

Environmental Product Declaration

**EPD**[®]
THE INTERNATIONAL EPD[®] SYSTEM



In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Plaster Primer No. 301

from

AURO Pflanzenchemie AG



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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

Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): Construction Products, PCR 2019:14, version 1.3.4
PCR review was conducted by: The Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact .
Life Cycle Assessment (LCA)
LCA accountability: Dr. Christopher Hirth, AURO Pflanzenchemie AG
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: <input checked="" type="checkbox"/> EPD verification by individual verifier Third-party verifier: Andreas Ciroth, GreenDelta GmbH Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD and location of production site:

AURO Pflanzenchemie AG, Alte Frankfurter Str. 211 A, 38122 Braunschweig, Germany

Contact:

Dr. Christopher Hirth | R&D Chemist | info@auro.de

Description of the organisation:

AURO has been an undisputed pioneer in the field of ecological natural paints for over 40 years, specializing in products for home and garden. Our products are created from a clear vision: a "green chemistry" based on sustainable, plant-based, and mineral raw materials, avoiding petroleum. This philosophy was initiated by our founder, chemist Dr. Hermann Fischer, and continues to shape our work to this day.



Sustainability is a core element of our company philosophy, which has remained unchanged since our founding in 1983. We focus on a future-proof, nature-friendly economy and actively engage in climate protection. Our products are not only environmentally conscious but also technically advanced and highly efficient. They theoretically can be easily returned to the natural cycle, thus actively contributing to environmental protection.



Since our founding, AURO has represented a vision: to develop paints and coatings that not only offer the highest quality but also respect both people and nature. As pioneers of "green chemistry," we consistently rely on plant-based and mineral raw materials. Our goal is to create long-lasting alternatives that harmonize living health, environmental compatibility, and aesthetic beauty.

For us, sustainability means more than just biological ingredients. We pursue a holistic approach: from responsible raw material sourcing to resource-efficient production and

biodegradable end products. Our processes are low in CO₂, we aim to make our packaging as environmentally friendly as possible, and all our actions are geared towards preserving nature.

Thanks to decades of research, we have developed a unique product range that sets standards in eco-consciousness, functionality, and durability. Whether wall paints, wood stains, or varnishes – our new formulations are emission-free and promote a healthy indoor climate.

AURO's ecological natural paints are distinguished by their unique radiance. They offer harmonious colour effects, high colour fastness, and an authentic, natural appearance – always in harmony with the biological raw materials they contain. With a perfect combination of quality and ecological commitment, we are now the market leader in the field of natural paints and are represented in numerous countries worldwide.



But AURO is more than just a paint manufacturer: We share our knowledge, promote education, and drive innovation in the earth-friendly building and living industry. Through expert articles, books, and research, we are making true pioneering contributions for a future in which healthy living and environmental protection are a matter of course.

We maintain long-term, cooperative relationships with our suppliers and customers and treat both them and our employees with respect and appreciation. We promote fair partnerships, particularly in the growing areas of the exotic raw materials we use.

Product-related or management system-related certifications:



Product information

Product name:

Plaster Primer No. 301

Product identification:

Products in the AURO portfolio are identified by their characteristic name and number.

Product description:

Plaster Primer No. 301 provides optimum substrate preparation for plaster and wall paint coats on highly or unevenly absorbent wall materials (e.g. plasterboard and gypsum fibre boards, mineral interior plasters). The preservative-free Plaster primer is either applied with a ceiling brush or can also be sprayed.

The biogenic binder REPLEBIN® imparts professional product properties and zero emissions: better substrate compatibility and adhesion, oil-free, with low drying odours and no dark yellowing.

Dangerous substances from the candidate list of SVHC:

The declared product in this EPD® does not contain any of the "substances of very high concern for authorisation" (SVHC) according to article 59 (10) of the REACH Regulation (last accessed 08.04.2025).

UN CPC code:

3511 Paints and varnishes and related products

Geographical scope:

GLO/RER/GER

While AURO focusses on sustainable and ecologic raw materials, some of the natural, partly exotic substances have their sources overseas and therefore a global (GLO) scope. Most materials are sourced locally in Germany (GER) or Europe (RER). Production is centred in Braunschweig, Germany. The assumed scenarios for application, use and end-of-life are based on European standards.

LCA information

Declared unit:

The declared unit is 1 m² of surface covered by the indicated product and consists of the necessary amount of raw materials, transportation, manufacturing, waste treatment and their corresponding environmental impacts related to the specific product. A weight-based approach was used for averaging products. The conversion rates of the product consumption for coating the declared area are 0.05 kg/m² or 0.05 L/m².

Reference service life:

10 years

Time representativeness:

2023

Database(s) and LCA software used:

ecoinvent v.3.10 and Circonomit LCA tool v.1.0

Description of system boundaries:

The chosen EPD® type for construction products according to EN 15804 and the PCR 2019:14, version 1.3.4 is “Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D)”. The reasoning for this choice of declaration and omissions, as well as the assumptions made for each module are explained here after.

As stated in the PCR, the characterization factors are based on the EF 3.1 version of the EN15804 reference package.

System diagram:



* D – Reuse, recovery, recycling, potential: While it is theoretically possible to decompose ecological wall paints, it is, at this point in time, highly impractical, uneconomic and unusual to separate them from their substrate for a dedicated recycling effort to achieve a full cradle-to-cradle life cycle.

Detailed description of modules, assumed scenarios and additional information

A1-A3 Production stage

The production stage includes the supply of raw materials (A1), the transport of raw materials to the manufacturer (A2) and the manufacturing process itself at the production site (A3). As module A1 includes all relevant resources committed to the extraction and processing of the materials, it is generally speaking the most impactful module for wall paint products. Module A2 describes the transportation of raw materials to the production site and therefore consists mostly of the concrete transport distance between the distributor or producer of a given material and the manufacturer, modelled with a dataset for the most often used truck category in this context. The

average transportation scenario for AURO assumes freight lorries with a capacity of 16-32 metric ton, EURO6 in a European setting (RER).

Module A3 encompasses the manufacturing process at AURO. The steps reach from material processing, which is key for the production of the self-developed and proprietary REPLEBIN[®] binder, over paint production by mixing the components batchwise according to the recipe with a dissolver and filling the products into adequate containers to packaging them ready for transport to customers (A4), as shown in Figure 1 General Production Process:

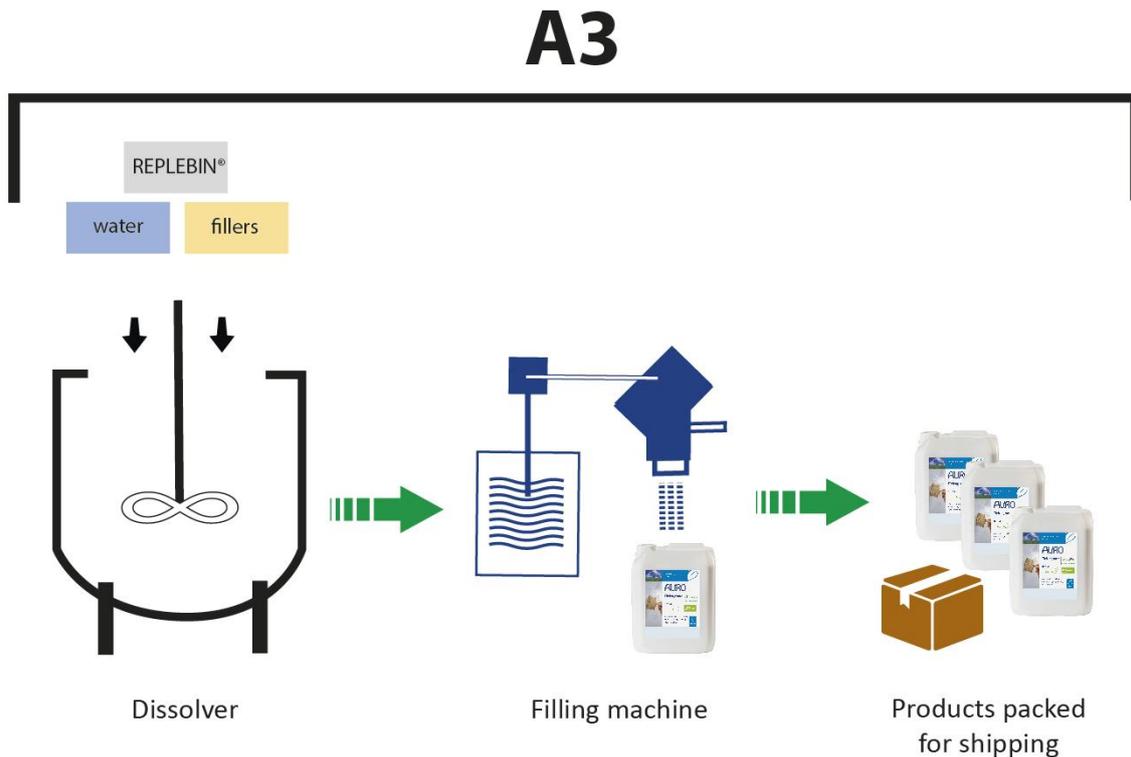


Figure 1 General Production Process

Internal transportation in the facility exclusively by electric forklifts and pallet trucks is also taken into account.

Not accounted were production and maintenance of machinery and vehicles on site (including wooden multi-use pallets), other maintenance work regarding the production plant, the employees' daily commute and research and development and sales activities on site.

Not all suppliers for biobased materials used at AURO have primary data for LCA studies available yet. Especially the materials for REPLEBIN[®] and their environmental impacts are difficult to estimate. Therefore, some (if necessary even petrochemical) alternatives were used as proxies for the LCA calculations, serving as a conservative estimate of AURO's ecological dedication.

The electricity mix used at AURO is 100% renewable and reported with both 0 g carbon dioxide emissions and radioactive waste per kWh according to the supplier.¹ It was modelled with a data set for renewable energy products that still has minor carbon dioxide emissions and radioactive waste remaining, again serving as a conservative estimate of AURO's ecological commitment.

¹ Scholt Energy – Green Electricity 'Garantiert Grün'. For more information, please follow the link provided in the References section.

A4-A5 Construction process stage

The construction process stage handles the transport of products from the manufacturer to distributors, retailers and end-customers (A4) and subsequently the installation of the product for its intended use (A5), mainly by brush or roller application. As AURO distributes its products globally, but with a majority of European customers, it is challenging to average a representative transport distance from AURO to the end-customer and deducing the correct composition of the applied means of transportation. Especially the certain share of DIY customers buying locally from AURO's retailer network is a great unknown for approximation.

With such an uncertainty in calculated average values and possibly enormous deviations from these values in single cases, representativeness is not a given and the module is therefore not declared. It is estimated to be the second most impactful segment of the whole life cycle, after the combination of modules A1-A3.

Regarding the installation process, the product is attuned to being immediately applicable by brush or roller, in some cases also by spraying. Without the need for extra dilution with water (though possible) or energy intake, leaving only the waste treatment of packaging material and paint residue, the total impact of this module is estimated to be very low. So, while a basic model for the installation process is feasible, it is ill-advised to only declare this part of the construction stage and it is therefore also omitted. As a consequence, the results of A1-A3 already include the "balancing-out-reporting" of the biogenic CO₂ of packaging released in module A5.

B1-B7 Use stage

The use stage includes all environmental impacts caused by the product during its reference life time of approximately 10 years, for example by reactions with the ambient surrounding in form of emissions or material uptake, necessary maintenance or repair. None of these apply for the emission-free wall paint products. Thus, the module is not declared.

C1-C4 End-of-life stage

The end-of-life stage is dedicated to the appropriate disposal of the product after its reference life time and all steps necessary to do so.

As the wall paint product is usually not separated from its substrate before deconstruction and demolition (C1) and instead treated as part of the wall material, no impacts are declared for module C1. Instead, the typical disposal scenario for bricks and concrete is applied: Transport of the debris to a landfill (C2) and ensuing disposal (C4) without the need for waste processing (C3).

For a typical European or German landfill disposal scenario, an average transportation distance of 20 km to the nearest station is assumed. Transport over this short distance is, analogue to module A2, modelled with freight lorries with a capacity of 16-32 metric ton, EURO6 in a European setting (RER).

The GWP-biogenic results over all modules have to equal zero, as no credits due to delayed emissions or permanent storage of biogenic carbon in the landfilled product are allowed in consideration of the product's life cycle. A virtual emission of biogenic CO₂ is therefore applied in C4, equalling the product's inherent storage of biogenic carbon from modules A1-A3.

D Benefits and loads beyond the system boundary

This stage of the LCA assesses the reuse, recovery and recycling potential of the product. While it is theoretically possible to decompose AURO wall paints, it is, at this point in time, highly impractical, uneconomic and unusual to separate them from their substrate for a dedicated recycling effort to achieve a full cradle-to-cradle life cycle. Due to these practical reasons, no such potential is declared for the discussed product.

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

	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 declared	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	GLO	GER	ND	ND	ND	ND	ND	ND	ND	ND	ND	RER	RER	RER	RER	-
Specific data used	> 90%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	< 10% for each product group			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	Manufactured in one site			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Plaster Primer No. 301:

1. SUBSTRATES

1.1 Suitable substrates

Highly or irregularly absorbent mineral substrates, e.g. gypsum plasterboard, gypsum fibre board, interior plaster.

1.2 General substrate requirements

The surface must be untreated, dry, firm, absorbent, grease-free, neutral, supportive, adherent and must not contain any substances bleeding through.

2. COATING SYSTEM

2.1 Substrate preparation

Brush off loose segments, remove dust. Remove sintered skin and shuttering oil residues. Fill in holes, cracks, ruptures, etc., e.g. with AURO High-grade wall filler No. 338 or with another material corresponding to the construction material; allow to dry. Test substrate for neutrality, firmness and absorbency. Carry out wetting test with clear water. Test for moisture resistance and adherence.

2.2 Basic treatment

Dilute Plaster primer 1:1 with water and apply with a brush. The primer must completely penetrate into the surface. Brush out any surplus and let dry.

2.3 Final treatment

When the surface is dry enough, apply AURO Wall paints or renderings.

3. REMARKS

- Open-pored (sd value < 0.1 m).
- Application temperature at least 10 °C, max. 30 °C, max. 70 % rel. humidity
- Avoid direct exposure to sunlight or moisture during application.
- Observe any information supplied by the manufacturer of the plasterboards, as well as VOB, DIN 18 363 for painting work and DIN 18366 for wallpapering work.
- The surfaces, joints and filled areas of plasterboards must be uniformly dried before coating. The moisture content of plasterboard must be less than 1.3 % in accordance with the manufacturer's specifications.
- Plaster and mortar splashes must first be removed.
- Scratches and butted joints must be filled as necessary, then primed with Plaster primer No. 301.
- Filled areas must be smoothed in and if necessary sanded.
- All dust must be thoroughly removed.



Content information

Product components	Weight-%	Post-consumer material, weight-%
REPLEBIN® (Binder)	19	0
Water	78	0
Fillers	3	0
Titanium dioxide	0	0
Additives	0	0
TOTAL	100	0
Packaging materials	Weight, kg / m ²	Weight-% (versus the product)
Post-consumer polypropylene (bucket and handle)	0	0.00%
Virgin polypropylene (bucket lid, Bag-in-Box IBC shell)	0	0.00%
High density polyethylene (Container)	2.19E-03	4.38%
Steel (bucket, lid and handle)	0	0.00%
Paper labels	3.03E-05	0.06%
Corrugated paperboard (transport protection)	3.41E-04	0.68%
Adhesive tape (transport protection)	1.84E-06	0.00%
Polypropylene (strapping tape, transport protection)	1.35E-05	0.03%
TOTAL	2.58E-03	5.15%

Disclaimer: For other AURO products mentioned here, see the respective Technical Data Sheets.

Results of the environmental performance indicators

Disclaimer: The results of modules A1-A3 should not be used without consideration of the results of module C. The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins and/or risks.

Mandatory impact category indicators according to EN 15804

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	3.11E-02	ND	0	1.79E-05	0	4.46E-04	0								
GWP-biogenic	kg CO ₂ eq.	-8.78E-03	ND	0	1.24E-08	0	8.78E-03	0								
GWP-luluc	kg CO ₂ eq.	1.98E-03	ND	0	5.93E-09	0	2.74E-08	0								
GWP-total	kg CO ₂ eq.	2.47E-02	ND	0	1.79E-05	0	9.23E-03	0								
ODP	kg CFC 11 eq.	3.09E-10	ND	0	3.55E-13	0	1.51E-12	0								
AP	mol H ⁺ eq.	1.95E-04	ND	0	3.72E-08	0	3.52E-07	0								
EP-freshwater	kg P eq.	6.18E-06	ND	0	1.21E-09	0	4.96E-09	0								
EP-marine	kg N eq.	1.15E-04	ND	0	8.94E-09	0	1.36E-07	0								
EP-terrestrial	mol N eq.	5.00E-04	ND	0	9.64E-08	0	1.48E-06	0								
POCP	kg NMVOC eq.	1.24E-04	ND	0	6.18E-08	0	6.33E-07	0								
ADP-minerals&metals*	kg Sb eq.	1.66E-07	ND	0	5.95E-11	0	1.07E-10	0								
ADP-fossil*	MJ	7.33E-01	ND	0	2.51E-04	0	1.15E-03	0								
WDP*	m ³	8.45E-02	ND	0	1.23E-06	0	5.27E-06	0								
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption															

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Additional mandatory and voluntary impact category indicators

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ eq.	3.39E-02	ND	0	1.79E-05	0	4.46E-04	0								

Resource use indicators

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	3.68E-01	ND	0	3.79E-06	0	1.58E-05	0								
PERM	MJ	1.43E-01	ND	0	5.21E-07	0	2.20E-06	0								
PERT	MJ	5.11E-01	ND	0	4.31E-06	0	1.80E-05	0								
PENRE	MJ	6.71E-01	ND	0	2.28E-04	0	1.04E-03	0								
PENRM	MJ	6.97E-02	ND	0	2.33E-05	0	1.07E-04	0								
PENRT	MJ	7.40E-01	ND	0	2.51E-04	0	1.15E-03	0								
SM	kg	1.04E-02	ND	0	2.87E-07	0	1.08E-06	0								
RSF	MJ	7.18E-02	ND	0	8.02E-08	0	3.06E-07	0								
NRSF	MJ	0	ND	0	0	0	0	0								
FW	m ³	2.72E-03	ND	0	3.38E-08	0	-1.08E-05	0								
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water															

¹ This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.

Waste indicators

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2.44E-03	ND	0	2.49E-07	0	1.21E-06	0								
Non-hazardous waste disposed	kg	2.66E-02	ND	0	2.76E-06	0	1.67E-02	0								
Radioactive waste disposed	kg	3.13E-07	ND	0	8.10E-11	0	3.52E-10	0								

Output flow indicators

Results per functional or declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0	ND	0	0	0	0	0								
Material for recycling	kg	7.13E-03	ND	0	2.60E-07	0	8.45E-07	0								
Materials for energy recovery	kg	1.74E-07	ND	0	3.60E-11	0	1.37E-10	0								
Exported energy, electricity	MJ	9.99E-04	ND	0	4.27E-08	0	1.77E-07	0								
Exported energy, thermal	MJ	2.05E-03	ND	0	6.04E-08	0	9.77E-07	0								

LCA result interpretation

In most categories, more than 98% of the total impact declared stems from the sum of modules A1-A3. The exception is the non-hazardous waste disposed, where the final disposal in module C4 contributes as approximately 40% of the total impact. Especially for the non-GWP indicators bearing the stated exception, the impact from the end-of-life stage is almost negligible.

Additional environmental, social and economic information

For further information, please take a look at our [latest sustainability report](#) (German only).

References

General Programme Instructions of the International EPD® System. Version 4.0.

PCR 2019:14. Construction Products. Version 1.3.4

Candidate List of substances of very high concern for Authorisation (SVHC) published in accordance with Article 59 (10) of the REACH Regulation.
(<https://echa.europa.eu/candidate-list-table>)

UN CPC, Version 1.1 – Code 3511 Paints and varnishes and related products.
(<https://unstats.un.org/unsd/classifications/Econ/Detail/EN/16/3511>)

Scholt Energy Energy Label 2023, Green Electricity 'Garantiert Grün'.
(<https://www.scholt.de/media/s33eqbss/sec-stomkennzeichnung-2023-de-en.pdf>)

AURO Sustainability Report 2023.
(https://auro.hosting-kitchen.de/wp-content/uploads/2024/01/AURO-Nachhaltigkeitsbericht-2023_01.2024.pdf)

For over 20 years, Ecological Building Systems has been at the forefront of environmental and sustainable building products supplying a range of innovative airtightness solutions and natural insulations backed up with expert technical support.

As product suppliers in the UK and Ireland, we're happy to assist you with your projects and have expert technical and sales advice on hand.



Call us

Great Britain +44 (0)1228 711511

Ireland +353 46 9432104



Email us

info@ecologicalbuildingsystems.com



Find us

Great Britain Ecological Building Systems UK Ltd.,
Cardewlees, Carlisle, Cumbria, CA5 6LF,
United Kingdom

Ireland Ecological Building Systems Ltd.,
Main Street, Athboy. Co. Meath, C15 Y678,
Republic of Ireland