EPD®
THE INTERNATIONAL EPD® SYSTEM


# ENVIRONMENTAL PRODUCT DECLARATION

*In accordance with ISO 14025 for*

## Confix DS

| Programme: | Programme operator: | EPD registration number: | Approval date: | Valid until: | Geographical scope: |
|---|---|---|---|---|---|
| **The International EPD© System; www.environdec.com** | **EPD International AB** | **S-P-01010** | **2017-10-09** | **2022-10-08** | **International** |

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ADHESIVES · SEALANTS · CHEMICAL PRODUCTS FOR BUILDING

# 1. COMPANY DESCRIPTION / GOAL & SCOPE

Founded in 1937 in Milan, Italy, Mapei produces adhesives and complementary products for laying all types of floor, wall and coating materials, and is also specialized in other chemical products used in the building industry, such as waterproofing products, special mortars, admixtures for concrete, products for underground constructions and for the restoration of concrete and historical buildings.

There are currently 81 subsidiaries in Mapei Group, with a total of 73 production facilities located around the world in 34 different countries and in 5 different continents. Mapei has also 18 central laboratories. Most locations are ISO 9001 and ISO 14001 or EMAS-certified.

Mapei's strategy of internationalization is based on two main objectives: being closer to local needs and the lowest transport costs possible. With the declared objective of being close to buyers and clients, the strength of Mapei in the five continents is to comply the requirements of each single country, and to use only locally-based managers and qualified personnel, without changing the approach of the Company.

Mapei invests 12% of its company's total work-force and 5% of its turnover in Research & Development; in particular, 70% of its R&D efforts are directed to develop eco-sustainable and environmentally friendly products which give important contribution to all main green rating for eco-sustainable buildings such as LEED and BREEAM.

Furthermore, Mapei has developed a sales and technical service network with offices all over the world and offers an efficient Technical Assistance Service that is valued by architects, engineers, contractors and owners.

The goal of the study is to provide necessary data and documentation to produce an EPD according to the requirements of PCR according to EN 15804:2014 and PCR Environdec, version 2.2, date 2017-05-30 and to have more comprehension about the environmental impacts related to **Confix** and **DS** manufactured in Mapei AS located in Sagstua (Norway), in year 2016, including packaging of the finished products.

Target audiences of the study are customers and other parties with an interest in the environmental impacts of **Confix** and **DS**.

This analysis shall not support comparative assertions intended to be disclosed to the public.

## 2. PRODUCT DESCRIPTION

**Confix** is a dry mortar specifically designed for repairs, reinforcement and maintenance of concrete in thickness 10-50 mm in areas where strength, low shrinkage and density are crucial.

**DS** is a dry mortar especially designed for spraying, concrete repair and mortar work carried out through application by dryshot method.

The two products are compliant with EN 13813 ("Screed material and floor screeds. Screed material. Properties and requirements"), and supplied in 25 kg multiply bags or in big-bags with 1200 kg of finished product.

## 3. CONTENT DECLARATION

The main components and ancillary materials of **Confix** and **DS** are the following:

*Table 1: Composition*

| Materials | Percentage (%) |
|---|---|
| binders | 15 – 30 |
| fillers | 65 – 85 |
| Other (additives & packaging) | < 3 |

These products contain no substances of very high concern (SVHC) on the REACH Candidate List published by the European Chemicals Agency in a concentration more than 0,1 % (by unit weight).

## 4. DECLARED UNIT AND REFERENCE SERVICE LIFE

**The declared unit is 1 kg of powder (included packaging).**
Packaging materials include:

- Wooden pallet
- Multiply bags (paper/PE/paper)
- PP (big-bags)
- LDPE used as wrapping material

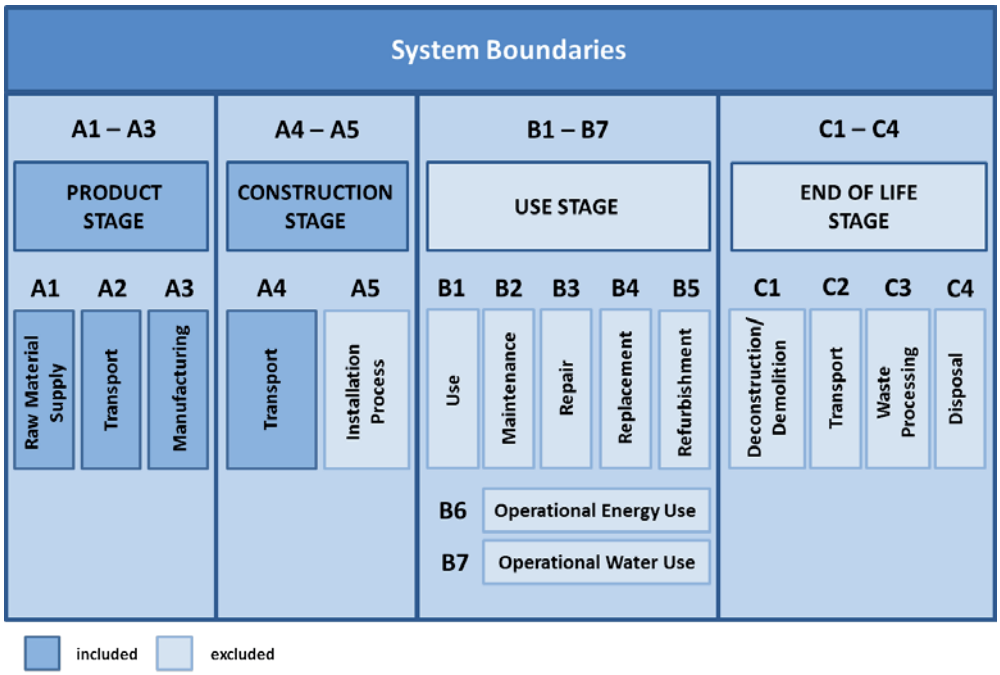
Due to the selected system boundary, the reference service life of the products is not specified.

## 5. SYSTEM BOUNDARIES & ADDITIONAL TECHNICAL INFORMATION

The approach is a “cradle to gate” with options. The following modules have been considered:

- A1-A3 (Product stage): extraction and transport of raw materials, packaging included, production process;
- A4 (Construction Process stage): transport of the finished product to final customers.

*Table 2: System boundaries*



A brief description of the production process, is the following:

*Figure 1: Production process detail - © Photo Halvor Gudim*

The production process starts from raw materials, that are purchased from external and intercompany suppliers and stored in the plant. Bulk raw materials are stored in specific silos and added automatically in the production mixer, according to the formula of the product. Other raw materials, supplied in bags or big bags, are stored in the warehouse and added automatically or manually in the mixer. The production is a discontinuous process, in which all the components are mechanically mixed in batches. The semi-finished product is then packaged in bags, put on wooden pallets, covered by stretched hoods and stored in the Finished Products' warehouse. The quality of final products is controlled before the sale.

*Figure 2: Sagstua Plant*

*Table 3: Transport to the building site (A4)*

| Name | Value | Unit |
|---|---|---|
| Means of transport: truck euro 3 with 27 tons of payload | | |
| Litres of fuel (truck) | ~ 2E-03 | l/DU*100km |
| Transport distance (weighted average) | 300 | km |
| Capacity utilisation (including empty runs) | 85 | % |
| Capacity utilisation volume factor | 100 | % |
| DU: declared unit | | |

## 6. CUT-OFF RULES & ALLOCATION

Criteria for the exclusion of inputs and outputs (cut-off rules) in the LCA, information modules and any additional information are intended to support an efficient calculation procedure. They are not applied in order to hide data.
The following procedure is followed for the exclusion of inputs and outputs:

- All inputs and outputs to a unit process, for which data are available, are included in the calculation.
- Less than 1% of the total mass inputs/outputs of the unit process A3 are cut-off (see Table 4).

Input flows are covered for the whole formula.

*Table 4: Cut-off criteria*

| Process excluded from study | Cut-off criteria | Quantified contribution from process |
|---|---|---|
| A3: production (auxiliary materials) | less than $10^{-5}$ kg / kg of finished product | Sensitivity study demonstrates a relative contribution lower than 2% |
| A3: waste | less than $10^{-5}$ kg / kg of finished product | Sensitivity study demonstrates a relative contribution lower than 2% |

For the allocation procedure and principles, consider the following table (Table 5):

*Table 5: Allocation procedure and principles*

| Module | Allocation Principle |
|---|---|
| A1; | All data are referred to 1 kg of powder product<br>• A1: electricity is allocated to the mortars plant |
| A3 | All data are referred to 1 kg of powder packaged product:<br>• A3-wastes: all data are allocated to the mortars plant |
| A4 | All data are referred to 1 kg of powder packaged product:<br>• A4: a weighted average scenario has been used referred to the mortars plant |

## 7. ENVIRONMENTAL PERFORMANCE & INTERPRETATION

Following tables show environmental impacts for the products considered according to CML methodology (2010 - Jan 2016).

### Confix

*Table 6: **Confix** (packaged with big-bags): Environmental categories*

| System boundary | | Upstream + core | Downstream |
|---|---|---|---|
| Modules | Unit | A1-A3 | A4 |
| **$ADP_e$ (element)** | kg Sb eq. | 1,66E-07 | 1,30E-09 |
| **$ADP_f$ (fossil)** | MJ | 2,27E+00 | 2,21E-01 |
| **AP** | kg $SO_2$ eq. | 6,71E-04 | 9,54E-05 |
| **EP** | kg $(PO_4)^{3-}$ eq. | 1,37E-04 | 2,42E-05 |
| **$GWP_{100}$** | kg $CO_2$ eq. | 2,86E-01 | 1,61E-02 |
| **ODP** | (Kg R-11 eq.) | 1,01E-09 | 5,36E-15 |
| **POCP** | kg ethylene eq. | 4,16E-05 | -4,21E-05 |

**GWP100**: Global Warming Potential; **ADPe**: Abiotic Depletion Potential (elements); **EP**: Eutrophication Potential; **AP**: Acidification Potential; **POCP**: Photochemical Ozone Creation Potential; **ODP**: Ozone Depletion Potential; **ADPf**: Abiotic Depletion Potential (fossil)

*Table 7: **Confix** (packaged with big-bags): other environmental indicators*

| System boundary | | Upstream + core | Downstream |
|---|---|---|---|
| **Parameter** | **Unit** | **A1-A3** | **A4** |
| RPEE | MJ | 7,17E-01 | 1,11E-02 |
| RPEM | MJ | - | - |
| TPE | MJ | 7,17E-01 | 1,11E-02 |
| NRPE | MJ | 2,43E+00 | 2,22E-01 |
| NRPM | MJ | - | - |
| TRPE | MJ | 2,43E+00 | 2,22E-01 |
| SM | kg | - | - |
| RSF | MJ | - | - |
| NRSF | MJ | - | - |
| W | $m^3$ | 1,03E-03 | 2,53E-04 |

**RPEE** Renewable primary energy as energy carrier; **RPEM** Renewable primary energy as material utilisation; **TPE** Total use of renewable primary energy sources; **NRPE** Non-renewable primary energy as energy carrier; **NRPM** Non-renewable primary energy as material utilization; **TRPE** Total use of non-renewable primary energy sources; **SM** Use of secondary materials; **RSF** Renewable secondary fuels; **NRSF** Non-renewable secondary fuels; **W** Net use of fresh water [total freshwater consumption]

*Table 8: **Confix** (packaged with big-bags): waste production & other output flows*

| System boundary | | Upstream + core | Downstream |
|---|---|---|---|
| **Parameter** | **Unit** | **A1-A3** | **A4** |
| NHW | kg | 2,12E-02 | - |
| HW | kg | 2,72E-06 | - |
| RW | kg | 0,00E+00 | - |
| Components for re-use | kg | - | - |
| Materials for recycling | kg | - | - |
| Materials for energy recovery | kg | - | - |
| Exported energy | MJ | - | - |

**HW** Hazardous waste disposed; **NHW** Non Hazardous waste disposed; **RW** Radioactive waste disposed

## Confix

*Table 9: **Confix** (packaged with multiply bags): Environmental categories*

| System boundary | | | Upstream + core | Downstream |
|---|---|---|---|---|
| | Modules | Unit | A1-A3 | A4 |
|  | **$ADP_e$ (element)** | kg Sb eq. | 1,67E-07 | 1,30E-09 |
|  | **$ADP_f$ (fossil)** | MJ | 2,12E+00 | 2,21E-01 |
|  | **AP** | kg $SO_2$ eq. | 6,29E-04 | 9,55E-05 |
|  | **EP** | kg $(PO_4)^{3-}$ eq. | 1,35E-04 | 2,42E-05 |
|  | **$GWP_{100}$** | kg $CO_2$ eq. | 2,79E-01 | 1,61E-02 |
|  | **ODP** | (Kg R-11 eq.) | 1,01E-09 | 5,37E-15 |
|  | **POCP** | kg ethylene eq. | 3,81E-05 | -4,21E-05 |

**GWP100**: Global Warming Potential; **ADPe**: Abiotic Depletion Potential (elements); **EP**: Eutrophication Potential; **AP**: Acidification Potential; **POCP**: Photochemical Ozone Creation Potential; **ODP**: Ozone Depletion Potential; **ADPf**: Abiotic Depletion Potential (fossil)

*Table 10: **Confix** (packaged with multiply bags): other environmental indicators*

| System boundary | | Upstream + core | Downstream |
|---|---|---|---|
| Parameter | Unit | A1-A3 | A4 |
| RPEE | MJ | 8,32E-01 | 1,11E-02 |
| RPEM | MJ | - | - |
| TPE | MJ | 8,32E-01 | 1,11E-02 |
| NRPE | MJ | 2,27E+00 | 2,22E-01 |
| NRPM | MJ | - | - |
| TRPE | MJ | 2,27E+00 | 2,22E-01 |
| SM | kg | - | - |
| RSF | MJ | - | - |
| NRSF | MJ | - | - |
| W | $m^3$ | 1,01E-03 | 2,53E-04 |

**RPEE** Renewable primary energy as energy carrier; **RPEM** Renewable primary energy as material utilisation; **TPE** Total use of renewable primary energy sources; **NRPE** Non-renewable primary energy as energy carrier; **NRPM** Non-renewable primary energy as material utilization; **TRPE** Total use of non-renewable primary energy sources; **SM** Use of secondary materials; **RSF** Renewable secondary fuels; **NRSF** Non-renewable secondary fuels; **W** Net use of fresh water [total freshwater consumption]

*Table 11: **Confix** (packaged with multiply bags): waste production & other output flows*

| System boundary | | Upstream + core | Downstream |
|---|---|---|---|
| Parameter | Unit | A1-A3 | A4 |
| NHW | kg | 2,12E-02 | - |
| HW | kg | 2,72E-06 | - |
| RW | kg | 0,00E+00 | - |
| Components for re-use | kg | - | - |
| Materials for recycling | kg | - | - |
| Materials for energy recovery | kg | - | - |
| Exported energy | MJ | - | - |

**HW** Hazardous waste disposed; **NHW** Non Hazardous waste disposed; **RW** Radioactive waste disposed

## DS

*Table 12: **DS** (packaged with big-bags): Environmental categories*

| System boundary | | Upstream + core | Downstream |
|---|---|---|---|
| Modules | Unit | A1-A3 | A4 |
| $ADP_e$ (element) | kg Sb eq. | 1,28E-07 | 1,30E-09 |
| $ADP_f$ (fossil) | MJ | 2,74E+00 | 2,21E-01 |
| AP | kg $SO_2$ eq. | 1,06E-03 | 9,54E-05 |
| EP | kg $(PO_4)^{3-}$ eq. | 1,36E-04 | 2,42E-05 |
| $GWP_{100}$ | kg $CO_2$ eq. | 2,93E-01 | 1,61E-02 |
| ODP | (Kg R-11 eq.) | 6,67E-10 | 5,36E-15 |
| POCP | kg ethylene eq. | 5,58E-05 | -4,21E-05 |

**GWP100**: Global Warming Potential; **ADPe**: Abiotic Depletion Potential (elements); **EP**: Eutrophication Potential; **AP**: Acidification Potential; **POCP**: Photochemical Ozone Creation Potential; **ODP**: Ozone Depletion Potential; **ADPf**: Abiotic Depletion Potential (fossil)

*Table 13: **DS** (packaged with big-bags): other environmental indicators*

| System boundary | | Upstream + core | Downstream |
|---|---|---|---|
| **Parameter** | **Unit** | **A1-A3** | **A4** |
| RPEE | MJ | 7,13E-01 | 1,11E-02 |
| RPEM | MJ | - | - |
| TPE | MJ | 7,13E-01 | 1,11E-02 |
| NRPE | MJ | 3,02E+00 | 2,22E-01 |
| NRPM | MJ | - | - |
| TRPE | MJ | 3,02E+00 | 2,22E-01 |
| SM | kg | - | - |
| RSF | MJ | - | - |
| NRSF | MJ | - | - |
| W | $m^3$ | 1,24E-03 | 2,53E-04 |

**RPEE** Renewable primary energy as energy carrier; **RPEM** Renewable primary energy as material utilisation; **TPE** Total use of renewable primary energy sources; **NRPE** Non-renewable primary energy as energy carrier; **NRPM** Non-renewable primary energy as material utilization; **TRPE** Total use of non-renewable primary energy sources; **SM** Use of secondary materials; **RSF** Renewable secondary fuels; **NRSF** Non-renewable secondary fuels; **W** Net use of fresh water [total freshwater consumption]

*Table 14: **DS** (packaged with big-bags): waste production & other output flows*

| System boundary | | Upstream + core | Downstream |
|---|---|---|---|
| **Parameter** | **Unit** | **A1-A3** | **A4** |
| NHW | kg | 1,67E-02 | - |
| HW | kg | 2,65E-06 | - |
| RW | kg | 0,00E+00 | - |
| Components for re-use | kg | - | - |
| Materials for recycling | kg | - | - |
| Materials for energy recovery | kg | - | - |
| Exported energy | MJ | - | - |

**HW** Hazardous waste disposed; **NHW** Non Hazardous waste disposed; **RW** Radioactive waste disposed

## DS

*Table 15: **DS** (packaged with multiply bags): Environmental categories*

| System boundary | | | Upstream + core | Downstream |
|---|---|---|---|---|
| | Modules | Unit | A1-A3 | A4 |
|  | **$ADP_e$ (element)** | kg Sb eq. | 1,30E-07 | 1,30E-09 |
|  | **$ADP_f$ (fossil)** | MJ | 2,59E+00 | 2,21E-01 |
|  | **AP** | kg $SO_2$ eq. | 1,01E-03 | 9,55E-05 |
|  | **EP** | kg $(PO_4)^{3-}$ eq. | 1,34E-04 | 2,42E-05 |
|  | **$GWP_{100}$** | kg $CO_2$ eq. | 2,87E-01 | 1,61E-02 |
|  | **ODP** | (Kg R-11 eq.) | 6,67E-10 | 5,37E-15 |
|  | **POCP** | kg ethylene eq. | 5,23E-05 | -4,21E-05 |

**GWP100**: Global Warming Potential; **ADPe**: Abiotic Depletion Potential (elements); **EP**: Eutrophication Potential; **AP**: Acidification Potential; **POCP**: Photochemical Ozone Creation Potential; **ODP**: Ozone Depletion Potential; **ADPf**: Abiotic Depletion Potential (fossil)

*Table 16: **DS** (packaged with multiply bags):: other environmental indicators*

| System boundary | | Upstream + core | Downstream |
|---|---|---|---|
| **Parameter** | **Unit** | **A1-A3** | **A4** |
| RPEE | MJ | 8,28E-01 | 1,11E-02 |
| RPEM | MJ | - | - |
| TPE | MJ | 8,28E-01 | 1,11E-02 |
| NRPE | MJ | 2,85E+00 | 2,22E-01 |
| NRPM | MJ | - | - |
| TRPE | MJ | 2,85E+00 | 2,22E-01 |
| SM | kg | - | - |
| RSF | MJ | - | - |
| NRSF | MJ | - | - |
| W | $m^3$ | 1,22E-03 | 2,53E-04 |

**RPEE** Renewable primary energy as energy carrier; **RPEM** Renewable primary energy as material utilisation; **TPE** Total use of renewable primary energy sources; **NRPE** Non-renewable primary energy as energy carrier; **NRPM** Non-renewable primary energy as material utilization; **TRPE** Total use of non-renewable primary energy sources; **SM** Use of secondary materials; **RSF** Renewable secondary fuels; **NRSF** Non-renewable secondary fuels; **W** Net use of fresh water [total freshwater consumption]

*Table 17: **DS** (packaged with multiply bags): waste production & other output flows*

| System boundary | | Upstream + core | Downstream |
|---|---|---|---|
| **Parameter** | **Unit** | **A1-A3** | **A4** |
| NHW | kg | 1,67E-02 | - |
| HW | kg | 2,65E-06 | - |
| RW | kg | 0,00E+00 | - |
| Components for re-use | kg | - | - |
| Materials for recycling | kg | - | - |
| Materials for energy recovery | kg | - | - |
| Exported energy | MJ | - | - |

**HW** Hazardous waste disposed; **NHW** Non Hazardous waste disposed; **RW** Radioactive waste disposed

Tables from 6 to 17 show absolute results for all the environmental categories considered. Calculations point out that module **A1** has the highest contribution for most environmental indicators (i.e. relative contribution in $GWP_{100}$ is more than 90%).

Raw materials extraction and processing show the most relevant environmental load considering the whole life cycle of the finished product. In particular, the hydraulic binder and the fillers have the strongest influence on the results.

Transportation modules (**A2**, **A4**) highlight a significant contribution for most environmental impact categories (ODP excluded). In particular, regarding POCP, they show a negative contribution due to NO and $NO_2$ emission factors as reported in CML 2001 (Jan. 2016) methodology.

The following tables show the relative contributions of the modules **A1** – **A4**, and a detail on $GWP_{100}$ representative for the three products included in this EPD.

*Table 18: Environmental Impact as percentage – Representative for all product packaged with bigbag*

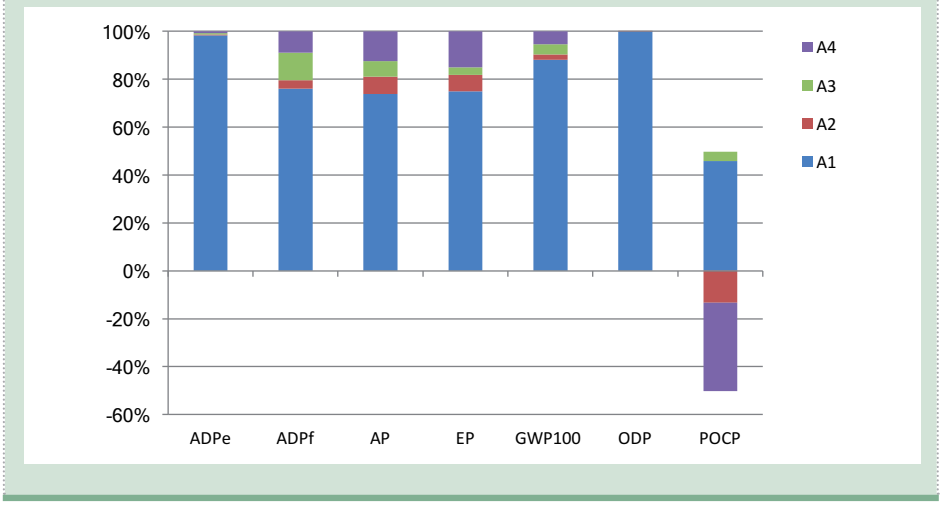


*Table 19: Environmental Impact as percentage – Representative for all product packaged with multiply bag*

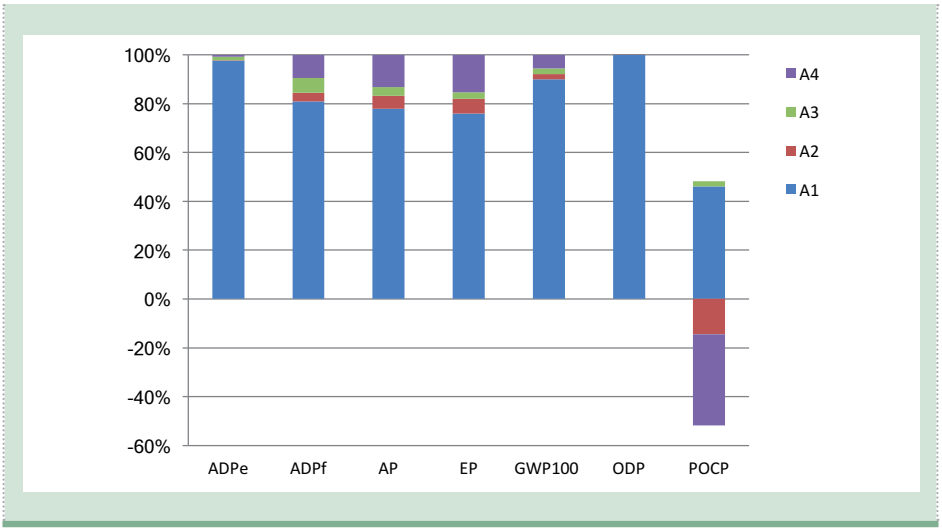
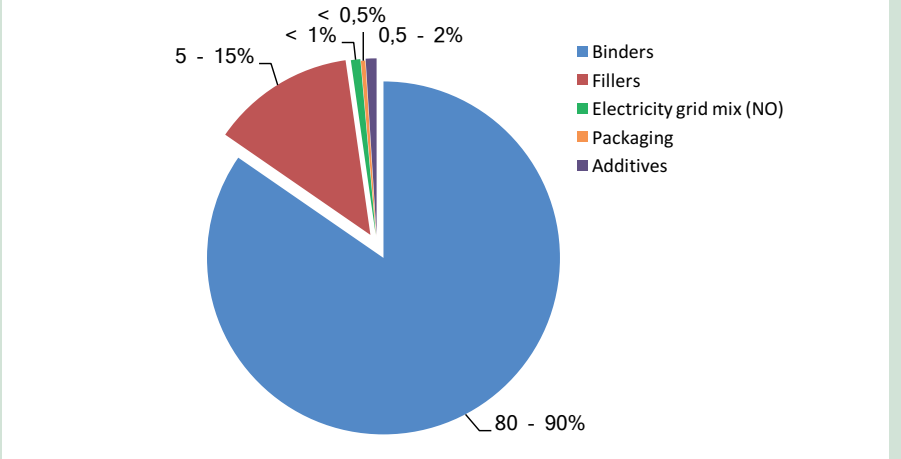



*Table 20: Detail on $GWP_{100}$: raw materials contribution*




More details about electrical mix used in this EPD (Norwegian grid mix – 2013), is shown below:

| Data source | Amount | Unit |
|---|---|---|
| GaBi (v6) database | 0,0356 | kg $CO_2$-eqv/kWh |

# 8. DATA QUALITY

*Table 21: Data quality*

| Dataset & Geographical reference | Database (source) | Temporary reference |
|---|---|---|
| **A1; A3** | | |
| PTL binder | EPD NORCEM n23N rev1 | 2013 |
| Fillers (EU) | GaBi Database | 2016 |
| Electricity grid mix (NO) | GaBi Database | 2013 |
| Additives & others (Packaging components) | GaBi Database, Plastic Europe, EPD EFCA 20150091 | 2005 – 2016 |
| **A2; A4** | | |
| Truck transport (euro 3, 27ton payload – GLO) | GaBi Database | 2016 |
| Oceanic ship (27500 DWT - GLO) | GaBi Database | 2016 |
| Light Train (Gross Ton Weight 500 Tons - GLO) | GaBi Database | 2016 |
| Electricity mix (EU) | GaBi Database | 2013 |
| Diesel for transport (EU) | GaBi Database | 2013 |
| Heavy Fuel Oil (EU) | GaBi Database | 2013 |

All data included in table above refer to a period between 2005 and 2016; the most relevant ones are European or specific from supplier, while the others (i.e. transport and minor contribution dataset), come from European, global and German databases.

All dataset are not more than 10 years old (according to EN 15804 § 6.3.7 "*Data quality requirements*"). Unique exception is due to one packaging component coming from PlasticEurope database.

Primary data are collected during 2016 and representative for the entire annual production.

## 9. VERIFICATION AND REGISTRATION

EPD of construction products may not be comparable if they do not comply with EN 15804. Environmental product declarations within the same product category from different programs may not be comparable.

| CEN standard EN15804 served as the core PCR | |
|---|---|
| PCR: | PCR 2012:01 Construction products and Construction services, Version 2.2, 2017-05-30 |
| PCR review was conducted by: | The Technical Committee of the International EPD® System. Chair: Massimo Marino<br><br>Contact via **info@environdec.com** |
| Independent verification of the declaration and data, according to ISO 14025 | ☒ EPD Process Certification (Internal)<br><br>☐ EPD Verification (external) |
| Third party verifier: | Certiquality S.r.l.<br>Number of accreditation:<br>003H rev14 |
| Accredited or approved by: | Accredia |

## 10. REFERENCES


- GENERAL PROGRAMME INSTRUCTIONS OF THE INTERNATIONAL EPD® SYSTEM. VERSION 2.5.
- PCR 2012:01; “PRODUCT GROUP CLASSIFICATION: MULTIPLE UN CPC CODES CONSTRUCTION PRODUCTS AND CONSTRUCTION SERVICES”; VERSION 2.2
- EN 13813 “SCREED MATERIAL AND FLOOR SCREEDS. SCREED MATERIAL. PROPERTIES AND REQUIREMENTS”

## CONTACT INFORMATION

| | |
|---|---|
| EPD owner: | Mapei AS<br>www.mapei.no |
| LCA author: | Mapei SpA<br>www.mapei.it; Environmental Sustainability Office |
| Programme operator: | EPD International AB<br>info@environdec.com |

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# ANNEX 1

# ANNEX 1: Self declaration from EPD owner

## Specific Norwegian requirements

### 1 Applied electricity data set used in the manufacturing phase

The electricity mix for the electricity used in manufacturing (A3) is the electricity grid mix

<0,0356 kg $CO_2$ eqv/kWh>

### 2 Content of dangerous substances

☒ The product contains no substances given by the REACH Candidate list or the Norwegian priority list.

☐ The product contains substances that are less than 0.1% by weight given by the REACH Candidate or the Norwegian priority list.

☐ The product contains dangerous substances more than 0.1% by weight given in the REACH candidate list or the Norwegian Priority List, concentrations is given in the EPD:

| Dangerous substances from the REACH candidate list or the Norwegian Priority List | CAS No. | Quantity (concentration, wt%/FU(DU)). |
|---|---|---|
| Substance 1 | | |
| Substance n | | |

### 3 Transport from the place of manufacture to a central warehouse

Transport distance, and $CO_2$-eqv./DU from transport of the product from factory gate to central warehouse in Oslo shall be given. The following table shall be included in the EPD:

| Type | Capacity utilisation (incl. return) % | Type of vehicle | Distance km | Fuel/Energy use | Unit | Value (l/t) | Kg CO2-eqv./DU |
|---|---|---|---|---|---|---|---|
| Boat | | | | | | | |
| Truck | 85 | 27 tonn, EURO 3 | 95 | 0,0182 | l/tkm | 4,56 | 1,37E-02 |
| Railway | | | | | | | |
| Rail | | | | | | | |
| Air | | | | | | | |
| Total | 85 | 27 tonn, EURO 3 | 95 | 0,0182 | l/tkm | 4,56 | 1,37E-02 |

# 4 Impact on the indoor environment

☐ Indoor air emission testing has been performed; specify test method and reference:
☐ No test has being performed
☒ Not relevant; specify : the products are morars ofr outdoor applications