

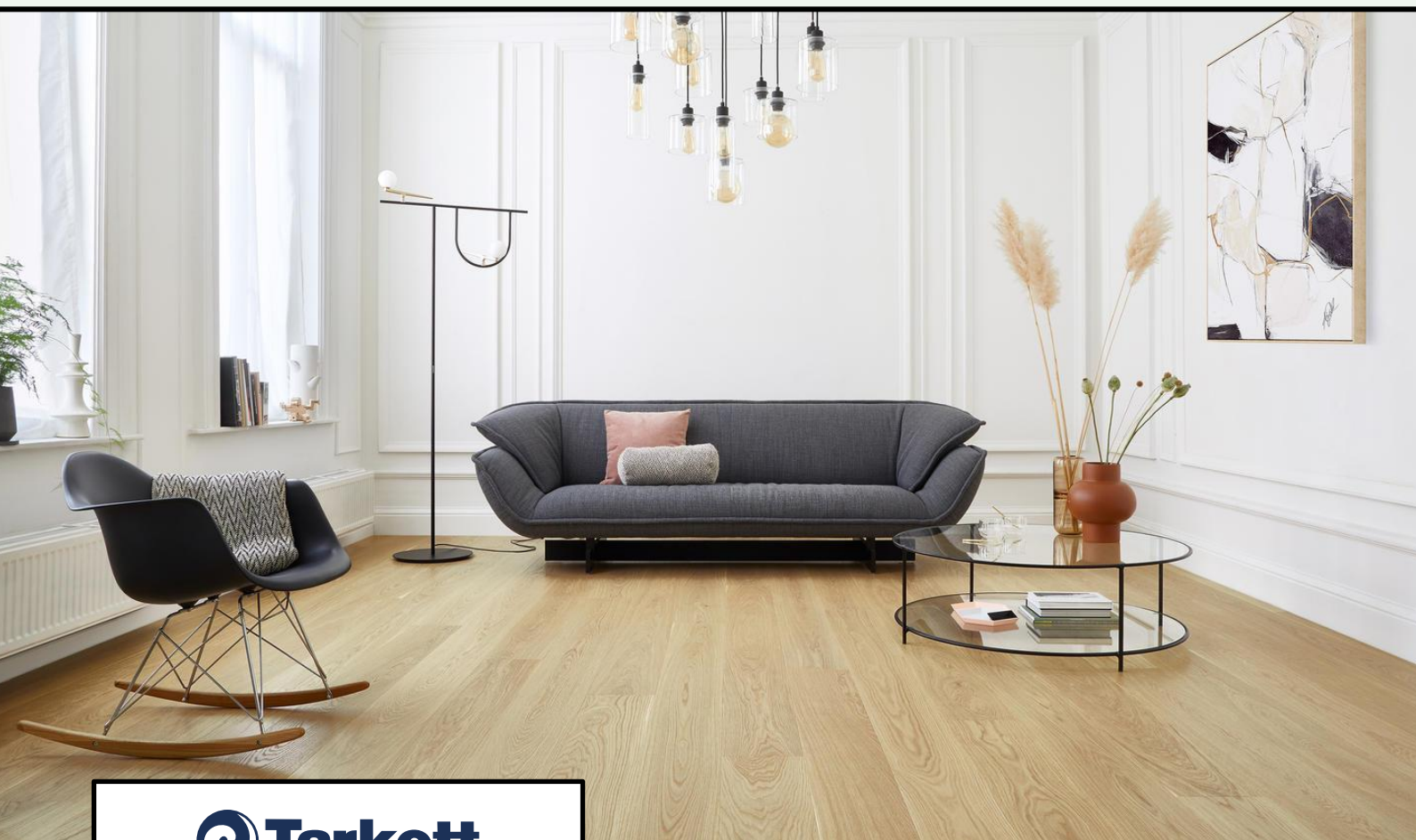
Environmental Product Declaration



In accordance with ISO 14025 and EN 15804+A1 and EN 16485 for:

Wood flooring - TARKETT

| | |
|--------------------------|---|
| Programme: | The International EPD® System www.environdec.com |
| Programme operator: | EPD International AB |
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| Geographical scope: | Europe |



 **Tarkett**

General information

Information about the organization

Owner of the EPD: Tarkett France. Gabrielle PERIER, +33 (0)141 204 048, gabrielle.perier@tarkett.com, Tarkett La Défense, 1 Terrasse Bellini 92400 Paris

Description of the organisation: ISO 9001, ISO 14001, ISO 50001, WCM manufacturing site

Name and location of production sites: Hanaskog (Sweden), Orzechowo (Poland)

About the company

With an international coverage and a wide range of products, Tarkett has over 130 years of experience in providing integrated solutions for floorings to professionals and end users.

Many of the most important architectural firms in the world and building professionals have chosen Tarkett for the value of its products and for its consultation and service abilities. Therefore, Tarkett floorings and sport surfaces are present in several prestigious architectural reference points. Tarkett offers integrated solutions for floorings, able to meet the particular needs of customers. Our wide range of designs, colors and models provides an infinite series of possibilities, contributing to create a positive environment and a better quality of life for people.

Tarkett operates with the utmost respect for the environment towards the realization of eco-friendly products.

Tarkett's commitment to the environment is woven throughout its business. Cradle-to-Cradle principles are, in fact, the basis of the design and production of every solution. Particularly, the lifecycle analysis is used to continuously improve the production process, and so the products until their use stage, disposal and recycling. The commitment to the environment is also proven by the accession to the Circular Economy 100 program, where Tarkett group, with a network of companies, is working to develop a circular economy model based on the reuse of materials and preservation of natural resources. The development of products that can be reused within internal production cycles, or external ones in case of other individuals, has been an integral part of the business strategy aimed at sustainability for many years. The WCM (World Class Manufacturing) management system has been developed in 2009, and it includes the environmental pillar aimed to the elimination of losses and to the growth of process efficiency.

Product information

Products name: Elegance, Heritage, Noble, Play, Prestige, Professional (13 mm), Professional (14 mm), Professional (22 mm), Professional Plus, Pure, Shade, Vintage

Product identification: Wood floor coverings (EN 13489:2017)

Product description: Wood collection is a flooring developed by Tarkett. Engineered from multiple layers of hardwood for increased stability, each floor is easy to install and designed for long-lasting resistance. More than 60% of the wood is FSC or PEFC certified. After years of use, these floors can be removed and reused or recycled.

The service lifetime recommended by Tarkett is 50 years when well maintained in domestic application.

The following figure shows an example of Wood flooring:



Wood flooring

UN CPC code: APE/NAF – 1622Z

Geographical scope: Europe

Range of application

The products are to be installed in various areas of application, such as: domestic and commercial use.

LCA information

Functional unit / declared unit:

1m² of floor covering with a reference service life (RSL) of 1 year for specified characteristics application and use areas according to EN 13489:2017 and EN 14342:2013.

Reference service life:

1 year

Time representativeness:

2019

Database(s) and LCA software used:

SimaPro 8.5 database Ecoinvent 3.4

Description of system boundaries:

Cradle to grave



System boundaries

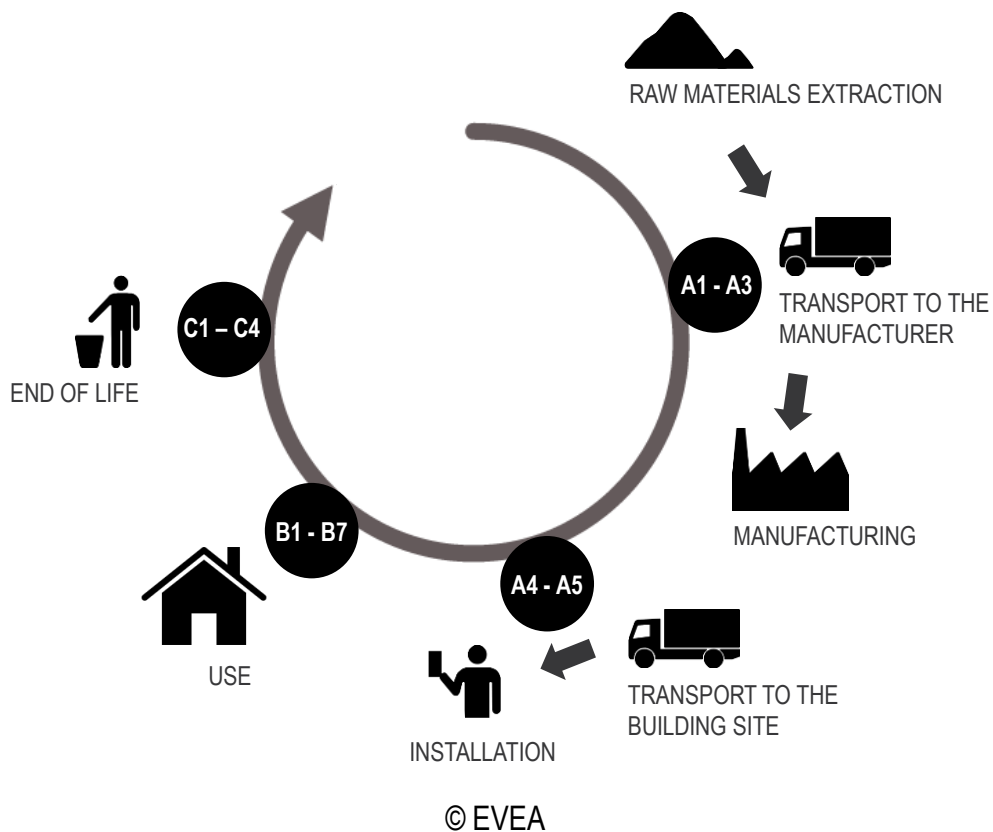
The system boundary is based on the EN 15804 description.

Production stage : A1 – A3: includes the provision of all raw materials, transport to the production site and energy consumption during the manufacturing of the product, packaging of final product, the different air emissions, as well as processing of waste generated by the factory.

Construction stage: A4 – A5: includes the transport from the factory to the final customer, the installation of the product, as well as all consumables and energy required and processing of waste generated during the installation.

Use stage B1 – B7: includes provision and transport of all materials, products and services related to the use phase of the product, as well as their related energy and water consumption, and the processing of any resulting waste.

End of life stage C1 – C4: includes provision and transport of all materials, products and services related to the end of life phase of the product, including energy and water consumption, as well as the end of life processing of the product.



Included/excluded life stages

| | Production Stage | | | | | Constructi on Process Stage | Use Stage | | | | | | | End-of-Life Stage | | | | Benefits and loads beyond system boundary |
|----------------|---|---------------------------|---------------|----------------------------|----------------------------|--------------------------------------|-------------|--------|-------------|---------------|------------------------|-----------------------|-----------------------------|-------------------|---|----------|--|---|
| | Raw material supply (extraction, processing, recycled material) | Transport to manufacturer | Manufacturing | Transport to building site | Installation into building | Use / application | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | Deconstruction / demolition | Transport to EoL | Waste processing for reuse, recovery or recycling | Disposal | Reuse – Recovery – Recycling Potential | |
| Modules | A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D | |
| Accounted for: | X | X | X | X | X | MND | X | MND | MND | MND | MND | MND | X | X | X | X | MND | |

X Module included in the study
MND : Module not declared

Use stage: Floor coverings do not contribute to modules B1 and B3 to B7, because they are not relevant during the service life of floor coverings, and are therefore not declared.

Cut-off criteria

The cut-off criteria shall be 1% of renewable and non-renewable primary energy usage and 1% of the total mass of that unit process. The total neglected input flows per module shall be a maximum of 5% of energy usage and mass.

For this study, all input and output flows have been considered at 100%, including raw materials as per the product composition provided by the manufacturer and packaging of raw materials as well as the final product.

LCA data

As a general rule, specific data derived from specific production processes or average data derived from specific production processes have been used as the first choice as a basis for calculating an EPD. To model the life cycle of the product in question, the software SimaPro 8.5, developed by PRé, has been used in conjunction with the LCA database ecoinvent v3.4.

Data quality

The objective of this evaluation is to evaluate the environmental impacts generated by the product floor covering Wood products throughout its entire life cycle. To this end, ISO 14040:2006, ISO 14044:2014 and EN 15804:2014 have been met regarding the quality of data on different following criteria:

The time factor, the life cycle inventory data used come from:

- Data collected specifically for this study on Tarkett sites. Data sets are based on 1 year averaged data.

- In the absence of collected data, generic data from the ecoinvent V3.4 cut-off by classification database. This is regularly updated and is representative of current processes

Technological Coverage

- Tarkett technologies used for the manufacture methods of the product.
- European technology in the case of use of generic data.

Geographical Coverage

- Data come from production sites of Tarkett
- The generic data come from the ecoinvent database, representative of the European processes.

Allocation

The overall values for the factory's material and energy consumptions during a period of one year have been divided by the annual production of each product to supply a value per square meter of flooring produced. All factory data are measured in square meters, and it is assumed that the process consumptions are governed by area of flooring processed rather than mass.

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.

Content declaration

Product

| Products – EPD name | Products – Commercial name | Thickness (mm) | Mass (kg/m ²) | Factories city |
|---------------------|----------------------------|----------------|---------------------------|--------------------|
| HSG Ash 13 mm | Shade | 1.30E+01 | 7.30E+00 | Hanaskog (Sweden) |
| HSG Oak 13 mm | Professional, Pure, Shade | 1.30E+01 | 7.30E+00 | |
| HSG Ash 14 mm | Pure, Shade | 1.40E+01 | 7.90E+00 | |
| HSG Beech 14 mm | Pure | 1.40E+01 | 7.90E+00 | |
| HSG Birch 14 mm | Pure | 1.40E+01 | 7.60E+00 | |
| HSG Oak 14 mm | Professional, Pure, Shade | 1.40E+01 | 7.90E+00 | |
| HSG Maple 14 mm | Pure | 1.40E+01 | 8.10E+00 | |
| HSG Walnut 14 mm | Pure | 1.40E+01 | 7.90E+00 | |
| HSG Ash 22 mm | Professional | 2.20E+01 | 1.14E+01 | |
| HSG Beech 22 mm | Professional | 2.20E+01 | 1.14E+01 | |
| HSG Oak 22 mm | Professional | 2.20E+01 | 1.14E+01 | |
| ORZ Oak 10 mm | Professional Plus | 1.00E+01 | 6.00E+00 | Orzechowo (Poland) |
| ORZ Ash 13 mm | Play | 1.30E+01 | 7.30E+00 | |
| ORZ Oak 13 mm | Pure, Shade | 1.30E+01 | 7.30E+00 | |
| ORZ Ash 14 mm | Prestige, Shade | 1.40E+01 | 7.90E+00 | |

| | | | |
|------------------|--|----------|----------|
| ORZ Oak 14 mm | Heritage, Play, Prestige, Pure, Shade, Vintage | 1.40E+01 | 7.90E+00 |
| ORZ Oak AM 14 mm | Shade | 1.40E+01 | 8.20E+00 |
| ORZ Oak 16 mm | Noble | 1.60E+01 | 9.00E+00 |
| ORZ Oak 22 mm | Elegance | 2.20E+01 | 1.30E+01 |

Products with the HSG name come from Hanaskog plant (HSG) and products with ORZ name come from Orzechowo plant (ORZ).

EPD Products are already representative products of different widths of commercial collections: HSG Oak 13 is a product representative of the Professional (13 mm), Pure (13 mm), Shade (13 mm) entire collections with Oak wood as wear layer.

According to PCR 2012-01 v2.3, several similar products can be included in the same EPD if "differences between the mandatory impact indicators lower than $\pm 10\%$ (concerning A1-A3) could be presented using the impacts of a representative product". The next table presents how products are grouped:

| Products | Representative average product | Category Identification |
|------------------|--|-------------------------|
| HSG Ash 13 mm | Total thickness between 13 and 14 mm from HSG plant | A |
| HSG Oak 13 mm | | |
| HSG Ash 14 mm | | |
| HSG Beech 14 mm | | |
| HSG Birch 14 mm | | |
| HSG Oak 14 mm | | |
| HSG Maple 14 mm | Total thickness of 14 mm with Walnut and Maple wood from HSG plant | B |
| HSG Walnut 14 mm | | |
| HSG Ash 22 mm | Total thickness of 22 mm from HSG plant | C |
| HSG Beech 22 mm | | |
| HSG Oak 22 mm | | |
| ORZ Oak 10 mm | Total thickness of 10 mm from ORZ plant | D |
| ORZ Ash 13 mm | Total thickness of 13 mm with Ash wood from ORZ plant | E |
| ORZ Oak 13 mm | Total thickness of 13 mm with Oak wood from ORZ plant | F |
| ORZ Ash 14 mm | Total thickness of 14 mm with Ash wood from ORZ plant | G |
| ORZ Oak 14 mm | Total thickness of 14 mm with Oak wood from ORZ plant | H |
| ORZ Oak AM 14 mm | Total thickness of 14 mm with Oak AM wood from ORZ plant | I |
| ORZ Oak 16 mm | Total thickness of 16 mm from ORZ plant | J |
| ORZ Oak 22 mm | Total thickness of 22 mm from ORZ plant | K |

| Characteristics | Product Weight [kg/m ²] | Emission of formaldehyde | Reaction to fire | Dimension stability | Thermal conductivity |
|--|-------------------------------------|--------------------------|-----------------------------|---------------------|-------------------------------|
| Total thickness between 13 and 14 mm from HSG plant | 7.66E+00 | E1 (EN 14342) | Dfl-s1 (EN 14342 – Table 1) | 0.2 % (EN 13329) | ≤ 0.15 (EN ISO 10456:2007) |
| Total thickness of 14 mm with Walnut and Maple wood from HSG plant | 7.97E+00 | | | | |
| Total thickness of 22 mm from HSG plant | 1.14E+01 | | | | |
| Total thickness of 10 mm from ORZ plant | 6.00E+00 | | | | |
| Total thickness of 13 mm with Ash wood from ORZ plant | 7.30E+00 | | | | |
| Total thickness of 13 mm with Oak wood from ORZ plant | 7.30E+00 | | | | |
| Total thickness of 14 mm with Ash wood from ORZ plant | 7.90E+00 | | | | |
| Total thickness of 14 mm with Oak wood from ORZ plant | 7.90E+00 | | | | |
| Total thickness of 14 mm with Oak AM wood from ORZ plant | 8.20E+00 | | | | |
| Total thickness of 16 mm from ORZ plant | 9.00E+00 | | | | |
| Total thickness of 22 mm from ORZ plant | 1.30E+01 | | | | |

Chemical composition for all representative products are presented in the following table:

| Representative products | Chemical substances for each representative product | | | | | |
|--|---|------------------------------|-------------|-------|-------|-------------------|
| | Wood layer | Adhesive – Urea formaldehyde | Glue thread | Putty | PP | Surface treatment |
| Total thickness between 13 and 14 mm from HSG plant | 94% | 4% | <0.1% | <0.5% | <0.1% | 1% |
| Total thickness of 14 mm with Walnut and Maple wood from HSG plant | 93% | 4% | <0.1% | <0.5% | <0.1% | 1% |
| Total thickness of 22 mm from HSG plant | 99% | 3% | <0.1% | <0.5% | 0% | 1% |
| Total thickness of 10 mm from ORZ plant | 94% | 7% | <0.1% | <0.5% | 0% | 2% |
| Total thickness of 13 mm with Ash wood from ORZ plant | 93% | 6% | <0.1% | <0.5% | <0.5% | 2% |

| | | | | | | |
|--|-----|----|-------|-------|-------|-------|
| Total thickness of 13 mm with Oak wood from ORZ plant | 93% | 6% | <0.1% | <0.5% | <0.5% | 2% |
| Total thickness of 14 mm with Ash wood from ORZ plant | 95% | 6% | <0.1% | <0.5% | <0.1% | 1% |
| Total thickness of 14 mm with Oak wood from ORZ plant | 95% | 6% | <0.1% | <0.5% | <0.1% | 1% |
| Total thickness of 14 mm with Oak AM wood from ORZ plant | 95% | 6% | <0.1% | <0.5% | <0.1% | 1% |
| Total thickness of 16 mm from ORZ plant | 95% | 6% | <0.1% | <0.1% | <0.1% | 1% |
| Total thickness of 22 mm from ORZ plant | 92% | 3% | <0.1% | <0.5% | 0% | <0.5% |
| Substance concerned with REACH | / | / | / | / | / | / |

Product manufacturing

Production process

The production of the wood flooring is divided into the following stages:

- Wood layer production: Wear layers are produced from hardwood timber and the rib-core for the middle layer is produced from softwood timber. In Viva-range the middle layer is HDF.
- Pressing: Different wood layers are pressed into the multilayer wood flooring.
- Cutting: The planks are cut at the desired characteristics.
- Coating: The planks are coated to protect the wear layer against wear and tear.
- Profiling: Milling the profile for the locking system and, for 2-lock system, assembling the plastic spring.
- Packaging: The final product is bundled with plastic strip, wrapped with cardboard banderols and covered with shrink foil. Paper inlays are included. The boxes are placed on wooden spacers or wooden pallets.

Production waste

| Waste type | HSG plant | ORZ plant | Unit |
|---|-----------|-----------|-------------------|
| Non-hazardous waste to external incineration | 1.57E-02 | 1.81E+00 | kg/m ² |
| Hazardous waste to external incineration | 7.14E-03 | 0 | kg/m ² |
| Non hazardous waste to external recycling | 1.23E+00 | 2.43E-02 | kg/m ² |
| Hazardous waste to external recycling | 1.32E-04 | 0 | kg/m ² |
| Non hazardous waste-water to external treatment | 0 | 1.14E-02 | kg/m ² |
| Hazardous waste-water to external treatment | 0 | 1.14E-02 | kg/m ² |

Health, safety and environmental aspects during production

Wood production sites comply with the ISO 14001 Environmental Management System, the ISO 9001 Quality Management System and the OHSAS 18001 Health and Safety Management, and the the ISO 5001 Energy Management System for Orzechowo only.

Packaging

The packaging depends on the thicknesses and the plants of products.

| Type | Total thickness between 13 and 14 mm from HSG plant | Total thickness of 14 mm with Walnut and Maple wood from HSG plant | Total thickness of 22 mm from HSG plant | Unit |
|-----------------------------|---|--|---|------------------------------|
| Product Packaging PELD | | 2.62E-02 | 3.70E-02 | kg/m ² of product |
| Product Packaging Cardboard | | 5.62E-02 | 6.90E-02 | kg/m ² of product |
| Product Packaging Wood | | 7.94E-02 | 9.13E-02 | kg/m ² of product |
| Product Packaging PE | | 3.20E-03 | 3.20E-03 | kg/m ² of product |
| Product Packaging Paper | | 2.80E-03 | 2.80E-03 | kg/m ² of product |
| Product Packaging Sticker | | 2.30E-03 | 2.30E-03 | kg/m ² of product |

| Type | Products with 10 mm total thickness from ORZ plant | Total thickness of 14 mm with Ash wood from ORZ plant | Total thickness of 14 mm with Oak wood from ORZ plant | Total thickness of 14 mm with Oak AM wood from ORZ plant | Unit |
|-----------------------------|--|---|---|--|------------------------------|
| Product Packaging PELD | 2.20E-02 | | 3.20E-02 | | kg/m ² of product |
| Product Packaging Cardboard | 7.75E-02 | | 7.75E-02 | | kg/m ² of product |
| Product Packaging Wood | 9.60E-02 | | 9.60E-02 | | kg/m ² of product |
| Product Packaging PE | 4.10E-03 | | 4.10E-03 | | kg/m ² of product |
| Product Packaging Paper | 2.20E-02 | | 2.20E-03 | | kg/m ² of product |
| Product Packaging Sticker | 2.90E-03 | | 2.90E-03 | | kg/m ² of product |

| Type | Total thickness of 13 mm with Ash wood from ORZ plant | Total thickness of 13 mm with Oak wood from ORZ plant | Total thickness of 16 mm from ORZ plant | Total thickness of 22 mm from ORZ plant | Unit |
|-----------------------------|---|---|---|---|------------------------------|
| Product Packaging PELD | 3.30E-02 | | 2.50E-02 | 3.00E-02 | kg/m ² of product |
| Product Packaging Cardboard | 7.75E-02 | | 7.75E-02 | 7.75E-02 | kg/m ² of product |
| Product Packaging Wood | 1.92E-01 | | 9.60E-02 | 1.86E-01 | kg/m ² of product |
| Product Packaging PE | 4.10E-03 | | 4.10E-03 | 4.10E-03 | kg/m ² of product |
| Product Packaging Paper | 2.20E-03 | | 2.20E-03 | 2.20E-03 | kg/m ² of product |
| Product Packaging Sticker | 2.90E-03 | | 2.90E-03 | 2.90E-03 | kg/m ² of product |

It is assumed that all products are stocked in Hanaskog, and all deliveries to customer are from Hanaskog. The distance between the two factories is about 900 km, by truck.

Delivery and installation

Delivery

The average distribution distance between the factory and the installation site is 614 km. It has been calculated considering the average distance between European countries where Tarkett is selling the Wood products and the factory plant in Hanaskog (Sweden). The distribution is made by truck.

Installation

The product is designed for floating installation on a subfloor, thus the flooring products are locked together, and no glue is needed for the installation. Electricity consumption is considered for the plank cutting.

| Description | Amount | Unit |
|-------------------------|----------|--------------------|
| Electricity consumption | 2.00E-02 | kWh/m ² |

Waste

During the installation approximately 5% of the flooring is lost as off-cuts. These flooring losses are sent incineration with energy recovery.

Packaging

The wooden pallet, 82 % of the paper packaging materials and 46 % of the plastic packaging materials go to recycling, the rest goes to incineration with energy recovery.

Use Stage

Reference Service Life (RSL)

For this product, the stated RSL is 1 year. It should be noted, however, that the service life of a Wood floor covering may vary depending on the amount and nature of floor traffic and the type and frequency of maintenance. The manufacturer has provided this service life on the basis of his experience of flooring manufacture and supply. This RSL is applicable as long as the product use complies with that defined by EN 13489:2017 and EN 14342:2013. The service lifetime recommended by Tarkett is 50 years for domestic use, well maintained and sanded.

Cleaning and maintenance

For domestic use, cleaning the installed wooden floor includes, vacuuming or cleaning with a dry mop. In addition moist cleaning with microfibre cloth and gentle detergents is done when needed to remove dirt and stains. Refresher for wooden floors is used to protect and strengthen the floor surface. Sanding is necessary twice during the service lifetime recommended by Tarkett.¹

The maintenance scenario is :

¹ See your Tarkett certified installer to evaluate the overall condition of your floor and have the work done – [Parquet catalogue, 2017, p.95](#)

- **Common maintenance : 2 cleaning / week**
- **Periodic maintenance : 2 refresher / year**

| Description | Amount | Unit |
|-------------------------|----------|-------------------------|
| Electricity consumption | 2.50E-01 | kWh/year/m ² |
| Water consumption | 1.45E+00 | L/year/m ² |
| Detergent consumption | 2.65E-01 | L/year/m ² |

Prevention of structural damage

To avoid excessive wear, usage should be restricted to the stated areas of application as outlined by the manufacturer, when well maintained.

End of Life

The End of Life scenario for wood products is 100% incineration with energy recovery, as it is assumed that it is the most probable treatment for the product.

The transport between construction site and waste treatment facility is by truck, with an estimated distance of 100 km to incineration.

Data Validation

To validate data, a validity framework has been established. A specific average product has been determined for each category. These thirteen average products are formed by every element of LCI. Based on results on all environmental indicators, it has been shown that these average products are representative of, respectively, six, two, three, one, one, one, one, one, one, one, one, one and one products each. Because there is only one product in ten categories, impacts of their representative product are the same as the product itself. So, following figures do not show them. These are data from these average products which are presented in this EPD.

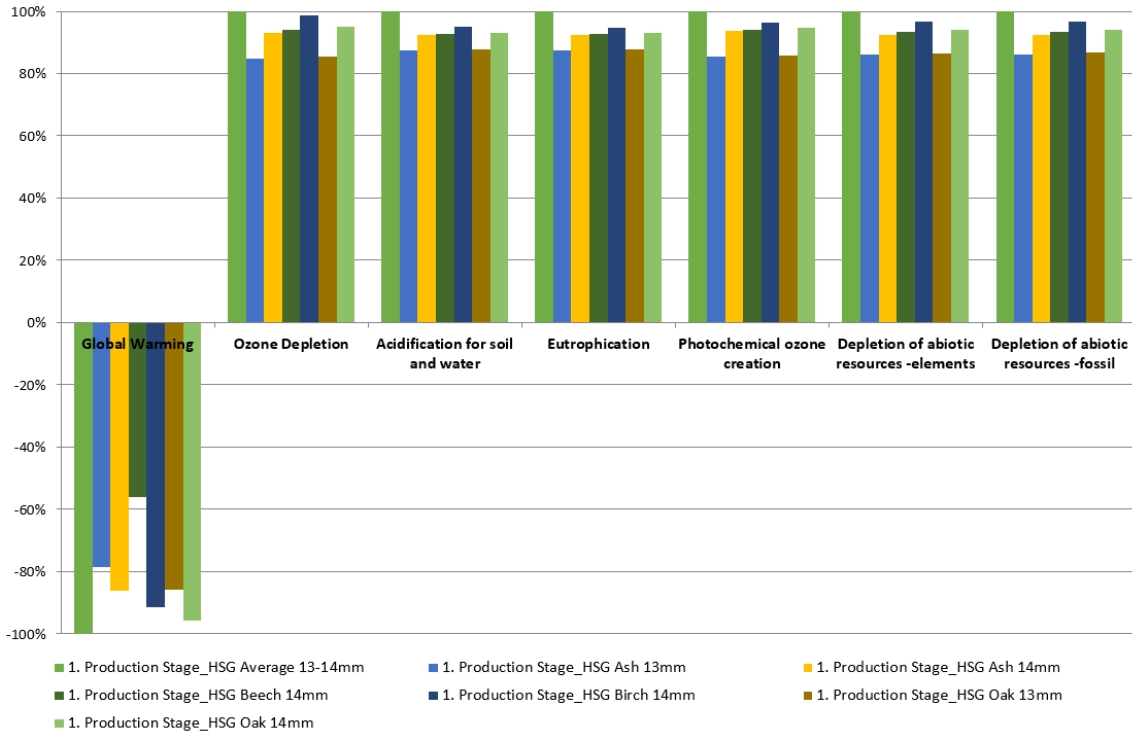


Figure 1: Comparison of product stage between products and their average one (Total thickness between 13 and 14 mm from HSG plant)

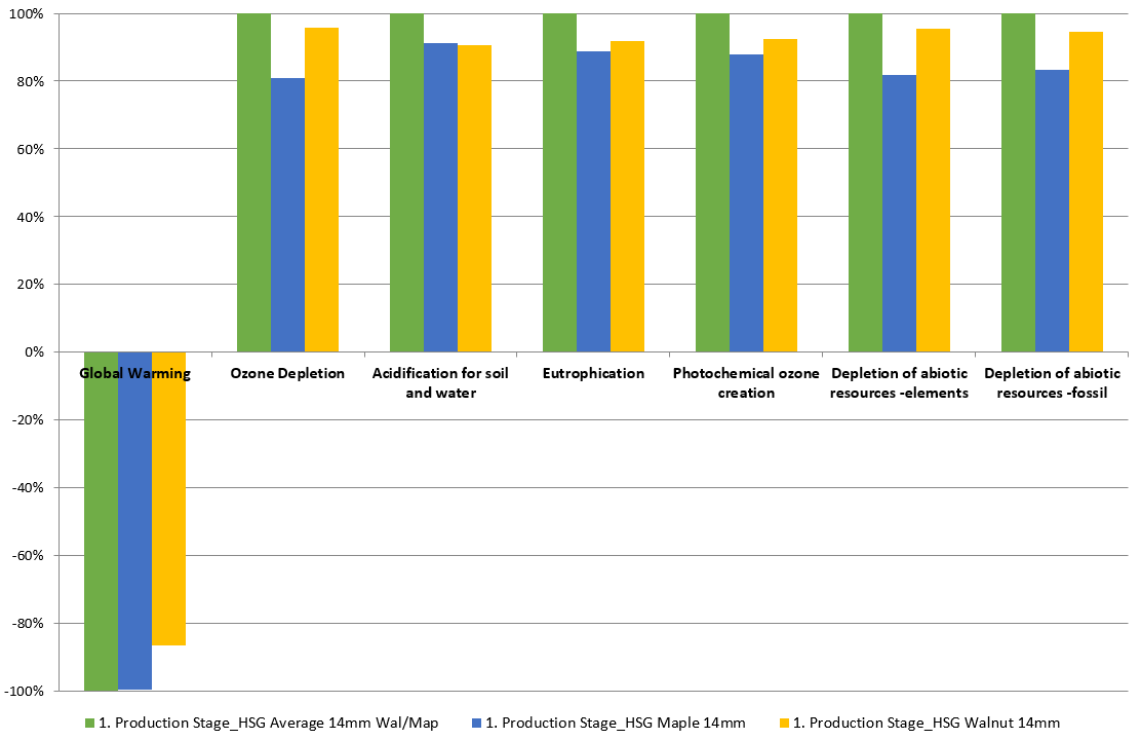


Figure 2: Comparison of product stage between products and their average one (Total thickness of 14 mm with Walnut and Maple wood from HSG plant)

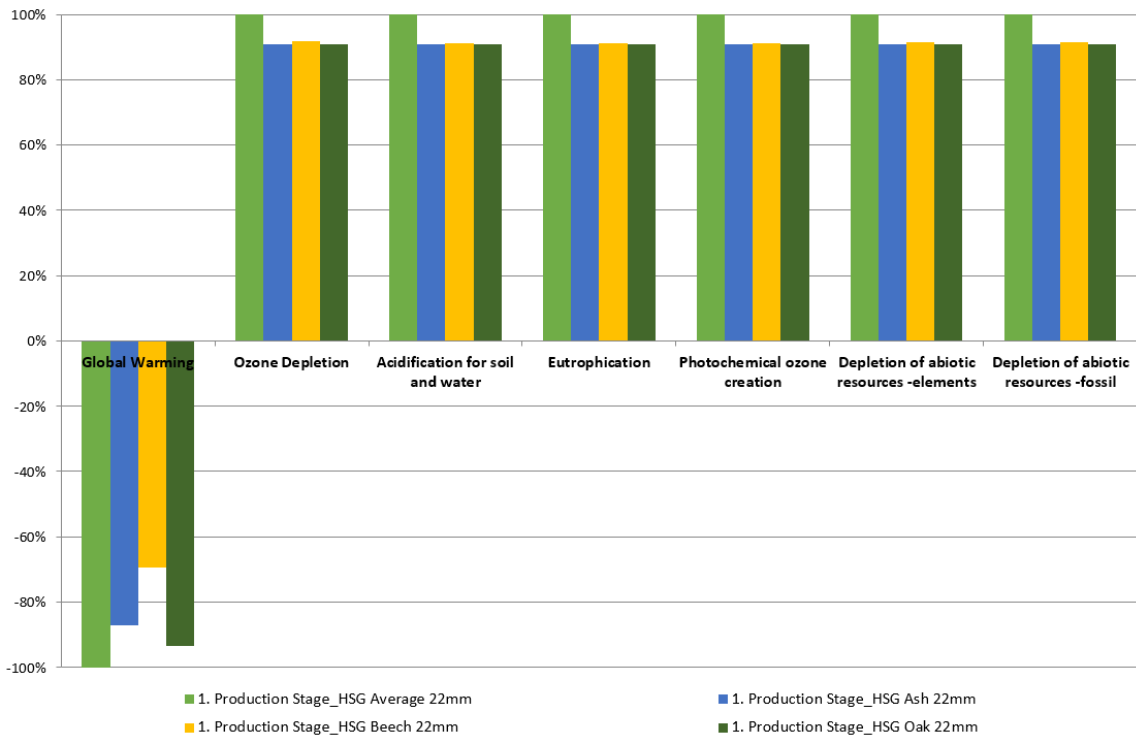


Figure 3: Comparison of product stage between products and their average one (Total thickness of 22 mm from HSG plant)

Environmental performance

Potential environmental impact

A – Total thickness between 13 and 14 mm from HSG plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|---|--------------|------------------|--------------------|--------------|-----------|-------------|--------|--------------|----------------|-------------------------|------------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | installation | Use | Maintenance | Repair | Replace ment | Refurbi shment | Operation al energy use | Operatio nal water use | De- construction | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Global Warming | kg CO2 eq | -7,49E+00 | 7,77E-01 | 3,26E-01 | MND | 8,23E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,25E-01 | 0,00E+00 | 1,21E+01 |
| Ozone Depletion | kg CFC-11 eq | 6,65E-07 | 1,45E-07 | 4,37E-08 | MND | 5,62E-08 | MND | MND | MND | MND | MND | 0,00E+00 | 2,32E-08 | 0,00E+00 | 7,75E-09 |
| Acidification of soil and water | kg SO2 eq. | 2,52E-02 | 2,46E-03 | 1,56E-03 | MND | 3,12E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 3,97E-04 | 0,00E+00 | 1,63E-03 |
| Eutrophication | kg PO4-- eq | 6,67E-03 | 5,52E-04 | 6,74E-04 | MND | 2,70E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 8,95E-05 | 0,00E+00 | 2,26E-03 |
| Photochemical ozone creation | kg ethylene | 3,73E-03 | 4,01E-04 | 2,42E-04 | MND | 5,25E-04 | MND | MND | MND | MND | MND | 0,00E+00 | 6,46E-05 | 0,00E+00 | 3,41E-04 |
| Depletion of abiotic resources - elements | kg antimony | 1,46E-05 | 2,43E-06 | 8,93E-07 | MND | 2,43E-06 | MND | MND | MND | MND | MND | 0,00E+00 | 3,88E-07 | 0,00E+00 | 1,47E-07 |
| Depletion of abiotic resources - fossil | MJ. net CV | 7,03E+01 | 1,17E+01 | 4,39E+00 | MND | 4,55E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,88E+00 | 0,00E+00 | 6,82E-01 |

MND: Module not declared



B – Total thickness of 14 mm with Walnut and Maple wood from HSG plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|---|--------------|------------------|--------------------|--------------|-----------|-------------|--------|--------------|----------------|-------------------------|------------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | installation | Use | Maintenance | Repair | Replace ment | Refurbi shment | Operation al energy use | Operatio nal water use | De- construction | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Global Warming | kg CO2 eq | -3,92E+00 | 8,08E-01 | 3,23E-01 | MND | 8,23E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,30E-01 | 0,00E+00 | 8,44E+00 |
| Ozone Depletion | kg CFC-11 eq | 6,39E-07 | 1,50E-07 | 4,28E-08 | MND | 5,62E-08 | MND | MND | MND | MND | MND | 0,00E+00 | 2,41E-08 | 0,00E+00 | 8,06E-09 |
| Acidification of soil and water | kg SO2 eq. | 2,92E-02 | 2,56E-03 | 1,77E-03 | MND | 3,12E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 4,14E-04 | 0,00E+00 | 1,70E-03 |
| Eutrophication | kg PO4-- eq | 6,99E-03 | 5,74E-04 | 6,95E-04 | MND | 2,70E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 9,32E-05 | 0,00E+00 | 2,35E-03 |
| Photochemical ozone creation | kg ethylene | 3,94E-03 | 4,17E-04 | 2,54E-04 | MND | 5,25E-04 | MND | MND | MND | MND | MND | 0,00E+00 | 6,73E-05 | 0,00E+00 | 3,55E-04 |
| Depletion of abiotic resources - elements | kg antimony | 1,36E-05 | 2,53E-06 | 8,50E-07 | MND | 2,43E-06 | MND | MND | MND | MND | MND | 0,00E+00 | 4,04E-07 | 0,00E+00 | 1,53E-07 |
| Depletion of abiotic resources - fossil | MJ. net CV | 6,84E+01 | 1,22E+01 | 4,33E+00 | MND | 4,55E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,96E+00 | 0,00E+00 | 7,10E-01 |

MND: Module not declared



C – Total thickness of 22 mm from HSG plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|---|--------------|------------------|--------------------|--------------|-----------|-------------|--------|--------------|----------------|-------------------------|------------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | installation | Use | Maintenance | Repair | Replace ment | Refurbi shment | Operation al energy use | Operatio nal water use | De- construction | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Global Warming | kg CO2 eq | -1,27E+01 | 1,15E+00 | 4,33E-01 | MND | 8,23E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,85E-01 | 0,00E+00 | 1,88E+01 |
| Ozone Depletion | kg CFC-11 eq | 8,57E-07 | 2,15E-07 | 5,78E-08 | MND | 5,62E-08 | MND | MND | MND | MND | MND | 0,00E+00 | 3,45E-08 | 0,00E+00 | 1,15E-08 |
| Acidification of soil and water | kg SO2 eq. | 3,17E-02 | 3,65E-03 | 2,00E-03 | MND | 3,12E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 5,92E-04 | 0,00E+00 | 2,43E-03 |
| Eutrophication | kg PO4-- eq | 8,53E-03 | 8,19E-04 | 8,83E-04 | MND | 2,70E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 1,33E-04 | 0,00E+00 | 3,36E-03 |
| Photochemical ozone creation | kg ethylene | 5,03E-03 | 5,94E-04 | 3,30E-04 | MND | 5,25E-04 | MND | MND | MND | MND | MND | 0,00E+00 | 9,61E-05 | 0,00E+00 | 5,08E-04 |
| Depletion of abiotic resources - elements | kg antimony | 1,83E-05 | 3,60E-06 | 1,15E-06 | MND | 2,43E-06 | MND | MND | MND | MND | MND | 0,00E+00 | 5,77E-07 | 0,00E+00 | 2,18E-07 |
| Depletion of abiotic resources - fossil | MJ. net CV | 9,00E+01 | 1,74E+01 | 5,74E+00 | MND | 4,55E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,79E+00 | 0,00E+00 | 1,02E+00 |

MND: Module not declared



D – Total thickness of 10 mm from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|---|--------------|------------------|--------------------|--------------|-----------|-------------|--------|--------------|----------------|-------------------------|------------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | installation | Use | Maintenance | Repair | Replace ment | Refurbi shment | Operatio nal energy use | Operatio nal water use | De- construction | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Global Warming | kg CO2 eq | 2,80E+00 | 6,16E-01 | 7,00E-01 | MND | 8,23E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 9,76E-02 | 0,00E+00 | 9,56E+00 |
| Ozone Depletion | kg CFC-11 eq | 9,37E-07 | 1,15E-07 | 5,56E-08 | MND | 5,62E-08 | MND | MND | MND | MND | MND | 0,00E+00 | 1,81E-08 | 0,00E+00 | 6,07E-09 |
| Acidification of soil and water | kg SO2 eq. | 6,54E-02 | 1,95E-03 | 3,53E-03 | MND | 3,12E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 3,11E-04 | 0,00E+00 | 1,28E-03 |
| Eutrophication | kg PO4-- eq | 2,95E-02 | 4,38E-04 | 1,81E-03 | MND | 2,70E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 7,01E-05 | 0,00E+00 | 1,77E-03 |
| Photochemical ozone creation | kg ethylene | 5,94E-03 | 3,18E-04 | 3,49E-04 | MND | 5,25E-04 | MND | MND | MND | MND | MND | 0,00E+00 | 5,06E-05 | 0,00E+00 | 2,67E-04 |
| Depletion of abiotic resources - elements | kg antimony | 2,08E-05 | 1,93E-06 | 1,17E-06 | MND | 2,43E-06 | MND | MND | MND | MND | MND | 0,00E+00 | 3,04E-07 | 0,00E+00 | 1,15E-07 |
| Depletion of abiotic resources - fossil | MJ. net CV | 1,52E+02 | 9,30E+00 | 8,37E+00 | MND | 4,55E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,47E+00 | 0,00E+00 | 5,34E-01 |

MND: Module not declared



E – Total thickness of 13 mm with Ash wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|---|--------------|------------------|--------------------|--------------|-----------|-------------|--------|--------------|----------------|-------------------------|------------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | installation | Use | Maintenance | Repair | Replace ment | Refurbi shment | Operation al energy use | Operatio nal water use | De- construction | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Global Warming | kg CO2 eq | 2,45E+00 | 7,56E-01 | 7,71E-01 | MND | 8,23E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,19E-01 | 0,00E+00 | 1,08E+01 |
| Ozone Depletion | kg CFC-11 eq | 1,10E-06 | 1,41E-07 | 6,56E-08 | MND | 5,62E-08 | MND | MND | MND | MND | MND | 0,00E+00 | 2,21E-08 | 0,00E+00 | 7,39E-09 |
| Acidification of soil and water | kg SO2 eq. | 6,88E-02 | 2,39E-03 | 3,75E-03 | MND | 3,12E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 3,79E-04 | 0,00E+00 | 1,55E-03 |
| Eutrophication | kg PO4-- eq | 3,04E-02 | 5,37E-04 | 1,91E-03 | MND | 2,70E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 8,53E-05 | 0,00E+00 | 2,15E-03 |
| Photochemical ozone creation | kg ethylene | 6,64E-03 | 3,90E-04 | 3,92E-04 | MND | 5,25E-04 | MND | MND | MND | MND | MND | 0,00E+00 | 6,16E-05 | 0,00E+00 | 3,25E-04 |
| Depletion of abiotic resources - elements | kg antimony | 2,35E-05 | 2,36E-06 | 1,34E-06 | MND | 2,43E-06 | MND | MND | MND | MND | MND | 0,00E+00 | 3,69E-07 | 0,00E+00 | 1,40E-07 |
| Depletion of abiotic resources - fossil | MJ. net CV | 1,67E+02 | 1,14E+01 | 9,27E+00 | MND | 4,55E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,79E+00 | 0,00E+00 | 6,50E-01 |

MND: Module not declared



F – Total thickness of 13 mm with Oak wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|---|--------------|------------------|--------------------|--------------|-----------|-------------|--------|--------------|----------------|-------------------------|------------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | installation | Use | Maintenance | Repair | Replace ment | Refurbi shment | Operatio nal energy use | Operatio nal water use | De- construction | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Global Warming | kg CO2 eq | 1,77E+00 | 7,56E-01 | 7,68E-01 | MND | 8,23E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,19E-01 | 0,00E+00 | 1,15E+01 |
| Ozone Depletion | kg CFC-11 eq | 1,08E-06 | 1,41E-07 | 6,50E-08 | MND | 5,62E-08 | MND | MND | MND | MND | MND | 0,00E+00 | 2,21E-08 | 0,00E+00 | 7,39E-09 |
| Acidification of soil and water | kg SO2 eq. | 6,86E-02 | 2,39E-03 | 3,74E-03 | MND | 3,12E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 3,79E-04 | 0,00E+00 | 1,55E-03 |
| Eutrophication | kg PO4-- eq | 3,03E-02 | 5,37E-04 | 1,90E-03 | MND | 2,70E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 8,53E-05 | 0,00E+00 | 2,15E-03 |
| Photochemical ozone creation | kg ethylene | 6,61E-03 | 3,90E-04 | 3,90E-04 | MND | 5,25E-04 | MND | MND | MND | MND | MND | 0,00E+00 | 6,16E-05 | 0,00E+00 | 3,25E-04 |
| Depletion of abiotic resources - elements | kg antimony | 2,33E-05 | 2,36E-06 | 1,33E-06 | MND | 2,43E-06 | MND | MND | MND | MND | MND | 0,00E+00 | 3,69E-07 | 0,00E+00 | 1,40E-07 |
| Depletion of abiotic resources - fossil | MJ. net CV | 1,66E+02 | 1,14E+01 | 9,22E+00 | MND | 4,55E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,79E+00 | 0,00E+00 | 6,50E-01 |

MND: Module not declared



G – Total thickness of 14 mm with Ash wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|---|--------------|------------------|--------------------|--------------|-----------|-------------|--------|--------------|----------------|-------------------------|------------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | installation | Use | Maintenance | Repair | Replace ment | Refurbi shment | Operation al energy use | Operatio nal water use | De- construction | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Global Warming | kg CO2 eq | 1,63E+00 | 8,06E-01 | 7,78E-01 | MND | 8,23E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,28E-01 | 0,00E+00 | 1,18E+01 |
| Ozone Depletion | kg CFC-11 eq | 1,15E-06 | 1,50E-07 | 6,87E-08 | MND | 5,62E-08 | MND | MND | MND | MND | MND | 0,00E+00 | 2,39E-08 | 0,00E+00 | 7,99E-09 |
| Acidification of soil and water | kg SO2 eq. | 6,93E-02 | 2,55E-03 | 3,78E-03 | MND | 3,12E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 4,10E-04 | 0,00E+00 | 1,68E-03 |
| Eutrophication | kg PO4-- eq | 3,05E-02 | 5,72E-04 | 1,92E-03 | MND | 2,70E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 9,23E-05 | 0,00E+00 | 2,33E-03 |
| Photochemical ozone creation | kg ethylene | 6,82E-03 | 4,15E-04 | 4,03E-04 | MND | 5,25E-04 | MND | MND | MND | MND | MND | 0,00E+00 | 6,66E-05 | 0,00E+00 | 3,52E-04 |
| Depletion of abiotic resources - elements | kg antimony | 2,43E-05 | 2,52E-06 | 1,39E-06 | MND | 2,43E-06 | MND | MND | MND | MND | MND | 0,00E+00 | 4,00E-07 | 0,00E+00 | 1,51E-07 |
| Depletion of abiotic resources - fossil | MJ. net CV | 1,69E+02 | 1,22E+01 | 9,35E+00 | MND | 4,55E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,94E+00 | 0,00E+00 | 7,03E-01 |

MND: Module not declared



H – Total thickness of 14 mm with Oak wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|---|--------------|------------------|--------------------|--------------|-----------|-------------|--------|--------------|----------------|-------------------------|------------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | installation | Use | Maintenance | Repair | Replace ment | Refurbi shment | Operatio nal energy use | Operatio nal water use | De- construction | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Global Warming | kg CO2 eq | 5,91E-01 | 8,06E-01 | 7,70E-01 | MND | 8,23E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,28E-01 | 0,00E+00 | 1,27E+01 |
| Ozone Depletion | kg CFC-11 eq | 1,12E-06 | 1,50E-07 | 6,71E-08 | MND | 5,62E-08 | MND | MND | MND | MND | MND | 0,00E+00 | 2,39E-08 | 0,00E+00 | 7,99E-09 |
| Acidification of soil and water | kg SO2 eq. | 6,87E-02 | 2,55E-03 | 3,75E-03 | MND | 3,12E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 4,10E-04 | 0,00E+00 | 1,68E-03 |
| Eutrophication | kg PO4-- eq | 3,04E-02 | 5,72E-04 | 1,91E-03 | MND | 2,70E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 9,23E-05 | 0,00E+00 | 2,33E-03 |
| Photochemical ozone creation | kg ethylene | 6,73E-03 | 4,15E-04 | 3,98E-04 | MND | 5,25E-04 | MND | MND | MND | MND | MND | 0,00E+00 | 6,66E-05 | 0,00E+00 | 3,52E-04 |
| Depletion of abiotic resources - elements | kg antimony | 2,38E-05 | 2,52E-06 | 1,36E-06 | MND | 2,43E-06 | MND | MND | MND | MND | MND | 0,00E+00 | 4,00E-07 | 0,00E+00 | 1,51E-07 |
| Depletion of abiotic resources - fossil | MJ. net CV | 1,66E+02 | 1,22E+01 | 9,22E+00 | MND | 4,55E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,94E+00 | 0,00E+00 | 7,03E-01 |

MND: Module not declared



I – Total thickness of 14 mm with Oak AM wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|---|--------------|------------------|--------------------|--------------|-----------|-------------|--------|--------------|----------------|-------------------------|------------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | installation | Use | Maintenance | Repair | Replace ment | Refurbi shment | Operation al energy use | Operatio nal water use | De- construction | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Global Warming | kg CO2 eq | 4,80E+00 | 8,35E-01 | 7,70E-01 | MND | 8,23E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,33E-01 | 0,00E+00 | 8,44E+00 |
| Ozone Depletion | kg CFC-11 eq | 1,08E-06 | 1,56E-07 | 6,53E-08 | MND | 5,62E-08 | MND | MND | MND | MND | MND | 0,00E+00 | 2,48E-08 | 0,00E+00 | 8,30E-09 |
| Acidification of soil and water | kg SO2 eq. | 7,41E-02 | 2,64E-03 | 4,03E-03 | MND | 3,12E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 4,25E-04 | 0,00E+00 | 1,74E-03 |
| Eutrophication | kg PO4-- eq | 3,09E-02 | 5,93E-04 | 1,94E-03 | MND | 2,70E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 9,59E-05 | 0,00E+00 | 2,42E-03 |
| Photochemical ozone creation | kg ethylene | 6,97E-03 | 4,31E-04 | 4,12E-04 | MND | 5,25E-04 | MND | MND | MND | MND | MND | 0,00E+00 | 6,92E-05 | 0,00E+00 | 3,65E-04 |
| Depletion of abiotic resources - elements | kg antimony | 2,25E-05 | 2,61E-06 | 1,30E-06 | MND | 2,43E-06 | MND | MND | MND | MND | MND | 0,00E+00 | 4,15E-07 | 0,00E+00 | 1,57E-07 |
| Depletion of abiotic resources - fossil | MJ. net CV | 1,65E+02 | 1,26E+01 | 9,20E+00 | MND | 4,55E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,01E+00 | 0,00E+00 | 7,30E-01 |

MND: Module not declared



J – Total thickness of 16 mm from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|---|--------------|------------------|--------------------|--------------|-----------|-------------|--------|--------------|----------------|-------------------------|------------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | installation | Use | Maintenance | Repair | Replace ment | Refurbi shment | Operation al energy use | Operatio nal water use | De- construction | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Global Warming | kg CO2 eq | -2,53E-02 | 9,14E-01 | 8,21E-01 | MND | 8,23E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,46E-01 | 0,00E+00 | 1,44E+01 |
| Ozone Depletion | kg CFC-11 eq | 1,33E-06 | 1,70E-07 | 7,88E-08 | MND | 5,62E-08 | MND | MND | MND | MND | MND | 0,00E+00 | 2,72E-08 | 0,00E+00 | 9,11E-09 |
| Acidification of soil and water | kg SO2 eq. | 7,24E-02 | 2,89E-03 | 3,97E-03 | MND | 3,12E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 4,67E-04 | 0,00E+00 | 1,91E-03 |
| Eutrophication | kg PO4-- eq | 3,13E-02 | 6,49E-04 | 1,96E-03 | MND | 2,70E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 1,05E-04 | 0,00E+00 | 2,65E-03 |
| Photochemical ozone creation | kg ethylene | 7,41E-03 | 4,71E-04 | 4,37E-04 | MND | 5,25E-04 | MND | MND | MND | MND | MND | 0,00E+00 | 7,59E-05 | 0,00E+00 | 4,01E-04 |
| Depletion of abiotic resources - elements | kg antimony | 2,80E-05 | 2,86E-06 | 1,59E-06 | MND | 2,43E-06 | MND | MND | MND | MND | MND | 0,00E+00 | 4,55E-07 | 0,00E+00 | 1,72E-07 |
| Depletion of abiotic resources - fossil | MJ. net CV | 1,83E+02 | 1,38E+01 | 1,02E+01 | MND | 4,55E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,21E+00 | 0,00E+00 | 8,01E-01 |

MND: Module not declared



K – Total thickness of 22 mm from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|---|--------------|------------------|--------------------|--------------|-----------|-------------|--------|--------------|----------------|-------------------------|------------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | installation | Use | Maintenance | Repair | Replace ment | Refurbi shment | Operation al energy use | Operatio nal water use | De- construction | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Global Warming | kg CO2 eq | -4,14E+00 | 1,32E+00 | 9,43E-01 | MND | 8,23E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 2,11E-01 | 0,00E+00 | 2,03E+01 |
| Ozone Depletion | kg CFC-11 eq | 1,67E-06 | 2,46E-07 | 1,01E-07 | MND | 5,62E-08 | MND | MND | MND | MND | MND | 0,00E+00 | 3,93E-08 | 0,00E+00 | 1,32E-08 |
| Acidification of soil and water | kg SO2 eq. | 7,86E-02 | 4,18E-03 | 4,41E-03 | MND | 3,12E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 6,75E-04 | 0,00E+00 | 2,77E-03 |
| Eutrophication | kg PO4-- eq | 3,29E-02 | 9,38E-04 | 2,13E-03 | MND | 2,70E-03 | MND | MND | MND | MND | MND | 0,00E+00 | 1,52E-04 | 0,00E+00 | 3,83E-03 |
| Photochemical ozone creation | kg ethylene | 8,80E-03 | 6,81E-04 | 5,29E-04 | MND | 5,25E-04 | MND | MND | MND | MND | MND | 0,00E+00 | 1,10E-04 | 0,00E+00 | 5,79E-04 |
| Depletion of abiotic resources - elements | kg antimony | 3,29E-05 | 4,13E-06 | 1,92E-06 | MND | 2,43E-06 | MND | MND | MND | MND | MND | 0,00E+00 | 6,58E-07 | 0,00E+00 | 2,49E-07 |
| Depletion of abiotic resources - fossil | MJ. net CV | 2,08E+02 | 1,99E+01 | 1,18E+01 | MND | 4,55E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 3,19E+00 | 0,00E+00 | 1,16E+00 |

MND: Module not declared



Use of resources

A – Total thickness between 13 and 14 mm from HSG plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|---|------------|------------------|--------------------|--------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|-------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processin g | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Renewable primary energy excl. RM | MJ. net CV | 6,30E+01 | 1,75E-01 | 3,19E+00 | MND | 3,07E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,79E-02 | 0,00E+00 | 2,61E-02 |
| Renewable primary energy used as RM | MJ. net CV | 1,53E+02 | 0,00E+00 | 6,38E+00 | MND | 2,76E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total renewable primary energy | MJ. net CV | 2,16E+02 | 1,75E-01 | 9,57E+00 | MND | 5,83E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,79E-02 | 0,00E+00 | 2,61E-02 |
| Non renewable primary energy excl. RM | MJ. net CV | 7,45E+01 | 1,20E+01 | 4,72E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,92E+00 | 0,00E+00 | 7,17E-01 |
| Non renewable primary energy used as RM | MJ. net CV | 1,02E+01 | 0,00E+00 | 5,09E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total non renewable primary energy | MJ. net CV | 8,47E+01 | 1,20E+01 | 5,23E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,92E+00 | 0,00E+00 | 7,17E-01 |
| Use of secondary material | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of non renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Net use of fresh water | m3 | 8,36E-02 | 2,26E-03 | 4,75E-03 | MND | 3,63E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 3,61E-04 | 0,00E+00 | 3,55E-03 |



B – Total thickness of 14 mm with Walnut and Maple wood from HSG plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|---|------------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|-------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processin g | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Renewable primary energy excl. RM | MJ. net CV | 6,77E+01 | 1,82E-01 | 3,43E+00 | MND | 3,07E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,91E-02 | 0,00E+00 | 2,72E-02 |
| Renewable primary energy used as RM | MJ. net CV | 1,56E+02 | 0,00E+00 | 6,55E+00 | MND | 2,76E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total renewable primary energy | MJ. net CV | 2,24E+02 | 1,82E-01 | 9,97E+00 | MND | 5,83E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,91E-02 | 0,00E+00 | 2,72E-02 |
| Non renewable primary energy excl. RM | MJ. net CV | 7,27E+01 | 1,25E+01 | 4,65E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,00E+00 | 0,00E+00 | 7,46E-01 |
| Non renewable primary energy used as RM | MJ. net CV | 1,01E+01 | 0,00E+00 | 5,07E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total non renewable primary energy | MJ. net CV | 8,28E+01 | 1,25E+01 | 5,16E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,00E+00 | 0,00E+00 | 7,46E-01 |
| Use of secondary material | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of non renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Net use of fresh water | m3 | 8,32E-02 | 2,35E-03 | 4,74E-03 | MND | 3,63E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 3,76E-04 | 0,00E+00 | 3,69E-03 |

MND: Module not declared



C – Total thickness of 22 mm from HSG plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|---|------------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|-------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processin g | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Renewable primary energy excl. RM | MJ. net CV | 9,60E+01 | 2,60E-01 | 4,85E+00 | MND | 3,07E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 4,16E-02 | 0,00E+00 | 3,88E-02 |
| Renewable primary energy used as RM | MJ. net CV | 2,43E+02 | 0,00E+00 | 1,07E+01 | MND | 2,76E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total renewable primary energy | MJ. net CV | 3,39E+02 | 2,60E-01 | 1,55E+01 | MND | 5,83E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 4,16E-02 | 0,00E+00 | 3,88E-02 |
| Non renewable primary energy excl. RM | MJ. net CV | 9,52E+01 | 1,78E+01 | 6,12E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,86E+00 | 0,00E+00 | 1,07E+00 |
| Non renewable primary energy used as RM | MJ. net CV | 1,08E+01 | 0,00E+00 | 5,38E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total non renewable primary energy | MJ. net CV | 1,06E+02 | 1,78E+01 | 6,66E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,86E+00 | 0,00E+00 | 1,07E+00 |
| Use of secondary material | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of non renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Net use of fresh water | m3 | 9,38E-02 | 3,35E-03 | 5,44E-03 | MND | 3,63E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 5,37E-04 | 0,00E+00 | 5,28E-03 |

MND: Module not declared



D – Total thickness of 10 mm from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|---|------------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|-------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processin g | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Renewable primary energy excl. RM | MJ. net CV | 5,20E+01 | 1,39E-01 | 2,64E+00 | MND | 3,07E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,19E-02 | 0,00E+00 | 2,04E-02 |
| Renewable primary energy used as RM | MJ. net CV | 1,20E+02 | 0,00E+00 | 4,51E+00 | MND | 2,76E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total renewable primary energy | MJ. net CV | 1,72E+02 | 1,39E-01 | 7,15E+00 | MND | 5,83E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,19E-02 | 0,00E+00 | 2,04E-02 |
| Non renewable primary energy excl. RM | MJ. net CV | 1,48E+02 | 9,52E+00 | 8,23E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,51E+00 | 0,00E+00 | 5,62E-01 |
| Non renewable primary energy used as RM | MJ. net CV | 1,24E+01 | 0,00E+00 | 6,19E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total non renewable primary energy | MJ. net CV | 1,60E+02 | 9,52E+00 | 8,84E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,51E+00 | 0,00E+00 | 5,62E-01 |
| Use of secondary material | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of non renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Net use of fresh water | m3 | 2,56E-01 | 1,79E-03 | 1,33E-02 | MND | 3,63E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 2,83E-04 | 0,00E+00 | 2,78E-03 |

MND: Module not declared



E – Total thickness of 13 mm with Ash wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|---|------------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|-------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processin g | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Renewable primary energy excl. RM | MJ. net CV | 6,28E+01 | 1,70E-01 | 3,19E+00 | MND | 3,07E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,66E-02 | 0,00E+00 | 2,49E-02 |
| Renewable primary energy used as RM | MJ. net CV | 1,48E+02 | 0,00E+00 | 4,34E+00 | MND | 2,76E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total renewable primary energy | MJ. net CV | 2,10E+02 | 1,70E-01 | 7,53E+00 | MND | 5,83E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,66E-02 | 0,00E+00 | 2,49E-02 |
| Non renewable primary energy excl. RM | MJ. net CV | 1,62E+02 | 1,17E+01 | 9,12E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,83E+00 | 0,00E+00 | 6,84E-01 |
| Non renewable primary energy used as RM | MJ. net CV | 1,34E+01 | 0,00E+00 | 6,71E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total non renewable primary energy | MJ. net CV | 1,75E+02 | 1,17E+01 | 9,79E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,83E+00 | 0,00E+00 | 6,83E-01 |
| Use of secondary material | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of non renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Net use of fresh water | m3 | 2,59E-01 | 2,20E-03 | 1,36E-02 | MND | 3,63E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 3,44E-04 | 0,00E+00 | 3,38E-03 |

MND: Module not declared



F – Total thickness of 13 mm with Oak wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|---|------------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Renewable primary energy excl. RM | MJ. net CV | 6,34E+01 | 1,70E-01 | 3,22E+00 | MND | 3,07E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,66E-02 | 0,00E+00 | 2,49E-02 |
| Renewable primary energy used as RM | MJ. net CV | 1,47E+02 | 0,00E+00 | 4,31E+00 | MND | 2,76E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total renewable primary energy | MJ. net CV | 2,10E+02 | 1,70E-01 | 7,53E+00 | MND | 5,83E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,66E-02 | 0,00E+00 | 2,49E-02 |
| Non renewable primary energy excl. RM | MJ. net CV | 1,61E+02 | 1,17E+01 | 9,07E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,83E+00 | 0,00E+00 | 6,84E-01 |
| Non renewable primary energy used as RM | MJ. net CV | 1,34E+01 | 0,00E+00 | 6,71E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total non renewable primary energy | MJ. net CV | 1,74E+02 | 1,17E+01 | 9,74E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,83E+00 | 0,00E+00 | 6,83E-01 |
| Use of secondary material | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of non renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Net use of fresh water | m3 | 2,59E-01 | 2,20E-03 | 1,35E-02 | MND | 3,63E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 3,44E-04 | 0,00E+00 | 3,38E-03 |

MND: Module not declared



G – Total thickness of 14 mm with Ash wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|---|------------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Renewable primary energy excl. RM | MJ. net CV | 6,84E+01 | 1,82E-01 | 3,47E+00 | MND | 3,07E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,88E-02 | 0,00E+00 | 2,69E-02 |
| Renewable primary energy used as RM | MJ. net CV | 1,59E+02 | 0,00E+00 | 6,45E+00 | MND | 2,76E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total renewable primary energy | MJ. net CV | 2,28E+02 | 1,82E-01 | 9,92E+00 | MND | 5,83E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,88E-02 | 0,00E+00 | 2,69E-02 |
| Non renewable primary energy excl. RM | MJ. net CV | 1,64E+02 | 1,25E+01 | 9,25E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,98E+00 | 0,00E+00 | 7,40E-01 |
| Non renewable primary energy used as RM | MJ. net CV | 1,20E+01 | 0,00E+00 | 6,00E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total non renewable primary energy | MJ. net CV | 1,76E+02 | 1,25E+01 | 9,85E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,98E+00 | 0,00E+00 | 7,40E-01 |
| Use of secondary material | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of non renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Net use of fresh water | m3 | 2,56E-01 | 2,34E-03 | 1,34E-02 | MND | 3,63E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 3,72E-04 | 0,00E+00 | 3,66E-03 |

MND: Module not declared



H – Total thickness of 14 mm with Oak wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|---|------------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Renewable primary energy excl. RM | MJ. net CV | 6,93E+01 | 1,82E-01 | 3,51E+00 | MND | 3,07E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,88E-02 | 0,00E+00 | 2,69E-02 |
| Renewable primary energy used as RM | MJ. net CV | 1,59E+02 | 0,00E+00 | 6,41E+00 | MND | 2,76E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total renewable primary energy | MJ. net CV | 2,28E+02 | 1,82E-01 | 9,92E+00 | MND | 5,83E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,88E-02 | 0,00E+00 | 2,69E-02 |
| Non renewable primary energy excl. RM | MJ. net CV | 1,62E+02 | 1,25E+01 | 9,12E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,98E+00 | 0,00E+00 | 7,40E-01 |
| Non renewable primary energy used as RM | MJ. net CV | 1,20E+01 | 0,00E+00 | 6,00E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total non renewable primary energy | MJ. net CV | 1,74E+02 | 1,25E+01 | 9,71E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 1,98E+00 | 0,00E+00 | 7,40E-01 |
| Use of secondary material | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of non renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Net use of fresh water | m3 | 2,55E-01 | 2,34E-03 | 1,34E-02 | MND | 3,63E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 3,72E-04 | 0,00E+00 | 3,66E-03 |

MND: Module not declared



I – Total thickness of 14 mm with Oak AM wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|---|------------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|-------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processin g | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Renewable primary energy excl. RM | MJ. net CV | 6,39E+01 | 1,88E-01 | 3,24E+00 | MND | 3,07E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,99E-02 | 0,00E+00 | 2,79E-02 |
| Renewable primary energy used as RM | MJ. net CV | 1,64E+02 | 0,00E+00 | 6,68E+00 | MND | 2,76E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total renewable primary energy | MJ. net CV | 2,28E+02 | 1,88E-01 | 9,92E+00 | MND | 5,83E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,99E-02 | 0,00E+00 | 2,79E-02 |
| Non renewable primary energy excl. RM | MJ. net CV | 1,60E+02 | 1,29E+01 | 9,08E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,06E+00 | 0,00E+00 | 7,68E-01 |
| Non renewable primary energy used as RM | MJ. net CV | 1,26E+01 | 0,00E+00 | 6,32E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total non renewable primary energy | MJ. net CV | 1,73E+02 | 1,29E+01 | 9,71E+00 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,06E+00 | 0,00E+00 | 7,68E-01 |
| Use of secondary material | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of non renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Net use of fresh water | m3 | 2,58E-01 | 2,43E-03 | 1,35E-02 | MND | 3,63E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 3,86E-04 | 0,00E+00 | 3,80E-03 |

MND: Module not declared



J – Total thickness of 16 mm from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|---|------------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|-------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processin g | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Renewable primary energy excl. RM | MJ. net CV | 6,54E+01 | 2,06E-01 | 3,31E+00 | MND | 3,07E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 3,28E-02 | 0,00E+00 | 3,07E-02 |
| Renewable primary energy used as RM | MJ. net CV | 1,81E+02 | 0,00E+00 | 7,51E+00 | MND | 2,76E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total renewable primary energy | MJ. net CV | 2,46E+02 | 2,06E-01 | 1,08E+01 | MND | 5,83E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 3,28E-02 | 0,00E+00 | 3,07E-02 |
| Non renewable primary energy excl. RM | MJ. net CV | 1,78E+02 | 1,41E+01 | 1,00E+01 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,26E+00 | 0,00E+00 | 8,43E-01 |
| Non renewable primary energy used as RM | MJ. net CV | 1,28E+01 | 0,00E+00 | 6,38E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total non renewable primary energy | MJ. net CV | 1,91E+02 | 1,41E+01 | 1,07E+01 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 2,26E+00 | 0,00E+00 | 8,43E-01 |
| Use of secondary material | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of non renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Net use of fresh water | m3 | 2,65E-01 | 2,66E-03 | 1,39E-02 | MND | 3,63E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 4,24E-04 | 0,00E+00 | 4,17E-03 |

MND: Module not declared



K – Total thickness of 22 mm from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|---|------------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|-------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processin g | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Renewable primary energy excl. RM | MJ. net CV | 8,13E+01 | 2,98E-01 | 4,12E+00 | MND | 3,07E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 4,74E-02 | 0,00E+00 | 4,43E-02 |
| Renewable primary energy used as RM | MJ. net CV | 2,58E+02 | 0,00E+00 | 9,95E+00 | MND | 2,76E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total renewable primary energy | MJ. net CV | 3,39E+02 | 2,98E-01 | 1,41E+01 | MND | 5,83E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 4,74E-02 | 0,00E+00 | 4,43E-02 |
| Non renewable primary energy excl. RM | MJ. net CV | 2,06E+02 | 2,04E+01 | 1,18E+01 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 3,26E+00 | 0,00E+00 | 1,22E+00 |
| Non renewable primary energy used as RM | MJ. net CV | 1,05E+01 | 0,00E+00 | 5,25E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total non renewable primary energy | MJ. net CV | 2,16E+02 | 2,04E+01 | 1,24E+01 | MND | 6,44E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 3,26E+00 | 0,00E+00 | 1,22E+00 |
| Use of secondary material | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of non renewable secondary fuels | MJ. net CV | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Net use of fresh water | m3 | 2,59E-01 | 3,84E-03 | 1,38E-02 | MND | 3,63E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 6,13E-04 | 0,00E+00 | 6,02E-03 |

MND: Module not declared



Waste production and output flows

A – Total thickness between 13 and 14 mm from HSG plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|-------------------------------|------|------------------|--------------------|--------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|-------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processin g | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Hazardous waste disposed | kg | 1,23E-01 | 7,11E-03 | 1,14E-02 | MND | 4,72E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 1,13E-03 | 0,00E+00 | 6,20E-02 |
| Non hazardous waste disposed | kg | 2,38E+00 | 6,28E-01 | 2,09E-01 | MND | 1,93E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,00E-01 | 0,00E+00 | 3,10E-02 |
| Radioactive waste disposed | kg | 4,45E-04 | 8,25E-05 | 2,89E-05 | MND | 2,69E-05 | MND | MND | MND | MND | MND | 0,00E+00 | 1,32E-05 | 0,00E+00 | 2,19E-06 |
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 1,23E+00 | 0,00E+00 | 1,41E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg | 0,00E+00 | 0,00E+00 | 3,83E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,66E+00 |
| Exported energy (electricity) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy (steam) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

MND: Module not declared



B – Total thickness of 14 mm with Walnut and Maple wood from HSG plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|-------------------------------|------|------------------|--------------------|--------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|-------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processin g | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Hazardous waste disposed | kg | 1,23E-01 | 7,39E-03 | 1,15E-02 | MND | 4,72E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 1,18E-03 | 0,00E+00 | 6,45E-02 |
| Non hazardous waste disposed | kg | 2,15E+00 | 6,53E-01 | 1,99E-01 | MND | 1,93E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,04E-01 | 0,00E+00 | 3,23E-02 |
| Radioactive waste disposed | kg | 4,31E-04 | 8,58E-05 | 2,84E-05 | MND | 2,69E-05 | MND | MND | MND | MND | MND | 0,00E+00 | 1,37E-05 | 0,00E+00 | 2,28E-06 |
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 1,23E+00 | 0,00E+00 | 1,41E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg | 0,00E+00 | 0,00E+00 | 3,99E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,97E+00 |
| Exported energy (electricity) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy (steam) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

MND: Module not declared



C – Total thickness of 22 mm from HSG plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|-------------------------------|------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|-------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processin g | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Hazardous waste disposed | kg | 1,54E-01 | 1,05E-02 | 1,51E-02 | MND | 4,72E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 1,69E-03 | 0,00E+00 | 9,23E-02 |
| Non hazardous waste disposed | kg | 3,25E+00 | 9,30E-01 | 2,83E-01 | MND | 1,93E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,49E-01 | 0,00E+00 | 4,62E-02 |
| Radioactive waste disposed | kg | 5,59E-04 | 1,22E-04 | 3,70E-05 | MND | 2,69E-05 | MND | MND | MND | MND | MND | 0,00E+00 | 1,96E-05 | 0,00E+00 | 3,26E-06 |
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 1,23E+00 | 0,00E+00 | 1,53E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg | 0,00E+00 | 0,00E+00 | 5,70E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,14E+01 |
| Exported energy (electricity) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy (steam) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

MND: Module not declared



D – Total thickness of 10 mm from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|-------------------------------|------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Hazardous waste disposed | kg | 8,05E-01 | 5,63E-03 | 4,49E-02 | MND | 4,72E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 8,88E-04 | 0,00E+00 | 4,86E-02 |
| Non hazardous waste disposed | kg | 5,16E+00 | 4,97E-01 | 3,49E-01 | MND | 1,93E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 7,83E-02 | 0,00E+00 | 2,43E-02 |
| Radioactive waste disposed | kg | 5,01E-04 | 6,54E-05 | 3,07E-05 | MND | 2,69E-05 | MND | MND | MND | MND | MND | 0,00E+00 | 1,03E-05 | 0,00E+00 | 1,71E-06 |
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 2,43E-02 | 0,00E+00 | 9,72E-02 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg | 0,00E+00 | 0,00E+00 | 3,00E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 6,00E+00 |
| Exported energy (electricity) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy (steam) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

MND: Module not declared



E – Total thickness of 13 mm with Ash wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | Use stage | | | | | | | End of life stage | | | |
|-------------------------------|------|------------------|--------------------|--------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|-------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processin g | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Hazardous waste disposed | kg | 8,15E-01 | 6,91E-03 | 4,64E-02 | MND | 4,72E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 1,08E-03 | 0,00E+00 | 5,91E-02 |
| Non hazardous waste disposed | kg | 5,85E+00 | 6,10E-01 | 3,98E-01 | MND | 1,93E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 9,53E-02 | 0,00E+00 | 2,96E-02 |
| Radioactive waste disposed | kg | 5,93E-04 | 8,02E-05 | 3,65E-05 | MND | 2,69E-05 | MND | MND | MND | MND | MND | 0,00E+00 | 1,26E-05 | 0,00E+00 | 2,09E-06 |
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 2,43E-02 | 0,00E+00 | 1,94E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg | 0,00E+00 | 0,00E+00 | 3,65E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,30E+00 |
| Exported energy (electricity) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy (steam) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

MND: Module not declared



F – Total thickness of 13 mm with Oak wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|-------------------------------|------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Hazardous waste disposed | kg | 8,15E-01 | 6,91E-03 | 4,63E-02 | MND | 4,72E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 1,08E-03 | 0,00E+00 | 5,91E-02 |
| Non hazardous waste disposed | kg | 5,80E+00 | 6,10E-01 | 3,95E-01 | MND | 1,93E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 9,53E-02 | 0,00E+00 | 2,96E-02 |
| Radioactive waste disposed | kg | 5,86E-04 | 8,02E-05 | 3,61E-05 | MND | 2,69E-05 | MND | MND | MND | MND | MND | 0,00E+00 | 1,26E-05 | 0,00E+00 | 2,09E-06 |
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 2,43E-02 | 0,00E+00 | 1,94E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg | 0,00E+00 | 0,00E+00 | 3,65E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,30E+00 |
| Exported energy (electricity) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy (steam) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

MND: Module not declared



G – Total thickness of 14 mm with Ash wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|-------------------------------|------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Hazardous waste disposed | kg | 8,10E-01 | 7,36E-03 | 4,63E-02 | MND | 4,72E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 1,17E-03 | 0,00E+00 | 6,40E-02 |
| Non hazardous waste disposed | kg | 6,10E+00 | 6,51E-01 | 4,11E-01 | MND | 1,93E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,03E-01 | 0,00E+00 | 3,20E-02 |
| Radioactive waste disposed | kg | 6,27E-04 | 8,55E-05 | 3,82E-05 | MND | 2,69E-05 | MND | MND | MND | MND | MND | 0,00E+00 | 1,36E-05 | 0,00E+00 | 2,26E-06 |
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 2,43E-02 | 0,00E+00 | 9,72E-02 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg | 0,00E+00 | 0,00E+00 | 3,95E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,90E+00 |
| Exported energy (electricity) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy (steam) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

MND: Module not declared



H – Total thickness of 14 mm with Oak wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|-------------------------------|------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Hazardous waste disposed | kg | 8,08E-01 | 7,36E-03 | 4,62E-02 | MND | 4,72E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 1,17E-03 | 0,00E+00 | 6,40E-02 |
| Non hazardous waste disposed | kg | 5,97E+00 | 6,51E-01 | 4,04E-01 | MND | 1,93E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,03E-01 | 0,00E+00 | 3,20E-02 |
| Radioactive waste disposed | kg | 6,09E-04 | 8,55E-05 | 3,73E-05 | MND | 2,69E-05 | MND | MND | MND | MND | MND | 0,00E+00 | 1,36E-05 | 0,00E+00 | 2,26E-06 |
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 2,43E-02 | 0,00E+00 | 9,72E-02 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg | 0,00E+00 | 0,00E+00 | 3,95E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,90E+00 |
| Exported energy (electricity) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy (steam) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

MND: Module not declared



I – Total thickness of 14 mm with Oak AM wood from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|-------------------------------|------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Hazardous waste disposed | kg | 8,16E-01 | 7,64E-03 | 4,67E-02 | MND | 4,72E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 1,21E-03 | 0,00E+00 | 6,64E-02 |
| Non hazardous waste disposed | kg | 5,64E+00 | 6,75E-01 | 3,89E-01 | MND | 1,93E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,07E-01 | 0,00E+00 | 3,32E-02 |
| Radioactive waste disposed | kg | 5,85E-04 | 8,87E-05 | 3,64E-05 | MND | 2,69E-05 | MND | MND | MND | MND | MND | 0,00E+00 | 1,41E-05 | 0,00E+00 | 2,34E-06 |
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 2,43E-02 | 0,00E+00 | 9,72E-02 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg | 0,00E+00 | 0,00E+00 | 4,10E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 8,20E+00 |
| Exported energy (electricity) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy (steam) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

MND: Module not declared



J – Total thickness of 16 mm from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|-------------------------------|------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processing | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Hazardous waste disposed | kg | 8,18E-01 | 8,36E-03 | 4,70E-02 | MND | 4,72E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 1,33E-03 | 0,00E+00 | 7,29E-02 |
| Non hazardous waste disposed | kg | 6,76E+00 | 7,38E-01 | 4,45E-01 | MND | 1,93E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,18E-01 | 0,00E+00 | 3,65E-02 |
| Radioactive waste disposed | kg | 7,19E-04 | 9,70E-05 | 4,35E-05 | MND | 2,69E-05 | MND | MND | MND | MND | MND | 0,00E+00 | 1,55E-05 | 0,00E+00 | 2,57E-06 |
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 2,43E-02 | 0,00E+00 | 9,72E-02 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg | 0,00E+00 | 0,00E+00 | 4,50E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 9,00E+00 |
| Exported energy (electricity) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy (steam) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

MND: Module not declared



K – Total thickness of 22 mm from ORZ plant

| PARAMETER | UNIT | Product stage | Construction stage | | | Use stage | | | | | | End of life stage | | | |
|-------------------------------|------|------------------|--------------------|--------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|-------------------|----------|
| | | Total Production | Transport | Installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-constructi on | Transport | Waste processin g | Disposal |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Hazardous waste disposed | kg | 8,31E-01 | 1,21E-02 | 4,97E-02 | MND | 4,72E-02 | MND | MND | MND | MND | MND | 0,00E+00 | 1,92E-03 | 0,00E+00 | 1,05E-01 |
| Non hazardous waste disposed | kg | 8,31E+00 | 1,07E+00 | 5,46E-01 | MND | 1,93E-01 | MND | MND | MND | MND | MND | 0,00E+00 | 1,70E-01 | 0,00E+00 | 5,27E-02 |
| Radioactive waste disposed | kg | 9,23E-04 | 1,40E-04 | 5,65E-05 | MND | 2,69E-05 | MND | MND | MND | MND | MND | 0,00E+00 | 2,24E-05 | 0,00E+00 | 3,71E-06 |
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 2,43E-02 | 0,00E+00 | 1,87E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg | 0,00E+00 | 0,00E+00 | 6,50E-01 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,30E+01 |
| Exported energy (electricity) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy (steam) | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

MND: Module not declared



Programme-related information and verification

The EPD owner has the sole ownership, liability, and responsibility for the flooring EPD. EPDs within the same product category but from different programmes may not be comparable. EPDs of floor products may not be comparable if they do not comply with EN 15804.

| | |
|--------------------------------------|--|
| Programme: | The International EPD® System EPD International AB Box 210 60 SE-100 31 Stockholm Sweden www.environdec.com info@environdec.com |
| EPD registration number: | S-P-01509 |
| ECO EPD Ref. number | 00000906 |
| Published: | 2020-07-23 |
| Valid until: | 2025-07-07 |
| Product Category Rules: | PCR 2012:01 version 2.3 and Sub-PCR-E Wood and wood-based products for use in construction (EN 16485:2014) |
| Product group classification: | UN CPC APE/NAF - 1622Z |
| Reference year for data: | 2019 |
| Geographical scope: | Europe |





| |
|---|
| CEN standard EN 15804 and EN 16485 serve as the Core Product Category Rules (PCR) |
| Product category rules (PCR): EN 15804 and EN 16485 |
| Independent third-party verification of the declaration and data. according to ISO 14025:2010: <input type="checkbox"/> EPD process certification <input checked="" type="checkbox"/> EPD verification |
| Third party verifier: Damien PRUNEL. BUREAU VERITAS LCIE |
| Procedure for follow-up of data during EPD validity involves third party verifier: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

References

General Programme Instructions of the International EPD® System. Version 3.0.

PCR 2012:01 version 2.3 and Sub-PCR-E Wood and wood-based products for use in construction (EN 16485:2014).

Contact information:

| | | | |
|---|--|-----------------------------|---|
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