

# Environmental Product Declaration



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

## Vinyl wall coverings - TARKETT

|                          |   |
|--------------------------|---|
| Programme:               | The International EPD® System<br><a href="http://www.environdec.com">www.environdec.com</a> |
| Programme operator:      | EPD International AB  |
| EPD registration number: | S-P-01349   |
| Publication date:        | 2018-12-07  |
| Validity date:           | 2023-12-01  |
| Geographical scope:      | Europe  |



## General information

### Information about the organization

Owner of the EPD: Tarkett France. Axel ROY, +33 (0)141 204 074, [axel.roy@tarkett.com](mailto:axel.roy@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 site: Clervaux, Luxembourg

## 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 and wall coverings 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, wall coverings and sport surfaces are present in several prestigious architectural reference points. Tarkett offers integrated solutions for floorings and wall coverings, able to meet the particular needs of customers. Our wide range of designs, colours 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

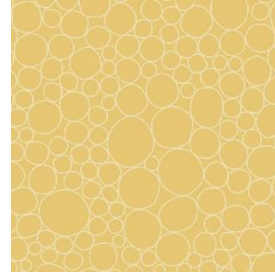
**Products name:** Aquarelle Wall, Aquarelle Wall HFS, ProtectWall 1.5, ProtectWall 2CR (Clean Rooms)

**Product identification:** Aquarelle Wall, Aquarelle Wall HFS are vinyl wall covering. ProtectWall 1.5, ProtectWall 2CR (Clean Rooms) are high-performance vinyl wall coverings.

**Product description:** Aquarelle Wall, Aquarelle Wall HFS are vinyl wall covering for use in wet areas such as collective showers, locker rooms, collective housing and healthcare facilities. ProtectWall 1.5, ProtectWall 2CR (Clean

Rooms) protect walls against impacts, scratches and stains.

Please find below a look of the Aquarelle Wall HFS product.



**UN CPC code:** APE/NAF - 2223Z

**Geographical scope:** Europe

**Range of application:**

Wall coverings are classified in accordance with EN 15102 to be installed in the following areas of application:

**Commercial**



Table 1 : Area of application

## LCA information

### Functional unit / declared unit:

1m<sup>2</sup> of wall covering with a reference service life (RSL) of 1 year, for specified characteristics, application and use areas according to EN 15102

### Reference service life:

1 year

### Time representativeness:

2017

### Database(s) and LCA software used:

SimaPro 8.5

### Description of system boundaries:

Cradle to grave

## System boundaries

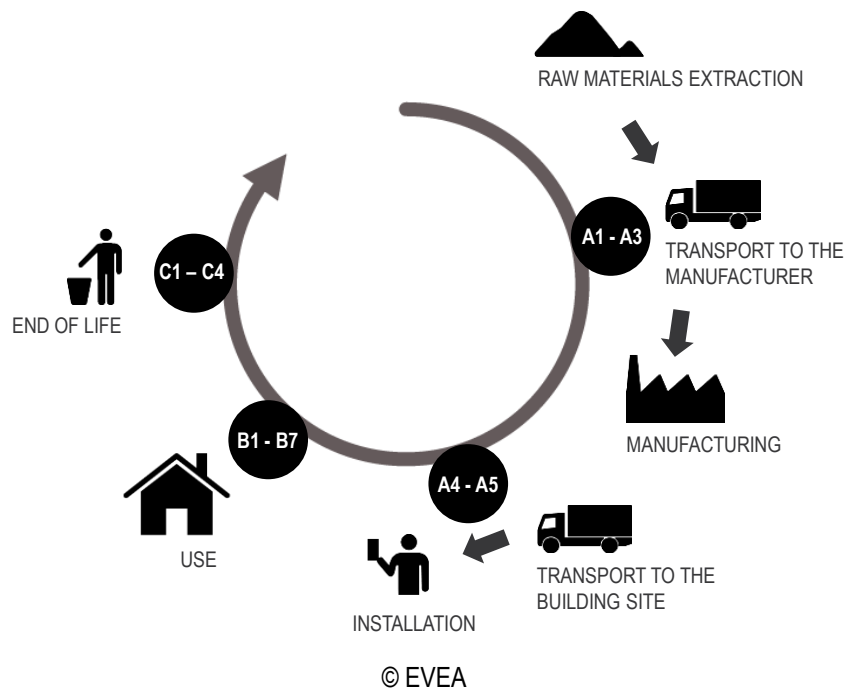
The system boundary is based on the EN 15804 description.

**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  |                           |               | Construction Process Stage |                            | Use Stage         |             |        |             |               |                        |                       | End-of-Life Stage           |                  |   |          |
|----------------|---|---------------------------|---------------|----------------------------|----------------------------|-------------------|-------------|--------|-------------|---------------|------------------------|-----------------------|-----------------------------|------------------|---|----------|
|                | 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 |
| Modules        | A1  | A2                        | A3            | A4                         | A5                         | B1                | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                          | C2               | C3  | C4       |
| Accounted for: | X   | X                         | X             | X                          | X                          | MND               | X           | MND    | MND         | MND           | MND                    | MND                   | X                           | X                | X   | X        |

X Module included in the study

MND : Module not declared

**Use stage:** Floor coverings do not contribute to modules B1 and B3 to B7 according to the standard EN 16810.

## 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 Aquarelle and ProtectWall wall coverings throughout their entire life cycle. To this end, ISO 14040, ISO 14044 and EN 15804 have been met regarding the quality of data on different following criteria:

### The time factor, the life cycle inventory data used comes 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 wall covering produced. All factory data are measured in square meters, and it is assumed that the process consumptions are governed by area of wall covering 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

### Products

In the absence of PCR for wall coverings and according to PCR 2012-01 v2.2, 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". Based on that, it was impossible to group products together. The impacts of each products are thus declared sperarately.

| Products                  | Aquarelle Wall                           | Aquarelle Wall HFS                                   | ProtectWall 1.5                                     | ProtectWall 2CR                         |
|---------------------------|--|--|---|---|
| Representative categories | Surface density < 1.55 kg/m <sup>2</sup> | Surface density between 1.55 and 2 kg/m <sup>2</sup> | Surface density between 2 and 2.5 kg/m <sup>2</sup> | Surface density > 2.5 kg/m <sup>2</sup> |

Characteristics of these four products are presented in the next table:

| Product            | Thickness (mm) | Mass (kg/m <sup>2</sup> ) |
|--------------------|----------------|---------------------------|
| Aquarelle Wall     | 0.92           | 1.59                      |
| Aquarelle Wall HFS | 0.92           | 1.50                      |
| ProtectWall 1.5    | 1.5            | 2.40                      |
| ProtectWall 2CR    | 2              | 3.18                      |

Products are presented in rolls.



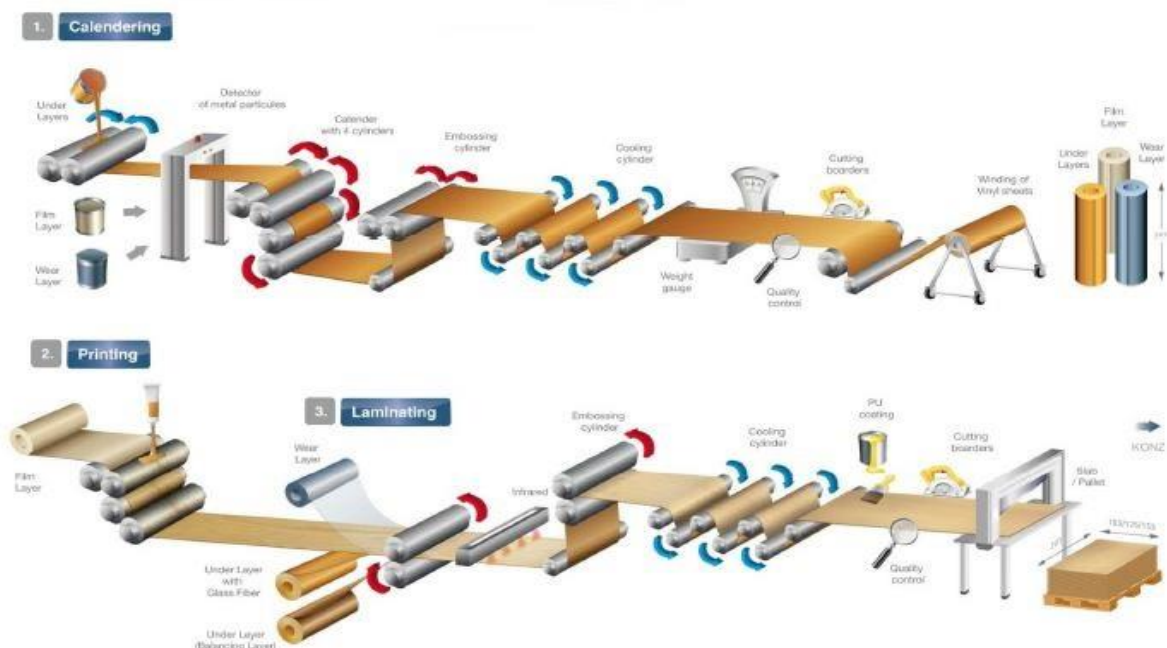
| Quantity           |                                | Aquarelle Wall | Aquarelle Wall HFS | ProtectWall 1.5 | ProtectWall 2CR | Unit/FU |
|--------------------|--------------------------------|----------------|--------------------|-----------------|-----------------|---------|
| A1 - Raw Materials | Polyvinyl chloride             | 4,82E-01       | 4,61E-01           | 7,68E-01        | 1,06E+00        | kg      |
|                    | Recycled PVC – post-industrial | 1,09E-01       | 1,41E-01           | 3,36E-01        | 3,29E-01        | kg      |
|                    | DINCH                          | 1,99E-01       | 8,00E-02           | 8,20E-02        | 1,20E-01        | kg      |
|                    | Epoxidised soya bean oil       | 1,43E-02       | 2,50E-02           | 3,95E-02        | 8,06E-02        | kg      |
|                    | Stabilizer CaZn soaps          | 1,32E-02       | 2,30E-02           | 3,65E-02        | 7,44E-02        | kg      |
|                    | Calcium Carbonate              | 1,65E-01       | 1,87E-01           | 9,20E-02        | 2,04E-01        | kg      |
|                    | Titanium Dioxide               | 1,35E-02       | 1,44E-02           | 1,20E-02        | 1,92E-02        | kg      |
|                    | Other pigments                 | 9,00E-03       | 9,60E-03           | 8,00E-03        | 1,28E-02        | kg      |
|                    | Additives (diverse)            | 5,43E-01       | 5,59E-01           | 9,24E-01        | 1,28E+00        | kg      |
|                    | PUR surface treatment          | 3,25E-02       | 0,00E+00           | 1,00E-01        | 6,00E-03        | kg      |

The recycled content in PVC is 10% in average for Wall coverings.

## Product manufacturing

### Production process

The production of the wall covering is presented in the following figure:



## Production waste

| Waste type                        | Amount   | Unit                         |
|-----------------------------------|----------|------------------------------|
| Waste to external recycling       | 6.40E-02 | kg/m <sup>2</sup> of product |
| Waste-water to external treatment | 1.40E-02 | kg/m <sup>2</sup> of product |
| Non-hazardous waste to landfill   | 1.88E-04 | kg/m <sup>2</sup> of product |
| Hazardous waste incineration      | 2.05E-03 | kg/m <sup>2</sup> of product |
| Non hazardous waste incineration  | 6.48E-03 | kg/m <sup>2</sup> of product |

## Health, safety and environmental aspects during production

The production site complies with the ISO 14001 Environmental Management System and the ISO 9001 Quality Management System.

## Packaging

| Type                        | Amount   | Unit                         |
|-----------------------------|----------|------------------------------|
| Product Packaging Cardboard | 4.43E-02 | kg/m <sup>2</sup> of product |
| Product Packaging PELD      | 1.16E-01 | kg/m <sup>2</sup> of product |
| Product Packaging PP        | 1.14E-03 | kg/m <sup>2</sup> of product |

## Delivery and installation

### Delivery

The average distribution distance between the factory and the installation site is 701 km. It has been calculated considering the average distance between European countries where Tarkett is selling wall products and the factory plant in Clervaux (Luxembourg). The distribution is made by truck.

### Installation

The product is glued on the subwall, then the different parts of the wall covering are welded together.

| Description                  | Wall coverings | Unit               |
|------------------------------|----------------|--------------------|
| Electricity consumption      | 8.88E-03       | kWh/m <sup>2</sup> |
| Acrylic adhesive consumption | 2.00E-01       | kg/m <sup>2</sup>  |



## Waste

During the installation approximately 10% of the wall covering is lost as off-cuts. All wall covering losses are sent to external recycling.

## Packaging

50 % of the packaging materials goes to incineration and 50 % goes to landfill

## 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 wall covering system 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 wall covering manufacture and supply. This RSL is applicable as long as the product use complies with that defined by EN 14041/EN 14904 and ISO 10874 in accordance with the product's classification. The service lifetime recommended by Tarkett is 20 years.

### Cleaning and maintenance

The maintenance step concerns the cleaning of the floor. Tarkett has provided the recommended maintenance routine for the product throughout the reference life. Water, detergent and electricity consumption of the cleaning machine are considered in the LCA study.

| Description           | Amount   | Unit                   |
|-----------------------|----------|------------------------|
| Water consumption     | 7.00E-01 | L/m <sup>2</sup> /year |
| Detergent consumption | 8.00E-02 | L/m <sup>2</sup> /year |

### Prevention of structural damage

To avoid excessive wear, usage should be restricted to the stated areas of application as outlined by the norm EN 15102.

## End of Life

For the purpose of this LCA, it has been assumed that 100% of the product is sent to landfill at the end of its useful life. The transport between construction site and landfill facility is by truck, with an estimated distance of 30 km.

## Data Validation

To validate data, a validity framework has been established. A specific average product has been determined for each category. These two average products are formed by every elements of LCI. Based on results on all environmental indicators (see figures below), it has been shown that these average products are not representative of two products each. The data from the specific products are presented in this EPD.



# Environmental performance

## Potential environmental impact

| Aquarelle Wall                            |              |                  |                    |              |           |             |        |             |               |                        |                       |                   |           |                  |          |
|---|--------------|------------------|--------------------|--------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| 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 | Deconstruction    | Transport | Waste processing | Disposal |
|   |              | A1-A3            | A4                 | A5           | B1        | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                | C2        | C3               | C4       |
| Global Warming                            | kg CO2 eq    | 4,26E+00         | 8,74E-02           | 1,12E+00     | MND       | 2,15E-01    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 8,71E-03  | 0,00E+00         | 1,10E-01 |
| Ozone Depletion                           | kg CFC-11 eq | 1,92E-07         | 1,62E-08           | 7,35E-08     | MND       | 1,35E-08    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,62E-09  | 0,00E+00         | 4,63E-09 |
| Acidification for soil and water          | kg SO2 eq.   | 1,54E-02         | 2,78E-04           | 7,50E-03     | MND       | 7,65E-04    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 2,78E-05  | 0,00E+00         | 1,03E-04 |
| Eutrophication                            | kg PO4---eq  | 3,05E-03         | 4,59E-05           | 6,87E-04     | MND       | 6,22E-04    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 4,61E-06  | 0,00E+00         | 3,82E-05 |
| Photochemical ozone creation              | kg ethylene  | 3,23E-03         | 4,52E-05           | 8,20E-04     | MND       | 1,50E-04    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 4,52E-06  | 0,00E+00         | 3,44E-05 |
| Depletion of abiotic resources - elements | kg antimony  | 3,03E-05         | 2,72E-07           | 7,87E-06     | MND       | 7,20E-07    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 2,71E-08  | 0,00E+00         | 2,27E-08 |
| Depletion of abiotic resources - fossil   | MJ. net CV   | 6,78E+01         | 1,32E+00           | 1,49E+01     | MND       | 1,01E+00    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,31E-01  | 0,00E+00         | 3,97E-01 |



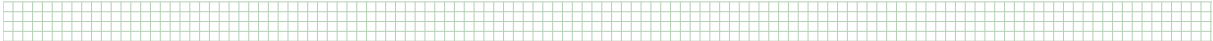
Aquarelle Wall HFS

| PARAMETER                                 | UNIT         | Product stage    | Construction stage |              | Use stage |                 |        |                 |                   |                               |                              | End of life stage       |               |                         |          |
|---|--------------|------------------|--------------------|--------------|-----------|-----------------|--------|-----------------|-------------------|-------------------------------|------------------------------|-------------------------|---------------|-------------------------|----------|
|   |              | Total Production | Transport          | Installation | Use       | Mainten<br>ance | Repair | Replace<br>ment | Refurbish<br>ment | Operation<br>al energy<br>use | Operation<br>al water<br>use | De-<br>constructi<br>on | Transpo<br>rt | Waste<br>processi<br>ng | Disposal |
|   |              | A1-A3            | A4                 | A5           | B1        | B2              | B3     | B4              | B5                | B6                            | B7                           | C1                      | C2            | C3                      | C4       |
| Global Warming                            | kg CO2 eq    | 4,40E+00         | 8,30E-02           | 1,13E+00     | MND       | 2,15E-01        | MND    | MND             | MND               | MND                           | MND                          | 0,00E+00                | 8,29E-03      | 0,00E+00                | 1,05E-01 |
| Ozone Depletion                           | kg CFC-11 eq | 3,05E-07         | 1,54E-08           | 8,47E-08     | MND       | 1,35E-08        | MND    | MND             | MND               | MND                           | MND                          | 0,00E+00                | 1,54E-09      | 0,00E+00                | 4,41E-09 |
| Acidification for soil and water          | kg SO2 eq.   | 1,65E-02         | 2,64E-04           | 7,61E-03     | MND       | 7,65E-04        | MND    | MND             | MND               | MND                           | MND                          | 0,00E+00                | 2,65E-05      | 0,00E+00                | 9,77E-05 |
| Eutrophication                            | kg PO4---eq  | 6,16E-03         | 4,36E-05           | 9,98E-04     | MND       | 6,22E-04        | MND    | MND             | MND               | MND                           | MND                          | 0,00E+00                | 4,39E-06      | 0,00E+00                | 3,64E-05 |
| Photochemical ozone creation              | kg ethylene  | 3,41E-03         | 4,30E-05           | 8,38E-04     | MND       | 1,50E-04        | MND    | MND             | MND               | MND                           | MND                          | 0,00E+00                | 4,30E-06      | 0,00E+00                | 3,27E-05 |
| Depletion of abiotic resources - elements | kg antimony  | 4,83E-05         | 2,59E-07           | 9,67E-06     | MND       | 7,20E-07        | MND    | MND             | MND               | MND                           | MND                          | 0,00E+00                | 2,58E-08      | 0,00E+00                | 2,17E-08 |
| Depletion of abiotic resources - fossil   | MJ. net CV   | 7,13E+01         | 1,25E+00           | 1,52E+01     | MND       | 1,01E+00        | MND    | MND             | MND               | MND                           | MND                          | 0,00E+00                | 1,25E-01      | 0,00E+00                | 3,78E-01 |

ProtectWall 1.5

| 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 | Deconstruction    | Transport | Waste processing | Disposal |
|   |              | A1-A3            | A4                 | A5           | B1        | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                | C2        | C3               | C4       |
| Global Warming                            | kg CO2 eq    | 7,04E+00         | 1,28E-01           | 1,41E+00     | MND       | 2,15E-01    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,27E-02  | 0,00E+00         | 1,61E-01 |
| Ozone Depletion                           | kg CFC-11 eq | 4,97E-07         | 2,38E-08           | 1,05E-07     | MND       | 1,35E-08    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 2,36E-09  | 0,00E+00         | 6,73E-09 |
| Acidification for soil and water          | kg SO2 eq.   | 2,60E-02         | 4,07E-04           | 8,58E-03     | MND       | 7,65E-04    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 4,04E-05  | 0,00E+00         | 1,49E-04 |
| Eutrophication                            | kg PO4---eq  | 1,12E-02         | 6,72E-05           | 1,51E-03     | MND       | 6,22E-04    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 6,71E-06  | 0,00E+00         | 5,56E-05 |
| Photochemical ozone creation              | kg ethylene  | 5,94E-03         | 6,62E-05           | 1,09E-03     | MND       | 1,50E-04    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 6,57E-06  | 0,00E+00         | 5,00E-05 |
| Depletion of abiotic resources - elements | kg antimony  | 7,71E-05         | 3,99E-07           | 1,26E-05     | MND       | 7,20E-07    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 3,94E-08  | 0,00E+00         | 3,31E-08 |
| Depletion of abiotic resources - fossil   | MJ. net CV   | 1,18E+02         | 1,93E+00           | 2,00E+01     | MND       | 1,01E+00    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,91E-01  | 0,00E+00         | 5,77E-01 |

| ProtectWall 2CR                           |              |                  |                    |              |           |             |        |             |               |                        |                       |                   |           |                  |          |
|---|--------------|------------------|--------------------|--------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| 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 | Deconstruction    | Transport | Waste processing | Disposal |
|   |              | A1-A3            | A4                 | A5           | B1        | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                | C2        | C3               | C4       |
| Global Warming                            | kg CO2 eq    | 7,93E+00         | 1,67E-01           | 1,50E+00     | MND       | 2,15E-01    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,65E-02  | 0,00E+00         | 2,09E-01 |
| Ozone Depletion                           | kg CFC-11 eq | 3,88E-07         | 3,11E-08           | 9,52E-08     | MND       | 1,35E-08    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 3,07E-09  | 0,00E+00         | 8,76E-09 |
| Acidification for soil and water          | kg SO2 eq.   | 3,84E-02         | 5,31E-04           | 9,84E-03     | MND       | 7,65E-04    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 5,26E-05  | 0,00E+00         | 1,94E-04 |
| Eutrophication                            | kg PO4---eq  | 7,43E-03         | 8,78E-05           | 1,13E-03     | MND       | 6,22E-04    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 8,73E-06  | 0,00E+00         | 7,23E-05 |
| Photochemical ozone creation              | kg ethylene  | 6,15E-03         | 8,65E-05           | 1,12E-03     | MND       | 1,50E-04    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 8,55E-06  | 0,00E+00         | 6,51E-05 |
| Depletion of abiotic resources - elements | kg antimony  | 1,85E-04         | 5,21E-07           | 2,34E-05     | MND       | 7,20E-07    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 5,13E-08  | 0,00E+00         | 4,31E-08 |
| Depletion of abiotic resources - fossil   | MJ. net CV   | 1,21E+02         | 2,52E+00           | 2,04E+01     | MND       | 1,01E+00    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 2,49E-01  | 0,00E+00         | 7,51E-01 |



## Use of resources

### Aquarelle Wall

| 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-construct ion  | 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 | 7,28E+00         | 1,96E-02           | 1,42E+00     | MND       | 8,19E-01    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,95E-03  | 0,00E+00         | 1,26E-02 |
| Renewable primary energy used as RM     | MJ. net CV | 1,16E+00         | 0,00E+00           | 1,16E-01     | MND       | 8,34E-01    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 0,00E+00  | 0,00E+00         | 0,00E+00 |
| Total renewable primary energy          | MJ. net CV | 8,44E+00         | 1,96E-02           | 1,54E+00     | MND       | 1,65E+00    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,95E-03  | 0,00E+00         | 1,26E-02 |
| Non renewable primary energy excl. RM   | MJ. net CV | 6,31E+01         | 1,35E+00           | 9,16E+00     | MND       | 1,26E+00    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,34E-01  | 0,00E+00         | 4,24E-01 |
| Non renewable primary energy used as RM | MJ. net CV | 1,90E+01         | 0,00E+00           | 8,20E+00     | 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 | 8,21E+01         | 1,35E+00           | 1,74E+01     | MND       | 1,26E+00    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,34E-01  | 0,00E+00         | 4,24E-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         | 1,61E-01         | 2,54E-04           | 2,90E-02     | MND       | 1,05E-02    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 2,52E-05  | 0,00E+00         | 5,02E-04 |





Aquarelle Wall HFS

| PARAMETER                               | UNIT       | Product stage    | Construction stage |              | Use stage |              |        |              |                |                         |                        | End of life stage |           |                   |          |
|---|------------|------------------|--------------------|--------------|-----------|--------------|--------|--------------|----------------|-------------------------|------------------------|-------------------|-----------|-------------------|----------|
|   |            | Total Production | Transport          | Installation | Use       | Maintenanc e | Repair | Replace ment | refurbish ment | Operatio nal energy use | Operatio nal water use | De-construct ion  | Transport | Waste processi ng | Disposal |
|   |            | A1-A3            | A4                 | A5           | B1        | B2.          | B3     | B4           | B5             | B6                      | B7                     | C1                | C2.       | C3                | C4       |
| Renewable primary energy excl. RM       | MJ. net CV | 5,50E+00         | 1,87E-02           | 1,24E+00     | MND       | 8,19E-01     | MND    | MND          | MND            | MND                     | MND                    | 0,00E+00          | 1,86E-03  | 0,00E+00          | 1,20E-02 |
| Renewable primary energy used as RM     | MJ. net CV | 1,55E+00         | 0,00E+00           | 1,55E-01     | MND       | 8,34E-01     | MND    | MND          | MND            | MND                     | MND                    | 0,00E+00          | 0,00E+00  | 0,00E+00          | 0,00E+00 |
| Total renewable primary energy          | MJ. net CV | 7,05E+00         | 1,87E-02           | 1,40E+00     | MND       | 1,65E+00     | MND    | MND          | MND            | MND                     | MND                    | 0,00E+00          | 1,86E-03  | 0,00E+00          | 1,20E-02 |
| Non renewable primary energy excl. RM   | MJ. net CV | 6,96E+01         | 1,28E+00           | 9,80E+00     | MND       | 1,26E+00     | MND    | MND          | MND            | MND                     | MND                    | 0,00E+00          | 1,28E-01  | 0,00E+00          | 4,04E-01 |
| Non renewable primary energy used as RM | MJ. net CV | 1,69E+01         | 0,00E+00           | 7,99E+00     | 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 | 8,65E+01         | 1,28E+00           | 1,78E+01     | MND       | 1,26E+00     | MND    | MND          | MND            | MND                     | MND                    | 0,00E+00          | 1,28E-01  | 0,00E+00          | 4,04E-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         | 1,52E-01         | 2,41E-04           | 2,81E-02     | MND       | 1,05E-02     | MND    | MND          | MND            | MND                     | MND                    | 0,00E+00          | 2,40E-05  | 0,00E+00          | 4,78E-04 |



## ProtectWall 1.5

| 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-construct ion  | 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 | 7,61E+00         | 2,88E-02           | 1,45E+00     | MND       | 8,19E-01    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 2,84E-03  | 0,00E+00         | 1,84E-02 |
| Renewable primary energy used as RM     | MJ. net CV | 2,07E+00         | 0,00E+00           | 2,07E-01     | MND       | 8,34E-01    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 0,00E+00  | 0,00E+00         | 0,00E+00 |
| Total renewable primary energy          | MJ. net CV | 9,68E+00         | 2,88E-02           | 1,66E+00     | MND       | 1,65E+00    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 2,84E-03  | 0,00E+00         | 1,84E-02 |
| Non renewable primary energy excl. RM   | MJ. net CV | 1,13E+02         | 1,98E+00           | 1,43E+01     | MND       | 1,26E+00    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,96E-01  | 0,00E+00         | 6,17E-01 |
| Non renewable primary energy used as RM | MJ. net CV | 2,90E+01         | 0,00E+00           | 9,20E+00     | 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 | 1,42E+02         | 1,98E+00           | 2,35E+01     | MND       | 1,26E+00    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,96E-01  | 0,00E+00         | 6,17E-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         | 2,59E-01         | 3,72E-04           | 3,88E-02     | MND       | 1,05E-02    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 3,67E-05  | 0,00E+00         | 7,30E-04 |



ProtectWall 2CR

| PARAMETER                               | UNIT       | Product stage    | Construction stage |              | Use stage |                  |        |                  |                    |                                   |                               | End of life stage        |           |                          |          |
|---|------------|------------------|--------------------|--------------|-----------|------------------|--------|------------------|--------------------|-----------------------------------|-------------------------------|--------------------------|-----------|--------------------------|----------|
|   |            | Total Production | Transport          | Installation | Use       | Mainten-<br>ance | Repair | Replace-<br>ment | refurbish-<br>ment | Operatio-<br>nal<br>energy<br>use | Operatio-<br>nal water<br>use | De-<br>construct-<br>ion | Transport | Waste<br>processi-<br>ng | Disposal |
|   |            | A1-A3            | A4                 | A5           | B1        | B2.              | B3     | B4               | B5                 | B6                                | B7                            | C1                       | C2.       | C3                       | C4       |
| Renewable primary energy excl. RM       | MJ. net CV | 9,14E+00         | 3,76E-02           | 1,61E+00     | MND       | 8,19E-01         | MND    | MND              | MND                | MND                               | MND                           | 0,00E+00                 | 3,70E-03  | 0,00E+00                 | 2,39E-02 |
| Renewable primary energy used as RM     | MJ. net CV | 3,55E+00         | 0,00E+00           | 3,55E-01     | MND       | 8,34E-01         | MND    | MND              | MND                | MND                               | MND                           | 0,00E+00                 | 0,00E+00  | 0,00E+00                 | 0,00E+00 |
| Total renewable primary energy          | MJ. net CV | 1,27E+01         | 3,76E-02           | 1,97E+00     | MND       | 1,65E+00         | MND    | MND              | MND                | MND                               | MND                           | 0,00E+00                 | 3,70E-03  | 0,00E+00                 | 2,39E-02 |
| Non renewable primary energy excl. RM   | MJ. net CV | 1,14E+02         | 2,58E+00           | 1,45E+01     | MND       | 1,26E+00         | MND    | MND              | MND                | MND                               | MND                           | 0,00E+00                 | 2,54E-01  | 0,00E+00                 | 8,03E-01 |
| Non renewable primary energy used as RM | MJ. net CV | 3,19E+01         | 0,00E+00           | 9,50E+00     | 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 | 1,46E+02         | 2,58E+00           | 2,39E+01     | MND       | 1,26E+00         | MND    | MND              | MND                | MND                               | MND                           | 0,00E+00                 | 2,54E-01  | 0,00E+00                 | 8,03E-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         | 3,98E-01         | 4,85E-04           | 5,28E-02     | MND       | 1,05E-02         | MND    | MND              | MND                | MND                               | MND                           | 0,00E+00                 | 4,78E-05  | 0,00E+00                 | 9,50E-04 |



Waste production and output flows

| Aquarelle Wall                |      |                  |                    |              |           |              |        |              |                |                         |                        |                   |           |                   |          |
|-------------------------------|------|------------------|--------------------|--------------|-----------|--------------|--------|--------------|----------------|-------------------------|------------------------|-------------------|-----------|-------------------|----------|
| PARAMETER                     | UNIT | Product stage    | Construction stage |              | Use stage |              |        |              |                |                         |                        | End of life stage |           |                   |          |
|                               |      | Total Production | Transport          | Installation | Use       | Maintenanc e | Repair | Replace ment | refurbish ment | Operatio nal energy use | Operatio nal water use | De-construct ion  | Transport | Waste processi ng | Disposal |
|                               |      | A1-A3            | A4                 | A5           | B1        | B2           | B3     | B4           | B5             | B6                      | B7                     | C1                | C2        | C3                | C4       |
| Hazardous waste disposed      | kg   | 2,08E-01         | 7,96E-04           | 9,87E-02     | MND       | 1,36E-02     | MND    | MND          | MND            | MND                     | MND                    | 0,00E+00          | 7,92E-05  | 0,00E+00          | 3,67E-04 |
| Non hazardous waste disposed  | kg   | 8,22E-01         | 7,03E-02           | 5,40E-01     | MND       | 4,54E-02     | MND    | MND          | MND            | MND                     | MND                    | 0,00E+00          | 6,99E-03  | 0,00E+00          | 1,79E+00 |
| Radioactive waste disposed    | kg   | 1,21E-04         | 9,26E-06           | 4,28E-05     | MND       | 3,37E-06     | MND    | MND          | MND            | MND                     | MND                    | 0,00E+00          | 9,23E-07  | 0,00E+00          | 2,81E-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   | 6,40E-02         | 0,00E+00           | 1,65E-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           | 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 (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 |

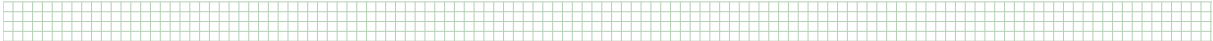
MND: Module not declared



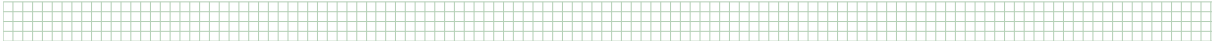
| Aquarelle Wall HFS            |      |                  |                    |              |           |             |        |             |               |                        |                       |                   |           |                  |          |
|-------------------------------|------|------------------|--------------------|--------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| 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 | Deconstruction    | Transport | Waste processing | Disposal |
|                               |      | A1-A3            | A4                 | A5           | B1        | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                | C2        | C3               | C4       |
| Hazardous waste disposed      | kg   | 2,28E-01         | 7,57E-04           | 1,01E-01     | MND       | 1,36E-02    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 7,55E-05  | 0,00E+00         | 3,49E-04 |
| Non hazardous waste disposed  | kg   | 1,20E+00         | 6,69E-02           | 5,78E-01     | MND       | 4,54E-02    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 6,66E-03  | 0,00E+00         | 1,70E+00 |
| Radioactive waste disposed    | kg   | 1,36E-04         | 8,81E-06           | 4,42E-05     | MND       | 3,37E-06    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 8,79E-07  | 0,00E+00         | 2,68E-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   | 6,40E-02         | 0,00E+00           | 1,56E-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           | 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 (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 |



| ProtectWall 1.5               |      |                  |                    |              |           |             |        |             |               |                        |                       |                   |           |                  |          |
|-------------------------------|------|------------------|--------------------|--------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| 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 | Deconstruction    | Transport | Waste processing | Disposal |
|                               |      | A1-A3            | A4                 | A5           | B1        | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                | C2        | C3               | C4       |
| Hazardous waste disposed      | kg   | 3,63E-01         | 1,17E-03           | 1,14E-01     | MND       | 1,36E-02    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,15E-04  | 0,00E+00         | 5,34E-04 |
| Non hazardous waste disposed  | kg   | 1,98E+00         | 1,03E-01           | 6,61E-01     | MND       | 4,54E-02    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,02E-02  | 0,00E+00         | 2,60E+00 |
| Radioactive waste disposed    | kg   | 1,89E-04         | 1,36E-05           | 5,03E-05     | MND       | 3,37E-06    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,34E-06  | 0,00E+00         | 4,09E-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   | 6,40E-02         | 0,00E+00           | 2,46E-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           | 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 (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 |



| ProtectWall 2CR               |      |                  |                    |              |           |             |        |             |               |                        |                       |                   |           |                  |          |
|-------------------------------|------|------------------|--------------------|--------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|
| 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-construct ion  | Transport | Waste processing | Disposal |
|                               |      | A1-A3            | A4                 | A5           | B1        | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                | C2        | C3               | C4       |
| Hazardous waste disposed      | kg   | 9,86E-01         | 1,52E-03           | 1,77E-01     | MND       | 1,36E-02    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,50E-04  | 0,00E+00         | 6,95E-04 |
| Non hazardous waste disposed  | kg   | 1,96E+00         | 1,35E-01           | 6,64E-01     | MND       | 4,54E-02    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,32E-02  | 0,00E+00         | 3,39E+00 |
| Radioactive waste disposed    | kg   | 2,09E-04         | 1,77E-05           | 5,29E-05     | MND       | 3,37E-06    | MND    | MND         | MND           | MND                    | MND                   | 0,00E+00          | 1,75E-06  | 0,00E+00         | 5,33E-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   | 6,40E-02         | 0,00E+00           | 3,25E-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           | 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 (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 |





## Programme-related information and verification

The EPD owner has the sole ownership, liability and responsibility for the EPD. EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and EN 16810.

|                                      |   |
|--------------------------------------|---|
| <b>Programme:</b>                    | <p>The International EPD® System</p> <p>EPD International AB<br/>Box 210 60<br/>SE-100 31 Stockholm<br/>Sweden</p> <p><a href="http://www.environdec.com">www.environdec.com</a><br/><a href="mailto:info@environdec.com">info@environdec.com</a></p> |
| <b>EPD registration number:</b>      | S-P-01349   |
| <b>Published:</b>                    | 2018-12-07  |
| <b>Valid until:</b>                  | 2023-12-01  |
| <b>Product Category Rules:</b>       | PCR 2012:01 version 2.2   |
| <b>Product group classification:</b> | UN CPC APE/NAF - 2223Z  |
| <b>Reference year for data:</b>      | 2017  |
| <b>Geographical scope:</b>           | Europe  |

|   |
|---|
| CEN standard EN 15804 serves as the Core Product Category Rules (PCR)   |
| Product category rules (PCR): EN 15804 and EN 16810   |
| Independent third-party verification of the declaration and data. according to ISO 14025:2006:  |
| <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:<br><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 2.2 and Sub-PCR-F Resilient textile and laminate floor coverings (EN 16810)

There is no specific PCR for wall coverings. We assume that a wall covering is like a floor covering but installed on a wall. The Sub-PCR Resilient, Textile and Laminate floor coverings (EN 16810:2017)

PCR 2012:01-SUB-PCR-F (Date: 2018-02-07) has been used as a guidance.

### Contact information:

|   |  |
|---|--|
|    | <b>Programme operator:</b><br>EPD International AB<br>info@environdec.com  |
|  | <b>Author of the Life Cycle Assessment</b><br>TARKETT<br>Tarkett La Défense<br>1 Terrasse Bellini<br>92 400 Paris<br><br>Tel<br>Mail<br>Web<br><br>+33 (0)1 41 20 40 74<br><a href="mailto:axel.roy@tarkett.com">axel.roy@tarkett.com</a><br><a href="http://www.tarkett.com">www.tarkett.com</a>                    |
|  | <b>Owner of the Declaration</b><br>TARKETT<br>Tarkett La Défense<br>1 Terrasse Bellini<br>92 400 Paris<br><br>Tel<br>Mail<br>Web<br><br>+33 (0)1 41 20 40 74<br><a href="mailto:axel.roy@tarkett.com">axel.roy@tarkett.com</a><br><a href="http://www.tarkett.com">www.tarkett.com</a>                               |
|  | <b>Reviewer</b><br>BUREAU VERITAS<br>LCIE<br>170 rue de Chatagnon<br>ZI Centr'alp<br>38 430 Moirans -<br>FRANCE<br><br>Tel<br>Mail<br>Web<br><br>33 (0)4 76 07 36 42<br><a href="mailto:damien.prunel@fr.bureauveritas.com">damien.prunel@fr.bureauveritas.com</a><br><a href="http://www.codde.fr">www.codde.fr</a> |

