Environmental Product Declaration

Corbin Russwin

IN120 WiFi Electronic Access Control Mortise Lock

The Corbin Russwin IN120 WiFi mortise lock, is an ANSI/BHMA A156.13 Series 1000 Grade 1 mechanical mortise lock. It has a reversible stainless steel latch, independent non-handed stainless steel deadlatch. The IN120 is an intelligent Wifi Access control mortise lock with integrated credential reader.

ASSA ABLOY

ASSA ABLOY is committed to providing products and services that are environmentally sound throughout the entire production process and the product lifecycle. Our unconditional aim is to make sustainability a central part of our business philosophy and culture, but even more important is the job of integrating sustainability into our business strategy. The employment of EPDs will help architects, designers and LEED-APs select environmentally preferable door openings.

ASSA ABLOY will continue our efforts to protect the environment and health of our customers/end users and will utilize the EPD as one means to document those efforts.

UL CERTIFIED
ENVIRONMENTAL PRODUCT DECLARATION
UL.COM/EPD

EPD Program and Program Operator Name, Address, Logo, and Website	UL Environment 333 Pfingsten Road Northbrook, IL 60611 https://www.ul.com/ https://spot.ul.com
General Program Instructions and Version Number	General Program Instructions v.2.5 March 2020
Manufacturer Name and Address	ASSA ABLOY 110 Sargent Drive, New Haven, CT 06511
Declaration Number	4789198858.128.1
Declared Product & Functional Unit or Declared Unit	Corbin Russwin IN120 WiFi Electronic Access Control Mortise Lock Functional Unit = 1 piece over 75 year building lifetime
Reference PCR and Version Number	UL Environment Part B: Builders Hardware EPD Requirements, Version 1.0, November 2019.
Description of Product Application/Use	ASSA ABLOY products are primarily used in commercial, residential, and educational settings.
Product RSL Description (if Appl.)	25 Years
Markets of Applicability	Global
Date of Issue	October 1, 2020
Period of Validity	5 Year
EPD Type	Product-Specific
Range of Dataset Variability	N/A
EPD Scope	Cradle to Grave
Year(s) of Reported Primary Data	2018
LCA Software & Version Number	GaBi 8.7
LCI Database(s) & Version Number	GaBi Sphera database, Service Pack 35
LCIA Methodology & Version Number	TRACI 2.1; CML 4.1

This PCR review was conducted by:	UL Environment PCR Review Panel epd@ulenvironment.com
This declaration was independently verified in accordance with ISO 14025: 2006. ☐ INTERNAL ☒ EXTERNAL	Grant R. Martin Grant R. Martin, UL Environment
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Thomas P. Gloria Thomas P. Gloria, Industrial Ecology Consultants

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.

General Information

Description of Company/Organization

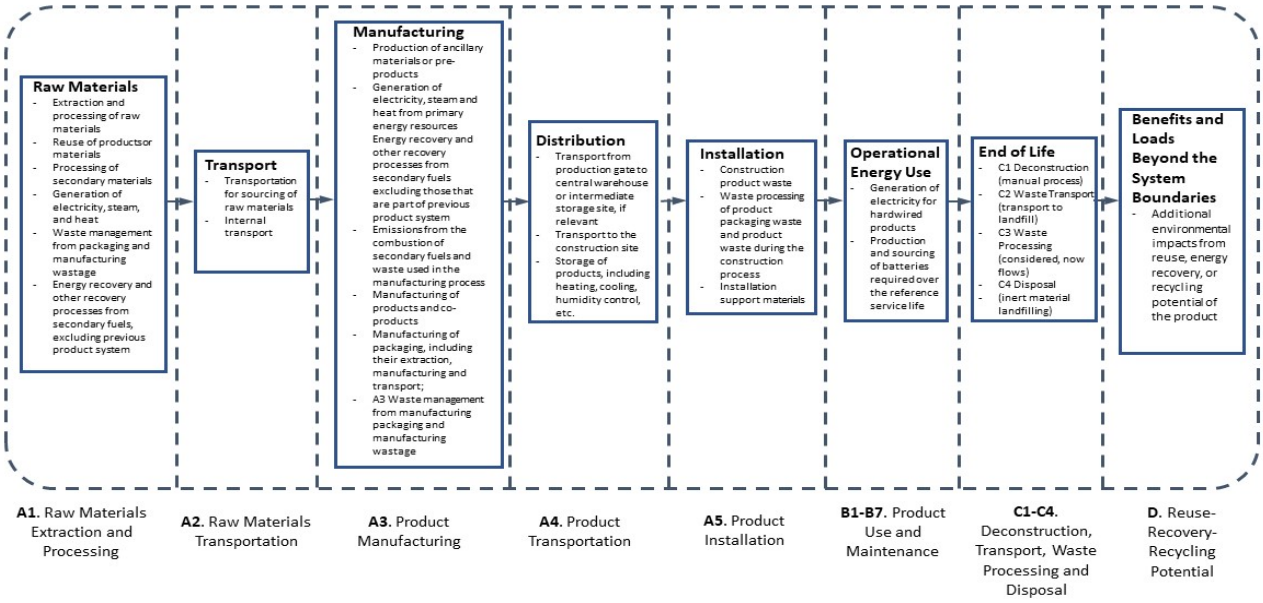
Products are manufactured by ASSA ABLOY. The manufacturing facility is located in Berlin, CT and has an ISO 14001 certified environmental management system in place.

ASSA ABLOY remains committed to the principles of the UN Global Compact in the areas of human rights, labor, the environment and anti-corruption.

Product Description

The Corbin Russwin IN120 WiFi mortise lock, is an ANSI/BHMA A156.13 Series 1000 Grade 1 mechanical mortise lock. It has a reversible stainless steel latch, independent non-handed stainless steel deadlatch. The IN120 is an intelligent Wifi Access control mortise lock with integrated credential reader.

Flow Diagram



Manufacturer Specific EPD

This product-specific EPD was developed based on the cradle-to-grave (modules A1-D) Life Cycle Assessment. The EPD accounts for raw material extraction and processing, transport, product manufacturing, distribution, installation, use, maintenance, disposal, and potential benefits and loads following the end of life disposal. Manufacturing data were gathered directly from company personnel. When updated company-specific data were not available the ratio of production units, between the 2018 calendar year and 2015 baseline year, was used as a proxy. For any product group EPDs, an impact assessment was completed for each product and the highest impacts were reported as conservative representations of the product group. Product grouping was considered appropriate if the individual product impacts differed by no more than ±10% in any impact category.

Application

The locks are designed for single doors. The locks are typically installed in commercial buildings, such as
- Commercial campuses
- Colleges
- Detention centers
- Dormitories
- Hospitals
- Warehouses

Material Composition

Material	Percentage in mass (%)
Brass	27.43%
Stainless Steel	14.11%
Steel	39.83%
Aluminum	0.00%
Electronics/Mechanics	1.66%
Plastics	5.44%
Other	11.54%
Total	100.00%

Technical Data

For the declared product, the following technical data in the delivery status must be provided with reference to the test standard:

Technical Data	
Backset	2-3⁄4" (70mm)
Door Thickness	1-3/4" (44 mm) thick standard
Bevel	Front adjustable at any angle from flat to bevelled 1⁄8" (3mm) in 2" (51mm)
Door Prep	ANSI/BHMA A156.115 or A156.115W modified per template
Handling	Field reversible
Keying	Can be masterkeyed or grand masterkeyed
Power Consumption	Battery Powered

Placing on the Market / Application Rules

The products are subject to UL marking. Relevant norms are:
- ANSI/BHMA A156.13 American Standard for Mortise locks

Properties of Declared Product as Shipped

Products are delivered as a complete unit, inclusive of all installation materials and instructions. Delivered in a box size 19.5" x 11.75" x 5" (495 x 298 x 127 mm).

Delivery Status

Delivered as a complete unit, inclusive of lockbody, trim, strike and fasteners or as separate lock case.

Methological Framework

Functional Unit

The declaration refers to the functional unit of 1 unit (or piece) of IN120 WiFi Electronic Access Control Mortise Lock, as specified in the Builders Hardware PCR.

Name	Value	Unit
Declared unit	1	1 piece of single point lock
Mass	3.1460	kg
Conversion factor to 1 kg	0.318	-

System Boundary

This is a cradle to grave Environmental Product Declaration. The following life cycle phases were considered:

Product Stage			Construction Process Stage		Use Stage							End of Life Stage*				Benefits and Loads Beyond the System Boundaries
Raw material supply	Transport	Manufacturing	Transport from gate to the site	Construction/ installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction /demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Description of the System Boundary Stages Corresponding to the PCR
(X = Included; MND = Module Not Declared)

*This includes provision of all materials, products and energy, packaging processing and its transport, as well as waste processing up to the end-of waste state or disposal of final residues.

Product Maintenance

This product requires no maintenance over its reference service life.

Reference Service Life

The reference service life of 25 years is based on a typical installation of a Corbin Russwin IN120 lock as a security lock operated when the facilities are to be closed or opened. If operations per day exceeds that typical wear the locks are exposed to the life time is limited to 1,000,000 cycles in accordance with ANSI/BHMA A156.13. Influences on ageing when applied in accordance with the rules of technology.

Allocation

Allocation was determined on a per unit basis.

Cut-off Criteria

Processes whose total contribution to the final result, with respect to their mass and in relation to all considered impact categories, is less than 1% can be neglected. The sum of the neglected processes may not exceed 5% by mass of the considered impact categories. For that a documented assumption is admissible.

For Hazardous Substances the following requirements apply:

- The Life Cycle Inventory (LCI) of hazardous substances will be included, if the inventory is available.
- If the LCI for a hazardous substance is not available, the substance will appear as an input in the LCI of the product, if its mass represents more than 0.1% of the product composition.
- If the LCI of a hazardous substance is approximated by modeling another substance, documentation will be provided.

This EPD is in compliance with the cut-off criteria. No processes were neglected or excluded. Capital items for the production processes (machine, buildings, etc.) were not taken into consideration.

Data Sources

Primary data were collected for every process in the product system under the control of ASSA ABLOY Corporate. Secondary data from the GaBi Sphera database were utilized. These data were evaluated and have temporal, geographic, and technical coverage appropriate to the scope of the Builder's Hardware product category.

Data Quality

The data sources used are complete and representative of North America in terms of the geographic and technological coverage and are a recent vintage (i.e. less than ten years old). The data used for primary data are based on direct information sources of the manufacturer. Secondary data sets were used for raw materials extraction and processing, end of life, transportation, and energy production flows. Wherever secondary data is used, the study adopts critically reviewed data for consistency, precision, and reproducibility to limit uncertainty.

Period Under Review

The period under review is the full calendar year of 2018.

Comparability and Benchmarking

A comparison or an evaluation of EPD data is only possible if all data sets to be compared were created according to EN 15804 and the building context, respectively the product-specific characteristics of performance, are taken into account. Environmental delarations from different programs may not be comparable. Full conformance with the PCR for North American Builders Hardware products allows EPD comparability only when all stages of a Builders Hardware product's life cycle have been considered. However, variations and deviations are possible.

Estimates and Assumptions

End of Life
In the End of Life phase, metal materials were assumed to have an 85% recycling rate while all other materials were assumed to have a 0% recycling rate, in accordance with the Builder's Hardware PCR.

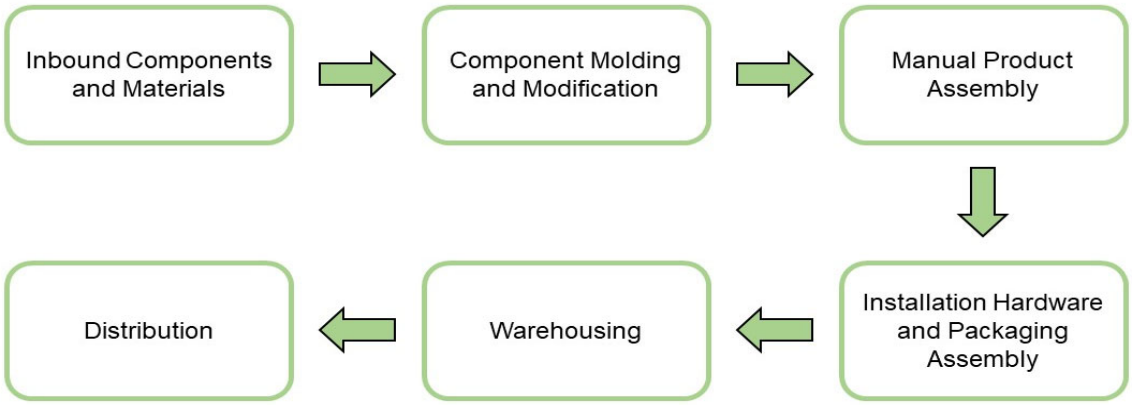
Additional Environmental Information

Background data

For life cycle modeling of the considered products, the GaBi 8 Software System for Life Cycle Engineering, developed by Sphera, is used. The GaBi-database contains consistent and documented datasets which are documented in the online GaBi-documentation. To ensure comparability of results in the LCA, the basic data of GaBi database were used for energy, transportation and auxiliary materials.

Manufacturing

The primary manufacturing processes are made by Tier 1 suppliers in Mexico and the final manufacturing processes occur in Berlin, CT. The components come from processes like stamped steel, turning, and aluminum extrusion.



Packaging

All packaging is fully recyclable. The packaging material is composed by cardboard (app. 96%), paper (app. 3%), and plastic (app. 1%).

Material	Quantity (% By Weight)
Cardboard	96%
Other	4%
Total	**100%**

Transformation

Transport to Building Site (A4)		
Name	**Value**	**Unit**
Liters of fuel	38	l/100km
Transport distance	500	km
Capacity utilization (including empty runs)	90	%
Gross density of products transported	-	kg/m^3
Capacity utilization volume factor	1.00	-

Product Installation

Corbin Russwin IN120 mortise locks are distributed through and installed by trained installation technicians, such as locksmiths, carpenters etc. adhering to local/national standards and requirements.

Installation into the building (A5)		
Name	**Value**	**Unit**
Auxiliary materials	-	kg
Water consumption	-	m^3
Other resources	-	kg
Electricity consumption	0.01	kWh
Other energy carriers	-	MJ
Waste materials at construction site	1.19	kg
Output substance (recycle)	0.89	kg
Output substance (landfill)	0.24	kg
Output substance (incineration)	0.06	kg
Direct emissions to ambient air*, soil, and water	0.31	kg CO_2

*CO2 emissions to air from disposal of packaging

Reference Service Life		
Name	**Value**	**Unit**
Reference Service Life	25	years
Estimated Building Service Life	75	years
Number of Replacements	2	number

Product Use

No maintenance is required.

Operational Energy Use (B6)		
Name	**Value**	**Unit**
Water consumption (from tap, to sewer)	-	m^3
Electricity consumption	0.0	kWh
Other energy carriers	-	MJ
Equipment output	-	kW
Direct emissions to ambient air, soil, and water	-	kg

Disposal

The product can be mechanically dissembled to separate the different materials. 98.51% of the materials used are recyclable.

End of life (C1-C4)		
Name	**Value**	**Unit**
Collected separately	2.24	kg
Collected as mixed construction waste	0.91	kg
Reuse	0.00	kg
Recycling	2.24	kg
Energy recovery	0.00	kg
Landfilling	0.91	kg

Re-use Phase

The product is possible to re-use during the reference service life and be moved from one door to another. In the End-of-Life phase the lock can either be sent back to Corbin Russwin for recycling or to a professional recycling service provider. The majority, by weight of components are stainless steel, steel, brass and zinc which can be recycled. The plastic components can be used for energy recovery in an incineration process.

Re-Use, recovery, And/Or Recycling Potential (D)		
Name	**Value**	**Unit**
Net energy benefit from energy recovery from waste treatment declared as exported energy in C3 (R>0.6)	0.00	MJ
Net energy benefit from thermal energy due to treatment of waste declared as exported energy in C4 (R<0.6)	0.00	MJ
Net energy benefit from material flow declared in C3 for energy recovery	0.00	MJ
Process and conversion efficiencies		
Further assumptions for scenario development (e.g. further processing technologies, assumptions on correction factors);		

LCA Results

Results shown below were calculated using TRACI 2.1 Methodology.

TRACI 2.1 Impact Assessment

Parameter	Parameter	Unit	A1-A3	A4	A5	B4	B6	C1	C2	C3	C4
GWP	Global warming potential	kg CO_2-Eq.	8.0E+00	2.3E-01	2.2E-01	1.3E+01	0.0E+00	1.5E-02	6.5E-02	1.7E-01	-2.5E+00
ODP	Depletion potential of the stratospheric ozone layer	kg CFC-11 Eq.	2.4E-11	8.8E-12	2.0E-13	3.2E-08	0.0E+00	5.5E-13	2.2E-12	-7.6E-16	1.6E-08
AP Air	Acidification potential for air emissions	kg SO_2-Eq.	4.3E-02	1.4E-03	1.2E-03	8.5E-02	0.0E+00	8.8E-05	4.0E-04	7.7E-04	-4.7E-03
EP	Eutrophication potential	kg N-Eq.	1.8E-03	7.8E-05	2.1E-04	4.5E-03	0.0E+00	4.9E-06	1.9E-05	2.9E-04	-1.9E-04
SP	Smog formation potential	kg O_3-Eq.	5.8E-01	3.9E-02	1.2E-02	1.2E+00	0.0E+00	2.4E-03	9.5E-03	3.0E-03	-6.8E-02
FFD	Fossil Fuel Depletion	MJ-surplus	7.7E+00	4.1E-01	7.2E-02	1.7E+01	0.0E+00	2.6E-02	1.1E-01	2.6E-02	6.8E-02

**All use phase stages have been considered and only those with non-zero values have been reported*

Results shown below were calculated using CML 2001 - April 2013 Methodology.

CML 4.1 Impact Assessment

Parameter	Parameter	Unit	A1-A3	A4	A5	B4	B6	C1	C2	C3	C4
GWP	Global warming potential	kg CO_2-Eq.	8.0E+00	2.3E-01	2.2E-01	1.3E+01	0.0E+00	1.5E-02	6.5E-02	1.7E-01	-2.5E+00
ODP	Depletion potential of the stratospheric ozone layer	kg CFC-11 Eq.	3.1E-11	8.8E-12	2.1E-13	2.6E-08	0.0E+00	5.5E-13	2.2E-12	6.8E-17	1.3E-08
AP Air	Acidification potential for air emissions	kg SO_2-Eq.	4.3E-02	1.2E-03	8.2E-04	8.2E-02	0.0E+00	7.2E-05	3.5E-04	2.9E-04	-4.6E-03
EP	Eutrophication potential	kg$(PO_4)^3$-Eq.	3.4E-03	2.1E-04	3.0E-04	7.9E-03	0.0E+00	1.3E-05	5.1E-05	3.2E-04	-3.6E-04
POCP	Formation potential of tropospheric ozone photochemical oxidants	kg ethane-Eq.	3.4E-03	1.4E-04	1.7E-04	5.6E-03	0.0E+00	8.4E-06	4.0E-05	7.7E-05	-1.1E-03
ADPE	Abiotic depletion potential for non-fossil resources	kg Sb-Eq.	7.7E-04	9.7E-11	4.1E-08	1.5E-03	0.0E+00	6.1E-12	1.1E-10	8.0E-09	-6.7E-06
ADPF	Abiotic depletion potential for fossil resources	MJ	1.0E+02	3.0E+00	6.3E-01	1.7E+02	0.0E+00	1.8E-01	8.3E-01	2.0E-01	-2.4E+01

**All use phase stages have been considered and only those with non-zero values have been reported*

Results below contain the resource use throughout the life cycle of the product.

Resource Use

Parameter	Parameter	Unit	A1-A3	A4	A5	B4	B6	C1	C2	C3	C4
RPR_E	Renewable primary energy as energy carrier	MJ	-4.1E+00	0.0E+00	9.4E-02	-5.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E-02	1.5E+00
RPR_M	Renewable primary energy resources as material utilization	MJ	2.2E+01	0.0E+00	0.0E+00	4.4E+01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
$NRPR_E$	Nonrenewable primary energy as energy carrier	MJ	1.0E+02	3.0E+00	6.7E-01	1.7E+02	0.0E+00	1.9E-01	8.6E-01	2.1E-01	-2.4E+01
$NRPR_M$	Nonrenewable primary energy as material utilization	MJ	7.7E+00	0.0E+00	0.0E+00	1.5E+01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
SM	Use of secondary material	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
RSF	Use of renewable secondary fuels	MJ	7.8E-24	0.0E+00	0.0E+00	1.6E-23	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
NRSF	Use of nonrenewable secondary fuels	MJ	9.2E-23	0.0E+00	0.0E+00	1.8E-22	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
RE	Energy recovered from disposed waste	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
FW	Use of net fresh water	m^3	9.5E-02	0.0E+00	3.1E-03	2.0E-01	0.0E+00	0.0E+00	0.0E+00	2.7E-04	2.7E-03

**All use phase stages have been considered and only those with non-zero values have been reported*

Results below contain the output flows and wastes throughout the life cycle of the product.

Output Flows and Waste Categories

Parameter	Parameter	Unit	A1-A3	A4	A5	B4	B6	C1	C2	C3	C4
HWD	Hazardous waste disposed	kg	2.1E-04	0.0E+00	1.6E-09	4.1E-04	0.0E+00	0.0E+00	0.0E+00	8.1E-10	-1.5E-06
NHWD	Non-hazardous waste disposed	kg	4.2E-01	0.0E+00	3.0E-01	2.4E+00	0.0E+00	0.0E+00	0.0E+00	2.3E-01	2.4E-01
HLRW	High-level radioactive waste	kg or m^3	3.8E-03	0.0E+00	1.6E-05	7.6E-03	0.0E+00	0.0E+00	0.0E+00	3.6E-06	-1.4E-06
ILLRW	Intermediate- and low-level radioactive waste	kg or m^3	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
CRU	Components for re-use	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
MR	Materials for recycling	kg	0.0E+00	0.0E+00	8.7E-01	6.2E+00	0.0E+00	0.0E+00	0.0E+00	2.2E+00	0.0E+00
MER	Materials for energy recovery	kg	0.0E+00	0.0E+00	6.0E-02	1.2E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
EE	Recovered energy exported from system	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

**All use phase stages have been considered and only those with non-zero values have been reported*

Results below contain direct greenhouse gas emissions and removals throughout the life cycle of the product.

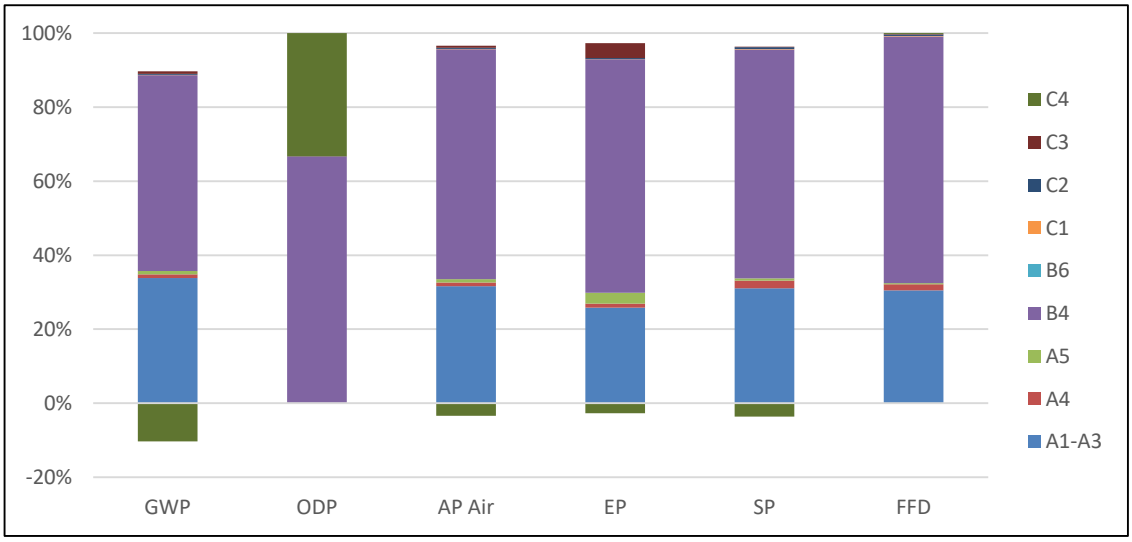
Resource Use

Parameter	Parameter	Unit	A1-A3	A4	A5	B4	B6	C1	C2	C3	C4
BCRP	Biogenic Carbon Removal from Product	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
BCEP	Biogenic Carbon Emissions from Product	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
BCRK	Biogenic Carbon Removal from Packaging	kg CO_2	3.06E-01	0.00E+00	0.00E+00	6.11E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEK	Biogenic Carbon Emissions from Packaging	kg CO_2	0.00E+00	0.00E+00	3.06E-01	6.11E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEW	Biogenic Carbon Emissions from Combustion of Waste from Renewable Sources Used in Production Process	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
CCE	Calcination Carbon Emissions	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
CCR	Carbonation Carbon Removal	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
CWNR	Carbon Emissions from Combustion of Waste from Non-renewable Sources Used in Production Process	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

**All use phase stages have been considered and only those with non-zero values have been reported*

LCA Interpretation

The production life cycle stage (A1-A3) dominates the impacts across all impact categories. This is due to the upstream production of materials used in the product, along with electricity use in the manufacturing of the product. With two replacements required over a life-span of a building, the replacement stage (B4) dominates from duplicating these stages.



Additional Environmental Information

Environmental and Health During Manufacturing

ASSA ABLOY is committed to producing and distributing door opening solutions with minimal environmental impact, where health & safety is the primary focus for all employees and associates.
• Environmental operations, GHG, energy, water, waste, VOC, surface treatment and H&S are being routinely monitored. Inspections, audits, and reviews are conducted periodically to ensure that applicable standards are met and environment management program effectiveness is evaluated.
• Code of Conduct covers human rights, labor practices and decent work. Management of ASSA ABLOY is aware of their environmental roles and responsibilities, providing appropriate training, supporting accountability and recognizing outstanding performance.
• Any waste metals during machining are separated and recycled. The waste from the water-based painting process is delivered to waste treatment plant.
• The factories in Berlin, CT have certification of Environmental Management to ISO 14001:2004 and Occupational Health and Safety to OHSAS 18001:2007.

Environmental and Health During Installation

There is no harmful emissive potential. No damage to health or impairment is expected under normal use corresponding to the intended use of the product.

Extraordinary Effects

Fire
Suitable for use in fire and smoke doors: (listed by Underwriters Laboratories)
Water
Contain no substances that have any impact on water in case of flood. Electric operation of the device will be influenced negative.
Mechanical Destruction
No danger to the environment can be anticipated during mechanical destruction.

Delayed Emissions

Global warming potential is calculated using the TRACI 2.1 and CML 4.1 impact assessment methodologies. Delayed emissions are not considered.

Environmanetal Activities and Cerifications

ASSA ABLOY works hard to minimize the environmental impacts of its business activities through various corporate-wide sustainability initiatives. To learn more, please visit: https://www.assaabloy.com/sv/com/sustainability/sustainability-report/

Many ASSA ABLOY Group Brands now offer a free Product End-of-Life Recycling program that accepts each brand's products that have reached the end of their life cycle and are beyond the product's warranty period, disposing them in an environmentally-responsible manner.

Further Information

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References

- PCR Part A — UL Environment: Product Category Rules for Building-Related Products and Services in North America, Part A: Life Cycle Assessment Calculation Rules and Report Requirements, v.3.2, December 2018.
- PCR Part B — UL Environment: Product Category Rules Part B: Requirements on the Environmental Product Declaration for Builders Hardware, v.1.0, November 2019.
- GaBi 8.7 — thinkstep.one. GaBi Life Cycle Assessment version 8.7 (software).
- ISO 14025 — ISO 14025:2011-10, Environmental labels and declarations — Type III environmental declarations — Principles and procedures.
- ISO 14040 — ISO 14040:2009-11, Environmental management — Life cycle assessment — Principles and framework.
- ISO 14044 — ISO 14044:2006-10, Environmental management — Life cycle assessment — Requirements and guidelines.
- EN 15804 — EN 15804:2012-04: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction product
- ULE 2020 — UL Environment, General Program Instructions, v.2.5 March 2020.
- ADAAG-1998 — Americans with Disabilities Act Accessibility Guidelines
- ANSI A117.1 — Accessible and Usable Buildings and Facilities
- CBC, Title 24 — Barrier Free guidelines
- ASTM E90 — Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building
- ASTM E283 — Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls,
- BHMA A156.21 — Thresholds
- UL 10(b) — Gasketing Material for Fire Doors
- UL 10(c) — Positive Pressure Gasketing Material for Fire Doors
- UL 2818 — GREENGUARD Certification Program for Chemical Emissions for Building Materials, Finishes and Furnishings
- ISO 21930: 2017 — ISO 21930:2017, Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products and services.
- Characterization Method — IPPC. 2014. Climate Change 2013. The Physical Science Basis. Cambridge University Press. (http://www.ipcc.ch/report/ar5/wg1/).
- Characterization Method — Hauschild M.Z., & Wenzel H. Environmental Assessment of Products. Springer, US, Vol. 2, 1998.
- Characterization Method — Heijungs R., Guinée J.B., Huppes G., Lankreijer R.M., Udo de Haes H.A., Wegener Sleeswijk A. Environmental Life Cycle Assessment of Products: Guide and Backgrounds. CML. Leiden University, Leiden, 1992.
- Characterization Method — Jenkin M.E., & Hayman G.D. Photochemical ozone creation potentials for oxygenated volatile organic compounds: sensitivity to variations in kinetic and mechanistic parameters. Atmospheric Environment. 1999, 33 (8) pp. 1275-1293.
- Characterization Method — WMO. 1999. Scientific Assessment of Ozone Depletion: 1998, World Meteorological Organization Global Ozone Research and Monitoring Project - Report No. 44, WMO, Geneva.
- Characterization Method — Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources using Environmental Chambers- version 1.2, January 2017.

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