classification referenced in the Part A PCR.

2. Life Cycle Assessment Background Information

2.1. Functional Unit

Functional unit details for the product are indicated in Table 4.

Table 4: Functional Unit Details

NAME	EXAMSLIDE™	UNIT
Functional Unit	1 unit installed in an opening of manufacturer “nominal” door size to provide 36” clear opening width	-
Additional Specifications	Includes door panel with operating hardware and hanging devices combined with a frame and other hardware accessories required to complete a 36" clear width door opening. Nominal door size of 43 ¼” x 83 ¼” (1.09 m x 2.11 m)	-
RSL	25	years
Mass per functional unit, including fasteners	5.03E+01	kg

The fasteners needed for installation are supplied by the manufacturer with the product and therefore are accounted for together with the product.

2.2. Estimates and Assumptions

All estimates and assumptions are within the requirements of ISO 14040/44. The majority of the estimations are within the primary data. The primary data was collected as annual totals including all utility usage and production information. For the LCA, the usage information was divided by the production in pieces to create an energy and water use per declared unit, i.e., one unit of product. Other assumptions are listed below:

- Allocation by production volume in number of pieces assumes all products incur the same manufacturing impacts, regardless of total product mass. This is considered appropriate based on discussions with the manufacturer and is considered the best method available in absent of production volume in mass.
- Mass of scrap metal lost in production is accounted for in A1 and A2, where material inputs from suppliers and their transportation to manufacturing facilities are increased to mass balance the mass of scrap metal outputs. The composition of scrap metal lost is assumed to be the same as the finished product composition by percent mass.
- Metal and plastic processing impacts were modeled based on default energy use and scrap rates from the background database used.
- In some cases, data were available to separate natural gas used for production processes from overhead energy; where these data are not available, inclusion of overhead energy data was determined appropriate due to the inability to sub-meter and isolate manufacturing energy from overhead energy.
- The use and selection of secondary datasets from MLC – The selection of which generic dataset to use to represent an aspect of a supply chain is a significant value choice. Collaboration between the LCA practitioner, the manufacturer, and MLC data experts was invaluable in determining best-case scenarios in the selection of data. However, no generic data can be a perfect fit. Improved supply chain specific data would improve the

accuracy of results, however budgetary and time constraints also must be considered.

2.3. Cut-off Criteria

Cumulative excluded material inputs, energy inputs, and environmental impacts must not exceed 5% based on total weight, energy use, or environmental impact of the Functional unit. Inputs or outputs greater than 1% (based on total mass of the final product) were included within the scope of analysis. Material inputs less than 1% were included if sufficient data was available to warrant inclusion and/or the material input was thought to have significant environmental impact. Cumulative excluded material inputs and environmental impacts are less than 5% based on total weight and impact of the functional unit. No flows were intentionally omitted from the scope of the study.

There is no excluded material or energy input or output, except as noted below:

- As the tools used during the installation of the product are multi-use tools and can be reused after each installation, the per-functional unit impacts are considered negligible and therefore are not included.
- Items like labels, inks, stickers, adhesives, etc. may have been excluded from the product and packaging BOMs due to their small mass compared to the total product and packaging.
- Some material and energy inputs may have been excluded within the MLC datasets used for this project. All MLC datasets have been critically reviewed and conform to the exclusion requirements of the PCR.
- In primary data collected from the manufacturer, impacts from infrastructure and capital goods are excluded. Because infrastructure and capital goods in manufacturing operations produce millions of units over their operational lifespan, the environmental burden allocated to a single unit is expected to be relatively small compared to raw materials, transportation, and energy consumption to produce each declared unit and fall below cut-off threshold of 1%.
- Background datasets follow the Sphera (MLC) LCA Databases Modeling Principles, which details the system boundaries for various categories of datasets (Sphera, 2025). The background datasets for MLC include infrastructure based on relevance to environmental impact. Infrastructure is included for all MLC energy datasets for consistency purposes.

2.4. Data Sources

Primary data were provided by Allegion and represent all information for 2024, including use of energy and water, bills of materials, waste records, and transportation mode and distance of raw materials.

Data necessary to model cradle-to-gate unit processes were sourced from Sphera's MLC LCI datasets.

2.5. Data Quality

Geographical Coverage

The geographical scope of the manufacturing portion of the life cycle is the Everett, WA. All primary data were collected from the manufacturer. The geographic coverage of primary data is considered very good.

The geographical scope of the raw material acquisition is North America, Europe, and Asia. Customer distribution, site installation, and use portions of the life cycle are within North America.

In selecting secondary data (i.e., MLC datasets), priority was given to the accuracy and representativeness of the data. When available and deemed of significant quality, country-specific data were used. However, priority was given to

technological relevance and accuracy in selecting secondary data. This often led to the substitution of regional and/or global data for country-specific data, detailed in the background LCA report. Overall geographic data quality is considered good.

Time Coverage

Primary data were provided by the manufacturer and represent all information for calendar year 2024. Using this data meets the PCR requirements. Time coverage of this primary data is considered very good.

Data necessary to model cradle-to-gate unit processes were sourced from Sphera's MLC LCI datasets. Time coverage of the datasets varies and is detailed in the background LCA report. All datasets rely on at least one 1-year average data. Overall time coverage of the datasets is considered very good and meets the requirement of the PCR that all data be updated within a 10-year period. One dataset is older than 10 years, but its use is justified because it represents the most up-to-date industry data available for upstream supplier production unit processes and is used in conjunction with secondary datasets for raw material, energy, and waste that are less than 10 years old.

Technological Coverage

Primary data provided by the manufacturer are specific to the technology the company uses in manufacturing their product. It is site-specific and considered of good quality. In some cases, data were available to separate natural gas used for production processes from overhead energy, detailed in the background LCA report; in other cases, the energy and water used in manufacturing the product includes overhead energy such as lighting, heating, and sanitary use of water. Sub-metering was not available to extract process-only energy and water use from the total energy use. Sub-metering would improve the data quality of technological coverage at relevant facilities.

Technological coverage of the datasets is considered good relative to the actual supply chain of the manufacturer. While improved life cycle data from suppliers would improve technological coverage, the use of generic datasets does meet the goal of this LCA.

Completeness

The data included is considered complete. The LCA model included all known material and energy flows, with the exception of what is listed in Section 2.3. As pointed out in that section, no known flows above 1% were excluded and the sum of all excluded flows totals less than 5%.

2.6. Period under Review

The period under review is calendar year 2024.

2.7. Allocation

General principles of allocation were based on ISO 14040/44. Where possible, allocation was avoided. To derive a per-unit value for manufacturing inputs such as electricity, thermal energy, and water, allocation based on total production in pieces was adopted. Discussions with Allegion staff determined this was the best available data for consistent accounting of production volume and the most representative way to allocate the manufacturing inputs based on the manufacturing processes used and the types of products created. It is assumed that energy used and waste generated in production are the same across all co-products made at the same facility.

As a default, secondary MLC datasets use a physical basis for allocation.

Of relevance to the defined system boundary is the method in which recycled materials were handled. Throughout the study recycled materials were accounted for via the cut-off method. Under this method, impacts and benefits associated with the previous life of a raw material from recycled stock are excluded from the system boundary. Additionally, impacts and benefits associated with secondary functions of materials at end of life are also excluded

(i.e., production into a third life or energy generation from the incineration plant). The study does include the impacts associated with reprocessing and preparation of recycled materials that are part of the bill of materials of the products under study.

3. Life Cycle Assessment Scenarios [1]

Table 5: Transport to the building site (A4)

NAME	EXAMSLIDE™	UNIT
Fuel type	Diesel	-
Liters of fuel	42	l/100km
Vehicle type	Truck – Trailer, basic enclosed / 50,000 lb. payload	-
Transport distance	1.00E+03	km
Capacity utilization	67	%
Weight of products transported	5.72E+01	kg
Volume of products transported	113.56	m^3
Capacity utilization volume factor	1	-

Table 6: Installation into the building (A5)

NAME	EXAMSLIDE	UNIT
Fasteners	The fasteners for installation are accounted for in A1-A3.	kg
Net Freshwater Consumption	0.00E+00	m^3
Electricity Usage	0.00E+00	kWh
Product wastage	0.00E+00	%
Waste materials at the construction site before waste processing, generated by product installation	6.94E+00	kg
Metal waste to recycling	0.00E+00	kg
Metal waste to landfill	0.00E+00	kg
Metal waste to incineration	0.00E+00	kg
Pulp waste to recycling	3.87E+00	kg
Pulp waste to landfill	2.31E+00	kg
Pulp waste to incineration	6.10E-01	kg
Plastic waste to recycling	1.08E-01	kg
Plastic waste to landfill	4.29E-02	kg
Plastic waste to incineration	7.95E-03	kg
Biogenic carbon content of packaging	1.23E+01	kg CO_2
Direct Emission to ambient air, soil, and water	0.00E+00	kg
VOC emission [2]	n/a	$\mu g/m^3$

[1] The tables for B1, B2, B3, and, B5 are not included as these stages do not involve any flow input or output.
[2] Builders hardware products are not tested for VOC emissions due to exemptions for this product category in the LEED rating system.

Table 7: Reference Service Life

NAME	EXAMSLIDE™	UNIT
RSL	25 years	years
Design application parameters	Installation per recommendation by manufacturer	-
An assumed quality of work	Accepted industry standard	-
Indoor environment	Normal building operating conditions	-
Use conditions	Due to the recent development of ANSI/BHMA A156.43, testing is in progress and the properties regarding use conditions in the EPD will be updated once completed.	-
Maintenance	None required	-

Table 8: Replacement (B4)

NAME	EXAMSLIDE	UNIT
Reference Service Life	25	Years
Replacement cycle (ESL/RSL)-1	2	#
Energy input during replacement	0	kWh
Net freshwater consumption	0	m3
Ancillary materials	0	kg
Replacement of worn parts	0	kg
Direct Emissions to ambient air, soil, and water	0	kg
Further assumptions for scenario development	N/A	-

Table 9: End of life (C1-C4)

NAME		EXAMSLIDE	UNIT
Assumptions for scenario development	As per PCR Part B, the deconstruction of the hardware is manual. The deconstructed product is collected with mixed construction waste. Waste classification is based on the RCRA for North American region. Waste disposal follows guidelines in the Part A PCR.		
Collection process	Collected with mixed construction waste	5.03E+01	kg
Recovery	Waste to Landfill	4.02E+00	kg
	Waste to Recycling	4.63E+01	kg
	Waste to Incineration	0.00E+00	kg

4. Life Cycle Assessment Results

Table 10: Description of the system boundary modules

	PRODUCT STAGE			CONSTRUCT-ION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE 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 from gate to site	Assembly/Install	Use	Maintenance	Repair	Replacement	Refurbishment	Building Operational Energy Use During Product Use	Building Operational Water Use During Product Use	Deconstruction	Transport	Waste processing	Disposal	Reuse, Recovery, Recycling Potential
Cradle to Grave	X			X	X	X	X	X	X	X	X	X	X	X	X	X	MND

X = Included
MND = Module not declared

4.1. Life Cycle Assessment Results

LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4
IPCC AR5														
GWP-excl [kg CO_2 eq]	2.80E+02	4.90E+00	1.76E+00	0.00E+00	0.00E+00	0.00E+00	5.73E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-01	0.00E+00	8.92E-02
GWP-incl [kg CO_2 eq]	2.68E+02	4.90E+00	3.18E+00	0.00E+00	0.00E+00	0.00E+00	5.53E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-01	0.00E+00	8.90E-02
TRACI 2.1														
ODP [kg CFC-11 eq]	1.52E-09	4.88E-13	1.18E-13	0.00E+00	0.00E+00	0.00E+00	3.05E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-14	0.00E+00	1.68E-13
AP [kg SO_2 eq]	1.03E+00	2.15E-02	5.56E-03	0.00E+00	0.00E+00	0.00E+00	2.11E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.72E-04	0.00E+00	5.36E-04
EP [kg N eq]	4.78E-02	1.62E-03	9.18E-04	0.00E+00	0.00E+00	0.00E+00	1.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.09E-05	0.00E+00	2.23E-04
SFP [kg O_3 eq]	1.30E+01	4.91E-01	2.66E-02	0.00E+00	0.00E+00	0.00E+00	2.70E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.33E-03	0.00E+00	8.07E-03
CML-2001														
ADP_{Fossil} [MJ, LHV]	2.89E+03	6.04E+01	1.27E+00	0.00E+00	0.00E+00	0.00E+00	5.92E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.71E+00	0.00E+00	1.27E+00
Carbon Emissions and Removals														
BCRP [kg CO_2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEP [kg CO_2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCRK [kg CO_2]	1.23E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.46E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEK [kg CO_2]	0.00E+00	0.00E+00	1.23E+01	0.00E+00	0.00E+00	0.00E+00	2.46E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEW [kg CO_2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE [kg CO_2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR [kg CO_2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CWNR [kg CO_2]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4
Resource Use Indicators														
RPR_E [MJ, LHV]	2.15E+03	2.46E+00	1.64E-01	0.00E+00	0.00E+00	0.00E+00	4.30E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.95E-02	0.00E+00	1.98E-01
RPR_M [MJ, LHV]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
$NRPR_E$ [MJ, LHV]	2.98E+03	6.10E+01	1.32E+00	0.00E+00	0.00E+00	0.00E+00	6.10E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.73E+00	0.00E+00	1.30E+00
$NRPR_M$ [MJ, LHV]	2.55E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.10E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SM [kg]	3.39E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.77E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF [MJ, LHV]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF [MJ, LHV]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW [m^3]	8.91E+00	1.89E-03	2.14E-03	0.00E+00	0.00E+00	0.00E+00	1.78E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.35E-05	0.00E+00	1.41E-04
Output Flows and Waste Categories														
HWD [kg]	1.36E-06	1.28E-08	3.55E-10	0.00E+00	0.00E+00	0.00E+00	2.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.61E-10	0.00E+00	3.58E-10
NHWD [kg]	8.26E+01	7.16E-03	1.86E+00	0.00E+00	0.00E+00	0.00E+00	1.85E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.03E-04	0.00E+00	8.04E+00
HLRW [kg]	4.60E-05	2.21E-07	2.00E-08	0.00E+00	0.00E+00	0.00E+00	9.25E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.25E-09	0.00E+00	1.25E-08
ILLRW [kg]	4.07E-02	1.85E-04	1.69E-05	0.00E+00	0.00E+00	0.00E+00	8.18E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.25E-06	0.00E+00	1.07E-05
CRU [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR [kg]	4.94E+00	0.00E+00	3.97E+00	0.00E+00	0.00E+00	0.00E+00	1.10E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.63E+01	0.00E+00
MER [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE [MJ, LHV]	2.35E-01	0.00E+00	1.98E+00	0.00E+00	0.00E+00	0.00E+00	4.43E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET [MJ, LHV]	1.11E-01	0.00E+00	6.31E-01	0.00E+00	0.00E+00	0.00E+00	1.48E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

5. LCA Interpretation

Overall, the vast majority of impacts are found in B4, specifically due to the replacement requirements over the service life of a building. This follows the fact that with an RSL of 25 years, there are 2 replacements that need to occur during the 75 years of building operation. If the impacts from B4 are set aside to observe impacts from other phases, the Production Stage (A1-A3) emerges as a major contributor. This includes raw material extraction, raw material transportation, and product manufacturing.

Due to similar weights and materials, the results for other variations represented by this EPD (see section 1.2 for details) do not vary by more than 10% and the conclusions are similar.

For limitations regarding these LCA results, see sections 2.2, 2.3, and 2.5.

6. Additional Environmental Information

6.1. Environment and Health During Manufacturing

Allegion meets all federal and state standards related to the Environment and Health during manufacturing. Beyond what is regulated, there are no additional environment and health considerations during the production of goods.

6.2. Environment and Health During Installation

The installation instruction that can be found on Allegion's website should be referred to and followed to have proper and safe installation.

6.3. Environment and Health During Use

There are no environmental or health considerations during the use of the product.

6.4. Regulated Hazardous Substances

No substances required to be reported as hazardous are contained in the construction product per Resource Conservation and Recovery Act (RCRA) Subtitle C.

7. Supporting Documentation

The full text of the acronyms found in Section 4 are found in Table 11.

Table 11: Acronym Key

ACRONYM	TEXT	ACRONYM	TEXT
LCA Indicators			
GWP-excl	Global warming potential (100 years, excluding biogenic CO_2)	EP	Eutrophication potential
GWP-incl	Global warming potential (100 years, including biogenic CO_2)	SFP	Smog Formation Potential
ODP	Depletion of stratospheric ozone layer	ADP-fossil	Abiotic depletion potential for fossil resources
AP	Acidification potential of soil and water		
Carbon Emissions and Removals			
BCRP	Biogenic carbon removal from product	BCEW	Biogenic carbon emission from combustion of waste from renewable sources used in production processes
BCEP	Biogenic carbon emission from product	CCE	Calcination carbon emissions
BCRK	Biogenic carbon removal from packaging	CCR	Carbon dioxide removals from carbonation
BCEK	Biogenic carbon emission from packaging	CWNR	Carbon emission from combustion of waste from non-renewable sources used in production processes
LCI Indicators			
RPRE	Use of renewable primary energy excluding renewable primary energy resources used as raw materials	HWD	Disposed-of-hazardous waste
RPRM	Use of renewable primary energy resources used as raw materials	NHWD	Disposed-of non-hazardous waste
NRPRE	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	HLRW	High-level radioactive waste, conditioned, to final repository
NRPRM	Use of non-renewable primary energy resources used as raw materials	ILLRW	Intermediate- and low-level radioactive waste, conditioned, to final repository
SM	Use of secondary materials	CRU	Components for reuse
RSF	Use of renewable secondary fuels	MR	Materials for recycling
NRSF	Use of non-renewable secondary fuels	MER	Materials for energy recovery
FW	Net use of fresh water	EEE	Exported electrical energy
		EET	Exported thermal energy

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