## **ENVIRONMENTAL PRODUCT DECLARATION**

as per /ISO 14025/ and /EN 15804/

Owner of the Declaration ASSA ABLOY Security Solutions Wooden Doors & Windows

**Manufacturing LLC** 

Programme holder Institut Bauen und Umwelt e.V. (IBU)

Publisher Institut Bauen und Umwelt e.V. (IBU)

Declaration number EPD-ASA-20190123-IBA1-EN

Issue date 06.08.2019 Valid to 05.08.2024

## ASSA ABLOY Solid Chipboard Core Wooden Door Set ASSA ABLOY Security Solutions Wooden Doors & Windows Manufacturing LLC



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#### 1. General Information

# ASSA ABLOY Opening Solutions Middle East

#### Programme holder

IBU - Institut Bauen und Umwelt e.V.

Panoramastr. 1 10178 Berlin Germany

#### **Declaration number**

EPD-ASA-20190123-IBA1-EN

## This declaration is based on the product category rules:

IBU: PCR Windows and doors Version 1.7 (01.2019) (PCR tested and approved by the independent expert committee)

Issue date

06.08.2019

Valid to

05.08.2024

100000

Hans Peters

(President of Institut Bauen und Umwelt e.V.)

Dr. Alexander Röder (Managing Director of IBU)

# Solid Chipboard Core Wooden Door Set

#### Owner of the declaration

ASSA ABLOY Security Solutions Wooden Doors & Windows Manufacturing LLC Jebel Ali Industrial Area 1,

#### P.O. Box 37765, Dubai, United Arab Emirates

Declared product / declared unit

This declaration represents one ASSA ABLOY Solid Chipboard Core Wooden Door Set.

#### Scope:

This declaration and the corresponding LCA study are relevant to ASSA ABLOY Solid Chipboard Core Wooden Door Set (Internal door).

The primary manufacturing processes are performed directly at the manufacturing facility (factory) in ASSA ABLOY Security Solutions Wooden Doors & Windows Manufacturing LLC in Dubai, UAE. The owner of the declaration shall be liable for the underlying information and evidence; IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

#### Verification

The standard /EN 15804/ serves as the core PCR Independent verification of the declaration and data according to /ISO 14025:2010/

internally

externally



Wolfram Trinius
(Independent verifier appointed by SVR)

#### 2. Product

#### 2.1 Product description / Product definition

Product name: ASSA ABLOY Solid Chipboard Core Wooden Door Set

Product characteristic:

ASSA ABLOY Solid Chipboard Core Wooden Door Set is dedicated to internal applications where green factors, strength, sustainability and aesthetics all play a role. It is a complete door solution, designed to offer numerous applications.

The door is designed to be easily installed. The door includes four ball bearing hinges, one mortice sash lock, one double cylinder, lever handle pair with escutcheon for single leaf solution. It is possible to equip the doors in different lock types, door closer, access control, door viewer, kick plate or drop-down seal for acoustic parameters. The door can be produced from FSC sourced wood and responds to the latest /ISO 9001:2015/ standard.

This door is a non-fire rated door that does not comply with any particular European standards.

#### 2.2 Application

ASSA ABLOY Solid Chipboard Core Wooden Door Set can be used internally. Common applications are commercial and residential buildings or villas.

#### 2.3 Technical Data

The table presents the technical properties of the Solid Chipboard Core Wooden Door Set:

| Name                       | Value         | Unit                 |
|----------------------------|---------------|----------------------|
| Heat transfer coefficient  |               | W/(m <sup>2</sup> K) |
| of the entire door or gate | NR            |                      |
| system                     |               |                      |
| Thickness                  | 45            | mm                   |
| Width                      | 1100          | mm                   |
| Height                     | 2200          | mm                   |
|                            | Single swing, |                      |
| Possible opening types     | double swing  |                      |
|                            | and sliding   |                      |
| Moisture content           | 8-12          | (%)                  |

#### 2.4 Delivery status

ASSA ABLOY Solid Chipboard Core Wooden Door Set are placed horizontally and banded to pallet for shipment. Minimum of 1 and max 10 doors per pallet.



#### 2.5 Base materials / Ancillary materials

The composition of the ASSA ABLOY Solid Chipboard Core Wooden Door Set in percentage (%) of total mass per unit is, as follows:

| Component | Percentage<br>in mass<br>(%) |
|-----------|------------------------------|
| Plastics  | 7,399                        |
| Wood      | 92,601                       |
| Total     | 100,000                      |

#### 2.6 Manufacture

The primary manufacturing processes and final manufacturing processes are made directly at the factory of ASSA ABLOY Security Solutions Wooden Doors & Windows Manufacturing LLC.

The factory of Jebel Ali Industrial Area 1, Dubai 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, 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 the effectiveness of the Environmental Management program is evaluated.
- Code of Conduct covers human rights, labor practices and decent work. The Management of ASSA ABLOY is aware of their environmental roles and responsibilities, providing appropriate training, supporting accountability and recognizing outstanding performance.
- The factory of Jebel Ali Industrial Area 1, Dubai, has an Environmental Management system certified according to ISO 14001:2004 and an Occupational Health and Safety system certified according to /OHSAS 18001:2007/.
- Water and soil contamination does not occur, and all production related waste is processed internally in the appropriate manner.
- Any waste metals during machining are separated and recycled.

#### 2.8 Product processing/Installation

ASSA ABLOY Solid Chipboard Core Wooden are distributed through and installed by trained installation technicians, such as locksmiths, carpenters etc. adhering to local/national standards and requirements.

#### 2.9 Packaging

ASSA ABLOY Solid Chipboard Core Wooden Door Set are placed horizontally on wooden pallets and banded to pallet for shipment. Minimum of 1 and max 10 doors per pallet. Door leaves are wrapped with foil in order to protect them during the transport and the assembly.

| Material | Value (%) |
|----------|-----------|
| Paper    | 68,966    |

| Plastic | 31,034 |
|---------|--------|
| Total   | 100,00 |

#### 2.10 Condition of use

Doors are delivered with final painting (RAL Colours, PU Paint, HPL).

Repairs or replacement are usually not necessary. Some cleaning efforts need to be taken into consideration.

#### 2.11 Environment and health during use

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.

#### 2.12 Reference service life

Properly installed and maintained solid chipboard wooden doors often last 20 years or longer. The location and intended use of the wooden door assembly, and the environment to which it is exposed will determine the wooden door assembly life expectancy (according to /ISO 15686-1, -2, -7 and -8:2004/).

#### 2.13 Extraordinary effects

#### Fire

ASSA ABLOY Solid Chipboard Core Wooden Door Set is a non-fire rated door that does not comply with any particular European standards.

#### Water

The product does not contain any substances that could be released and have an additional environmental impact on water in case of flood.

#### Mechanical destruction

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

#### 2.14 Re-use stage

The product can be re-used during the reference service life and it can be moved from one application to another.

#### 2.15 Disposal

The product can be mechanically dissembled to separate the different materials. The majority, by weight of components, is wood. The door can be incinerated and can be treated locally. No disposal is foreseen for the product nor for the corresponding packaging.

/EWC/ 17 02 03 plastic

/EWC 17 02 01 wood

/EWC/ 15 01 01 paper and cardboard packaging

/EWC/ 15 01 02 plastic packaging

#### 2.16 Further information

ASSA ABLOY Security Solutions Wooden Doors & Windows Manufacturing LLC Jebel Ali Industrial Area 1, Dubai P.O. Box 37765, United Arab Emirates https://middleeast.assaabloy.com/en/local/middleeast/www.assabloy.com

#### 3. LCA: Calculation rules

# ASSA ABLOY

#### 3.1 Declared Unit

This declaration represents one ASSA ABLOY Solid Chipboard Core Wooden Door Set.

The door includes four ball bearing hinges, one mortice sash lock, one double cylinder, lever handle pair with escutcheon for single leaf solution.

#### **Declared unit**

| 200141.04 41111                    |             |       |
|------------------------------------|-------------|-------|
| Name                               | Value       | Unit  |
| Mass (without packaging)           | 72,343      | kg    |
| Mass packaging (paper)             | 0,200       | kg    |
| Mass packaging (plastic)           | 0,090       |       |
| Conversion factor to 1 kg          | 0,013823037 | -     |
| Declared unit for hardware systems | 1           | Piece |

#### 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

Use stage related to the operation of the building includes:

 B6 – Operational energy use (not included as no power needed)

#### End-of-life stage (EoL):

- C2 Transport to waste processing,
- C3 Waste processing for recycling and
- C4 Disposal (landfill, waste for incineration).

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.

#### Module 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. In case of unknown transport distances for parts and materials, contributing less than 2 % to the total product mass, transport by road over an average distance of 500 km was assumed.

#### Use stage:

For the use stage, it is assumed that the door is used within the United Arab Emirates (UAE).

#### <u> EoL:</u>

In the End-of-Life stage, all product materials and packaging materials are assumed to be energetically recovered (waste incineration). A scenario with 100 % collection rate was assumed. The country where EoL takes place is UAE. Furthermore, a transport distance by truck of 100 km has been assumed in the model.

#### 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), and electric power consumption - including material and energy flows contributing less than 1 % of mass or energy (if available). In case any 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 modeling of the considered products, the GaBi 8.7.0.18 Software System for Life Cycle Engineering,

developed by thinkstep AG, was used /GaBi 8 2019/. The GaBi-database contains consistent and documented datasets which are documented in the online GaBi-documentation /GaBi database SP25:2016/.

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 database SP25:2016/.

#### 3.7 Period under review

The period under review is 2017/18 (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 plastic Waste incineration of wood Waste incineration of plastic (packaging) Waste incineration of paper (packaging)

#### 3.9 Comparability

Basically, 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. /GaBi database SP25:2016/serves as background database for the calculation.



## 4. LCA: Scenarios and additional technical information

The following technical scenario information is required 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).

Transport to the building site (A4)

| Name  | Value | Unit    |
|---|-------|---------|
| Liters of fuel                              | 39,4  | I/100km |
| Transport distance                          | 100   | km      |
| Capacity utilisation (including empty runs) | 85    | %       |

Installation into the building (A5)

| Name  | Value | Unit |
|---|-------|------|
| Output substances following waste treatment on site (paper packaging)   | 0,200 | kg   |
| Output substances following waste treatment on site (plastic packaging) | 0,090 | kg   |

#### Reference service life

| Name   | Value | Unit |
|--|-------|------|
| Reference service life (according to ISO 15686-1, -2, -7 and -8) | 20    | а    |

#### End of life (C1-C4)

| Name                            | Value  | Unit |
|---------------------------------|--------|------|
| Collected separately (Plastics) | 5,353  | kg   |
| Incineration of wood            | 66,990 | kg   |
| Incineration of plastic parts   | 5,353  | kg   |
| Total Recovery                  | 100    | %    |
| Transport Distance              | 100    | km   |

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

| Name  | Value  | Unit |
|---|--------|------|
| Collected separately waste type (including packaging)   | 72,633 | kg   |
| Incineration of wood                                    | 92,231 | %    |
| Incineration of plastic                                 | 7,494  | %    |
| Incineration of packaging (paper and plastic) (from A5) | 0,399  | %    |



### 5. LCA: Results

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

| DESC   | CRIE  | PTION O  | F THE  | SYS   | ГЕМ ВО  | DUND   | ARY   | (X = INC  | CLUDE   | ED IN   | LCA: I   | MND =   | MOD  | DULE N  | OT DE   | CLARED)   |  |  |
|--|---|--|--|---|---|--|---|---|---|---|--|---|--|---|---|---|--|--|
|  |   |  |  |   |   |  |   | (   |   |   |  | BENEFITS AND LOADS  |  |   |   |   |  |  |
| PROI   | DUC   | T STAGE  |  | TRUCTI<br>OCESS   |   |  | L   | JSE STAG  | Е   |   |  | EN  | D OF L   | LIFE STA  | GE  | LOADS<br>BEYOND THE                             |  |  |
|  |   |  | STA  | AGE   |   |  |   |   |   |   |  |   |  | SYSTEM<br>BOUNDARIES  |   |   |  |  |
|  |   |  | (I)  |   |   |  |   |   |   | >   | _  |   |  |   |   | BOUNDARIES                                      |  |  |
| <del></del>  |   | ρ <sub>C</sub>   | ie 😩   |   |   | Φ  |   | l t   | Ę   | Operational energy use  | Operational water use  | on  |  | Waste processing  |   |   |  |  |
| Raw material<br>supply                             | ort   | Manufacturing  | om<br>e si   | þ   |   | Maintenance  | .⊑  | Replacement   | Refurbishment   | e   | W.   | De-construction demolition  | ort  | ess   | gal   | Reuse-<br>Recovery-<br>Recycling-<br>potential  |  |  |
| w mate<br>supply                                   | dst   | act  | Transport from the gate to the site Assembly   |   | Use   | ens  | Repair  | Cer   | ish   | onal  | iona<br>use  | stri  | dsu  | 2   | sod   | Reuse-<br>ecovery<br>ecycling                   |  |  |
| ıw r<br>su   | Transport   |  | spo<br>e tc  | \SS   | ر ا   | äir  | A A   | e d   | ürb   | atio  | atic   | con<br>lem  | Transport  | e)<br>G   | Disposal  | Reuse-<br>Recovery-<br>Recycling-<br>potential  |  |  |
| R  |   | Ma   | gat  | 1   |   | ž  |   | a a   | Rei   | Ser   | bei  | o<br>c  | _  | /asi  |   | ш. ш.   |  |  |
|  |   |  | Ļ  |   |   |  |   |   |   | ŏ   | 0  |   |  | >   |   |   |  |  |
| <b>A</b> 1   | A   |  | A4   | A5  | B1  | B2   | B3 B4 B5 B6   |   | В7  | C1  | C2   | C3  | C4   | D   |   |   |  |  |
| Х  | Х   |  | Х  | Х   | MND   | MND  | MND   | MND   | MND   | Χ   | MND  | MND   | Х  | Х   | Х   | Х   |  |  |
|  | JLT   | S OF TH  | IE LC  | A - EN  | VIRON   | MENT   | 'AL IN  | IPACT:  | 1 AS  | SA AE   | BLOY S   | Solid C   | hipb   | oard C  | ore Wo  | oden Door                                       |  |  |
| Set  | 1   |  |  |   |   |  |   |   |   |   |  |   |  |   |   | 1   |  |  |
| Param  | eter  | Pa   | rameter  |   | Unit  | A1   | -A3   | A4  | A5  |   | В6   | C2  | 1  | C3  | C4  | D   |  |  |
| GWI  | Р   | Global wa  | arming po  | tential   | [kg CO <sub>2</sub>   | - <u>-</u> 1,10  | E+02  | 3,45E-01  | 5,08E   | -01 0   | ,00E+00  | 3,44E   | -01 1,   | ,06E+02   | 8,77E+0   | 0 -4,60E+01                                     |  |  |
|  |   | Depletion  |  |   | Eq.]<br>[kg   |  | E-05  | 1,65E-12  | 1,97E   | 12 0  | ,00E+00  | 1,65E   | -12 4  | ,20E-10   | 2,64E-1   | 1 -1,44E-08                                     |  |  |
| ODF  | Ρ   | stratosphe   | eric ozon  | e layer   | CFC11<br>Eq.]   | -  |   |   |   |   |  |   |  |   |   |   |  |  |
| AP   |   | Acidification  | •  | l of land   | [kg SO <sub>2</sub>   | - 1,34   | E-01  | 1,58E-03  | 1,22E   | 04 0  | ,00E+00  | 1,57E   | -03 1  | ,48E-02   | 2,23E-0   | 3 -1,23E-01                                     |  |  |
|  |   | Eutrophic  | nd water<br>cation pot   | tential   | Eq.]<br>[kg (PO <sub>4</sub> )  | <sup>3</sup> - 1,70  | E-02  | 3,61E-04  | 1,56E-  | 05 0  | ,00E+00  | 3,60E   | -04 2  | 2,28E-03  | 1,69E-0   | 4 -8,68E-03                                     |  |  |
| EP   |   | Formati  | on potent  | iol of  | Eq.]  |  | E-02  | -5,10E-04   | 7,36E   | 06 0  | ,00E+00  | -5,08E  | : 04 1   | ,20E-03   | 1,09E-0   | 4 -1,06E-02                                     |  |  |
| POC  | P   | troposp  | oheric oz  | one   | [kg<br>ethene   |  | .L-02   | -5, IUL-U4  | 7,300   | 00   0  | ,000-  | -3,06L  | 04 1   | ,20L-03   | 1,091-0   | 4 -1,00L-02                                     |  |  |
|  | _   | photoche<br>Abiotic depl   |  |   | Eq.]  | . 7.68   | BE-05   | 1,30E-08  | 2,00E-  | -08 0   | ,00E+00  | 1,30E   | -08 1  | ,41E-06   | 5,79E-0   | 7 -3,68E-06                                     |  |  |
| ADP  | E   | non-fos  | sil resou  | rces  | [kg Sb-E  | q.J  |   |   |   |   |  |   |  |   |   | ·   |  |  |
| ADP  | F   | Abiotic depl<br>fossil   |  |   | [MJ]  | 7,07   | E+02  | 4,77E+00 1,74E-01   |   | .01   0   | ,00E+00  | 4,75E   | +00 2,   | ,33E+01   | 3,71E+0   | 00 -7,66E+02                                    |  |  |
|  | fossil resources SULTS OF THE LCA - RE  |  |  |   |   |  |   |   |   |   |  |   |  |   |   |   |  |  |
| RESU   | <u>JLT</u>  | S OF TH  | IE LC  | A - RE  | SOUR  | CE US  | E: 1 /  | ASSA A  | BLOY  | Solid   | d Chip   | board   | Core   | Wood  | en Doo  | r Set   |  |  |
| Param  |   |  | IE LCA   |   | SOUR(   |  | E: 1 /  | ASSA A  | BLOY<br>A5  | Solid   | d Chipl  | ooard<br>c2   |  | Woode<br>C3   | en Doo  | r Set   |  |  |
|  | eter  | <b>Pa</b><br>Renewable   | rameter<br>e primary   | energy  |   | A1   |   |   |   | Solid   |  |   |  |   |   |   |  |  |
| Param  | <b>eter</b>   | Pa<br>Renewable<br>as en<br>Renewable  | rameter e primary ergy carr e primary  | energy<br>rier<br>energy  | Unit  | <b>A1</b>  | -A3   |   |   | Solid   |  |   |  |   |   |   |  |  |
| Param  | <b>eter</b>   | Pa<br>Renewable<br>as en<br>Renewable<br>resource  | rameter e primary ergy carr e primary es as ma   | energy<br>rier<br>energy  | Unit  | <b>A1</b>  | <b>-A3</b> E+03   | A4<br>-   | A5  | Solid   | B6   | C2  |  |   | C4  |   |  |  |
| Param<br>PER<br>PER                                | eter<br>E<br>M  | Pa<br>Renewable<br>as en<br>Renewable<br>resource<br>ut<br>Total use   | e primary<br>ergy carr<br>e primary<br>es as ma<br>ilization<br>e of rene  | r energy<br>rier<br>r energy<br>terial<br>wable   | Unit<br>[MJ]<br>[MJ]  | 1,25<br>0,00   | - <b>A3</b><br>E+03<br>E+00   | A4<br>-   | A5  |   | B6   | C2  | !  |   | C4  |   |  |  |
| PER PER  | eter<br>EE<br>M   | Pa<br>Renewable<br>as enewable<br>resource<br>ut   | e primary<br>ergy carr<br>e primary<br>es as ma<br>ilization<br>e of rene<br>nergy res   | v energy<br>rier<br>v energy<br>iterial<br>wable<br>sources   | Unit [MJ] [MJ]  | 0,000<br>1,25  | - <b>A3</b><br>E+03<br>E+00   | A4<br>-<br>-  | A5  |   | B6<br>-  | C2  | !  | C3<br>-<br>-  | C4<br>-   |   |  |  |
| Param<br>PER<br>PER                                | eter<br>EE<br>M   | Renewable<br>as en<br>Renewable<br>resource<br>ut<br>Total use<br>primary er<br>Non-rene<br>energy as  | rameter e primary ergy carr e primary es as ma ilization e of rene energy res ewable pi s energy   | r energy<br>rier<br>r energy<br>terial<br>wable<br>sources<br>rimary<br>carrier   | Unit<br>[MJ]<br>[MJ]  | A1 1,25 0,000 1,25 7,44  | E+03 E+03 E+03 E+02   | <b>A4</b> 1,88E-01  | -<br>-<br>1,44E-  |   | B6<br>-<br>-<br>-,00E+00                                     | C2  | !  | C3<br>-<br>-  | C4<br>-   |   |  |  |
| PER PER  | eter<br>EE<br>M   | Renewable as en Renewable resource ut Total use primary er Non-rene energy as Non-rene energy  | e primary<br>e primary<br>e primary<br>e primary<br>es as ma<br>ilization<br>e of rene<br>energy res<br>ewable p<br>e energy<br>ewable p<br>e wable p  | v energy<br>rier<br>v energy<br>terial<br>wable<br>sources<br>rimary<br>carrier<br>rimary   | Unit [MJ] [MJ]  | A1 1,25 0,000 1,25 7,44  | -A3<br>E+03<br>E+00   | <b>A4</b> 1,88E-01  | -<br>-<br>1,44E-  |   | B6<br>-<br>-<br>-,00E+00                                     | C2  | !  | C3<br>-<br>-  | C4<br>-   |   |  |  |
| PER PENF   | eter<br>EE<br>M   | Renewable as en Renewable resource ut Total use primary er Non-rene energy as Non-rene energy ut   | e primary<br>ergy carr<br>e primary<br>es as ma<br>ilization<br>e of rene<br>ergy res<br>ewable p  | v energy<br>rier<br>v energy<br>sterial<br>wable<br>sources<br>rimary<br>carrier<br>rimary<br>erial   | MJ]   | 1,25<br>0,00<br>1,25<br>7,44<br>0,00   | E+03 E+02 E+00  | A4<br>-<br>-<br>1,88E-01<br>-<br>-  | -<br>-<br>1,44E-  | -02 0   | B6 -<br>-<br>-,00E+00  | 1,87E   | -01 2,   | C3<br>-<br>-  | C4<br>-   | D   |  |  |
| PER PENF   | eter<br>EE<br>M<br>ET<br>RE   | Renewable as ene Renewable resource ut Total use primary er Non-rene energy as Non-rene energy ut Total renewable  | rameter e primary ergy carre e primary ergy carre e primary e of rene ergy res ewable p e energy ewable p ewabl | v energy<br>rier<br>v energy<br>sterial<br>wable<br>sources<br>rimary<br>carrier<br>rimary<br>erial   | MJ]   | 1,25<br>0,00<br>1,25<br>7,44<br>0,00   | E+03 E+02 E+00  | <b>A4</b> 1,88E-01  | 1,44E-  | -02 0   | B6<br>-<br>-<br>-,00E+00                                     | 1,87E   | -01 2,   | .,31E+00  | 2,72E-0   | D   |  |  |
| Param PER PER PENF                                 | eter EE M RT REF RRM  | Renewable as eni Renewable resource ut Total use primary er Non-rene energy as Non-rene energy trotal ut Total use grimary er Use of sec   | rameter e primary ergy carre e primary ergy carre e primary es as ma ilization e of rene ergy rese ewable p e senergy ewable p e as mate ilization use of no use of no primary sources condary r   | r energy<br>rier<br>v energy<br>tterial<br>wable<br>sources<br>rimary<br>carrier<br>rimary<br>erial   | Unit  | 7,44 6,28  | E+00 E+02 E+02 E+02 E+02 E+02   | 1,88E-01<br>-<br>-<br>4,78E+00  | 1,44E   | 02 0  | B6<br>-<br>-<br>,00E+00<br>-<br>-<br>,00E+00                 | 1,87E - 4,76E 0,00E   | -01 2,<br>+00 2,   | C3<br>-<br>-<br>,31E+00<br>-<br>-<br>,76E+01  | 2,72E-0<br>-<br>-<br>4,12E+0  | D   |  |  |
| Param PER PER PENF                                 | eter EE M RT RE RAM RT  | Renewable as en Renewable resource ut Total use primary er Non-rene energy as Non-rene energy ut Total renewable use of sec Use of sec   | rameter e primary ergy carre e primary es as ma ilization e of rene ergy rese ewable p e as mate ilization use of ne primary sources sources f renewa  | v energy<br>rier<br>v energy<br>tterial<br>wable<br>sources<br>rimary<br>carrier<br>rimary<br>erial<br>on-<br>energy  | Unit   [MJ]   [MJ] | 7,44 6,28  | E+00 E+02 E+02 E+02 E+02 E+02   | 1,88E-01<br>-<br>-<br>-<br>4,78E+00   | 1,44E   | 02 0  | B6<br>-<br>-<br>,00E+00<br>-<br>-                            | 1,87E - 4,76E 0,00E   | -01 2,<br>+00 2,   | C3<br>-<br>-<br>,31E+00<br>-<br>-<br>,76E+01  | 2,72E-0<br>-<br>-<br>4,12E+0  | D   |  |  |
| Param PER PER PENF PENF PENF                       | eter EE  M  RT  RRE  RRM  H  H  H  H  H  H  H  H  H  H  H  H  H   | Renewable as ene Renewable resource ut Total use primary er Non-rene energy as Non-rene energy ut Total irenewable re: Use of seco   | rameter e primary ergy carre e primary es as ma eilization e of rene e ergy res ewable p e energy ewable p e as mate ilization use of no primary sources condary r f renewa andary fue on-renev  | v energy rier v energy terial wable sources rimary carrier rimary erial on- energy material ble els wable   | Unit   [MJ]   [MJ] | 7,44 0,00 7,44 0,00  | E+03 E+00 E+02 E+00 E+02 E+00 E+02 E+00   | 1,88E-01<br>-<br>-<br>4,78E+00  | 1,44E   | -02 0<br>-01 0<br>-00 0<br>-00 0  | B6<br>-<br>-<br>,00E+00<br>-<br>-<br>,00E+00                 | 1,87E - 4,76E 0,00E 0,00E   | -01 2,<br>+00 2,<br>+00 0,   | C3<br>-<br>-<br>,31E+00<br>-<br>-<br>,76E+01  | 2,72E-0<br>-<br>-<br>4,12E+0  | D 1 -6,84E+01 0 -9,01E+02 0 0,00E+00 0 0,00E+00 |  |  |
| Param PER PER PENF PENF RSF                        | eter  BET  BET  BET  BET  BET  BET  BET  BE   | Renewable as ene Renewable resource ut Total use primary er Non-rene energy as Non-rene energy ut Total irenewable re: Use of seco   | rameter e primary ergy carre e primary es as ma elization e of rene ergy res ewable pr ewable pr exemple as mate elization use of no primary sources condary re f renewa ndary fue on-renewa ndary fue   | v energy rier v energy terial wable sources rimary carrier rimary erial on- energy material ble els wable   | Unit   [MJ]   [MJ] | 7,44 6,28 0,00 0,00  | E+03 E+03 E+03 E+03 E+02 E+00 E+00 E+00 E+00 E+00 E+00  | A4  | 1,44E   | -01 0<br>-00 0<br>-00 0   | B6<br>-<br>-<br>,00E+00<br>-<br>-<br>-<br>,00E+00<br>,00E+00 | 1,87E - 4,76E 0,00E 0,00E   | +00 2,<br>+00 0,<br>+00 0,   | C3<br>-<br>-<br>,31E+00<br>-<br>-<br>,76E+01<br>,00E+00<br>,00E+00  | 2,72E-0<br>-<br>-<br>4,12E+0<br>0,00E+0   | D   |  |  |
| Per Pen        | eter EE M RT RE RT RF RF RF II JULT   | Renewable as energy error Non-rene energy as Non-rene energy ut Total use of secon Use of needs of the secon Use  | rameter e primary ergy carre e primary es as ma elization e of rene ergy res ewable p es energy ewable p es energy ewable p es energy ewable p es energy ewable p for nemate for | v energy rier v energy terial wable sources rimary carrier rimary erial on- energy material ble els wable els wable   | Unit   [MJ]   [MJ] | 7,44 6,28 0,00 0,00 1,57 FLOV  | E+03 E+03 E+03 E+03 E+02 E+00 E+00 E+00 E+00 F+00 F+00 F+00 F+00  | 1,88E-01 - 4,78E+00 0,00E+00 0,00E+00 1,33E-04 ID WAS   | 1,44E   | -02 0<br>-01 0<br>-00 0<br>-00 0<br>-00 0                                     | B6   | 1,87E - 4,76E - 0,00E 0,00E 1,32E                                 | +00 2,<br>+00 0,<br>+00 0,   | C3 ,31E+00 ,76E+01 ,00E+00 ,00E+00 ,00E+00  | 2,72E-0 2,72E-0 4,12E+0 0,00E+0 0,00E+0   | D   |  |  |
| Per Pen        | eter EE M RT RE RT RF RF RF II JULT   | Renewable as end Renewable resource ut Total use primary er Non-rene energy as Non-rene energy ut Total renewable results of secon Use of needs as even use  | rameter e primary ergy carre e primary es as ma elization e of rene ergy res ewable p es energy ewable p es energy ewable p es energy ewable p es energy ewable p for nemate for | v energy rier v energy terial wable sources rimary carrier rimary erial on- energy material ble els wable els wable   | Unit   [MJ]   [MJ] | 7,44 6,28 0,00 0,00 1,57 FLOV  | E+03 E+03 E+03 E+03 E+02 E+00 E+00 E+00 E+00 F+00 F+00 F+00 F+00  | 1,88E-01 - 4,78E+00 0,00E+00 0,00E+00 1,33E-04 ID WAS   | 1,44E   | -02 0<br>-01 0<br>-00 0<br>-00 0<br>-00 0                                     | B6   | 1,87E - 4,76E - 0,00E 0,00E 1,32E                                 | +00 2,<br>+00 0,<br>+00 0,   | C3 ,31E+00 ,76E+01 ,00E+00 ,00E+00 ,00E+00  | 2,72E-0 2,72E-0 4,12E+0 0,00E+0 0,00E+0   | D   |  |  |
| Per Pen        | eter  RE M  RT  RE RM  RT  II  F  F  F  F  F  F  F  F  F  F  F  F   | Renewable as enterest as enter | rameter e primary ergy carre e primary es as ma elization e of rene ergy res ewable p es energy ewable p es energy ewable p es energy ewable p es energy ewable p for nema for | v energy rier v energy terial wable sources rimary carrier rimary erial ble els wable els water  A — Ol Chipb   | Unit   [MJ]   [MJ] | 7,44 6,28 0,00 1,57 FLOW   | E+03 E+03 E+03 E+03 E+02 E+00 E+00 E+00 E+00 F+00 F+00 F+00 F+00  | 1,88E-01 - 4,78E+00 0,00E+00 0,00E+00 1,33E-04 ID WAS   | 1,44E   | -02 0<br>-01 0<br>-00 0<br>-00 0<br>-00 0                                     | B6   | 1,87E - 4,76E - 0,00E 0,00E 1,32E                                 | +00 2,<br>+00 0,<br>+00 0,<br>-04 2  | C3 ,31E+00 ,76E+01 ,00E+00 ,00E+00 ,00E+00  | 2,72E-0 2,72E-0 4,12E+0 0,00E+0 0,00E+0   | D   |  |  |
| Param PER PER PENF PENF RSF NRS FW RESU 1 ASS      | eter EE  M  RT  RT  RT  RT  II  F  F  GF  /  JLT  SA  eter  | Renewable as ener Renewable resource ut Total use primary er Non-rene energy as Non-rene energy ut Total renewable resource Use of secon Use of n secon Use of n SOF THABLOY   | rameter e primary ergy carre e primary ergy carre e primary es as ma ilization e of rene ergy res ewable p es energy ewable p e | v energy rier v energy terial wable sources rimary carrier rimary erial on- energy material ble els wable els water A — OL Chipb  | Unit  [MJ]  | 7,44  6,28  0,00  1,57  FLOV   | E+03 E+03 E+03 E+03 E+02 E+00 E+00 E+00 F+00 F+00 F+00 F+00 F-01 VS AN Oode -A3 BE-02                         | 1,88E-01 1,88E-01 1,88E-01 1,00E+00 0,00E+00 0,00E+00 1,33E-04 ID WAS n Door A4 1,09E-05                              | 1,44E- 1,99E- 0,00E- 0,00E- 1,37E- TE C/ Set  A5  | 02 0<br>01 0<br>00 0<br>00 0<br>00 0<br>03 0                                  | B6   | 1,87E - 1,87E - 4,76E 0,00E 0,00E 1,32E 1,08E                     | +00 2,<br>+00 0,<br>+00 0,<br>-04 2  | C3  | 2,72E-0 2,72E-0 4,12E+0 0,00E+0 0,00E+0 2,14E-0  C4 2,88E-0                     | D   |  |  |
| Peram PER PER PENF PENF PENF RSF NRS FW RESU 1 ASS | M M RT RE   | Renewable as ene Renewable resource ut Total use primary er Non-rene energy as Non-rene energy as Value Total renewable res Use of secor Use of n secor Use of n SOF THABLOY  Hazardous Non-haz  | rameter e primary ergy carre e primary ergy carre e primary es as ma ilization e of rene ergy res ewable p es energy ewable p e | v energy rier v energy terial wable sources rimary carrier rimary erial on- energy material ble els wable els water A — OL Chipb  | Unit  [MJ]  | 7,44  6,28  0,00  1,57  FLOV   | E+03 E+03 E+03 E+03 E+02 E+00 E+00 E+00 F+00 F+00 F+00 F+00 F-01 VS AN Oode -A3 BE-02                         | 1,88E-01 - 4,78E+00 0,00E+00 0,00E+00 1,33E-04 ID WAS n Door A4   | 1,44E - 1,99E 0,00E- 0,00E- 1,37E TE C/ Set A5  | 02 0<br>01 0<br>00 0<br>00 0<br>00 0<br>03 0                                  | B6   | 1,87E 4,76E - 0,00E 0,00E 1,32E                                   | +00 2,<br>+00 0,<br>+00 0,<br>-04 2  | C3<br>-<br>,31E+00<br>-<br>,76E+01<br>,00E+00<br>,00E+00<br>,00E+00<br>2,74E-01<br>C3<br>,94E-03<br>,50E+00 | 2,72E-0   | D   |  |  |
| Per Pen        | M RT RE RM P P P P P P P P P P P P P P P P P P  | Renewable as end Renewable resource ut Total use primary er Non-rene energy as Non-rene energy ut Total renewable resource Use of Second Use of Second Use of Total use of Total renewable resource use of nergy as Second Use of nergy ut total renewable resource use of nergy use o | rameter e primary ergy carre e primary es as ma elization e of rene ergy res ewable p es energy ewable p ewable p es energy ewable p ewable | v energy rier v energy terial wable sources rimary carrier rimary energy material ble els wable els wable els wable els wable els water   | Unit  [MJ]  | A1 1,25 0,00 1,25 7,44 0,00 7,44 6,28 0,00 0,00 1,57 FLOV ORE W A1 3,73 5,24                               | E+03 E+03 E+03 E+03 E+02 E+00 E+02 E+00 E+00 F+00 F-01 F-01 F-01 F-01 F-01 F-01 F-01 F-                       | 1,88E-01 1,88E-01 1,88E-01 1,00E+00 0,00E+00 0,00E+00 1,33E-04 ID WAS n Door A4 1,09E-05                              | 1,44E- 1,99E- 0,00E- 0,00E- 1,37E- TE C/ Set  A5  | -02 0<br>-01 0<br>-00 0<br>-00 0<br>-00 0<br>-00 0<br>-00 0                   | B6   | 1,87E - 1,87E - 4,76E 0,00E 0,00E 1,32E 1,08E                     | +00 2,<br>+00 0,<br>+00 0,<br>-04 2  | C3  | 2,72E-0 2,72E-0 4,12E+0 0,00E+0 0,00E+0 2,14E-0  C4 2,88E-0                     | D   |  |  |
| Param PER PER PENF PENF SM RSI NRS FW RESU 1 ASS   | M RT RE RT III F F SA / LT SA | Renewable as enere resource ut Total use primary er Non-rene energy as Non-rene energy ut Total renewable resource Use of secon Use of n secon Use of n SOF THABLOY  Pa  Hazardous  Radioa  Gi  Radioa  Componer   | rameter e primary ergy carry e primary es as man ilization e of rene ergy res ewable p es energy ewable p ewab | v energy rier v energy venergy terial wable sources rimary carrier rimary erial con- energy material ble els wable els water A — OL Chipb lisposed waste ee-use                     | Unit   [MJ]   [MJ] | A1 1,25 0,00 1,25 7,44 0,00 7,44 6,28 0,00 0,00 1,57 FLOW A1 3,73 5,24 1,47 0,000                          | E+03 E+03 E+03 E+03 E+00 E+02 E+00 E+00 E+00 F+00 F+00 F-01 F-01 F-01 F-02 F-02 F-02 F-02 F-03                | 1,88E-01 4,78E+00 0,00E+00 0,00E+00 0,00E+00 1,33E-04 ID WAS n Door A4 1,09E-05 6,01E-04 6,26E-06 0,00E+00            | 1,44E - 1,99E 0,00E- 0,00E- 1,37E TE C/ Set  45 1,38E- 2,81E 9,65E- 0,00E-                    | -02 0<br>-01 0<br>-00 0<br>-00 0<br>-00 0<br>-05 0<br>-02 0<br>-06 0          | B6   | 1,87E   | +00 2,<br>+00 0,<br>+00 0,<br>-04 2  | C3  | 2,72E-0 4,12E+0 - 0,00E+0 0,00E+0 - 2,14E-0 - 2,88E-0 8,17E-0 - 1,64E-0 0,00E+0 | D   |  |  |
| Param PER PER PENF PENF RSM RSF NRS FW RESU 1 ASS  | M RT RE RT III F F F F F F F F F F F F F F F F F  | Renewable as ene Renewable resource ut Total use primary er Non-rene energy as Non-rene energy as Value Total renewable resource Use of secon Use of n Secon Use of n Radioa di Compone Materials  | rameter e primary e primary es as ma elitzation e of rene e primary es as ma elitzation e of rene e primary es as ma elitzation use of nergy res ewable p e as mate ilitzation use of no primary sources condary fue et fresh ile LCA Solid ( rameter waste d dardous v sposed ents for r es for recy  | r energy rier r energy terial wable sources rimary carrier rimary energy material ble els wable els wable els wable els water A — OL Chipb  | Unit  [MJ]  [Kg]  [kg]  [kg]  [kg]  | A1 1,25 0,00 1,25 7,44 0,00 7,44 6,28 0,00 0,00 1,57 FLOW A1 3,73 5,22 1,47 0,00 0,00                      | E+03 E+03 E+03 E+03 E+02 E+00 E+02 E+00 E+00 E+00 E+00 F-01 F-01 F-02 E+00 F-02 E+00 F-01 F-02 E+00 F-01      | 1,88E-01 4,78E+00 0,00E+00 0,00E+00 0,00E+00 1,33E-04 1,09E-05 6,01E-04 6,26E-06 0,00E+00 0,00E+00                    | 1,44E- 1,99E- 0,00E- 0,00E- 1,37E- TE C/ Set  A5 1,38E- 2,81E- 9,65E- 0,00E- 2,00E-           | -02 0 -01 0 -00 0 -00 0 -00 0 -00 0 -00 0 -00 0 -00 0 -00 0 -00 0 -00 0 -00 0 | B6   | 1,87E - 4,76E - 0,00E 0,00E 1,32E - 1,08E 5,99E 6,24E 0,00E 0,00E | +00 2,<br>+00 0,<br>+00 0,<br>-04 2  | C3 ,31E+00 - ,76E+01 ,00E+00 ,00E+00 ,00E+00 ,74E-01  C3 ,94E-03 ,50E+00 ,72E-03 ,00E+00 ,52E+01            | C4  | D   |  |  |
| Per Pen        | M RT RE RAM PER   | Renewable as energy as Non-rene use of second Use of non-second use of non-second use of non-rene energy as Non-haz Non-haz di Radioa di Compone Materials Material   | rameter e primary ergy carre e primary ergy carre e primary es as ma ilization e of rene ergy res ewable p e energy ewable p e energy ewable p es es sa mate elization use of neo primary for enewa edary fue evaluation et fresh es solid  rameter  waste d estrict was sposed ents for recy els for recy els for recy els for exe els for  | v energy rier v energy terial wable sources rimary carrier rimary erial ble els wable els wable els wable els water Chipb lisposed waste aste re-use ycling ergy                    | Unit  [MJ]  [Kg]  [Kg]  [kg]  [kg]  [kg]  [kg]  [kg]  | A1 1,25 0,00 1,25 7,44 0,00 7,44 6,28 0,00 0,00 1,57 FLOV ore W A1 3,73 5,24 1,47 0,00 0,00 0,00 0,00      | E+03 E+03 E+03 E+03 E+03 E+02 E+00 E+02 E+00 E+00 F-01 F-01 F-01 F-01 F-02 E+00 E+00 E+00 E+00 E+00 E+00 E+00 | 1,88E-01 4,78E+00 - 0,00E+00 0,00E+00 1,33E-04 ID WAS n Door A4 1,09E-05 6,01E-04 6,26E-06 0,00E+00 0,00E+00 0,00E+00 | 1,44E- 1,99E- 0,00E- 0,00E- 1,37E- TE C/ Set 1,38E- 2,81E- 9,65E- 0,00E- 0,00E- 0,00E- 0,00E- | -02 0<br>-01 0<br>-00 0<br>-00 0<br>-00 0<br>-02 0<br>-06 0<br>-00 0<br>-00 0 | B6   | 1,87E   | +00 2,<br>+00 0,<br>+00 0,<br>-04 2<br>-05 1,<br>-06 1<br>+00 0,<br>+00 0,<br>+00 0,           | C3 ,31E+00 - ,76E+01 ,00E+00 ,00E+00 ,00E+00 ,74E-01  C3 ,94E-03 ,50E+00 ,72E-03 ,00E+00 ,52E+01 ,00E+00    | C4  | D   |  |  |
| Param PER PER PENF PENF RSM RSF NRS FW RESU 1 ASS  | M RT RE RM P P P P P P P P P P P P P P P P P P  | Renewable as ene Renewable resource ut Total use primary er Non-rene energy as Non-rene energy ut Total ir renewable resource Use of seco Use of n secor Use of n SOF THABLOY  Pa Hazardous Non-haz di Radioa di Compone Materials   | rameter e primary ergy carre e primary ergy carre e primary es as ma elization e of rene ergy res ewable pr es energy ewable pr es for res ewable pr ewable pr es for recy electrical  | v energy rier v energy trier wable sources rimary carrier rimary erial on- energy material ble els wable els water A - OL Chipb disposed waste aste e-use ycling ergy energy energy | Unit  [MJ]  [Kg]  [kg]  [kg]  [kg]  | A1 1,25 0,00 1,25 7,44 0,00 7,44 6,28 0,00 0,00 1,57 FLOW Ore W A1 3,73 5,22 1,47 0,00 0,00 0,00 0,00 0,00 | E+03 E+03 E+03 E+03 E+00 E+02 E+00 E+00 E+00 E+00 F+00 F+00 F+00 E+00 E                                       | 1,88E-01 4,78E+00 0,00E+00 0,00E+00 0,00E+00 1,33E-04 1,09E-05 6,01E-04 6,26E-06 0,00E+00 0,00E+00                    | 1,44E  1,99E  0,00E- 0,00E- 1,37E  TE C/ Set  45 1,38E 2,81E  9,65E- 0,00E- 2,00E 7,88E       | -01 0<br>-00 0<br>-00 0<br>-00 0<br>-00 0<br>-00 0<br>-00 0<br>-00 0<br>-00 0 | B6   | 1,87E   | +00 2,<br>+00 0,<br>+00 0,<br>-04 2<br>-05 1,<br>-06 1<br>+00 0,<br>+00 0,<br>+00 0,<br>+00 1, | C3 ,31E+00 - ,76E+01 ,00E+00 ,00E+00 ,00E+00 ,74E-01  C3 ,94E-03 ,50E+00 ,72E-03 ,00E+00 ,52E+01            | C4  | D   |  |  |



#### 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 99,9 % and 84 % to the overall results for all the environmental impact assessment categories hereby considered (except GWP). The global warming potential (GWP) of the wood door shows a negative value within the production phase (module A1- A3). These negative value results from the use of wood as

raw material, because wood sequesters biogenic carbon during the growth of the tree.

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 credits from the incineration process (energy substitution). Wood is assumed to be burned with energy generation that will replace production of electricity and thermal energy respectively.

### 7. Requisite evidence

Not applicable in this EPD.

#### 8. References

#### /EN 15804:2014-07/

/EN 15804:2012-04+A1 2013/, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

#### /GaBi 8 2019/

Software-System and Database for Life Cycle Engineering. Copyright, TM. Stuttgart, thinkstep AG, Echterdingen, 1992-2019

#### /GaBi database SP25:2016/

Documentation of GaBi Database for Life Cycle Engineering. Copyright, TM. Stuttgart, thinkstep AG, Echterdingen, 1992-2016. <a href="http://documentation.gabi-software.com/">http://documentation.gabi-software.com/</a>

#### **IBU 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. March 2018 <a href="https://www.ibu-epd.de">www.ibu-epd.de</a>

#### **IBU 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 Windows and doors Version 1.7 (01.2019) <a href="https://www.ibu-epd.com">www.ibu-epd.com</a>

#### /ISO 14025/

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

#### /ISO 9001:2015/

Quality management systems - -- Requirements with guidance for us

#### /ISO 14001:2015/

Environmental management systems -- Requirements with guidance for use

#### /ISO 15686-1, -2, -7 and -8:2004/

Buildings and constructed assets. Service life planning. General principles and framework

#### /OHSAS 18001:2007/

Occupational Health and Safety Assessment Series



### 9. Annex

Results shown below were calculated using TRACI Methodology.

| DESC  | CRIPT  | TON C   | F THE  | SYST   | ЕМ В  | OUND  | ARY (X  | ( = I  | INCLU   | IDED II   | N LC   | 4; IV   | IND =  | MODU  | JLE N  | IOT  | DECLA   | (RED)  |
|---|--|---|--|--|---|---|---|--|---|---|--|---|--|---|--|--|---|--|
|   |  | STAGE   | CONST<br>ON PR   | RUCTI  | USE STAGE   |   |   |  |   |   |  |   | MND = MODULE NOT D  END OF LIFE STAGE  |   |  |  |   | FITS AND<br>OADS<br>OND THE<br>YSTEM           |
| Raw material supply                         | Transport  | Manufacturing   | Transport from the gate to the site  | Assembly   | Use   | Maintenance   | Repair  | Replacement <sup>1)</sup>  | Refurbishment <sup>1)</sup>   | Operational energy  | Operational water  | nse   | De-construction<br>demolition  | Transport   | Waste processing   | Disposal   |   | Recovery-<br>Recycling-<br>potential           |
| <b>A</b> 1                                  | A2   | А3  | A4   | A5   | B1  | B2  | В3  | B4   | В5  | 5 B6  | В  | 7   | C1   | C2  | C3   | C4   | 4   | D  |
| Х   | Χ  | Х   | Х  | Х  | MND   | MND   | MND   | MNE  | D MN  | D X   | MN   | ND  | MND  | Χ   | Χ  | Х  |   | X  |
| _   | JLTS   | OF TH   | IE LC  | 4 - EN\  | /IRON   | MENT  | AL IMF  | PAC  | T: 1 A  | ASSA A  | ABLO   | Y S   | olid C   | hipbo   | ard C  | ore  | Woode   | en Door  |
| Set   | neter  |   | Parameto   | er   | 1   | Jnit  | A1 - A  | 3  | A4  | A   | 5  | Be  | 3  | C2  | C3   | <u> </u>   | C4  | D  |
| GV  |  |   | warming  |  |   | O <sub>2</sub> -Eq.]  | -6,38E+   |  | 3,45E-0   |   |  | ),00E   |  | 44E-01  |  |  | -   | -4,60E+01                                      |
| OE  |  |   | on potent  |  |   | C11-Eq.   | 8,45E-  | 05   | 1,76E-1   | 2 2,10  | E-12 C   | ),00E   | +00 1,   | 75E-12  | 4,46E  | -10 2  | 2,81E-11  | -1,53E-08                                      |
| А   | Р  |   | ion poten  |  | d [kg S   | O <sub>2</sub> -Eq.]  | 1,45E-  | 01 2   | 2,07E-0   | 3 1,45E   | E-04 C   | ),00E   | +00 2,   | 06E-03  | 1,70E  | -02 2  | 2,62E-03  | -1,20E-01                                      |
| Е   | P  |   | hication p   |  | [kg   | N-eq.]  | 1,16E-  | 01   | 1,46E-0   | 4 6,56E   | E-06 C   | ),00E   | +00 1,   | 45E-04  | 9,31E  | -04 7  | 7,98E-05  | -5,71E-03                                      |
| Sm  | iog  | Ground-l  | evel smoo  |  | lkg (   | O <sub>3</sub> -eq.]  | 2,75E+  | -00 4  | 4,25E-0   | 2 2,35E   | E-03 C   | ),00E   | +00 4,   | 24E-02  | 3,23E  | -01 2  | 2,06E-02  | -1,44E+00                                      |
| Reso  | urces  | Resou   | rces – re  | sources  | ]   | MJ]   | 9,41E+  | -01 (  | 6,86E-0   | 1,91E   | E-02 C   | ),00E   | DE+00 6,83E-01 2,70E+00  |   |  |  | 3,82E-01  | -9,61E+01                                      |
| RESU  | JLTS   | OF TH   |  | A - RES  | SOUR  | CE US   | E: 1 AS   | SSA  | ABL   | OY Sol  | lid Ch   | dair  | oard   | Core V  | Vood   | en D   | oor Se  | et   |
|   | SULTS OF THE LCA - RESOURCE L rameter Parameter U                        |   |  |  |   | A1 - A3   |   |  |   |   |  |   |  |   |  |  |   |  |
| Parar                                       | neter  |   | Parar  | neter  |   | Unit  |   |  | A4  |   | <b>\</b> 5   | В   |  | C2  | СЗ   |  |   | D  |
| <b>Parar</b><br>PE                          |  | Renew   | Parar<br>vable prir<br>energy  | mary ene   | ergy as   |   |   | - A3   | A4  |   |  |   |  |   |  |  |   |  |
|   | RE   | Rene  | vable prir   | nary ene<br>carrier<br>rimary er   | nergy   | Unit  | 1,25E   | - <b>A3</b><br>≣+03  | A4  | 4   |  |   | 6  |   |  |  |   |  |
| PE  | RE<br>RM   | Rene<br>resource<br>Total u   | vable prir<br>energy<br>ewable pr  | mary ene<br>carrier<br>rimary er<br>aterial uti  | nergy<br>ilization<br>orimary   | Unit<br>[MJ]  | 1,25E   | - <b>A3</b><br>≣+03<br>≣+00  | - A4  | <i>A</i>  | A5<br>-  | B-  | 6  | C2<br>-   | C3   |  |   |  |
| PEI   | RE<br>RM<br>RT   | Rene<br>resource<br>Total u   | wable primerable prime | mary ene<br>carrier<br>rimary er<br>aterial uti<br>ewable p<br>esources<br>rimary er   | nergy<br>ilization<br>orimary   | Unit [MJ] [MJ]  | 0,00E   | - <b>A3</b><br>=+03<br>=+00  | -<br>-<br>1,88E-  | 01 1,44   | A5<br>-  | B-  | E+00 1,  | C2<br>-   | C3   |  | C4<br>-   | -<br>-   |
| PEI<br>PEI                                  | RE<br>RM<br>RT   | Rene<br>resource<br>Total u<br>Non-rene   | energy ewable prices as masses of renergy re   | mary ene<br>carrier<br>rimary er<br>aterial uti<br>ewable p<br>esources<br>rimary er<br>carrier  | nergy<br>ilization<br>primary<br>nergy as   | (MJ) (MJ)   | 0,00E   | +03<br>=+00<br>=+03<br>=+02  | 1,88E-  | -01 1,44  | -<br>-<br>E-02 (   | -<br>-<br>0,00E   | ē+00 1,  | C2<br>-   | C3<br>-<br>-<br>2,31E+   |  | C4<br>-   | -<br>-6,84E+01                                 |
| PEI PEI PEN                                 | RE<br>RM<br>RT<br>IRE  | Rene<br>resource<br>Total u<br>Non-rene<br>Non-rene<br>r<br>Total                                   | ewable pringer as a market se of renergy rewable per ewable per energy ewable per energy rewable per energy rewable per ewable per energy rewable per ewable per ewable per energy rewable per ewable per energy ewable per ewable per ewable per energy ewable evable evab | mary ene<br>carrier<br>rimary er<br>aterial uti<br>ewable p<br>esources<br>rrimary er<br>carrier<br>rrimary er<br>utilization<br>on-renev  | nergy<br>ilization<br>primary<br>nergy as<br>nergy as<br>nergy as   | (MJ) (MJ) (MJ)  | 1,25E 0,00E 1,25E 7,44E 0,00E   | +03<br>=+00<br>=+03<br>=+02<br>=+00  | 1,88E-  | -01 1,44  |  | -<br>0,00E  | E+00 1,  | C2 87E-01 -   | -<br>2,31E+  | +00 2  | C4<br>-   | -6,84E+01                                      |
| PEI PEN PEN                                 | RE<br>RM<br>RT<br>JRE<br>JRM   | Rene<br>resource<br>Total u<br>Non-rene<br>Non-rene<br>Total<br>prim                                | ewable prir<br>energy<br>ewable prices as ma<br>se of ren<br>energy re<br>ewable p<br>energy<br>ewable p<br>material i   | mary enercarrier e | nergy illization orimary nergy as nergy as nergy as vable rces  | (MJ) (MJ) (MJ) (MJ) (MJ) (MJ) (MJ) (MJ)   | 1,25E 0,00E 1,25E 7,44E 0,00E 7,44E   | +03<br>=+00<br>=+03<br>=+02<br>=+02  | 1,88E-<br>-<br>-<br>4,78E+  | 01 1,44   | E-01 (   | -<br>-<br>0,00E   | E+00 1,  | C2<br>-<br>-<br>87E-01<br>-<br>-<br>76E+00  | 2,31E-   | +00 2<br>+01                                       | C4 4E+00  | -<br>-6,84E+01                                 |
| PEI PEN PEN PEN                             | RE RM RT IRE IRM IRT   | Rene<br>resource<br>Total u<br>Non-rene<br>Non-rene<br>Total<br>prim<br>Use                         | vable prir energy ewable pr eses as ma ses of ren energy re ewable p energy ewable p material u use of n ary ener of secon   | mary ene<br>carrier<br>rimary er<br>aterial uti<br>ewable p<br>esources<br>rimary er<br>carrier<br>rimary er<br>utilization<br>on-renev<br>gy resou<br>dary mat  | nergy illization primary nergy as nergy as nergy as vable rces terial ary fuels   | (MJ) (MJ) (MJ) (MJ)   | 7,44E   | E+03 E+03 E+03 E+02 E+02 E-02 E+00   | 1,88E-<br>-<br>-<br>4,78E+<br>0,00E+  | 01 1,44<br>-00 1,99<br>-00 0,00<br>-00 0,00   | - E-02 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- | E+00 1,<br>E+00 4,<br>E+00 0,  | C2 87E-01 76E+00 00E+00   | 2,31E-1 - 2,76E-1 0,00E-1  | +00 2<br>+01<br>+00 0<br>+00 0                     | C4 2,72E-01 4E+00 - 0,00E+00                                      |  |
| PEI PEI PEN PEN SI                          | RE RM RT IRE IRM IRT M   | Rene<br>resource<br>Total u<br>Non-rene<br>Non-rene<br>Total<br>prim<br>Use                         | vable prir<br>energy<br>ewable prices as ma<br>se of ren<br>energy re<br>ewable p<br>energy<br>energy<br>use of n<br>aary ener-<br>of secon  | mary ene carrier rimary er aterial utile ewable pesources rimary el carrier rimary el utilization on-renev gy resou dary mat el seconda wable se   | nergy illization primary nergy as nergy as nergy as vable rces terial ary fuels   | (MJ) (MJ) (MJ) (MJ) (MJ) (MJ) (MJ) (MJ)   | 7,44E 0,00E 7,44E 0,00E 7,44E 0,00E   | E+03 E+03 E+03 E+02 E+02 E-02 E+00   | 1,88E-<br>-<br>-<br>4,78E+<br>0,00E+  | 01 1,44<br>-00 1,99<br>-00 0,00<br>-00 0,00   | - E-02 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00 (CE+00) | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- | E+00 1,<br>E+00 4,<br>E+00 0,  | C2 87E-01 76E+00 00E+00   | 2,31E-1 - 2,76E-1 0,00E-1  | +00 2<br>+01<br>+00 0<br>+00 0                     | C4 2,72E-01 4E+00 - 0,00E+00                                      | -6,84E+01<br>                                  |
| PEI PEI PEN PEN PEN RS                      | RE RM RT IRE IRM IRT M SF  | Rene resource Total u  Non-rene Total prim Use Use of re  | vable prir energy ewable pr ess as ma ses of ren energy ewable p energy ewable p material u use of n ary ener of secon   | mary ene carrier rimary er exterial utile ewable pessources rimary er carrier rimary en carrier rimary exterial utilization on-renew gy resou dary mate execution as secondary mate execution wable seeds  | nergy illization primary inergy as nergy as nergy as nergy as vable rces terial ary fuels condary   | (MJ) (MJ) (MJ) (MJ) (MJ) (MJ) (MJ) (MJ)   | 7,44E 0,00E 7,00E 0,00E 0,00E   | E+00 E+02 E+00 E+02 E+02 E+02 E+02 E+02  | 1,88E-<br>-<br>-<br>4,78E+<br>0,00E+<br>0,00E+  | -00 1,99<br>-00 0,00<br>-00 0,00<br>-00 0,00  | - E-02 (<br>E-01 (<br>E+00 (<br>E+00 (   | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- | E+00 1,<br>E+00 0,<br>E+00 0,<br>E+00 0,   | C2 87E-01 76E+00 00E+00 00E+00 00E+00   | 2,31E+<br>-<br>-<br>2,76E+<br>0,00E-<br>0,00E-   | +00 2<br>+00 0<br>+00 0<br>+00 0                   | C4 4E+00  |  |
| PEI PEI PEN PEN PEN RS                      | RE R                                 | Rene resource Total u Non-rene r Total prim Use Use of re Use of r                                  | energy rewable primeres as masses of renergy rewable primeres as masses of renergy rewable primeres as masses of nearly energy rewable primeres of second enewable primeres of second enewable primeres of nearly energy renerations.  | mary ene carrier rimary er taterial util tewable pesources rimary er carrier rimary er utilization on-renew gy resou dary mat a second wable se els fresh wat  | nergy ilization primary inergy as nergy as vable rces terial ary fuels condary  | (MJ) (MJ) (MJ) (MJ) (MJ) (MJ) (MJ) (MJ)   | 7,44E 0,00E 7,44E 0,00E 7,44E 0,00E 7,44E 1,57E                             | E+00  E+02  E+00  E+00  E+02  E+00  E+00  E+00  E+00  E+00                                   | 1,88E-<br>-<br>-<br>4,78E+<br>0,00E+<br>0,00E+<br>1,33E-  | -00 1,99<br>-00 0,00<br>-00 0,00<br>-00 0,00<br>-00 0,00  | E-01 (E+00 (E+00 (E-03 ( | B0  | E+00 1, E+00 0, E+00 0, E+00 0, E+00 1,  | C2 87E-01 76E+00 00E+00 00E+00 00E+00 32E-04  | 2,31E-1 - 2,76E-1 0,00E- 0,00E- 2,74E-   | +00 2<br>+01 +00 0<br>+00 0<br>+00 0               | C4 4E+00  |  |
| PEI PEI PEN PEN PEN RS                      | RE RT IRE                            | Rene resource Total u Non-rene r Total prim Use Use of re Use of r                                  | wable prirent energy rewable primers as masses of renergy rewable penergy rewable penergy rewable penergy rewable penergy rewable penergy rewable penergy remarks as of neary energy renergy r | mary ene carrier rimary ene taterial utilite wable pesources brimary ene carrier rimary enditization on-renew gy resou dary mate a secondary wable see les   | nergy<br>ilization<br>primary<br>inergy as<br>nergy | (MJ) (MJ) (MJ) (MJ) (MJ) (MJ) (MJ) (MJ)   | 7,44E 0,00E 7,44E 0,00E 7,44E 0,00E 7,44E 1,57E                             | - A3<br>= +03<br>= +00<br>= +02<br>= +02<br>= +02<br>= +02<br>= +00<br>= +00<br>= +00<br>-01 | 1,88E-<br>-<br>-<br>4,78E+<br>0,00E+<br>0,00E+<br>1,33E-  | -00 1,99<br>-00 0,00<br>-00 0,00<br>-00 0,00<br>-00 0,00  | E-01 (E+00 (E+00 (E-03 ( | B0  | E+00 1, E+00 0, E+00 0, E+00 0, E+00 1,  | C2 87E-01 76E+00 00E+00 00E+00 00E+00 32E-04  | 2,31E+ - 2,76E+  0,00E- 0,00E- 2,74E-  | +00 2<br>+01 +00 0<br>+00 0<br>+00 0               | C4 2,72E-01 4E+00 - 0,00E+00 - 0,00E+00 - 2,14E-02                |  |
| PEN PEN SI RS RESU Core                     | RE RE RT IRE IRM IRT M SF SF W ULTS Woodeleter                           | Rene resource Total u  Non-rene Total prim Use Use of re Use of re OF The                           | wable prirent energy rewable primers as masses of renergy rewable penergy rewable penergy rewable penergy rewable penergy rewable penergy rewable penergy remarks as of neary energy renergy r | mary ene carrier rimary er aterial utile ewable pesources rimary er carrier rimary er carrier rimary er utilization on-renew gy resou dary mate e second wable se els fresh war a condition of the condition of the condition of the carrier rimary er second wable se els fresh war arameter  | nergy illization primary inergy as nergy as nergy as nergy as experiences terial ary fuels condary ter  | Unit   (MJ)   (MJ) | 7,44E 0,00E 7,44E 0,00E 0,00E 1,57I   | E+02 E+00 E+00 E+00 E+00 E+00 E+00 E+00  | 1,88E-<br>-<br>-<br>-<br>4,78E+<br>0,00E+<br>0,00E+<br>1,33E-<br>ASTE                               | 01 1,44 -00 1,99 -00 0,00 -00 0,00 -00 0,00 -00 0,00 -04 1,37 CATE  | E-01 (E+00 (E+00 (GORI   | B6  | E+00 1, E+00 0, E+00 0, E+00 1, A AS   | C2 - 87E-01 - 76E+00 00E+00 00E+00 32E-04 SA AB   | 2,31E-1 - 2,76E-1 0,00E- 0,00E- 2,74E- LOY   | +00 2<br>+00 0<br>+00 0<br>+00 0<br>-01 2<br>Solid | C4 2,72E-01 - 4E+00 - 0,00E+00 0,00E+00 0,00E+00 C1,14E-02 d Chip | -6,84E+019,01E+02 -9,00E+00 0,00E+00 -1,52E-01 |
| PEN PEN PEN PEN SI RS NR FI RESU Core       | RE R                                 | Rene resource Total u  Non-rene Total prim Use Use of re Use of re  Use OF The                      | wable printer energy rewable printer energy energy ewable printer energy e | mary ene carrier rimary er taterial util ewable pesources rimary er carrier rimary er carrier rimary er carrier rimary er utilization on-renev gy resou dary mat er second wable se els fresh war arameter s waste d   | nergy ilization primary inergy as nergy  | Unit  [MJ]  | 1,25E 0,00E 1,25E 7,44E 0,00E 7,44E 0,00E 0,00E 1,57I VS AND                | =+02<br>=+00<br>=+02<br>=+02<br>=+00<br>=+02<br>=+00<br>=+00                                 | 1,88E- 1,88E- 4,78E+ 0,00E+ 0,00E+ 1,33E- ASTE  I - A3 3E-02 1                                      | 01 1,44 -00 1,99 -00 0,00 -00 0,00 -00 0,00 -01 1,37  CATE(  A4 ,09E-05   | E-02 (CE-03 (CE- | B()   | E+00 1, E+00 0, E+00 0, E+00 1, AS: B6, ,00E+00  | C2 87E-01 76E+00 00E+00 00E+00 32E-04 SA AB C2 0 1,08E-0  | 2,31E-1 - 2,76E-1 0,00E-1 0,00E-1 2,74E-1 LOY  | +00 2 2 +00 0 0 +00 0 0 0 0 0 0 0 0 0 0            | C4  |  |
| PEN PEN PEN RS RESUCCOre Param              | RE RE RE RT RT IRE IRM IRT W SF SF W V V V V V V V V V V V V V V V V V V | Rene resource Total un Non-rene rene rene rene rene rene rene ren                                   | vable prir energy ewable p es as ma se of ren energy re ewable p energy ewable p energy ewable p material u use of n ary ener of secon enewable enon-renev fue se of net ele LCA oor Se Pa   | mary ene carrier rimary er carrier rimary er executive ewable pesources rimary er carrier rimary er carrier rimary er carrier on-renew gy resou dary mate executive ex | nergy illization primary inergy as nergy as nerg  | Unit  [MJ]  | 7,44E 0,00E 7,44E 0,00E 7,44E 0,00E 7,44E 0,00E 1,57I Unit [kg]             | E+02 E+00 E+00 E+02 E+00 E+02 E+00 E+02 E+00 E-01 E-01 5,24                                  | 1,88E-  1,88E-  4,78E+  0,00E+  0,00E+  1,33E-  ASTE  I - A3  3E-02 1  4E-01 6                      | -00 1,99<br>-00 0,00<br>-00 0,00  | E-02 (E-02 (E-02 (E-03 ( | B0  | E+00 1, E+00 0, E+00 0, E+00 1, A AS B6 ,00E+00, 0,00E+00  | C2 87E-01 76E+00 00E+00 00E+00 32E-04 SA AB C2 1,08E-(- 1,08E-(- 5,99E-(  | 2,31E-1 2,76E-1 0,00E-1 0,00E- | +01   +00   0   +00   0   +00   0                  | C4  | D  |
| PEN PEN PEN PEN SI RS NR FN RESU Core Param | RE R                                 | Rene resource Total u Non-rene Total prim Use Use of re Use of re Use of re Annual Community Non Re | wable printerest energy rewable present a control of the control o | mary ene carrier rimary er taterial util tewable pesources rimary er carrier rimary er carrier rimary er carrier rimary er utilization on-renew gy resou dary mat e second wable se els fresh war arameter s waste dous waste e waste de e waste de carrier rimary er ca | nergy ilization primary inergy as nergy  | Unit  [MJ]  | 1,25E 0,00E 1,25E 7,44E 0,00E 7,44E 6,28I 0,00E 1,57I VS AND Unit [kg] [kg] | E+02 E+00 E+02 E+02 E+00 E+02 E+00 E+00  | 1,88E- 1,88E- 4,78E+ 0,00E+ 0,00E+ 1,33E- ASTE 1-A3 3E-02 1 4E-01 6 7E-02 6                         | 01 1,44 -00 1,99 -00 0,00 -00 | E-02 (CE-03 (CE- | B0  | E+00 1, E+00 0, E+00 0, E+00 1, A AS B6 ,00E+00 ,00E+00 ,00E+00  | C2 - 87E-01 76E+00 00E+00 | 2,31E-1 2,76E-1 - 0,00E- 0,00E- 0,00E- 2,74E- 2,74E- 1,500 06 1,72 00 0,00   | +00 2 2 +00 0 0 +00 0 0 0 0 0 0 0 0 0 0            | C4  | D  |
| PEN PEN PEN SI RSS NR F\ Core Param         | RE R                                 | Rene resource Total u Non-rene Total prim Use Use of re Use of re Use of re Annual Community Non Re | wable pringer energy wable present a control of the | mary ene carrier rimary er taterial util tewable pesources rimary er carrier rimary er carrier rimary er carrier rimary er utilization on-renew gy resou dary mat e second wable se els fresh war arameter s waste dous waste e waste de e waste de carrier rimary er ca | nergy ilization primary inergy as nergy  | Unit  [MJ]  | A1 -   1,25E     0,00E     1,25E  | E+02 E+00 E+03 E+02 E+00 E+03 E+02 E+00 E+02 E+00 E+00 E-01 A1 3,73 5,24 1,47 0,000 0,000    | 1,88E- 1,88E- 4,78E+ 0,00E+ 0,00E+ 1,33E- ASTE 1-A3 3E-02 1 4E-01 6 0E+00 0 0E+00 0                 | 01 1,44  01 1,44  00 1,99  00 0,00  00 0,00  00 1,37  CATE  A4  09E-05  0,01E-04  0,26E-06  0,00E+00  0,00E+00  | A5   | 0,00E                           | E+00 1, E+00 0, E+00 0, E+00 1, 1 AS: B6, 00E+00, 00E+00, 00E+00, 00E+00, 00E+00,  | C2 - 87E-01 76E+00 00E+00 00E+00 00E+00 32E-04 SA AB C2 01,08E-0 05,99E-0 06,24E-0 0,00E+   | 2,31E-1 - 2,76E-1 - 0,00E-1 0,00E-1 0,00E-1 2,74E-1 LOY 05 1,94 04 1,50 06 1,72 00 0,00 00 6,52  | +00 2 2 +00 0 0 +00 0 0 0 0 0 0 0 0 0 0            | C4  | D  |
| PEN PEN PEN SI RESUCTION HWW                | RE R                                 | Rene resource Total u  Non-rene Total prim Use Use of re Use of re  Non-Ra                          | wable pringer energy wable present a control of the | mary ene carrier rimary er car | nergy ilization primary inergy as nergy  | Unit  [MJ]  FLOW  | A1 -   1,25E     0,00E     1,25E  | E+02 E+00 E+02 E+00 E+02 E+00 E+00 E+00  | 1,88E- 1,88E- 4,78E+ 0,00E+ 0,00E+ 1,33E- ASTE 1-A3 3E-02 1 4E-01 6 7E-02 6 0E+00 0 0E+00 0 0E+00 0 | 01 1,44  01 1,44  00 1,99  00 0,00  00 0,00  00 1,37  CATE(  A4  ,09E-05  ,01E-04  ,26E-06  ,00E+00  ,00E+00  | A5   | B()   | E+00 1, E+00 0, E+00 0, E+00 1, AS: B6, OOE+00, OOE+00 | C2 87E-01 76E+00 00E+00 00E+0    | 2,31E-1 2,31E-1 2,76E-1 0,00E- 0,00E- 0,00E- 2,74E- LOY (05 1,94 04 1,50 06 1,72 00 0,00 00 6,52 00 0,00   | +00 2 2 +00 0 0 +00 0 0 0 0 0 0 0 0 0 0            | C4  | D  |



EET Exported thermal energy [MJ] 0,00E+00 0,00E+00 2,19E+00 0,00E+00 0,00E+00 3,47E+02 4,60E+01 3,37E+01



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