



Environmental Product Declaration

In accordance with ISO 14025 and UNE-EN 15804:2014+A2:2019 for:



**ECOPact Prime: H20, H25, ARTEVIA HDOS 330,
H25 AGILIA, H30 AGILIA and HYDROMEDIA.**

FROM

LAFARGEHOLCIM



Programme:

Programme operator:

EPD registration
number:

Publication date:

Valid until:

The International EPD® System, www.environdec.com

EPD International AB

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An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com



General information

Programme information

| | |
|-------------------|---|
| Programme: | The International EPD® System |
| Address: | EPD International AB Box 210 60 SE-100 31 Stockholm Sweden |
| Website: | www.environdec.com |
| E-mail: | info@environdec.com |

| |
|---|
| CEN standard EN 15804 serves as the Core Product Category Rules (PCR) |
| Product category rules (PCR): PCR 2019:14 Construction Products. Version 1.11, c-PCR-003 Concrete and concrete elements (EN 16757). Version 2019-12-20. |
| PCR review was conducted by: The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña. The review panel may be contacted via the Secretariat info@environdec.com |
| 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: TECNALIA R&I Certificación S.L. Auditor: Cristina Gazulla Santos Accredited by: ENAC. Accreditation no.125/C-PR283 |
| Procedure for follow-up of data during EPD validity involves third party verifier: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

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. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: LAFARGEHOLCIM SPAIN.

Avenida de Manoteras 20 Edif. Tokyo 1ª planta. 28050 Madrid (Spain).

<https://www.lafargeholcim.es/>

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Description of the organisation: LafargeHolcim is one of the world leaders in building materials and solutions with activity in four business segments: cement, aggregate, concrete solutions and products in the field of construction. Its ambition is to lead the industry towards reducing carbon emissions and moving towards low carbon construction. With the strongest R&D area in the industry, the company seeks to promote the development and marketing of high-quality and sustainable building materials and solutions for its customers around the world.

LafargeHolcim has five cement factories in Spain with an installed capacity of seven million tons per year, 20 concrete plants, a mortar plant, a plant for the preparation of alternative fuels from waste, four terminals and two distribution centers, where about 700 employees work. The company is distinguished by having the first Laboratory with an exclusive area of alternative fuels and the first Research and Development Center for New Concrete and Mortars. LafargeHolcim contributes to global development by making significant efforts in innovation, which materialize in the creation of safe, sustainable and high-performance materials and solutions that respond to customer challenges

Product-related or management system-related certifications:

LafargeHolcim has implemented ISO 9001 and ISO 14001 management systems.

Name and location of production site(s):

Since the products included in the EPD are new in the market, primary data related to product composition has been gathered from first production tests in 2020. The results are valid for the product produced in all the manufacturing plants of LafargeHolcim in Spain.

Product information

Product name: ECOPact Prime: H25, H30, H25 AGILIA, H30 AGILIA, ARTEVIA HDOS 330 and HYDROMEDIA.

Product description: LafargeHolcim is a leading manufacturer and supplier of high quality concrete and mortar, and has projects and activities on road and network, collective housing. Concrete and mortar production is a specific process: depending on the nature and quantity of each of the components (cement, aggregates, water, additives), it will have different characteristics. Once manufactured, the ready-mixed concrete/mortar is a fresh product, which must be transported and used quickly on local markets, and under optimal conditions.

LafargeHolcim's concretes and mortars offer an outstanding combination of product quality and performance. All products manufactured are high quality concretes and mortars, characterised by their extraordinary capacity and high finish.

The products are a ready-mixed concrete/mortar, and the ranges included are structural concretes, except ECOPact Prime Artevia HDOS H330, which is used in continuous paving and flooring, and ECOPact Prime Hydromedia which is a draining concrete.

See more product properties in www.lafargeholcim.es/ecopact-hormigon-sostenible

UN CPC code: 375 Articles of concrete, cement and plaster.

LCA information

Functional unit: One m3 of ready-mix of concrete/mortar which fulfills the requirements of technical performance for construction for a reference service life of 100 years. Ready-mix concrete for structural applications has a strength of 25 to 30 MPa, while ready-mix concrete for surface paving must be applied with a dosage of 325 to 330 kg/m³

| Type of concrete | Strength (MPa) | Cement dosage (kg/m ³) | Density (kg/m ³) ¹ | Standard |
|---------------------------------------|----------------|------------------------------------|---|---------------------|
| ECOPact Prime H25 | 25 | Not applicable | 2322,17 | UNE-EN 12390-3:2020 |
| ECOPact Prime H30 | 30 | Not applicable | 2322,20 | UNE-EN 12390-3:2020 |
| ECOPact Prime H25 AGILIA | 25 | Not applicable | 2315,00 | UNE-EN 12390-3:2020 |
| ECOPact Prime H30 AGILIA | 30 | Not applicable | 2320,00 | UNE-EN 12390-3:2020 |
| ECOPact Prime ARTEVIA HDOS 330 | Not applicable | 330 | 2303,93 | RD 470/2021, Spain |
| ECOPact Prime HYDROMEDIA | Not applicable | 325 | 2024,60 | RD 470/2021, Spain |

- For product references that have MPa: the use is structural.
- For the product references that do not have MPa: the use is in paving and flooring (they do not have the "strength" data, in MPa, because they are not structural and are not characterised by their compression).

Reference service life: 100 years (as functional by the manufacturer) and recommended in c-PCR for structural concrete.

Time representativeness: the data inventory of the LCA study presented is a new product and data for a complete year is not available yet. The residual electricity mix is from Spain in 2018². The amount used of raw materials (cement, water, gravel stone) has been obtained from the recipe and first tests in Papiol, Valencia and Alcobendas manufacturing plant in 2019. Energy consumption, waste production, pollutant emissions and transport distance (in A2 and A4) have been obtained from Alcobendas, Valencia and Papiol manufacturing plants in 2019 (from the first of January 2019 to the 31st of December 2019) since the production process is the same for the different concrete products manufactured in the plants. The composition of the

¹ UNE-EN 12350-6:2020. Testing fresh concrete - Part 6: Density

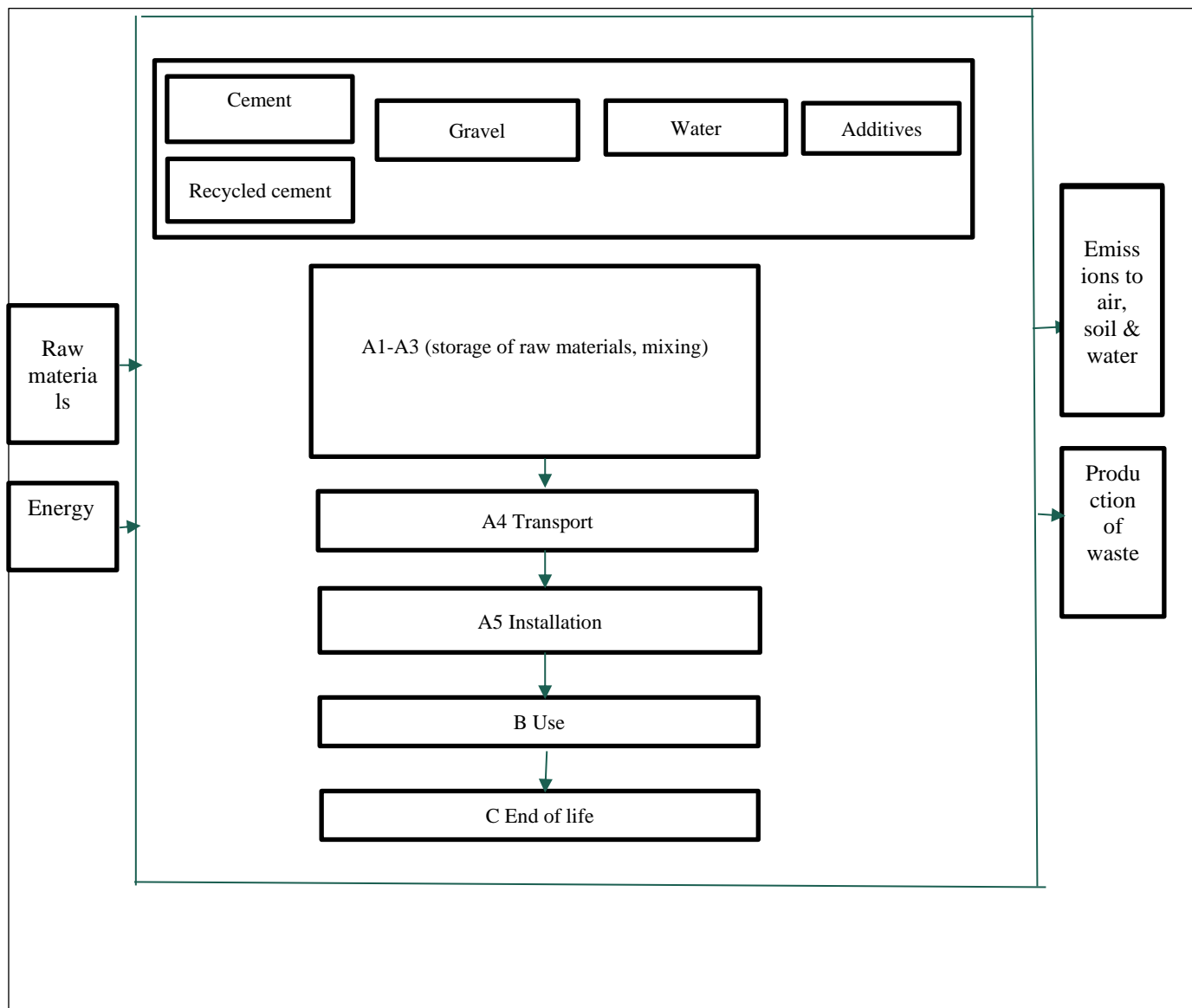
² https://www.aib-net.org/sites/default/files/assets/facts/residual-mix/2018/AIB_2018_Residual_Mix_Results_v1_1.pdf

specific cement used for each product has been obtained also directly from the manufacturing plants and therefore corresponds to reality.

Database(s) and LCA software used: generic data on the impact per unit of matter or energy have been taken to determine emissions per kg of matter, kWh of energy or tkm transported. These data have been obtained from the Ecoinvent database version 3.8. (updated in <2 years) and Simapro 9.3. The impact models used are those indicated in UNE-EN 15804:2014+A2:2019.

Description of system boundaries:
Cradle to grave and Module D (A+B+C+D)

System diagram:



More information: www.lafargeholcim.es

- Technical support for the implementation of the EPD: Marcel Gómez Consultoría Ambiental.
- The modularity principle, as well as the polluter-payer principle have been followed.
- Cut off rules: according to EN 15804 a minimum of 95% of total inflows (mass and energy) per module are included and more than 99% of the inflows are accounted for.
- Allocation procedure: where necessary (energy and water consumption, waste production) an allocation based in volume has been used.
- The next processes have not been included since its impact is not significant:
 - Environmental impact from infrastructure, construction, production equipment, and tools that are not directly consumed in the production process.
 - Personnel-related impacts, such as transportation to and from work.
 - Research and development activities.
 - Long-term emissions.

Modules functional, geographical scope, share of specific data (in GWP-GHG indicator) and data variation:

| | Product stage | | | Construction process stage | | Use stage | | | | | | | End of life stage | | | | Resource recovery stage |
|----------------------|---|-----------|---------------|----------------------------|---------------------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|------------------------------------|
| | Raw material supply | Transport | Manufacturing | Transport | Construction installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling-potential |
| Module | A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| Modules functional | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Geography | ES | ES | ES | ES | ES | ES | ES | ES | ES | ES | ES | ES | ES | ES | ES | ES | ES |
| Specific data used | More than 99% specific data is used in the EPD. | | | | | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – products | Less than 10% inside of every group of products | | | | | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – sites | Less than 10 % | | | | | - | - | - | - | - | - | - | - | - | - | - | - |

• A1-A3 Product stage

- **A1 Raw materials supply:** this module takes into account the extraction and processing of raw materials and the energy that is produced prior to the manufacturing process under study. The product uses ECOPlanet III/B 42.5N cement, which contains 70% recycled cement, since a significative amount of clinker has been replaced by sludge.

- **A2 Transport:** this module includes the transport of the different raw materials from the manufacturer to the factory. The distance and type of concrete truck for each raw material has been introduced.
- **A3 Manufacturing:** this module includes the consumption of energy and water used during the manufacturing process, as well as the transport and management of the factory-produced waste. The manufacture of concrete or mortar consists mainly of a mixing process of different components.

- **A4-A5 Construction process stage**

- **A4 Transport**

| PARAMETER | VALUE/DESCRIPTION |
|---|---|
| Fuel type and consumption of vehicle or vehicle type used for transport e.g. long distance truck, boat, etc | Truck of 16- 32 tn. Fuel consumption: 43 L/100 Km |
| Distance | Truck: 10,3 km |
| Capacity utilisation (including empty returns) | % according to Ecoinvent database |
| Bulk density of transported products* | See table in LCA information section |
| Volume capacity utilisation factor | 1 |

- **A5 Construction/Installation**

The product is directly transferred from the truck to the construction site

| PARAMETER | VALUE/DESCRIPTION |
|--|-------------------------------|
| Auxiliary materials for installation | No auxiliary material used |
| Use of water | Not used |
| Use of other resources | No other resource consumption |
| Quantitative description of the type of energy (regional mix) and the consumption during the installation process | Not used |
| Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type) | Product losses (2%) |

- **B Use stage:** the products fix CO₂ by carbonatation during the use phase (B1), and do not require maintenance (B2), repair (B3), replacement (B4), refurbishment (B5), operational energy use (B6) or operational water use (B7) during its Reference Service Life.
CO₂ fixed by carbonatation of cement during the use phase has been included as required in c-PCR, following the methodology explained in EN 16757³.

³ UNE-EN 16757:2018. Sustainability of construction works - Environmental product declarations - Product Category Rules for concrete and concrete elements

$$CO_2 \text{ uptake} = k * \left(\frac{\sqrt{t}}{1000} \right) * Utcc * C * Dc$$

Where:

K:K factor, mm of carbonation/year^{0.5}

Utcc: maximum theoretical uptake in g CO₂/Kg of cement

C:cement content in kg/m³ of concrete

Dc: degree of carbonation

A hypothesis is made where only one face of one m³ of concrete is in contact with air, being the other 3 faces not in contact with air.

- **C End of life stage**

- **C1 Deconstruction/demolition:** the use of diesel during the demolition process has been included.
- **C2 Transport to waste processing:** the model use for the transportation (see A4, transportation to the building site) is applied.
- **C3 Waste processing for reuse, recovery and/or recycling:** the product is 89% recycled⁴.
- **C4 Disposal:** the product is 11% landfilled.

| PARAMETER | VALUE/DESCRIPTION |
|--|--|
| Collection process specified by type | The product is collected mixed with construction waste |
| Recovery system specified by type | 89% recycling |
| Disposal specified by type | 11% landfill |
| Assumptions for scenario development (e.g. transportation) | 16-32 tn truck. Fuel consumption: 25 l/100 Km Distance: 50 km |

- **D Reuse-Recovery-Recycling potential**

The product is recycled in 89%³. As a consequence, the module D has been calculated, where the results of recycled content that the product already includes has been taken into account. The avoided product is considered crushed gravel.

² <https://ec.europa.eu/eurostat/documents/2995521/9629294/8-04032019-BP-EN.pdf/295c2302-4ed1-45b9-af86-96d1bbb7acb1>

Content information

EcoPact Prime H25

| Product components | Weight, kg | Post-consumer material, weight-% | Renewable material, weight-% |
|----------------------------------|----------------|----------------------------------|------------------------------|
| CEM ECOPlanet III/B 42,5N | 275-325 | 70,00 | 0 |
| Gravel | 1800-1900 | 0 | 0 |
| Water | 150-170 | 0 | 0 |
| Additives | 1-10 | 0 | 0 |
| TOTAL | 2322,17 | 9,04 | 0 |

EcoPact Prime H30

| Product components | Weight, kg | Post-consumer material, weight-% | Renewable material, weight-% |
|----------------------------------|----------------|----------------------------------|------------------------------|
| CEM ECOPlanet III/B 42,5N | 300-350 | 70,00 | 0 |
| Gravel | 1800-1900 | 0 | 0 |
| Water | 150-170 | 0 | 0 |
| Additives | 1-10 | 0 | 0 |
| Total | 2322,20 | 9,75 | 0 |

EcoPact Prime H25 Agilia

| Product components | Weight, kg | Post-consumer material, weight-% | Renewable material, weight-% |
|----------------------------------|-------------|----------------------------------|------------------------------|
| CEM ECOPlanet III/B 42,5N | 275-325 | 70,00 | 0 |
| Gravel | 1600-1800 | 0 | 0 |
| Water | 150-200 | 0 | 0 |
| Additives | 1-8 | 0 | 0 |
| TOTAL | 2315 | 9,07 | 0 |

EcoPact Prime H30 Agilia

| Product components | Weight, kg | Post-consumer material, weight-% | Renewable material, weight-% |
|----------------------------------|-------------|----------------------------------|------------------------------|
| CEM ECOPlanet III/B 42,5N | 300-350 | 70,00 | 0 |
| Gravel | 1700-1800 | 0 | 0 |
| Water | 160-190 | 0 | 0 |
| Additives | 1-8 | 0 | 0 |
| TOTAL | 2320 | 9,9 | 0 |

EcoPact Prime Artevia HDOS 330

| Product components | Weight, kg | Post-consumer material, weight-% | Renewable material, weight-% |
|----------------------------------|----------------|----------------------------------|------------------------------|
| CEM ECOPlanet III/B 42,5N | 300-350 | 70,00 | 0 |
| Gravel | 1700-1800 | 0 | 0 |
| Water | 150-170 | 0 | 0 |
| Additives | 1-5 | 0 | 0 |
| TOTAL | 2303,93 | 9,72 | 0 |

EcoPact Prime Hydromedia

| Product components | Weight, kg | Post-consumer material, weight-% | Renewable material, weight-% |
|----------------------------------|----------------|----------------------------------|------------------------------|
| CEM ECOPlanet III/B 42,5N | 300-350 | 70,00 | 0 |
| Gravel | 1600-1800 | 0 | 0 |
| Water | 60-100 | 0 | 0 |
| Additives | 1-5 | 0 | 0 |
| Total | 2024,60 | 11,29 | 0 |

During the life cycle of the product any hazardous substance listed in the “Candidate List of Substances of Very High Concern (SVHC) for authorization” has not been used in a percentage higher than 0,1% of the weight of the product.

Environmental Information- results are by m³ of product

Estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

These results are valid for the next products since their impact differs less than 10%. A representative virtual product has been chosen, showing the highest results found per stage and per environmental impact category among the analyzed products.

ECOPact Prime H30, H25, H25 AGILIA, H30 AGILIA, ARTEVIA HDOS 330 and HYDROMEDIA

Potential environmental impact – mandatory indicators according to UNE-EN 15804:2014+A2:2019

| Indicator | Unit | Results per functional unit | | | | | | | | | | | | | |
|---|-------------|-----------------------------|--------------|----------|-----------|----|----|----|----|----|----|-------------|----------|----------|----------|
| | | Manufacture | Construction | | Use | | | | | | | End of life | | | |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| Climate change - Fossil | kg CO2 eq | 1,32E+02 | 1,70E+00 | 3,21E+00 | -1,85E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 8,69E+00 | 1,76E+01 | 0,00E+00 | 6,00E-01 |
| Climate change - Biogenic | kg CO2 eq | 1,82E-01 | 7,26E-04 | 4,05E-03 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 3,26E-03 | 1,60E-02 | 0,00E+00 | 3,45E-04 |
| Climate change - Land use and LU change | kg CO2 eq | 4,46E-02 | 1,79E-05 | 1,05E-03 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 8,67E-04 | 7,04E-03 | 0,00E+00 | 2,04E-05 |
| Climate change | kg CO2 eq | 1,32E+02 | 1,70E+00 | 3,22E+00 | -1,85E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 8,69E+00 | 1,76E+01 | 0,00E+00 | 6,01E-01 |
| Ozone depletion | kg CFC11 eq | 1,42E-05 | 5,25E-07 | 4,03E-07 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 1,86E-06 | 4,08E-06 | 0,00E+00 | 1,25E-07 |
| Acidification | mol H+ eq | 4,58E-01 | 4,22E-03 | 1,22E-02 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 9,03E-02 | 5,00E-02 | 0,00E+00 | 6,18E-03 |
| Eutrophication, freshwater | kg P eq | 3,13E-03 | 1,13E-06 | 6,57E-05 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 2,88E-05 | 1,26E-04 | 0,00E+00 | 2,13E-06 |
| Eutrophication, marine | kg N eq | 1,28E-01 | 6,41E-04 | 3,63E-03 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 3,99E-02 | 9,93E-03 | 0,00E+00 | 2,69E-03 |
| Eutrophication, terrestrial | mol N eq | 1,42E+00 | 7,10E-03 | 4,01E-02 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 4,38E-01 | 1,11E-01 | 0,00E+00 | 2,95E-02 |
| Photochemical ozone formation | kg NMVOC eq | 4,16E-01 | 2,59E-03 | 1,18E-02 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 1,20E-01 | 4,26E-02 | 0,00E+00 | 8,21E-03 |
| *Resource use, minerals and metals | kg Sb eq | 2,34E-04 | 9,60E-08 | 6,01E-06 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 4,47E-06 | 6,24E-05 | 0,00E+00 | 2,89E-08 |
| *Resource use, fossils | MJ | 1,33E+03 | 3,13E+01 | 3,52E+01 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 1,19E+02 | 2,67E+02 | 0,00E+00 | 8,00E+00 |
| *Water use | m3 depriv. | 3,56E+01 | -4,57E-03 | 7,32E-01 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 1,87E-01 | 8,13E-01 | 0,00E+00 | 3,23E-03 |

* Disclaimer: The results of this Environmental Impact Indicator should be used with caution as the uncertainties of these results are high or as there is limited experience with the Indicator.

* The additional environmental indicators of EN 15804:2012+A2:2019 are not stated in this EPD.

Use of resources

| Indicator | Unit | Results per functional unit | | | | | | | | | | | | | | |
|--|----------------|-----------------------------|--------------|----------|----------|----|----|----|----|----|----|-------------|----------|----------|----------|-----------|
| | | Manufacture | Construction | | Use | | | | | | | End of life | | | | Module |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| Use of renewable primary energy, excluding the resources of non-renewable primary energy used as a raw materials | MJ | 2,72E+02 | 4,80E-02 | 5,54E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 6,70E-01 | 3,82E+00 | 0,00E+00 | 3,35E-02 | -1,75E+01 |
| Use of renewable primary energy used as raw materials | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total use a renewable primary energy (primary energy and resources of renewable primary energy used as raw materials) | MJ | 2,72E+02 | 4,80E-02 | 5,54E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 6,70E-01 | 3,82E+00 | 0,00E+00 | 3,35E-02 | -1,75E+01 |
| Use of non-renewable primary energy, excluding the resources of non-renewable primary energy used as a raw materials | MJ | 1,34E+03 | 3,33E+01 | 3,58E+01 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 1,27E+02 | 2,83E+02 | 0,00E+00 | 8,49E+00 | -1,48E+02 |
| Use of non-renewable primary energy used as raw materials | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total use of non-renewable primary energy (primary energy and resources of renewable primary energy used as raw materials) | MJ | 1,34E+03 | 3,33E+01 | 3,58E+01 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 1,27E+02 | 2,83E+02 | 0,00E+00 | 8,49E+00 | -1,48E+02 |
| Use of secondary materials | kg | 2,33E+02 | 0,00E+00 | 4,66E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of renewable secondary fuels | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of non-renewable secondary fuels | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Net use of fresh water | m ³ | 1,38E+00 | 8,60E-05 | 2,83E-02 | 0,00E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 6,80E-03 | 3,02E-02 | 0,00E+00 | 1,71E-04 | -5,76E-01 |

Waste production and output flows

Waste production

| Indicator | Unit | Results per functional unit | | | | | | | | | | | | | | |
|------------------------------|------|-----------------------------|--------------|----------|-----|----|----|----|----|----|----|-------------|----------|----------|----------|-----------|
| | | Manufacture | Construction | | Use | | | | | | | End of life | | | | Module |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed | kg | 1,71E-03 | 8,24E-05 | 5,44E-05 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,26E-04 | 6,97E-04 | 0,00E+00 | 2,02E-05 | -2,62E-04 |
| Non-hazardous waste disposed | kg | 4,75E+01 | 1,29E-03 | 5,79E+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,59E-01 | 1,40E+01 | 0,00E+00 | 2,38E+02 | -3,07E+00 |
| Radioactive waste disposed | kg | 4,56E-03 | 2,24E-04 | 1,43E-04 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8,23E-04 | 1,80E-03 | 0,00E+00 | 5,52E-05 | -6,14E-04 |

Other output flows

| Indicator | Unit | Results per functional unit | | | | | | | | | | | | | | |
|-------------------------------|------|-----------------------------|--------------|----------|----------|------|------|------|------|------|------|-------------|----------|------|----------|----------|
| | | Manufacture | Construction | | Use | | | | | | | End of life | | | | Module |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| Components for re-use | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00E+00 | 0,00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 1,92E+03 | 0,00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00E+00 | 0,00 | 0,00E+00 | 0,00E+00 |
| Exported Energy, electricity | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00E+00 | 0,00 | 0,00E+00 | 0,00E+00 |
| Exported Energy, thermal | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00E+00 | 0,00 | 0,00E+00 | 0,00E+00 |

Potential environmental impact - additional mandatory indicators

| Indicator | Unit | Results per functional unit | | | | | | | | | | | | | | |
|---------------------------|-----------|-----------------------------|--------------|----------|-----------|----|----|----|----|----|----|-------------|----------|----------|----------|-----------|
| | | Manufacture | Construction | | Use | | | | | | | End of life | | | | Module |
| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| Global warming (GWP100a)* | kg CO2 eq | 1,38E+02 | 1,69E+00 | 3,33E+00 | -1,85E-01 | 0 | 0 | 0 | 0 | 0 | 0 | 8,59E+00 | 1,74E+01 | 0,00E+00 | 5,89E-01 | -8,99E+00 |

**This indicator includes all greenhouse gases in Total Climate Change but excludes removals and emissions of biogenic carbon dioxide as well as biogenic carbon stored in the product. Therefore, this indicator is almost the same as the GWP indicator originally defined in EN 15804:2012+A1:2013.*

Information on biogenic carbon content

| Results per functional unit | | |
|--|------|----------|
| Biogenic carbon content | Unit | Quantity |
| Biogenic carbon content in the product | kg C | 0,00E+00 |
| Biogenic carbon content in packaging | kg C | 0,00E+00 |

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂

Interpretation of results

As we can see in Table and Figure, the product stage (A1-A3) is the life cycle stage with the greatest impact for all the impact categories analyzed, representing between 93% (Eutrophication, freshwater) and 67% (Ozone depletion) of the total impact of the product life cycle.

The module (A4-A5) represents a low impact for all the impact categories analyzed. Transport (A4) represents between 0,03% (Eutrophication, freshwater) and 2,48% (Ozone depletion) of the total life cycle impact. On the other hand, A5-Installation stage represents 2% of the total impact for all impact indicators.

In relation to End of life stages (C1-C4), the impact of C1 is between 21% (Eutrophication, marine) and 1,46% (Abiotic depletion minerals). C2 Transport represents between 3,75% (Eutrophication, marine) and 20% for Ozone depletion. Finally, C4 Waste treatment represents an impact from 0,01% for Abiotic depletion minerals, and 1,45% for Eutrophication, marine.

Table. Potential impact on the environment of the life cycle of one m³ of product, in percentage.

| Impact category | A1-A3 | A4 | A5 | B1 - CO ₂ absorption | C1 | C2 | C4 |
|-----------------------------------|--------|-------|-------|---------------------------------|--------|--------|-------|
| Global Warming | 80,68% | 1,04% | 1,96% | -0,11% | 5,31% | 10,76% | 0,37% |
| Ozone depletion | 67,03% | 2,48% | 1,90% | 0,00% | 8,76% | 19,24% | 0,59% |
| Acidification | 73,79% | 0,68% | 1,96% | 0,00% | 14,53% | 8,05% | 0,99% |
| Eutrophication, freshwater | 93,34% | 0,03% | 1,96% | 0,00% | 0,86% | 3,75% | 0,06% |
| Eutrophication, marine | 69,31% | 0,35% | 1,96% | 0,00% | 21,57% | 5,36% | 1,45% |
| Eutrophication, terrestrial | 69,43% | 0,35% | 1,96% | 0,00% | 21,41% | 5,41% | 1,44% |
| Photochemical ozone formation | 70,08% | 0,44% | 1,99% | 0,00% | 20,31% | 7,18% | 0,00% |
| Resource use, minerals and metals | 76,18% | 0,03% | 1,96% | 0,00% | 1,46% | 20,36% | 0,01% |
| Resource use, fossils | 74,33% | 1,75% | 1,96% | 0,00% | 6,64% | 14,88% | 0,45% |

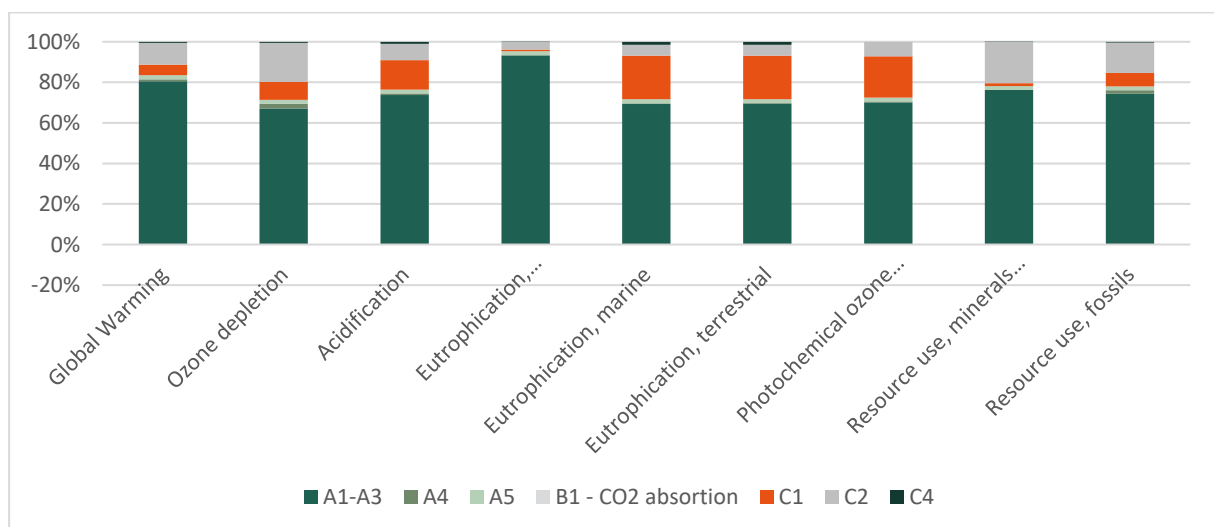


Figure. Potential impact on the environment of the life cycle of one m³ of product, in percentage.

Additional information

With the aim of achieving a positive contribution to nature and society, we develop our activity based on principles of sustainable development, through continuous improvement in our environmental behaviour and focused on these four fundamental principles: our Management System, control environmental impact, contribution to the circular economy and transparent relationship with the environment.

Registry of carbon footprint, compensation and CO₂ absorption projects of the Ministerio para la Transición Ecológica y el Reto Demográfico de España.



LafargeHolcim Spain has registered its carbon footprint in section a) of the Carbon footprint and commitment to reduce greenhouse gas emissions for the years 2016, 2017, 2018, 2019 and 2020.

The limits of the organization included in the calculation are: cement, concrete and mortar manufacturing activity carried out in all its facilities in Spain, central offices in Madrid and 63 production centers

Our commitment to the circular economy as the main way to take advantage of the waste life cycle

The transition from a linear economy to a circular economy is one of the environmental priorities of our business. Within our activity, our objective is to reuse the value of waste as resources, that is, to maximize its life cycle.

At LafargeHolcim, we achieve the transition to circularity by complementing the activity of Geocycle, a subsidiary of the Group that is dedicated to the pre-treatment of waste to turn it into fuel, and the cement factories that use it in their clinker production process (component cement base).



Proactive restoration of our quarries

At LafargeHolcim we have been working, for more than 30 years, for the restoration of our quarries with the aim of generating a net positive impact on biodiversity. We are committed to a participatory model of quarry rehabilitation in which the increase of biodiversity and natural capital is favoured.

Our restoration model serves as a lever for change on the critical problem of biodiversity loss and its potential to reverse its current negative trend. This work, key when it comes to creating shared value with the communities in which we operate, has been recognized in 2018 with the first second prize in the "Company and Biodiversity" category in the latest edition of the European Business Awards for the Environment , promoted by the Biodiversity Foundation.



Information related to Sector EPD

Individual EPD.

Differences versus previous versions

First version of EPD.

References

- General Programme Instruction of the International EPD® System. Version 3.01.
- ISO 14020:2000 Environmental labels and declarations - General principles.
- ISO 14025:2010 Environmental labels and declarations - Type III Environmental Declarations - Principles and procedures.
- ISO 14040:2006 Environmental management - Life Cycle Assessment - Principles and framework.
- ISO 14044:2006 Environmental management - Life Cycle Assessment - Requirements and guidelines.
- UNE-EN 12350-6:2020. Testing fresh concrete - Part 6: Density
- Real Decreto 470/2021, 29th June, Spain
- UNE-EN 12390-3:2020 Testing hardened concrete - Part 3: Compressive strength of test specimens.
- PCR 2019:14 Construction products (EN 15804:A2) version 1.11.
- UNE-EN 15804:2014+A2:2019 Sustainability of construction works - Environmental Product Declarations - Core rules for the product category of construction products.
- c-PCR-003 Concrete and concrete elements (EN 16757).
- Lafarge-Holcim ECOPlanet CEM III/B 42,5N
<https://www.environdec.com/library/epd5727> <https://www.lafargeholcim.es/ecoplanet-cemento-sostenible>
- The underlying LCA report. Version 3, July 2022

VERIFICATION STATEMENT CERTIFICATE CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN

Certificate No. / Certificado nº: EPD04606

TECNALIA R&I CERTIFICACION S.L., confirms that independent third-party verification has been conducted of the Environmental Product Declaration (EPD) on behalf of:

TECNALIA R&I CERTIFICACION S.L., confirma que se ha realizado verificación de tercera parte independiente de la Declaración Ambiental de Producto (DAP) en nombre de:

LAFARGEHOLCIM ESPAÑA
Avd. Manoteras, 20
28050 MADRID - SPAIN

for the following product(s):
para el siguiente(s) producto(s):

ECOPact Prime: Concretes H20, H25, ARTEVIA HDOS 330, H25 AGILIA, H30 AGILIA and HYDROMEDIA.
ECOPact Prime: Hormigones H20, H25, ARTEVIA HDOS 330, H25 AGILIA, H30 AGILIA y HYDROMEDIA.

with registration number **S-P-06547** in the International EPD® System (www.environdec.com)
con número de registro **S-P-06547** en el Sistema Internacional EPD® (www.environdec.com)

it's in conformity with:
es conforme con:

- ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations.
- General Programme Instructions for the International EPD® System v.3.01.
- PCR 2019:14 Construction products (EN 15804:A2) v.1.11.
- c-PCR-003 Concrete and concrete elements (EN 16757).
- UN CPC 375 Articles of concrete, cement and plaster.

| | |
|---------------------------------------|--------------|
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| Valid until / Válido hasta: | 01/08/2027 |
| Serial Nº / Nº Serie: | EPD0460600-E |



Carlos Nazabal Alsua
Manager



This certificate is not valid without its related EPD.
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