ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804

Owner of the Declaration	**ASSA ABLOY Entrance Systems AB**
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-ASA-20170040-IBA1-EN
Issue date	01.03.2017
Valid to	28.02.2022

Crawford LH6080L loadhouse

ASSA ABLOY Entrance Systems AB

www.ibu-epd.com / https://epd-online.com

1. General Information

ASSA ABLOY Entrance Systems AB

Programme holder

IBU - Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Declaration number

EPD-ASA-20170040-IBA1-EN

This Declaration is based on the Product Category Rules (PCR):

PCR Loading dock and loading dock equipment, 01.2017
(PCR tested and approved by the SVR)

Issue date

01.03.2017

Valid to

28.02.2022

Prof. Dr.-Ing. Horst J. Bossenmayer
(President of Institut Bauen und Umwelt e.V.)

Dr.-Ing. Burkhart Lehmann
(Managing Director IBU)

Crawford LH6080L loadhouse

ASSA ABLOY Entrance Systems AB

Lodjursgatan 10
SE-261 44 Landskrona
Sweden

Declared product / Declared unit

This declaration represents 1 load house with the following configuration:

Total height 3630 mm (dock height 1200 mm), nominal length 2000 mm, nominal width 3300 mm, galvanized steel frame, insulated wall and roof panels in RAL 9002, drainpipe and gutter, snow load 2 kN/m².

Scope:

This declaration and its LCA study are relevant to the Crawford LH6080L loadhouse. The production location is Hunedoara, Romania and components are sourced from international tier one suppliers. Crawford LH6080L loadhouse size vary according to project requirements; a standard load house total height 3630 mm (dock height 1200 mm), nominal length 2000 mm, nominal width 3300 mm, galvanized steel frame, insulated wall and roof panels in RAL 9002, drain pipe and gutter, snow load 2 kN/m². The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Verification

The CEN Norm /EN 15804/ serves as the core PCR
Independent verification of the declaration according to /ISO 14025/
☐ internally ☒ externally

Dr. Wolfram Trinius
(Independent verifier appointed by SVR)

2. Product

2.1 Product description / Product definition

Product name: Crawford LH6080L loadouse
Product characteristic: Load house
The Crawford LH6080L loadhouse is the heavy duty version of the new generation of load houses, especially developed to meet all requirements of architects, builders and operators. it is suitable for all geographical areas with snow load up to 2kN/m2. The Crawford LH6080L loadhouse is an independent loading system, designed to move the actual loading and unloading area outside the building and thereby releasing the corresponding floor area inside. It also forms a protective barrier between building and vehicle, contributing to energy savings and an improved working environment. Dock levelers and shelters can be integrated with the load house, together forming a complete Autodock system. Due to the thermal separation between building and docking unit, the load house can be used in temperature controlled applications.

The load house consists of four main components:
1) Galvanized steel frame of 290 kg in accordance with /EN 10346:2009/
2) Six wall panels and four roof panels (insulated panels) of 264 kg in accordance with /EN ISO 6946/ and /EN 14509 A.10/
3) Cover plates and connection profiles of 31 kg in accordance with /EN 10346:2009/
4) Drain pipe and gutter of 15 kg in accordance with /EN 1462/ class A-H

The steel frame construction with the wall and roof panels is the housing that is connected to the building on top of the platform with the dock leveler. The cover plates and connection profiles finish off the housing and closes all the gaps to the outside. The drain pipe and gutter of the load house secures controlled water drainage from the roof. The design of the frame to the front side of the load house facilitates the installation of a dock shelter.

2.2 Application

The Crawford load house is part of the total docking solution on the outside of the building leveler. It seals off the vehicle, giving weather protection during the loading and unloading process when the sectional door of the loading bay is opened.

2.3 Technical Data

The technical specifications of Crawford LH6080L loadhouse are as below:

Parameter	Value	Unit
Normal length	2000	mm
Normal width	3300	mm
Weight	660.35	kg
Thickness of insulation panels	40	mm
Surface treatment material	Galvanized steel	-
Roof option	Drain pipe and gutter	-
Basic wind load	0.84 (Eurocode 3)	kN/m²
Basic snow load	2.00 (Eurocode 3)	kN/m²
Accumulated snow load	3.50 (Eurocode 3)	kN/m²

The standards that can be applied for load houses are: DIN EN 1993, Eurocode 3

The Crawford LH6080L loadhouse has been designed to meet all operational and safety requirements in the loading industry according to European Provisions and the standards issued by the European Standardization Committee (CEN).
For the placing on the market in the EU/EFTA (with the exception of Switzerland) the Regulation (EU) No. 305/2011 applies. The single products forming the Load House need a Declaration of Performance taking into consideration the respective harmonised standards and the CE-marking.

2.4 Delivery status

The load house is delivered in individual parts ready for completion and installation on site. The steel frame, the cover plates, and the connection profiles are packed horizontally on one pallet secured with ordinary straps. The wall and roof panels are stacked horizontally on two pallets secured with transport straps and protected by a plastic foil. Fixing material like screws and nuts are packed in a cardboard box that is stacked on the pallet with the steel parts. The standard total transport volume of one piece is three pallets with the following sizes: 1) 4000x1200x600 mm; 2) 4000x1100x750 mm; 3) 4000x1100x1000 mm.

2.5 Base materials / Ancillary materials

The average composition for Crawford load house is as following:

Component	Percentage in mass (%)
Plastics	0,09
Steel	90.56
Insulation panels (foam)	9,35
Total	**100.0**

2.6 Manufacture

The final manufacturing processes occur in the factory Hunedoara, Romania.
The main part of the components are delivered fully processed by local Romanian suppliers, a few of the steel frame profiles are cut on length.
The factory in Hunedoara has a Quality Management system certified according to ISO 9001:2008.

2.7 Environment 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, Greenhouse Gas Emissions, 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 to evaluate the effectiveness of the environmental management program.

• Code of Conduct covers human rights, labour 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.

• The factory of Hunedoara, Romania has an Environmental Management system certified according to ISO 14001:2004

2.8 Product processing/Installation

The load house is delivered in individual parts ready for completion and installation on site.
The first step is to install the steel frame construction of the housing. The wall sections of the steel frame construction are screwed together and then put in place on the side platforms of the dock levelers and connected to the facade of the building. Then the steel frame construction of the roof is mounted to the wall frames. The second step is to mount the panels to the outside of the steel frame, beginning with the roof and then the side walls. The wall panels are cut on length to follow the roof inclination. The last step is to mount the cover plates as well as the drain pipe and gutter system. The cover plates seal off the outside edges between the wall and roof as well as the connection of the housing to the building on the three sides wall left, roof, and wall right.
The installation is performed by a qualified Installer using a drilling machine, angle grinder and other hand tools.

2.9 Packaging

The material of the load house is packed on wooden pallets, the panels are covered with a plastic foil for the transport. Smaller parts like screws and other fixing materials are packed in cardboard boxes. The cardboard box and the packing material is recyclable.

Material	Percentage in mass (%)
Wood	92.59
Cardboard/paper	6.31
Plastics	1.10
Total	**100.0**

2.10 Condition of use
Regular inspections by a trained qualified person is recommended at a minimum of one visit per year The load house must be inspected for wear and tear and the general functionality.

2.11 Environment and health during use
There is no harmful emissive potential. No damage to health or impairment is expected under normal use of the product.

2.12 Reference service life
Crawford load houses are rated for 15 years of standard daily use. This reference life is based on ASSA ABLOY´s experience over the last 50 years and is valid for the 10 main competitor's products in the docking industry.
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2.13 Extraordinary effects

Fire
The load house itself is not fireproof and is not suitable to use in a fireproof system.

Water
Contain no substances that have any impact on water in case of flood.

Mechanical destruction
No danger to the environment can be anticipated during mechanical destruction.

2.14 Re-use stage
The product is possible to re-use during the reference service life and can be moved from one docking station to another. The majority, by weight, of components is steel, which can be recycled. The plastic components can be used for energy recovery within a waste incineration process.

2.15 Disposal
Waste codes according to European Waste Catalogue and Hazardous Waste List - Valid from 1 January 2002.

Manufacturing
Offcuts and scraps during the manufacturing process are directed to a recycling unit. Waste is sent for destruction. No plastic waste occurs during manufacturing stage since all plastic parts are delivered completely by supplier. No processing of the parts takes place in the assembly factory.

EWC 12 01 01 Ferrous metal filings and turnings
EWC 08 02 01 Waste coating powders

Packaging
All materials incurred during installation are directed to a recycling unit or incineration.
EWC 15 01 01 paper and cardboard packaging
EWC 15 01 02 plastic packaging
EWC 15 01 03 wooden packaging

End of life
All materials are directed to a unit to be separated and processed in.
EWC 17 02 03 plastic
EWC 17 04 05 iron and steel

2.16 Further information
ASSA ABLOY Entrance Systems AB
Lodjursgatan 10
SE-261 44 Landskrona
Sweden
www.assaabloyentrance.com

3. LCA: Calculation rules

3.1 Declared Unit

The declaration refers to the functional unit of 1 piece of Crawford LH6080L loadhouse as specified in Part B requirements on the EPD for PCR Loading dock and loading dock equipment. 1 piece of Crawford LH6080L loadhouse has a total height 3630 mm (dock height 1200 mm), nominal length 2000 mm, nominal width 3300 mm, galvanized steel frame, insulated wall and roof panels in RAL 9002, drainpipe and gutter, snow load 2 kN/m².

Declared unit

Name	Value	Unit
Declared unit	660.35 kg	1 piece of load house
Conversion factor to 1 kg	0.0015	-

3.2 System boundary

Type of the EPD: cradle to gate - with Options
The following life cycle stages were considered:

Production stage:

- A1 – Raw material extraction and processing
- A2 – Transport to the manufacturer and
- A3 – Manufacturing

Construction stage:

- A4 – Transport from the gate to the site
- A5 – Packaging waste processing

End-of-life stage:

- C2 – Transport to waste processing
- C3 – Waste processing
- C4 – Disposal (landfill)

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.

- D –Declaration of all benefits and loads

3.3 Estimates and assumptions

Transportation: Data on mode of transport and distances, as reported by suppliers were used for those materials and parts contributing more than 2% of total product mass. Transport by road over an average distance of 2700 km was assumed.

EoL: In the End-of-Life stage, for all the materials; which can be recycled, a recycling scenario with 100% collection rate was assumed.

3.4 Cut-off criteria

In the assessment, all available data from the production process are considered, i.e. all raw materials used, auxiliary materials (e.g. lubricants), thermal energy consumption and electric power consumption - including material and energy flows contributing less than 1% of mass or energy (if available). In case a specific flow contributing less than 1% in mass or energy is not available, worst-case assumption proxies are selected to represent the respective environmental impacts.

Impacts relating to the production of machines and facilities required during production are out of the scope of this assessment.

3.5 Background data

For life cycle modelling of the considered products, the GaBi 6 Software System for Life Cycle Engineering, developed by thinkstep AG, is used /GaBi 6 2013/. The GaBi-database contains consistent and documented datasets which are documented in the online GaBi-documentation /GaBi 6 2013D/. To ensure comparability of results in the LCA, the basic data of GaBi database were used for energy, transportation and auxiliary materials.

3.6 Data quality

The requirements for data quality and background data correspond to the specifications of the /IBU PCR PART A/.
thinkstep performed a variety of tests and checks during the entire project to ensure high quality of the completed project. This obviously includes an extensive review of project-specific LCA models as well as the background data used.
The technological background of the collected data reflects the physical reality of the declared products. The datasets are complete and conform to the system boundaries and the criteria for the exclusion of inputs and outputs.
All relevant background datasets are taken from the GaBi 6 software database.

3.7 Period under review

The period under review is 2015/2016 (12-month average).

3.8 Allocation

Regarding incineration, the software model for the waste incineration plant (WIP) is adapted according to the material composition and heating value of the combusted material. In this EPD, the following specific life cycle inventories for the WIP are considered for:

- Waste incineration of paper
- Waste incineration of wood
- Waste incineration of plastics

Regarding the recycling material of metals, the metal parts in the EoL are declared as end-of-waste status. Thus, these materials are considered in module D. Specific information on allocation within the background data is given in the GaBi dataset documentation.

3.9 Comparability

A comparison or an evaluation of EPD data is only possible if all the 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.

4. LCA: Scenarios and additional technical information

The following technical information is a basis for the declared modules or can be used for developing specific scenarios in the context of a building assessment if modules are not declared (MND).

Installation into the building (A5)

Name	Value	Unit
Output substances following waste treatment on site (Paper packaging)	3.29	kg
Output substances following waste treatment on site (Plastics packaging)	0.58	kg
Output substances following waste treatment on site (Wood packaging)	48.2	kg

Reference service life

Name	Value	Unit
Reference service life	15	a

End of life (C2-C4)

Name	Value	Unit
Collected separately Steel, Plastics	660.35	kg
Recycling Steel	597.98	kg
Incineration Plastic Parts	62.95	kg

Reuse, recovery and/or recycling potentials (D), relevant scenario information

Name	Value	Unit
Collected separately waste type (including packaging)	712.41	kg
Recycling Steel	83.94	%
Incineration Plastic Parts (incl. packaging)	8.83	%
Reuse Paper packaging (from A5)	0.46	%
Incineration of wood (from A5)	6.77	%

5. LCA: Results

Results shown below were calculated using CML 2000 – Apr. 2013 Methodology.

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE NOT DECLARED)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARYS
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement[1)]	Refurbishment[1)]	Operational energy use	Operational water use	De-construction 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	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: One piece Crawford LH6080L loadhouse

Parameter	Parameter	Unit	A1 - A3	A4	A5	C2	C3	C4	D
GWP	Global warming potential	[kg CO_2-Eq.]	1.90E+03	8.99E+01	8.44E+01	3.14E+00	0.00E+00	1.56E+02	-1.08E+03
ODP	Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	1.13E-03	4.30E-10	3.36E-10	1.51E-11	0.00E+00	4.69E-10	-3.05E-08
AP	Acidification potential of land and water	[kg SO_2-Eq.]	5.84E+00	4.17E-01	1.24E-02	1.44E-02	0.00E+00	3.97E-02	-3.93E+00
EP	Eutrophication potential	[kg $(PO_4)^{3-}$- Eq.]	5.37E-01	9.44E-02	1.90E-03	3.29E-03	0.00E+00	3.00E-03	-3.23E-01
POCP	Formation potential of tropospheric ozone photochemical oxidants	[kg Ethen Eq.]	8.10E-01	-1.32E-01	9.83E-04	-4.64E-03	0.00E+00	1.93E-03	-5.70E-01
ADPE	Abiotic depletion potential for non-fossil resources	[kg Sb Eq.]	2.01E-02	3.39E-06	1.22E-06	1.19E-07	0.00E+00	1.03E-05	-2.88E-05
ADPF	Abiotic depletion potential for fossil resources	[MJ]	2.20E+04	1.24E+03	1.92E+01	4.34E+01	0.00E+00	6.59E+01	-1.07E+04

RESULTS OF THE LCA - RESOURCE USE: One piece Crawford LH6080L loadhouse

Parameter	Parameter	Unit	A1 - A3	A4	A5	C2	C3	C4	D
PERE	Renewable primary energy as energy carrier	[MJ]	1.93E+03	-	-	-	-	-	-
PERM	Renewable primary energy resources as material utilization	[MJ]	0.00E+00	-	-	-	-	-	-
PERT	Total use of renewable primary energy resources	[MJ]	1.93E+03	4.88E+01	1.87E+00	1.71E+00	0.00E+00	4.83E+00	-8.51E-01
PENRE	Non-renewable primary energy as energy carrier	[MJ]	2.30E+04	-	-	-	-	-	-
PENRM	Non-renewable primary energy as material utilization	[MJ]	0.00E+00	-	-	-	-	-	-
PENRT	Total use of non-renewable primary energy resources	[MJ]	2.30E+04	1.24E+03	2.26E+01	4.35E+01	0.00E+00	7.32E+01	-1.04E+04
SM	Use of secondary material	[kg]	7.75E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	Use of renewable secondary fuels	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	Use of non-renewable secondary fuels	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	Use of net fresh water	[m^3]	5.72E+00	3.44E-02	2.19E-01	1.21E-03	0.00E+00	3.80E-01	-9.31E-01

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: One piece Crawford LH6080L loadhouse

Parameter	Parameter	Unit	A1 - A3	A4	A5	C2	C3	C4	D
HWD	Hazardous waste disposed	[kg]	8.17E-01	2.83E-03	1.59E-03	9.92E-05	0.00E+00	5.12E-03	5.16E-01
NHWD	Non-hazardous waste disposed	[kg]	2.10E+01	1.56E-01	1.36E+00	5.47E-03	0.00E+00	1.45E+01	-1.40E+01
RWD	Radioactive waste disposed	[kg]	3.92E-01	1.63E-03	1.39E-03	5.70E-05	0.00E+00	2.92E-03	8.42E-02
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	5.04E+01	0.00E+00	5.99E+02	0.00E+00	0.00E+00
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
EEE	Exported electrical energy	[MJ]	0.00E+00	0.00E+00	9.99E+01	0.00E+00	0.00E+00	2.98E+02	0.00E+00

6. LCA: Interpretation

This chapter contains an interpretation of the Life Cycle Impact Assessment categories. Stated percentages in the whole interpretation are related to the overall life cycle, excluding credits (module D).

The production stage (modules A1-A3) contributes between 84% and 100% to the overall results for all the environmental impact assessment categories hereby considered. Steel accounts in total with more than 90% of the overall mass of the product, therefore, the impacts are in line with the mass composition of the product. The environmental impacts for the transport (A2) have a negligible impact within this stage.

In the end-of-life stage, there are loads and benefits (module D, negative values) considered. The benefits are considered beyond the system boundaries and are declared for the recycling potential of the metals and for the credits from the incineration process (energy substitution).

7. Requisite evidence

Not applicable in this EPD.

8. References

Institut Bauen und Umwelt
Institut Bauen und Umwelt e.V., Berlin (pub.): Generation of Environmental Product Declarations (EPDs);

General principles
For the EPD range of Institut Bauen und Umwelt e.V. (IBU), 2013-04
www.ibu-epd.com

PCR Part A
Institut Bauen und Umwelt e.V., Berlin (pub.): Product Category Rules for Construction Products from the range of Environmental Product Declarations of *Institut Bauen und Umwelt (IBU)*, Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Background Report. April 2013
www.ibu-epd.com

PCR Part B
IBU PCR Part B: PCR Guidance-Texts for Building-Related Products and Services. From the range of Environmental Product Declarations of Institute Construction and Environment e.V. (IBU). Part B: Requirements on the EPD for PCR Loading dock and loading dock equipment.
www.ibu-epd.com

ISO 14025
ISO 14025:2011-10: Environmental labels and declarations — Type III environmental declarations — Principles and procedures

ISO 14001:2009
Environmental management systems - Requirements with guidance for use (ISO 14001:2004 + Cor. 1:2009)

ISO 9001:2008
Quality management systems - Requirements

EN 15804
EN 15804: 2012+A1:2014: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

GaBi 6 2013
GaBi 6 2013: Software-System and Database for Life Cycle Engineering. Copyright, TM. Stuttgart, Leinfelden-Echterdingen, 1992-2013.

GaBi 6 2013D
GaBi 6 2013D: Documentation of GaBi 6: Software-System and Database for Life Cycle Engineering. Copyright, TM. Stuttgart, Leinfelden-Echterdingen, 1992-2013. http://documentation.gabi-software.com/

Eurocode 3
The Eurocode 3 standards apply to the design and construction of steel structures and steel components. It deals with requirements regarding the usability, load-bearing capacity, durability and fire resistance of steel structures.

EN 1993-1-1 to 13: 2010-12
Eurocode 3: Design of steel structures

EN 10346
Continuously hot-dip coated steel flat products for cold forming - Technical delivery conditions

EN 1462
Brackets for eaves gutters - Requirements and testing

EN 14509
Self-supporting double skin metal faced insulating panels - Factory made products - Specifications

EWC
Waste codes according to European Waste Catalogue and Hazardous Waste List - Valid from 1 January 2002.
http://ec.europa.eu/environment/waste/framework/list.htm

EWC 12 01 01
Ferrous metal filings and turnings

EWC 08 02 01
Waste coating powders

EWC 15 01 01
paper and cardboard packaging

EWC 15 01 02
plastic packaging

EWC 15 01 03
wooden packaging

EWC 17 02 03
plastic

EWC 17 04 05
iron and steel

9. Annex

Results shown below were calculated using TRACI Methodology.

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE NOT DECLARED)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARYS
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement[1)]	Refurbishment[1)]	Operational energy use	Operational water use	De-construction 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	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: One piece Crawford LH6080L loadhouse

Parameter	Parameter	Unit	A1 - A3	A4	A5	C2	C3	C4	D
GWP	Global warming potential	[kg CO_2-Eq.]	1.90E+03	8.99E+01	8.44E+01	3.14E+00	0.00E+00	1.56E+02	-1.08E+03
ODP	Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	1.20E-03	4.57E-10	3.57E-10	1.60E-11	0.00E+00	4.99E-10	-3.25E-08
AP	Acidification potential of land and water	[kg SO_2-Eq.]	5.96E+00	5.43E-01	1.43E-02	1.88E-02	0.00E+00	4.65E-02	-3.98E+00
EP	Eutrophication potential	[kg N-eq.]	1.14E+00	3.81E-02	7.75E-04	1.33E-03	0.00E+00	1.42E-03	-2.35E-01
Smog	Ground-level smog formation potential	[kg O_3-eq.]	8.70E+01	1.12E+01	2.72E-01	3.87E-01	0.00E+00	3.66E-01	-5.81E+01
Resources	Resources – resources fossil	[MJ]	1.32E+03	1.78E+02	2.21E+00	6.24E+00	0.00E+00	6.78E+00	-9.77E+01

RESULTS OF THE LCA - RESOURCE USE: One piece Crawford LH6080L loadhouse

Parameter	Parameter	Unit	A1 - A3	A4	A5	C2	C3	C4	D
PERE	Renewable primary energy as energy carrier	[MJ]	1.93E+03	-	-	-	-	-	-
PERM	Renewable primary energy resources as material utilization	[MJ]	0.00E+00	-	-	-	-	-	-
PERT	Total use of renewable primary energy resources	[MJ]	1.93E+03	4.88E+01	1.87E+00	1.71E+00	0.00E+00	4.83E+00	-8.51E-01
PENRE	Non-renewable primary energy as energy carrier	[MJ]	2.30E+04	-	-	-	-	-	-
PENRM	Non-renewable primary energy as material utilization	[MJ]	0.00E+00	-	-	-	-	-	-
PENRT	Total use of non-renewable primary energy resources	[MJ]	2.30E+04	1.24E+03	2.26E+01	4.35E+01	0.00E+00	7E+01	-1.04E+04
SM	Use of secondary material	[kg]	7.75E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	Use of renewable secondary fuels	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	Use of non-renewable secondary fuels	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	Use of net fresh water	[m^3]	5.72E+00	3.44E-02	2.19E-01	1.21E-03	0.00E+00	3.80E-01	-9.31E-01

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES: One piece Crawford LH6080L loadhouse

Parameter	Parameter	Unit	A1 - A3	A4	A5	C2	C3	C4	D
HWD	Hazardous waste disposed	[kg]	8.17E-01	2.83E-03	1.59E-03	9.92E-05	0.00E+00	5.12E-03	5.16E-01
NHWD	Non-hazardous waste disposed	[kg]	2.10E+01	1.56E-01	1.36E+00	5.47E-03	0.00E+00	1.45E+01	-1.40E+01
RWD	Radioactive waste disposed	[kg]	3.92E-01	1.63E-03	1.39E-03	5.70E-05	0.00E+00	2.92E-03	8.42E-02
CRU	Components for re-use	[kg]	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	5.04E+01	0.00E+00	5.99E+02	0.00E+00	-
MER	Materials for energy recovery	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
EEE	Exported electrical energy	[MJ]	0.00E+00	0.00E+00	9.99E+01	0.00E+00	0.00E+00	2.98E+02	-
EET	Exported thermal energy	[MJ]	0.00E+00	0.00E+00	2.81E+02	0.00E+00	0.00E+00	8.17E+02	-

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