Environmental Product Declaration

EPD conforms to EN 15804+A2

EPI Group - systems

EPI CORESTONE NATURE SOLID

Powered by Ecochain

General information

System

EPI Corestone Nature Solid

EPD registration no.

EPI_EPD_SYSTEMS-2024.02.001

Product unit

1 m^2

Description of the flooring system

EPI Corestone Nature Solid is a synthetic-reinforced, decorative epoxy flooring system that provides a wear resistant surface with natural slip-resistance. EPI Corestone Nature Solid withstands daily foot traffic and can be used in commercial environments.

LCA standards

This EPD is generated according to the following standards and requirements of:
NEN-EN ISO 14040 [1], NEN-EN ISO 14044 [2], NEN-EN ISO 14025 [3] and EN15804+A2:2019 [4]

Calculation method

LCA standard	EN15804+A2 (2019)
Database:	Worldwide - Ecoinvent v 3.8 Cut-Off
PCR:	CEN standard 15804 serves as the Core Product Category Rules (PCR)

Statement comparability EPD

EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with the requirements in EN15804+A2. EPD data may not be comparable if the datasets used are not developed in accordance with EN15804+A2 and if the background systems are not based on the same database.

LCA Modules

The following modules are included in the EPD:

	Product stage			Construction process stage		Use stage							End of Life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport to site	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 declared	X	X	X	X	X	MND	MND	MND	MND	X	MND	MND	X	X	X	X	X
Geography	EU	EU	EU	EU	EU	-	-	-	-	EU	-	-	EU	EU	EU	EU	EU
Specific data	>90%																

Verification statement

Declaration from the verifier EcoReview, Tim Mol, 30-01-2024:

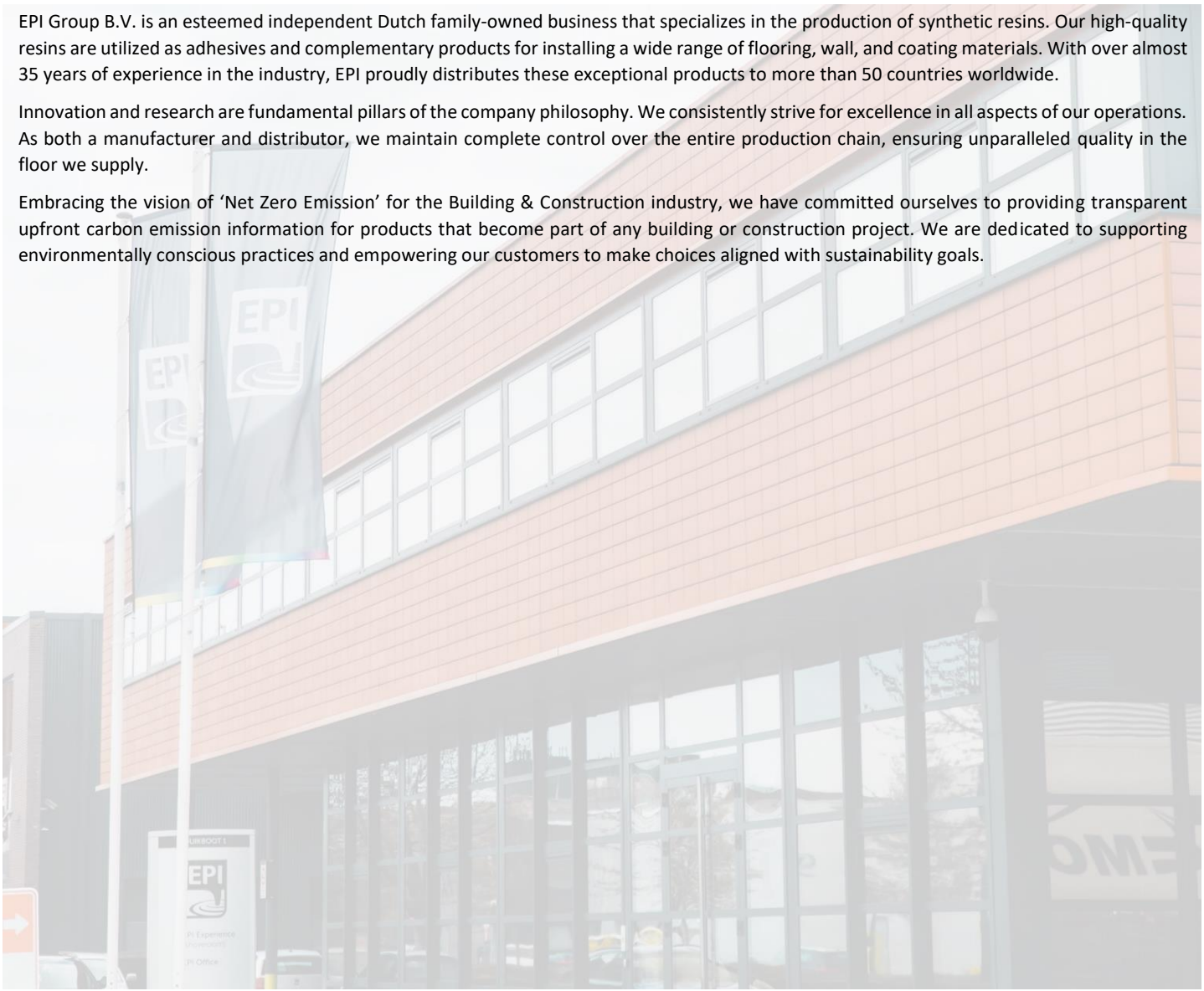
Verification of the declaration and data has been performed independently and according to EN15804+A2.

Company information

EPI Group B.V. is an esteemed independent Dutch family-owned business that specializes in the production of synthetic resins. Our high-quality resins are utilized as adhesives and complementary products for installing a wide range of flooring, wall, and coating materials. With over almost 35 years of experience in the industry, EPI proudly distributes these exceptional products to more than 50 countries worldwide.

Innovation and research are fundamental pillars of the company philosophy. We consistently strive for excellence in all aspects of our operations. As both a manufacturer and distributor, we maintain complete control over the entire production chain, ensuring unparalleled quality in the floor we supply.

Embracing the vision of 'Net Zero Emission' for the Building & Construction industry, we have committed ourselves to providing transparent upfront carbon emission information for products that become part of any building or construction project. We are dedicated to supporting environmentally conscious practices and empowering our customers to make choices aligned with sustainability goals.



EPD details

Author of the LCA:	S. van Laerhoven
Helix account:	EPI Group - systems (2022)
Retrieved from Helix system:	20-02-2024
EPD created with:	LCA software Ecochain Helix | version 3.6.0
Developed by:	Ecochain Technologies B.V. H.J.E. Wenckebachweg 123 | Amsterdam (Netherlands) info@ecochain.com +31 20 303 5777

A project file and background information about the LCA are registered in the Ecochain Helix account.

Product information

Declared system

EPI Corestone Nature Solid

Description of the flooring system

EPI Corestone Nature Solid is a synthetic-reinforced, decorative epoxy flooring system that provides a wear resistant surface with natural slip-resistance. EPI Corestone Nature Solid is a unique, seamless and robust floor that combines the natural look of concrete with the strong qualities of a hard poured floor.

Production process description

EPI Group BV purchases raw materials from various suppliers (A1) and are transported to EPI manufacturing facility in Houten in the Netherlands (A2). The liquid bulk raw materials are stored in buffer tanks and added in the production mixer together with other raw materials, according to the specific formula of the product. All of the components are produced in batches and are checked by QC. The semi-finished product is then filled in IBC, drums, buckets or cans and tinted if required, placed on wooden pallets and stored in the finished goods warehouse (A3). This filling procedure can be done manually or automated, but due to the large variety of products and small scale of automatic filling, no distinction in electricity use is made between the two methods.

Hereafter, the products are transported to the customers (A4). On site, for example an office building or residential area, the products (two- or more components) are mixed together according to the specific instructions and installed, depending on the build-up, on the floor and / or wall (A5).

Depending on the area of use the reference service life changes. For low intensity, this can be up to 35 years. For high intensity this is estimated to be 20 years. When the floor system reaches the end of the RSL, it is possible to add a new top layer to the existing floor construction to extend the life-time which is calculated in module B. The processing of this additional layer will be done in module C and D. Both the regular and re-coat version are in the results of this EPD. The distinction between the two can be made since, for the re-coat, the RSL is indicated in the name of the floor system and ends with (RSL^{+}). The life expectancies are given in the table below;

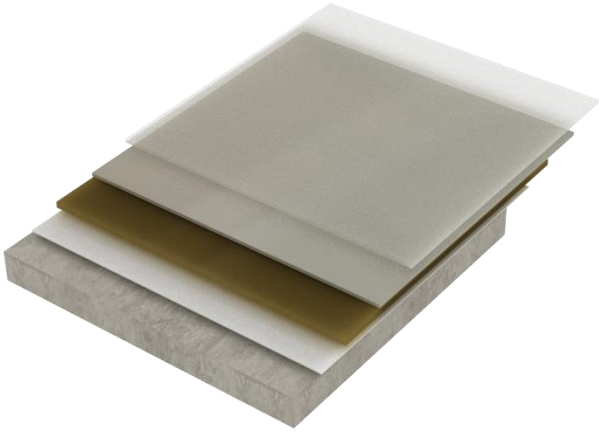
Type of Use	RSL	RSL w/recoat
Residential / living environment	35 years	50 years
Showrooms / Commercial areas / Retail spaces	35 years	50 years
Office spaces / Workplace	35 years	50 years
Multi Sports areas	20 years	35 years
Industrial environment	20 years	35 years

When the flooring system reaches its end-of-life stage the floor can be taken out through mechanical demolition (C1). The removed coating parts are then transported by truck to the waste processor (C2). The following waste processing scenarios can be addressed; to landfill / waste to energy / recycling and disposal (C3 and C4), and the benefits and loads beyond the system boundaries (D).

Production year under study

2022

Floor system image



System composition

The main products and ancillary materials of the product included in this EPD are the following:

The following components and materials are typical for the composition of 1 m^2 'EPI Corestone Nature Solid' :

EPI Products (sets)	EPI Corestone Nature Solid, 1 m^2
36063112 – EPI Corestone Penetrator AQ-N	0,15 kg
36840417 – EPI Primer 400 POX	1,0 kg
36063085 – EPI Corestone Nature SL Solid	4,5 kg
36063160 – EPI Corestone Sealcoat T/M	0,16 kg

Hazardous substances

The flooring system 'EPI Corestone Nature Solid' contains no substances listed on the Candidate List of Substances of Very High Concern (SVHC).

VOC information

VOC Content		
Products	**VOC content g/l**	**VOC Directive 2004/42/EG**
EPI Corestone Penetrator AQ-N	≤ 50 g/l	Cat. A/j – WB 140 g/l
EPI Primer 400 POX	≤ 100 g/l	Cat. A/j – SG 500 g/l
EPI Corestone Nature SL	≤ 100 g/l	Cat. A/j – WB 140 g/l
EPI Corestone Sealcoat T/M	≤ 100 g/l	Cat. A/j – WB 140 g/l
VOC Emission testing results		
Regulation or Protocol	**Conclusion**	**Version of regulation or protocol**
French VOC Regulation	ÉMISSIONS DANS L'AIR INTÉRIEUR A+ A+ A B C	Regulation of March and May 2011
CMR Components	Pass	Regulation of April and May 2009
Italian CMR Edilizia	Pass	Italian Decree on Green Public Procurements issued in January 2016
German AgBB / ABG	Pass	Anforderungen an bauliche Anlagen bezüglich des Gesundheitsschutzes. Version 17-01-2022.
Belgium Regulation	Pass	Royal decree of May 2014
Indoor Air Comfort	Pass	Indoor Air Comfort 7.0 of May 2020
BREEAM International	Exemplary Level	Breeam Int. New Construction 2021 HEA 02
BREEAM Norway	Exemplary Level	Breeam-NOR 2022: New Construction HEA 02
BREEAM NL	Exemplary Level	Breeam-NL 2020: New Construction HEA 02
BREEAM UK	Exemplary Level	Breeam-UK 2022: New Construction HEA 02
Full details based on the testing and direct comparison with limit values are available in the VOC testing report.		

Declaration of Performance

Construction Products Regulation (EU) CPR No. 305/2011 applies for placing the product on the market in the EU. The product requires a Declaration of Performance (DOP) taking into consideration the Harmonised standard applicable for this product. EPI Corestone Nature Solid complies as a flooring system with the principles defined in EN 13813 – "Screed materials and floor screeds", and CE marking.

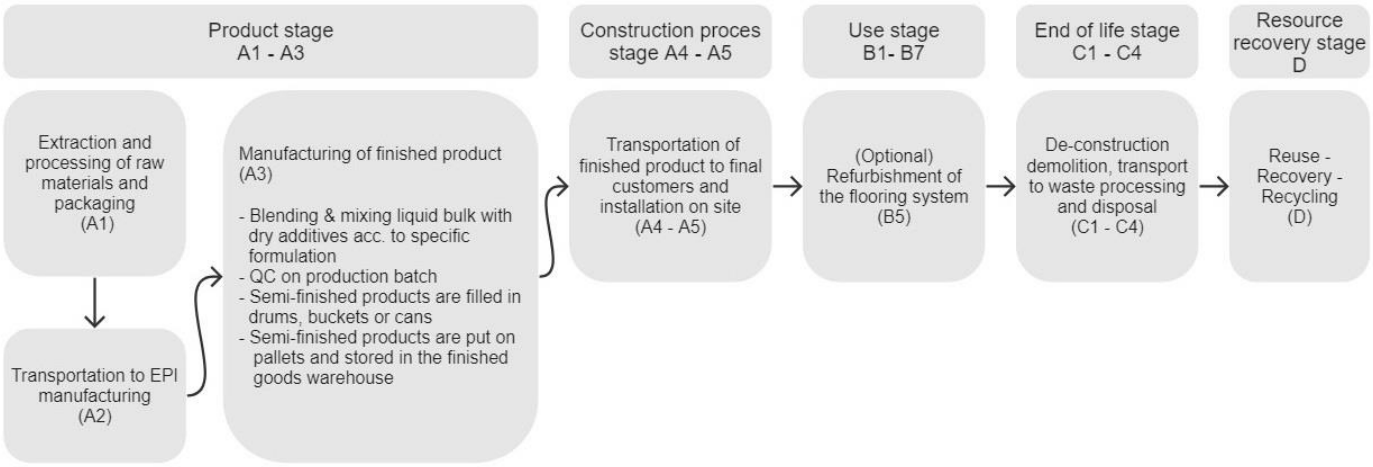
LCA calculation rules

Reference unit

The flooring system 'EPI Corestone Nature Solid' has a functional unit of 1 m^2 with a Reference Service Life (RSL) of 35 years.

Process flowchart.

A simplified overview of the LCA under study can be seen in the following flowchart:



System boundary

All relevant inputs and outputs - like emissions, energy and materials - have been taken into account in this LCA. In accordance with EN 15804+A2, the total neglected input flows per module do not exceed 5% of energy usage and mass.

The production is considered from the resource extraction until the 'gate' of EPI Group factory in Houten, The Netherlands. The waste generated on the production site and caused by the production of the products are taken into account. Residues, waste streams and production losses are modelled up to the end-of-waste state.

The system boundaries of the EPD follow the modular construction system described by EN 15804+A2. An LCA takes into account the following modules, of which this LCA takes into account the full life cycle:

Cradle to gate (A1-A3)

This includes the following 3 modules:
A1: Extraction and processing of raw materials
A2: Transport to the manufacturer
A3: Manufacturing process

Construction process stage (A4-A5)

This includes the following 2 modules:
A4: Transport to the building site
A5: Installation into the building

Refurbishment (B5)

This includes the following module:
B5: Production and installation of the recoat

End of life stage (C1-C4)

This includes the following 4 modules:
C1: Deconstruction/demolition
C2: Transport to waste processing
C3: Waste processing for resume, recovery and/or recycling
C4: Disposal

Benefits and loads beyond the system boundary, information module (D)

D: Reuse, recovery and/or recycling potential, expressed as net impacts and benefits

Data quality

EPI Group gathered data from their suppliers to their production plant in Houten, the Netherlands. The production plant in Houten, the Netherlands delivered product specific data on input, transport, emissions, production waste, and use of utilities. When no specific information on some of the input materials was available, environmental databases such as Ecoinvent and Plastics Europe were used to specify the materials. This information has always been checked with EPI Group. Based on the delivered information and research, representative background data have been selected.

For module A1, specific data for product compositions as provided by the manufacturer are used. For module A2, transportation data of the raw materials used to the production site was collected. For module A3, energy consumption and waste production data were collected for production year 2022. The background processes used are derived from Worldwide - Ecoinvent v 3.8 Cut-Off.

Allocation

Allocation was carried out in accordance with the provisions of the EN 15804+A2. All manufacturing inputs (energy and auxiliary materials) at production site level are allocated to different production processes, followed by allocation of the production processes to the products that are produced using these processes through mass allocation. No secondary materials have been used in the production process.

Cut-off criteria

All relevant inputs and outputs - like emissions, energy and materials - have been taken into account in this LCA. In accordance with EN 15804+A2, the total neglected input flows per module does not exceed 5% of energy usage and mass.

LCA scenarios

A4 - Transport from production place to assembly and/or user

Regarding the transportation to the building site, a weighted average has been made for the product. These weighed average have been created with information of the quantity supplied in kg's to each, together with the transportation distances to these countries. For the distance of EPI Group in Houten to a certain country, the distance to the center of each country is taken. For the Netherlands, an average distance of 150 km is used. Furthermore, as the scope of this LCA is Europe, all the sales to countries outside the Netherlands have not been taken into account. Transport in the Netherlands is done with an EURO6 diesel truck, and for transport in the rest of Europe an unspecified truck has been chosen.

The transportation distance from the production location to the location of installation was considered.

Transport Method	Vehicle Type	Capacity utilisation (incl. return) %	Fuel / Energy consumption
Truck	Unspecified	50%	0.34 ton*km
Boat	Ferry	50%	0.06 ton*km

A5 - Assembly

For installation, the two components are mixed together in a mixer on the installation site. There are various mixers, but for this scenario a duo mix machine (the Collomix type Xo 33 R duo) has been chosen that has 230V and a usage of 1,2 KW. Mixing more or less 25 kg's of PU flooring takes +/- 3 minutes. Hereby, mixing 1 kg of flooring costs 0.0024 kWh (for calculations see table).

Specification	Value	Unit
Voltage of machine	230	V
Power of machine	1.2	kW
Mixing time of 25 kg	3	Min.
Mixing time for 25 kg	0.05	H
kWh for 25 kg	0.06	kWh
kWh for 1 kg	0,0024	kWh

B5 -Refurbishment (for RSL+ only)

For a recoat, the production (A1-A3) and transport (A4) are taken for the additional layer which is added to the floor. For the refurbishment, a floor sanding machine is used, after which a vacuum cleaner is used to clear the dust. The new coat is mixed, just like in A5. These impacts are combined in the B5 module.

C1 - Demolition

For the demolition, an industrial floor stripping machine is used. The speed of removing a floor depends on the thickness of the floor. A hard and thick floor such as tiles and wood can take longer and softer and thinner floors such as linoleum, vinyl, pvc and carpet will be easier to remove. An average is taken, as it depends on the site where the floor is, and different obstacles, how the floor is laid, and the working conditions.

The demolition process is included in the assessment, and specified in the table below:

Specification	Unit	Value
Voltage of machine	230	V
Power of machine	2,9	kW
Machine time for 1 m2	1/625 = 0,0016	H
kWh for 1 m2	0,00464	kWh
kWh for 1 kg	0,00116	kWh

If the floor is not removed, but the building is being demolished in total, the energy used in module C1 for the demolition is considered to be lower than the scenario with the stripping machine. Therefore, the stripping machine is the worst case and used for all scenarios.

C2 - Transport to waste treatment

Regarding the transportation to the waste processor, a distance of 100 km is chosen for all waste processing methods. An unspecified lorry has been used as a reference. The default scenarios of the determination method [6] is 50km, however, since it is not clear for each country what the average distance to the waste processing is, this double distance has been chosen as this is a worst-case approach.

C3/C4 - End of life

All waste treatment activities are included in module C3, whereby incineration and recycling are considered. For reuse it is assumed no waste treatment has to be performed. In module C4 the landfill of products is taken into account. Per material the most appropriate waste scenario is selected. If the RSL+ applies, the additional impacts from waste treatment are taken into account.

The scenario chosen for EPI entails NMD scenario 61, being inert waste, with an incineration share of 10% and a landfill share of 90%.

D - Benefits and loads beyond the system boundaries

Module D contains the loads and benefits of recycling, reuse and energy recovery from incineration. This is based on the waste scenarios used in the model. For the energy recovery of incineration (renewable materials) the European average was taken (15% electricity and 37,1% heat). If the RSL+ applies, the additional loads and benefits are taken into account.

Additional technical information

Not applicable

ENVIRONMENTAL PERFORMANCE & INTERPRETATION

GWP

Climate change

GWP total - Global Warming Potential refers to the emission/presence of GHGs (greenhouse gases) in the atmosphere (mainly CO2, N2O, CH4) which contribute to the increase in the temperature of the planet.
GWP-total considers:
- GWP-fossil
- GWP-biogenic
- GWP-luluc (land use and land use change)

ODP

Ozone depletion

Ozone Depletion Potential refers to the degradation of the stratospheric layer of the ozone involved in blocking the UV component of sunrays. Depletion is due to particularly reactive components that originate from chlorofluorocarbon (CFC) or chlorofluoromethane (CFM)

AP

Acidification

Acidification Potential refers to the emission of specific acidifying substances (i.e. NOx, SOx) in the air. These substances decrease the pH of the rainfall with predictable damages to the ecosystem.

EP

Eutrophication

Eutrophication Potential refers to the nutrient enrichment, which determines unbalance in ecosystems and causes the death of the fauna and decreased biodiversity in flora. It considers:
- EP-freshwater: aquatic freshwater
- EP-marine: aquatic marine
- EP-terrestrial

POCP

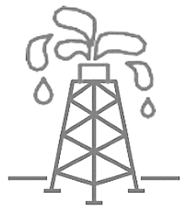
Photochemical ozone formation

The Photochemical Ozone Creation Potential is the ozone formation in low atmosphere. This is quite common in the cities where a great amount of pollutants (like VOC and NOx) are emitted every day (industrial emissions and vehicles). It is mainly diffused during the summertime

ADP
minerals & metals

Depletion of abiotic resources – minerals and metals

Abiotic Depletion Potential elements refers to the depletion of the mineral resources



ADP – fossil

Depletion of abiotic resources – fossil fuel

Abiotic Depletion Potential fossil fuel refers to the depletion of the fossil fuel resources

WDP

Water use

It expresses the potential deprivation of water, that consists in not having the water needs satisfied.

LCA Results for a floor without recoat

The table below shows the results of 'EPI Corestone Nature Solid' according to EN15804+A2 (2019)

Environmental impact		A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D	Total
Indicators	Unit												
Climate change - GWP-total (EN15804+A2)	kg CO2 eq	7.706E+00	1.531E-01	3.923E-01	8.251E+00	2.750E-01	6.070E-01	2.785E-03	8.129E-02	8.072E-01	4.281E-02	-5.568E-01	9.511E+00
Climate change – Fossil GWP-f	kg CO2 eq	7.685E+00	1.529E-01	2.392E-01	8.077E+00	2.747E-01	6.034E-01	2.689E-03	8.050E-02	7.943E-01	4.215E-02	-5.616E-01	9.313E+00
Climate change – biogenic GWP-b	kg CO2 eq	-2.764E-02	1.495E-04	1.529E-01	1.254E-01	2.664E-04	2.621E-03	8.980E-05	2.248E-04	1.285E-02	6.475E-04	4.797E-03	1.469E-01
Climate change – land use and LU change - GWP-luluc	kg CO2 eq	3.226E-02	6.223E-05	2.374E-04	3.256E-02	1.140E-04	7.033E-04	6.341E-06	5.693E-04	3.468E-05	1.089E-05	-8.385E-05	3.391E-02
Ozone depletion - ODP	kg CFC11 eq	8.646E-05	3.587E-08	1.642E-08	8.651E-05	6.447E-08	1.736E-06	1.333E-10	1.705E-08	5.950E-09	1.616E-08	-5.197E-08	8.830E-05
Acidification - AP	mol H+ eq	3.597E-02	8.672E-04	4.243E-04	3.726E-02	1.432E-03	9.772E-04	1.449E-05	4.438E-04	4.409E-04	3.758E-04	-7.527E-04	4.019E-02
Eutrophication - EP-fw	kg P eq	2.244E-04	1.125E-06	2.180E-06	2.277E-04	2.025E-06	5.846E-06	2.877E-07	9.333E-07	5.279E-07	3.721E-07	-3.739E-06	2.340E-04
Eutrophication, marine EP-m	kg N eq	6.278E-03	3.117E-04	9.657E-05	6.686E-03	4.644E-04	1.987E-04	1.901E-06	1.574E-04	2.202E-04	1.411E-04	-1.973E-04	7.673E-03
Eutrophication, terrestrial EP-T	mol N eq	5.973E-02	3.431E-03	1.042E-03	6.421E-02	5.122E-03	2.004E-03	2.186E-05	1.707E-03	2.183E-03	1.555E-03	-1.987E-03	7.481E-02
Photochemical ozone formation - POCP	kg NMVOC eq	2.069E-01	9.808E-04	3.559E-04	2.082E-01	1.513E-03	1.850E-02	5.966E-06	4.932E-04	5.389E-04	4.453E-04	-7.458E-04	2.290E-01
Resource use, minerals and metals - ADP-mm	kg Sb eq	3.655E-03	5.123E-07	2.915E-06	3.658E-03	9.252E-07	7.379E-05	6.379E-09	2.745E-07	1.346E-07	1.429E-07	-8.022E-07	3.733E-03
Resource use, fossils ADP-f	MJ	1.750E+02	2.354E+00	2.036E+00	1.794E+02	4.233E+00	4.202E+00	5.754E-02	1.211E+00	4.000E-01	1.164E+00	-1.107E+01	1.796E+02
Water use - WDP	m3 depriv.	4.610E+00	7.728E-03	4.632E-02	4.664E+00	1.388E-02	1.022E-01	6.356E-04	4.760E-03	2.320E-02	5.566E-03	-9.152E-02	4.723E+00
Particulate matter - PM	disease inc.	2.799E-07	1.689E-08	5.100E-09	3.019E-07	2.846E-08	9.592E-09	3.661E-11	8.757E-09	3.101E-09	8.400E-09	-7.212E-09	3.530E-07
Ionising radiation - IR	kBq U-235 eq	2.731E-01	1.022E-02	1.878E-03	2.852E-01	1.838E-02	8.621E-03	5.179E-04	5.071E-03	9.350E-04	5.267E-03	-4.920E-03	3.191E-01
Ecotoxicity, freshwater ETP-fw	CTUe	2.421E+02	1.864E+00	2.531E+00	2.465E+02	3.350E+00	5.734E+00	2.968E-02	1.077E+00	2.148E+00	6.849E-01	-2.044E+00	2.575E+02
Human toxicity, cancer HTP-c	CTUh	1.063E-08	7.433E-11	2.697E-10	1.097E-08	1.263E-10	2.799E-10	7.563E-13	3.875E-11	1.902E-10	3.240E-11	-6.863E-10	1.095E-08
Human toxicity, non-cancer HTP-nc	CTUh	9.838E-08	2.147E-09	3.502E-09	1.040E-07	3.707E-09	6.032E-09	2.499E-11	1.138E-09	2.243E-09	3.926E-10	-3.367E-09	1.142E-07
Land use - SQP	Pt	2.286E+01	2.008E+00	9.313E-01	2.580E+01	3.577E+00	1.052E+00	8.375E-03	1.091E+00	2.564E-01	3.041E+00	-3.795E-01	3.445E+01

Resource use	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D	Total
Use of renewable primary energy excluding renewable primary energy resources used as raw materials - PERE	MJ	6.513E+00	3.382E-02	2.612E+00	9.159E+00	6.084E-02	2.300E-01	1.024E-02	2.085E-02	1.328E-02	4.739E-02	-8.925E-02	9.453E+00
Use of renewable primary energy resources used as raw materials - PERM	MJ	1.065E-01	0.000E+00	0.000E+00	1.065E-01	0.000E+00	2.131E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.087E-01
Total use of renewable primary energy resources - PERT	MJ	6.620E+00	3.382E-02	2.612E+00	9.266E+00	6.084E-02	2.321E-01	1.024E-02	2.085E-02	1.328E-02	4.739E-02	-8.925E-02	9.561E+00
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials - PENRE	MJ	1.816E+02	2.499E+00	2.233E+00	1.864E+02	4.494E+00	4.378E+00	6.037E-02	1.290E+00	4.320E-01	1.235E+00	-1.215E+01	1.861E+02
Use of non-renewable primary energy resources used as raw materials - PENRM	MJ	6.458E-01	0.000E+00	0.000E+00	6.458E-01	0.000E+00	1.292E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.587E-01
Total use of non-renewable primary energy resources - PENRT	MJ	1.823E+02	2.499E+00	2.233E+00	1.870E+02	4.494E+00	4.391E+00	6.037E-02	1.290E+00	4.320E-01	1.235E+00	-1.215E+01	1.868E+02
Total energy - PET	MJ	1.889E+02	2.533E+00	2.159E+00	1.936E+02	4.555E+00	4.570E+00	7.060E-02	1.311E+00	4.453E-01	1.283E+00	-1.224E+01	1.936E+02
Use of secondary material - SM	kg	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Use of renewable secondary fuels - RSF	MJ	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Use of non-renewable secondary fuels - NRSF	MJ	1.290E-04	0.000E+00	0.000E+00	1.290E-04	0.000E+00	2.580E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.316E-04
Use of net fresh water - FW	m3	2.608E-01	2.808E-04	1.059E-03	2.621E-01	5.045E-04	5.592E-03	4.895E-05	1.615E-04	7.877E-04	1.466E-03	-1.865E-03	2.688E-01

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D	Total
Hazardous waste disposed - HWD	kg	2.568E-04	6.004E-06	1.008E-01	1.011E-01	1.073E-05	2.022E-03	2.038E-08	3.164E-06	9.812E-07	1.402E-06	-1.062E-05	1.031E-01
Non-hazardous waste disposed NHWD	kg	8.561E-01	1.570E-01	3.671E-02	1.050E+00	2.793E-01	2.143E-01	1.905E-04	8.390E-02	1.615E-02	5.225E+00	-2.052E-02	6.848E+00
Radioactive waste disposed - RWD	kg	1.658E-04	1.588E-05	2.370E-06	1.840E-04	2.856E-05	7.104E-06	4.244E-07	7.973E-06	1.231E-06	7.491E-06	-5.415E-06	2.314E-04
Components for re-use - CRU	kg	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Materials for recycling - MFR	kg	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Materials for energy recovery - MER	kg	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Exported energy - EE	MJ	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Exported energy thermic - EET	MJ	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Exported energy electric - EEE	MJ	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

LCA Results for a floor with recoat (RSL+)

The table below shows the results of 'EPI Corestone Nature Solid (RSL+)' according to EN15804+A2 (2019)

Environmental impact		A1	A2	A3	A1-A3	A4	A5	B5	C1	C2	C3	C4	D	Total
Indicators	Unit													
GWP-total	kg CO2 eq	7.706E+00	1.531E-01	3.923E-01	8.251E+00	2.750E-01	6.070E-01	3.541E-01	3.249E-03	9.482E-02	3.194E+00	4.457E-02	-1.549E+00	1.128E+01
GWP-f	kg CO2 eq	7.685E+00	1.529E-01	2.392E-01	8.077E+00	2.747E-01	6.034E-01	3.618E-01	3.137E-03	9.390E-02	8.772E-01	4.218E-02	-5.620E-01	9.771E+00
GWP-b	kg CO2 eq	-2.764E-02	1.495E-04	1.529E-01	1.254E-01	2.664E-04	2.621E-03	-9.010E-03	1.047E-04	2.622E-04	1.287E-02	6.479E-04	4.751E-03	1.379E-01
GWP-luluc	kg CO2 eq	3.226E-02	6.223E-05	2.374E-04	3.256E-02	1.140E-04	7.033E-04	1.308E-03	7.396E-06	6.640E-04	3.469E-05	1.089E-05	-8.395E-05	3.532E-02
ODP	kg CFC11 eq	8.646E-05	3.587E-08	1.642E-08	8.651E-05	6.447E-08	1.736E-06	9.450E-09	1.555E-10	1.989E-08	2.023E-03	1.576E-05	-8.204E-04	1.306E-03
AP	mol H+ eq	3.597E-02	8.672E-04	4.243E-04	3.726E-02	1.432E-03	9.772E-04	1.528E-03	1.690E-05	5.176E-04	4.420E-04	3.759E-04	-7.543E-04	4.180E-02
EP-fw	kg P eq	2.244E-04	1.125E-06	2.180E-06	2.277E-04	2.025E-06	5.846E-06	8.087E-06	3.356E-07	1.089E-06	1.121E-03	6.282E-06	-2.538E-04	1.119E-03
EP-m	kg N eq	6.278E-03	3.117E-04	9.657E-05	6.686E-03	4.644E-04	1.987E-04	3.129E-04	2.217E-06	1.836E-04	1.094E-02	2.062E-04	-2.922E-03	1.607E-02
EP-T	mol N eq	5.973E-02	3.431E-03	1.042E-03	6.421E-02	5.122E-03	2.004E-03	3.120E-03	2.549E-05	1.991E-03	4.734E-03	1.573E-03	-2.919E-03	7.986E-02
POCP	kg NMVOC eq	2.069E-01	9.808E-04	3.559E-04	2.082E-01	1.513E-03	1.850E-02	1.011E-03	6.958E-06	5.753E-04	5.392E-04	4.453E-04	-7.462E-04	2.301E-01
ADP-mm	kg Sb eq	3.655E-03	5.123E-07	2.915E-06	3.658E-03	9.252E-07	7.379E-05	3.873E-06	7.440E-09	3.202E-07	1.450E-01	2.333E-04	-5.786E-02	9.113E-02
ADP-f	MJ	1.750E+02	2.354E+00	2.036E+00	1.794E+02	4.233E+00	4.202E+00	9.331E+00	6.711E-02	1.413E+00	1.688E+00	1.212E+00	-2.880E+01	1.727E+02
WDP	m3 depriv.	4.610E+00	7.728E-03	4.632E-02	4.664E+00	1.388E-02	1.022E-01	2.330E-01	7.413E-04	5.552E-03	2.320E-02	5.566E-03	-9.152E-02	4.957E+00
PM	disease inc.	2.799E-07	1.689E-08	5.100E-09	3.019E-07	2.846E-08	9.592E-09	1.272E-08	4.270E-11	1.021E-08	1.112E-03	2.206E-04	-5.155E-03	-3.823E-03
IR	kBq U-235 eq	2.731E-01	1.022E-02	1.878E-03	2.852E-01	1.838E-02	8.621E-03	4.735E-02	6.041E-04	5.914E-03	6.260E+00	3.396E-02	-1.454E+00	5.205E+00
ETP-fw	CTUe	2.421E+02	1.864E+00	2.531E+00	2.465E+02	3.350E+00	5.734E+00	6.830E+00	3.462E-02	1.257E+00	2.148E+00	6.849E-01	-2.044E+00	2.645E+02
HTP-c	CTUh	1.063E-08	7.433E-11	2.697E-10	1.097E-08	1.263E-10	2.799E-10	2.825E-10	8.821E-13	4.520E-11	8.467E-09	4.885E-11	-1.844E-09	1.838E-08
HTP-nc	CTUh	9.838E-08	2.147E-09	3.502E-09	1.040E-07	3.707E-09	6.032E-09	5.617E-09	2.915E-11	1.327E-09	2.265E-01	1.274E-01	-4.600E-01	-1.061E-01
SQP	Pt	2.286E+01	2.008E+00	9.313E-01	2.580E+01	3.577E+00	1.052E+00	5.742E-01	9.769E-03	1.273E+00	2.818E-01	3.043E+00	-4.350E-01	3.518E+01

Resource use	Unit	A1	A2	A3	A1-A3	A4	A5	B5	C1	C2	C3	C4	D	Total
PERE	MJ	6.513E+00	3.382E-02	2.612E+00	9.159E+00	6.084E-02	2.300E-01	5.497E-01	1.194E-02	2.432E-02	1.400E+00	9.714E-02	-1.966E+01	-8.124E+00
PERM	MJ	1.065E-01	0.000E+00	0.000E+00	1.065E-01	0.000E+00	2.131E-03	0.000E+00	0.000E+00	0.000E+00	2.534E-02	1.985E-03	-5.551E-02	8.047E-02
PERT	MJ	6.620E+00	3.382E-02	2.612E+00	9.266E+00	6.084E-02	2.321E-01	5.497E-01	1.194E-02	2.432E-02	1.426E+00	9.912E-02	-1.971E+01	-8.044E+00
PENRE	MJ	1.816E+02	2.499E+00	2.233E+00	1.864E+02	4.494E+00	4.378E+00	9.471E+00	7.041E-02	1.504E+00	-9.803E-01	1.183E+00	7.474E+00	2.140E+02
PENRM	MJ	6.458E-01	0.000E+00	0.000E+00	6.458E-01	0.000E+00	1.292E-02	0.000E+00	0.000E+00	0.000E+00	1.412E+00	5.174E-02	-1.962E+01	-1.750E+01
PENRT	MJ	1.823E+02	2.499E+00	2.233E+00	1.870E+02	4.494E+00	4.391E+00	9.471E+00	7.041E-02	1.504E+00	4.320E-01	1.235E+00	-1.215E+01	1.965E+02
PET	MJ	1.889E+02	2.533E+00	2.159E+00	1.936E+02	4.555E+00	4.570E+00	9.950E+00	8.235E-02	1.529E+00	1.858E+00	1.334E+00	-3.186E+01	1.856E+02
SM	kg	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RSF	MJ	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NRSF	MJ	1.290E-04	0.000E+00	0.000E+00	1.290E-04	0.000E+00	2.580E-06	0.000E+00	0.000E+00	0.000E+00	4.409E-03	6.142E-05	-1.290E-03	3.312E-03
FW	m3	2.608E-01	2.808E-04	1.059E-03	2.621E-01	5.045E-04	5.592E-03	1.474E-01	5.709E-05	1.883E-04	7.902E-04	1.466E-03	-1.886E-03	4.162E-01

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	A4	A5	B5	C1	C2	C3	C4	D	Total
HWD	kg	2.568E-04	6.004E-06	1.008E-01	1.011E-01	1.073E-05	2.022E-03	2.664E-03	2.377E-08	3.691E-06	4.466E-02	2.189E-01	-8.708E-03	3.606E-01
NHWD	kg	8.561E-01	1.570E-01	3.671E-02	1.050E+00	2.793E-01	2.143E-01	1.339E-02	2.222E-04	9.786E-02	1.615E-02	5.225E+00	-2.052E-02	6.876E+00
RWD	kg	1.658E-04	1.588E-05	2.370E-06	1.840E-04	2.856E-05	7.104E-06	2.745E-06	4.950E-07	9.299E-06	1.231E-06	7.491E-06	-5.415E-06	2.355E-04
CRU	kg	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MFR	kg	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MER	kg	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
EE	MJ	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
EET	MJ	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
EEE	MJ	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

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