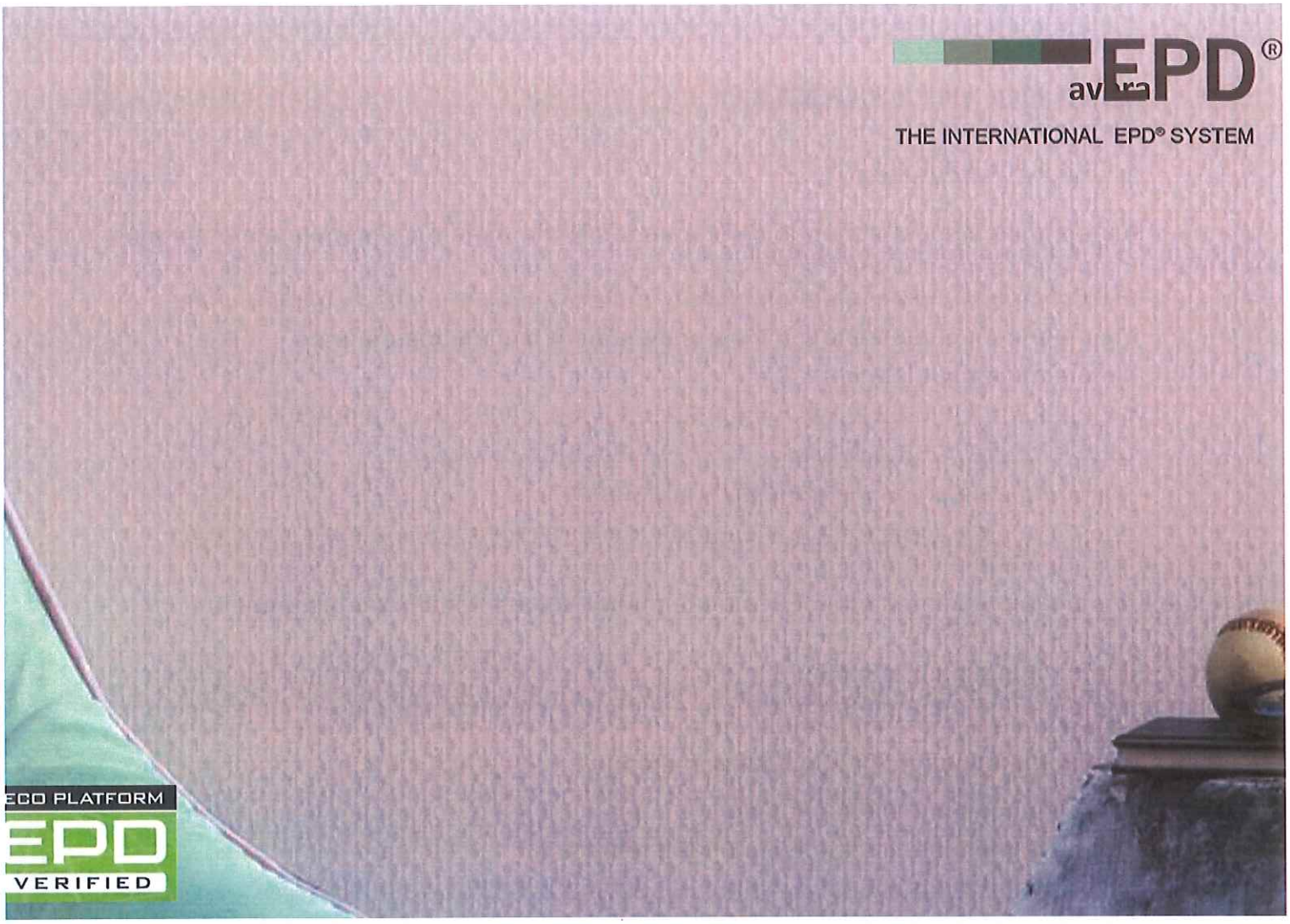


ENVIRONMENTAL PRODUCT DECLARATION

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

Novelio® Classic Standard 160 g/m2

from: SAINT-GOBAIN ADFORS CZ, s.r.o

Version 1
Publication date: 2023-01-26
Validity: 5 years
Valid until: 2028-01-25

Scope of the EPD®: Europe

Programme: The International EPD® System, www.environdec.com

Programme operator: EPD International AB

Production plant: Hodonice
Zahradní 256,671 25 Hodonice, Česká republika (Czech Republic)

EPD VERIFIED

The environmental impacts of this product have been assessed over its whole life cycle. Its Environmental Product Declaration has

ADFORS SAINT-GOBAIN

Registration number
The International EPD®

General information

Company information

Manufacturer: SAINT-GOBAIN ADFORS CZ, s.r.o Zahradní 256,671 25 Hodonice, Česká republika, Czech Republic. https://eu.adfors.com/

Production plant: Hodonice: Zahradní 256,671 25 Hodonice, Česká republika (Czech Republic)

Framework: The LCA is based on 2020 production data for one site Czech Republic.

Geographical scope : Europe

Prepared by: IVL Swedish Environmental Research Institute, EPD International Secretariat

UN CPC CODE: 54790 Other building completion and finishing services

Owner of the declaration: SAINT-GOBAIN ADFORS CZ, s.r.o

Product name and manufacturer represented: Novelio® Classic Standard 160 g/m2. SAINT-GOBAIN ADFORS CZ, s.r.o

This EPD covers information modules A1 to C4 (cradle to grave) + module D as defined in EN 15804:2012 + A2:2019

EPD® prepared by: Doubrava Michal (SAINT-GOBAIN ADFORS CZ, s.r.o., (Michal.Doubrava@saint-gobain.com) & Sandra, Perez-Jimenez (Saint-Gobain LCA central team, sandra.perez-jimenez@saint-gobain.com)

The intended use of this EPD is for B2B communication.

EPD® registration number: S-P-08052

Declaration issued: 2023-01-26**, valid until:** 2028-01-25

Demonstration of verification: an independent verification of the declaration was made, according to EN ISO 14025:2010. This verification was external and conducted by a third party, based on the PCR mentioned above (see information below).

Programme	The international EPD© System		
Adress:	EPD© International AB Box 210 60 SE-100 31 Stockholm Sweden		
Website:	www.environdec.com	**E-mail:**	info@environdec.com

CEN standard EN 15804:2012 + A2:2019 serves as the Core Product Category Rules (PCR)

Product category rules (PCR): PCR 2019:14 Construction Products, version 1.11

PCR review was conducted by: El Comité Técnico del Sistema Internacional EPD©
President: Claudia A. Peña. Contact via info@environdec.com

Independent third-party verification of the declaration and data, according to ISO 14025:2006:
☐ EPD process certification ☒ EPD verification

Third party verifier : Marcel Gomez
Marcel Gómez Consultoria Ambiental Tlf 0034 630 64 35 93 - info@marcelgomez.com
In case of recognized individual verifiers: Approved by: The International EPD© System

Procedure for follow-up of data during EPD validity involves third part verifier:
☒ Yes ☐ No

The EPD owner has the sole ownership, liability, and responsibility for the 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 E EN 15804:2012 + A2:2019. For further information about comparability, see EN 15804:2012 + A2:2019 and ISO 14025.

Product description

Product description and description of use

The fiberglass wallcoverings cover walls and other interior surfaces. The product prevents cracks from appearing and thus extends the life of walls and ceilings. Wallcoverings are also used for renovating walls by covering cracks and irregularities.

The fiberglass used as the main raw material for wallcoverings. It is produced by melting the glass in a kiln. As is molten, it passes through a heat-resistant platinum die and thin filaments of glass are formed, following this step, sizing is applied and the formed yarn is winded and dry, finally it is chopped to be used as a raw material together with binders and starch to produce wallcoverings.

The ADFORS Novelio® product range is used in residential (houses, rental flats, corridors) and non-residential (administrative buildings, hotels and hospitals) applications. This product complies with the European standard NF EN 235.

The product is sold in rolls. The width of each roll is 100 cm (± 1%), the length is 50 m (± 1%) and the roll is protected by a plastic film made of low-density polyethylene (LDPE).

In all configurations, glass fiber is used as the base, styrene-acrylic is used as both binder and coating, and finally starch is used to give volume.

Technical data/physical characteristics:

Product	Parameter			
	Quantity of wallcovering in kg for 1 m^2 (kg/m^2)	Thickness (m)	Width (m)	Length (m)
Novelio® Classic Standard	1,60E-01	0,001	1	0,5
Novelio® Classic EasyPaint	1,60E-01	0,001	1	0,5
Novelio® Classic Mold-X	1,40E-01	0,001	1	0,5
Novelio® Classic CleanAir	1,40E-01	0,001	1	0,5

Declaration of the main product components and/or materials

Description of the main components and/or materials for 1 m^2 of wallcovering for the calculation of the EPD®:

PARAMETER	VALUE
Quantity of wallcovering for 1 m^2 of product	0,160 kg/m^2 (styrene-acrylic + starch + glass fiber)
Thickness	1 mm
Packaging for the transportation and distribution	In one pallet there are 2,000 m^2 of wall covering (305 kg). The rolls are packed and put in a cardboard box. Then they are transported on a EUR pallet. Cardboard 0,00002 kg/m^2 Paper (label) 0,00001 kg/m^2 Low density polyethylene film (LDPE) 0,00665 kg/m^2 Pallet 0,01100 kg/m^2
Product used for the Installation	0,25 kg/m^2 ready to use polyvinyl glue The glue is composed of 80% water and 20% glue

At the date of issue of this declaration, there is no "Substance of Very High Concern" (SVHC) in concentration above 0.1% by weight, and neither do their packaging, following the European REACH regulation (Registration, Evaluation, Authorization and Restriction of Chemicals).

The verifier and the program operator do not make any claim nor have any responsibility of the legality of the product.

Description of the main product components and/or materials:

Novelio® Classic Standard

Product components	Weight (%)	Post-consumer material weight (%)	Renewable material weight (%)
Standard product	**100%**	**0,0 %**	**0,0 %**
Base	70,0 – 90,0 %	0%	0%
Binder/ coating	5.0 – 15.0 %	0%	0%
Additive	1.0 – 10,0 %	0%	0%

Product	Weight (kg/m^2)
Novelio® Classic Standard	**0,160**

Packaging materials	Weight (kg/kg)	Weight (%)
Cardboard	0,00002	0,001 – 1.0 %
Paper label	0,00001	0,001 – 1.0 %
Low-density polyethylene (LDPE) film	0,00697	2,0 – 4,0 %
Pallet	0,01154	2,0 – 7,0 %

LCA calculation information

EPD SCOPE	Cradle to grave and module D
FUNCTIONAL UNIT	To provide a coating function on 1 m² of wall over a lifetime of 25 years, using glue as an application utility (paint after application is not included)
SYSTEM BOUNDARIES	Mandatory Stages = A1-A3 ; A4-A5, B1-B7 ; C1-C4 and D
REFERENCE SERVICE LIFE (RSL)	The Reference Service Life (RSL) of the wallcovering product is considered to be 25 years. This 25-year value is the amount of time that we recommend our products last for without refurbishment.
CUT-OFF RULES	Life Cycle Inventory data for a minimum of 99% of total inflows to the upstream and core module shall be included. Flows related to human activities such as employee transport are excluded. Transportation in-site is excluded The construction of plants, production of machines and transportation systems are excluded
ALLOCATIONS	Allocation has been avoided when possible. For those cases, when recycled material has been used, a physical allocation based on mass is used. The polluter pays and modularity principles have been followed
GEOGRAPHICAL COVERAGE AND TIME PERIOD	Data included is collected from 1 production site in Czech Republic (Hodonice) Production year from 2020 Background data: Ecoinvent v3.8 (2022) and GaBi ts 2022

EPDs of construction products may be not comparable if they do not comply with EN 15804:2012 + A2:2019 or ISO 21930. Environmental Product Declarations within the same product category from different programs may not be comparable".

LCA scope

System boundaries (X=included. MND=module not declared)

	PRODUCT STAGE			CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY
	Raw material supply	Transport	Manufacturing	Transport	Construction-Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-recovery
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	X	X	X	X	X	X	X	X	X	X	X	X
Geography	RER	RER	RER	RER	RER	-	-	-	-	-	-	-	RER	RER	RER	RER	RER
Specific data used	>95% GWP- GHG																
Variation products	Maximum variability: 9,4%																
Variation sites	One site for all products																

Life cycle stages

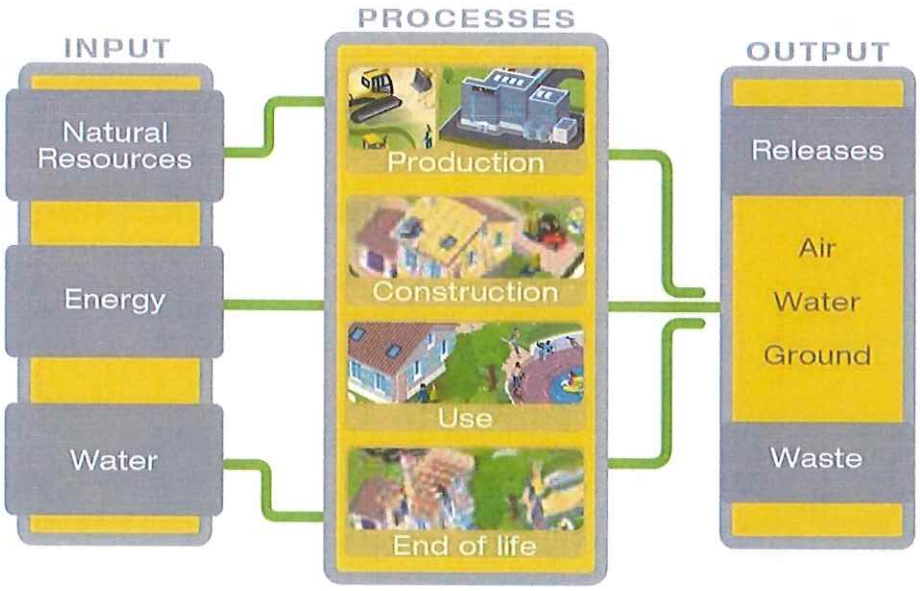


Figure 1.Flow diagram of the Life Cycle

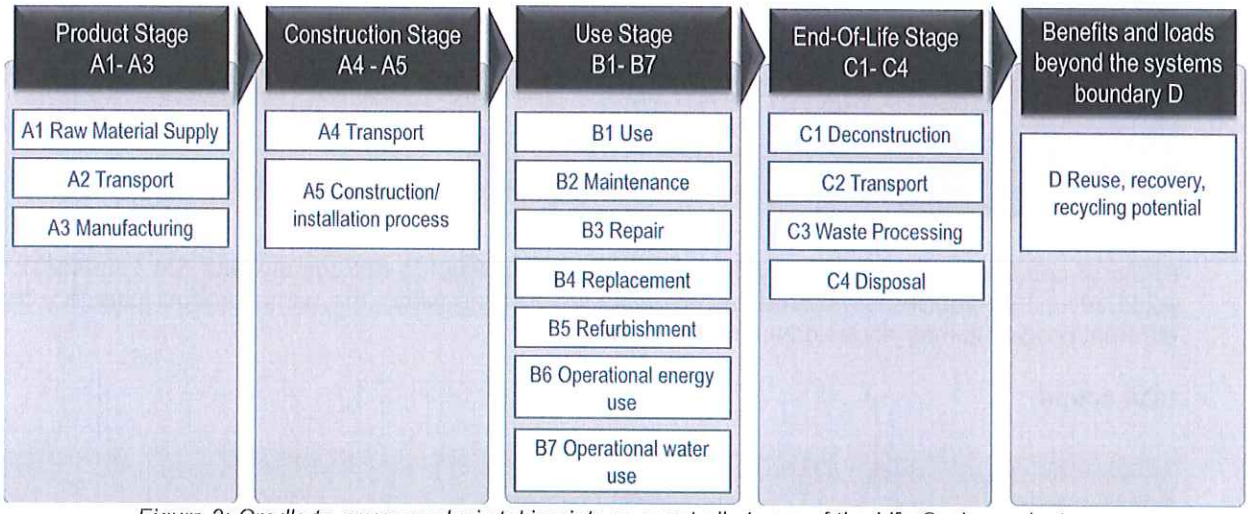


Figure 2: Cradle to grave analysis taking into account all stages of the Life Cycle product

A1-A3, Product stage

Description of the stage: the product stage of the wallcovering products is subdivided into 3 modules A1, A2 and A3 respectively "Raw material supply", "transport" and "manufacturing".

The aggregation of the modules A1, A2 and A3 is a possibility considered by the EN 15 804 standard. This rule is applied in this EPD.

Description of the scenarios and other additional technical information:

A1, Raw materials supply
This module takes into account the extraction and processing of all raw materials and energy which occur upstream to the studied manufacturing process

Specifically, the raw material supply covers production of binder components and sourcing (quarry) of raw materials for fiber production, e.g. sand and borax for glass wool. Besides these raw materials,

recycled materials (agglomerates) are also used as input.

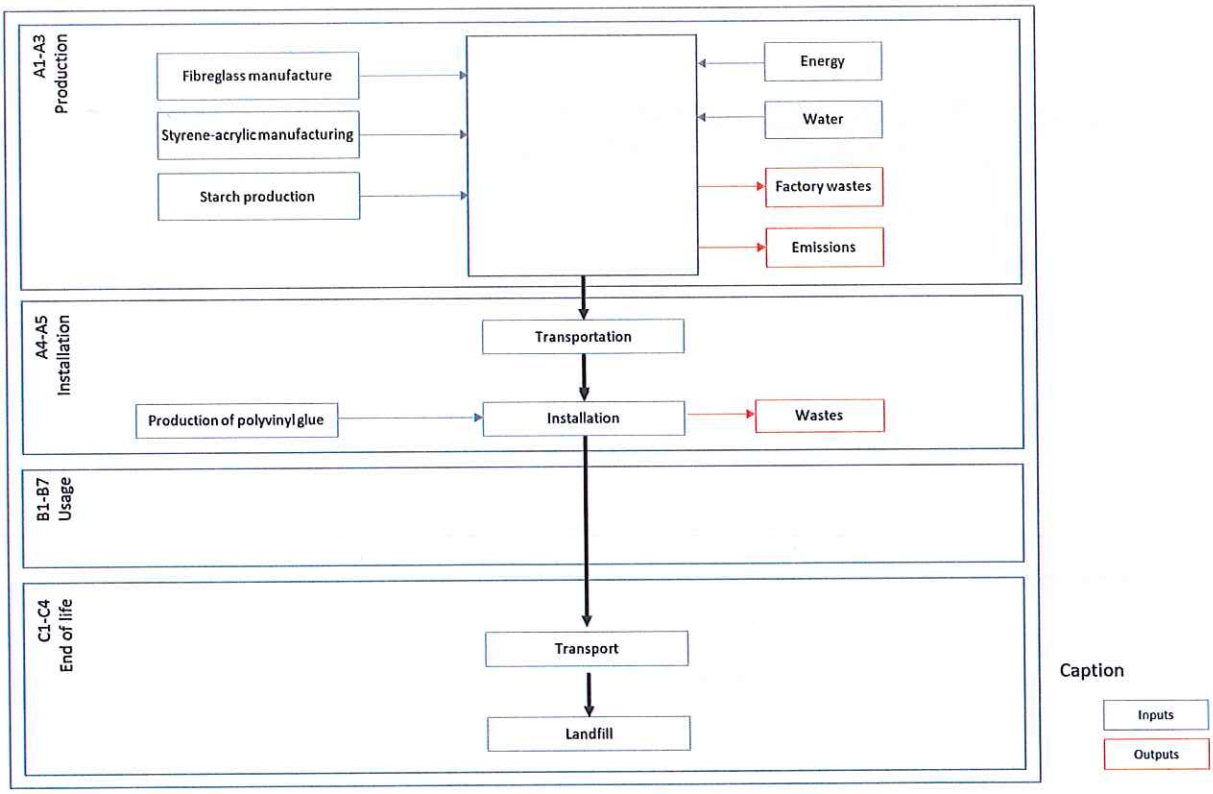
A2, Transport to the manufacturer
The raw materials are transported to the manufacturing site. In our case, the modeling includes: road (average values) of each raw material.

A3, Manufacturing
This module includes the manufacturing of the product and packaging. Specifically, it covers the manufacturing of glass, resin, wallcovering, and the packaging.

Waste leaving the plant that is recycled externally and landfilled was transported 50 km.

This module also includes the emissions and wastes generated during manufacturing.

Manufacturing process flow diagram



A4-A5, Construction process stage

Description of the stage: the construction process is divided into 2 modules: A4, transport to the building site and A5, installation in the building. Since there is a product loss during installation (5 %). The quantification of raw material compensation (A5) and its transport to the building site (A4) are considered.

A4, Transport to the building site: this module includes transport from the production gate to the building site. Transport is calculated on the basis of a scenario with the parameters described in the following table.

PARAMETER	VALUE
Fuel type and consumption of vehicle or vehicle type used for transport e.g. long distance truck, boat, etc.	Average truck trailer (27 t payload) with a real 24 t payload, diesel consumption 38 liters for 100 km
Distance	1,200 km. Average distance between Eastern Europe and France
Capacity utilisation (including empty returns)	Use of GaBi data, default: 85% of mass capacity 30% empty returns
Bulk density of transported products*	160 kg/m^3
Volume capacity utilisation factor	Coefficient < 1

A5, Installation in the building: this module includes:

No additional accessory was taken into account for the implementation phase of wallcovering product.
No energy is needed to install the product (manual installation)

PARAMETER	VALUE/DESCRIPTION
Auxiliary inputs for the installation	Ready to use polyvinyl glue 0,25 kg/m^2
Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type)	3%
Distance	50 km to landfill by truck
Output materials (specified by type) as results of waste processing at the building site e.g. of collection for recycling, for energy recovering, disposal (specified by route)	Pallet 0,01154 kg/m^2 - According to the European website "eurostat" pallets are: 31% recycled and 69% sent to landfill Cardboard 0.00002 kg/m^2 - According to the European website "eurostat" cardboard is: 80% recycled and 20% sent to landfill 100% sent to landfill: - 3% waste of wall covering during installation equivalent to 8g/m^2 - Paper label 0.00001 kg/m^2 - Low density polyethylene film (LDPE) 0,00697 kg/m^2 The distances used for the landfill and recycling center are 50 km

B1-B7, Use stage (excluding potential savings)

Description of the stage: the use stage is divided into the following modules:

- B1: Use
- B2: Maintenance
- B3: Repair
- B4: Replacement
- B5: Refurbishment
- B6: Operational energy use
- B7: Operational water use

Description of the scenarios and additional technical information:
Once installation is complete, no actions or technical operations are required during the use stages until the end of life stage. Therefore, wallcovering products have no impact (excluding potential energy savings) on this stage.

C1-C4, End of Life Stage

Description of the stage: this stage includes the next modules:

C1, Deconstruction, demolition
The de-construction and/or dismantling of wallcovering products take part of the demolition of the entire building. In our case, the environmental impact is assumed to be lesser than 1% of the total environmental impacts and can be neglected

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 considered to be landfilled without reuse, recovery or recycling.

C4, Disposal

The wallcovering is assumed to be 100% landfilled.

Description of the scenarios and additional technical information:

End of life:

Parameter	Value/description
Collection process specified by type	The entire product is collected alongside any mixed construction waste and sent to landfill 0,41 kg of wallcovering (collected with mixed construction waste)
Recovery system specified by type	There is no recovery, recycling or reuse of the product once it has reached its end of life phase.
Disposal specified by type	The product alongside the mixed construction waste from demolishing will go to landfill 0,41 kg of wallcovering are landfilled
Assumptions for scenario development (e.g. transportation)	The product alongside the mixed construction waste from demolishing will go to landfill The waste going to landfill will be transported by truck with 27 t payload, using diesel as a fuel consuming 38 liters per 100km Distance covered is 50 km

D, Reuse/recovery/recycling potential

100% of wastes are landfilled. There is no reuse, nor recovery, nor recycling of this product. Hence, no recycling benefits are reported on stage D.

LCA results

As specified in EN 15804:2012+A2:2019 and the PCR 2019:14 Construction Products, version 1.11. The environmental impacts are declared and reported using the baseline characterization factors are from the ILCD. Raw materials and energy consumption, as well as transport distances have been taken directly from the manufacturing plant (Production data according 2020 and transport data according 2020).

According to the EN 15804:2012+A2:2019 standard, the LCIA results are relative expressions translating impacts into environmental themes such as climate change, ozone depletion, etc. (midpoint impact categories). Thus, the LCIA results do not predict impacts on category endpoints such as impact on the extinction of species or human health. In addition, the results do not provide information about the exceeding of thresholds, safety margins or risks.

All the results refer Novelio® Classic Standard with a weight of 0,160 kg/m^2.

Environmental Impacts

Environmental indicators	Product stage	Construction stage		Use stage							End of life stage				Reuse, Recovery Recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Climate Change [kg CO_2 eq.]	3,87E-01	1,08E-03	1,42E-01	0	0	0	0	0	0	0	0	2,47E-03	0	1,64E-02	0
Climate Change (fossil) [kg CO2 eq.]	4,18E-01	1,06E-03	1,21E-01	0	0	0	0	0	0	0	0	2,43E-03	0	6,15E-03	0
Climate Change (biogenic) [kg CO_2 eq.]	-3,06E-02	1,36E-05	2,11E-02	0	0	0	0	0	0	0	0	3,12E-05	0	1,03E-02	0
Climate Change (land use change) [kg CO_2 eq.]	8,64E-05	5,95E-06	1,16E-04	0	0	0	0	0	0	0	0	1,37E-05	0	1,33E-05	0
Ozone depletion [kg CFC-11 eq.]	5,18E-09	6,40E-17	1,61E-08	0	0	0	0	0	0	0	0	1,47E-16	0	9,96E-15	0
Acidification terrestrial and freshwater [Mole of H+ eq.]	8,59E-04	1,32E-06	5,25E-04	0	0	0	0	0	0	0	0	3,02E-06	0	4,38E-05	0
Eutrophication freshwater [kg P eq.]	4,63E-05	9,78E-09	1,02E-04	0	0	0	0	0	0	0	0	2,25E-08	0	3,21E-08	0
Eutrophication freshwater [kg $(PO_4)^3$ eq.]	1,51E-05	3,19E-09	3,34E-05	0	0	0	0	0	0	0	0	7,32E-09	0	1,05E-08	0
Eutrophication marine [kg N eq.]	2,26E-04	4,74E-07	9,84E-05	0	0	0	0	0	0	0	0	1,09E-06	0	1,12E-05	0
Eutrophication terrestrial [Mole of N eq.]	2,31E-03	5,53E-06	9,76E-04	0	0	0	0	0	0	0	0	1,27E-05	0	1,23E-04	0
Photochemical ozone formation - human health [kg NMVOC eq.]	6,09E-04	1,16E-06	4,56E-04	0	0	0	0	0	0	0	0	2,67E-06	0	3,40E-05	0
Resource use, mineral and metals [kg Sb eq.][1]	3,18E-07	8,93E-11	1,36E-06	0	0	0	0	0	0	0	0	2,05E-10	0	6,06E-10	0
Resource use, energy carriers [MJ][1]	7,44E+00	1,43E-02	3,33E+00	0	0	0	0	0	0	0	0	3,28E-02	0	8,06E-02	0
Water deprivation potential [m^3 world equiv.][1]	7,03E-02	9,58E-06	1,31E-01	0	0	0	0	0	0	0	0	2,20E-05	0	6,65E-04	0

[1] The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

Resources Use

Resources Use indicators	Product stage	Construction stage		Use stage							End of life stage				D Reuse, recovery, recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Use of renewable primary energy (PERE) [MJ]	4,65E-01	8,11E-04	1,27E-01	0	0	0	0	0	0	0	0	1,86E-03	0	1,16E-02	0
Primary energy resources used as raw materials (PERM) [MJ]	1,83E-01	0	5,49E-03	0	0	0	0	0	0	0	0	0	0	0	0
Total use of renewable primary energy resources (PERT) [MJ]	6,48E-01	8,11E-04	1,32E-01	0	0	0	0	0	0	0	0	1,86E-03	0	1,16E-02	0
Use of non-renewable primary energy (PENRE) [MJ]	7,15E+00	1,43E-02	3,32E+00	0	0	0	0	0	0	0	0	3,28E-02	0	8,07E-02	0
Non-renewable primary energy resources used as raw materials (PENRM) [MJ]	1,13E+00	0	1,83E+00	0	0	0	0	0	0	0	0	0	0	0	0
Total use of non-renewable primary energy resources (PENRT) [MJ]	8,28E+00	1,43E-02	5,16E+00	0	0	0	0	0	0	0	0	3,28E-02	0	8,07E-02	0
Input of secondary material (SM) [kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Use of renewable secondary fuels (RSF) [MJ]	2,63E-12	0	7,89E-14	0	0	0	0	0	0	0	0	0	0	0	0
Use of non-renewable secondary fuels (NRSF) [MJ]	3,09E-11	0	9,27E-13	0	0	0	0	0	0	0	0	0	0	0	0
Use of net fresh water (FW) [m3]	2,08E-03	9,17E-07	3,06E-03	0	0	0	0	0	0	0	0	2,11E-06	0	2,04E-05	0

Waste Category & Output flows

Waste Category & Output Flows	Product stage	Construction stage		Use stage							End of life stage				D Reuse, recovery, recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Hazardous waste disposed (HWD) [kg]	4,62E-07	6,85E-14	1,39E-08	0	0	0	0	0	0	0	0	1,57E-13	0	3,854E-10	0
Non-hazardous waste disposed (NHWD) [kg]	1,27E-02	2,05E-06	1,22E-02	0	0	0	0	0	0	0	0	4,71E-06	0	4,10E-01	0
Radioactive waste disposed (RWD) [kg]	2,50E-04	1,76E-08	6,94E-06	0	0	0	0	0	0	0	0	4,05E-08	0	9,022E-07	0
Components for re-use (CRU) [kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Materials for Recycling (MFR) [kg]	1,31E-03	0	3,63E-03	0	0	0	0	0	0	0	0	0	0	0	0
Material for Energy Recovery (MER) [kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported electrical energy (EEE) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported thermal energy (EET) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Additional voluntary indicators from EN 15804 (according to ISO 21930:2017)

		Product stage	Construction stage		Use stage							End of life stage				Reuse, Recovery Recycling
	Environmental indicators	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
	Climate Change [kg CO_2 eq.][2]	4,10E-01	1,04E-03	1,14E-01	0	0	0	0	0	0	0	0	2,39E-03	0	6,03E-03	0,00E+00

[2] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Information on biogenic carbon content

	Biogenic Carbon Content	Product stage A1 / A2 / A3
	Biogenic carbon content in product [kg]	4,08E-03
	Biogenic carbon content in packaging [kg]	5,55E-03

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO_2.

The biogenic carbon content in the product, is due to the production of starch, used as binder. On the other hand, the biogenic carbon content for packaging is quantified for the cardboard, the paper (label) and the pallet.

LCA interpretation

The following figure refers to a functional unit of 1 m² a coating function on 1 m² of wall over a lifetime of 25 years. The product analyzed is: Novelio® Classic Standard.

[1] This indicator corresponds to the abiotic depletion potential of fossil resources.
[2] This indicator corresponds to the total use of primary energy.
[3] This indicator corresponds to the use of net fresh water.
[4] This indicator corresponds to the sum of hazardous, non-hazardous and radioactive waste disposed.

For the Novelio® Classic Standard product, the production stages (A1-A3) have significant contributions in the categories of global warming, consumption of non-renewable resources and energy consumption. These impacts are due to: 1) In-plant production: the energy sources consumed (electricity and natural gas) for the manufacture of the glass fiber yarn and the production of the coating; the water consumed in the process, as well as the waste management; 2) binder production: due to the production of styrene-acrylic used as a binder in the wallcovering.

The installation stage also has significant impacts in the categories mentioned above. This is due to the production of the glue, which is applied in a proportion of 250 g/m² and the packaging waste management.

In contrast to the other indicators, the waste production has the biggest contribution at the end-of-life stage (C). This is because 100% of the waste is sent to landfill. There is also an impact related to the production module as we generate waste on the manufacturing site. In installation stage (A5), the quantified quantity is due to packaging and the scrap generated during wall covering installation.

Impact variation

An assessment of the influence of the variations on the whole life cycle results of the ADFORS Novelio® product range was carried out for the GWP-GHG indicator (kg CO_2 eq.). The impacts presented were calculated for Novelio® Classic Standard, with a mass per unit area of 0.160 kg/m² which was used as reference in this study. In order to ensure that all the products declared in the EPD do not exceed the +/- 10% variance between them and the reference product (Novelio® Classic Standard), the results per product were calculated and their respective variance.

Environmental indicator calculated for 1 m²	Product range : Novelio® Classic																											
	Standard (kg/m²)																											
	0,160 (reference)	Var.*	0,15	Var.*	0,15	Var.*	0,150	Var.*	0,15	Var.*	0,16	Var.*	0,16	Var.*	0,16	Var.*	0,16	Var.*	0,17	Var.*	0,17	Var.*	0,170	Var.*	0,174	Var.*	0,175	Var.*
GWP-GHG [kg CO2 eq.]	0,53	0%	0,48	9,4%	0,49	7,5%	0,50	5,7%	0,50	5,7%	0,51	3,8%	0,51	3,8%	0,52	1,9%	0,52	1,9%	0,53	0,0%	0,55	3,8%	0,54	1,9%	0,55	3,8%	0,56	5,7%

Environmental indicator calculated for 1 m²	Product range : Novelio® Classic																			
	Standard (kg/m2)		Easypaint (kg/m²)																	
	0,160 (reference)	Var.*	0,15	Var.*	0,15	Var.*	0,150	Var.*	0,15	Var.*	0,16	Var.*	0,16	Var.*	0,16	Var.*	0,17	Var.*	0,170	Var.*
GWP-GHG [kg CO2 eq.]	0,53	0%	0,49	7,5%	0,49	7,5%	0,49	7,5%	0,51	3,8%	0,51	3,8%	0,52	1,9%	0,52	1,9%	0,55	3,8%	0,54	1,9%

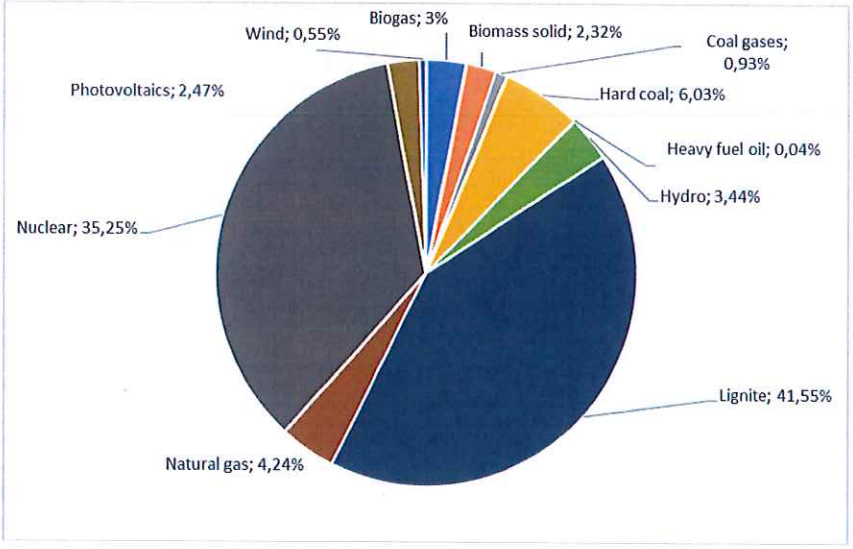
Environmental indicator calculated for 1 m²	Product range : Novelio® Classic									
	Standard (kg/m2)		Mold - X (kg/m²)				Clean Air (kg/m²)			
	0,160 (reference)	Var.*	0,160	Var.*	0,170	Var.*	0,160	Var.*	0,18	Var.*
GWP-GHG [kg CO2 eq.]	0,53	0%	0,52	1,9%	0,55	3,8%	0,53	0,0%	0,57	7,5%

* The absolute variance is calculated by subtracting the impact of the selected product from the value of the reference product (Novelio® Classic Standard 0,160 kg/m²), then dividing the result by the latter and multiplying it by 100

Appendix:

Electricity information

TYPE OF INFORMATION	DESCRIPTION
Location	Representative of average production in Czech Republic
Geographical representativeness description	Biogas 3 % Biomass solid 2,32 % Coal gases 0,93 % Hard coal 6,03 % Heavy fuel oil 0,04 % Hydro 3,44 % Lignite 41,55 % Natural gas 4,24 % Nuclear 35,25 % Photovoltaics 2,47 % Wind 0,55 %
Reference year	2018
Type of data set	Cradle to gate from Thinkstep database Dataset: CZ Electricity grid mix ts
Source	Gabi database 2022: dataset valid until 2024
CO_2 emission kg CO_2 eq. / kWh	0,59 kg CO_2 eq. / kWh



Data quality

Inventory data quality is judged by geographical, temporal, and technological representativeness. To cover these requirements and to ensure reliable results, first-hand industry data crossed with LCA background datasets were used. The data was collected from internal records and reporting documents from SAINT-GOBAIN ADFORS CZ, s.r.o. After evaluating the inventory, according to the defined ranking in the LCA report, the assessment reflects fair inventory data quality for the geographical representation, fair for technological and good for temporal representation.

Environmental impacts according to EN 15804:2012 + A1

The following tables presents results of Novelio® Classic Standard 0,160 kg/m² according to EN 15804 +A1.

		Product stage	Construction stage		Use stage							End of life stage				Reuse, recovery, recycling
		A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Environmental impacts	Global Warming Potential (GWP) [kg CO_2eq.]	4,10E-01	1,04E-03	1,14E-01	0	0	0	0	0	0	0	0	2,39E-03	0	6,03E-03	0,00E+00
	Ozone depletion (ODP) [kg CFC 11eq.]	4,52E-09	6,75E-20	1,31E-08	0	0	0	0	0	0	0	0	1,55E-19	0	1,25E-17	0,00E+00
	Acidification potential (AP) [kg SO_2eq.]	6,74E-04	9,52E-07	4,47E-04	0	0	0	0	0	0	0	0	2,19E-06	0	3,52E-05	0,00E+00
	Eutrophication potential (EP) [kg $(PO_4)_3$-eq.]	1,21E-04	2,24E-07	3,32E-04	0	0	0	0	0	0	0	0	5,15E-07	0	3,94E-06	0,00E+00
	Photochemical ozone creation (POCP) - [kg Ethylene eq.]	6,13E-05	1,02E-07	9,34E-05	0	0	0	0	0	0	0	0	2,34E-07	0	2,85E-06	0,00E+00
	Abiotic depletion potential for non-fossil resources (ADP-elements) [kg Sb eq.]	1,86E-05	9,89E-11	1,89E-06	0	0	0	0	0	0	0	0	2,27E-10	0	2,19E-09	0,00E+00
	Abiotic depletion potential for fossil resources (ADP-fossil fuels) [MJ]	6,66E+00	1,43E-02	3,08E+00	0	0	0	0	0	0	0	0	3,27E-02	0	7,84E-02	0,00E+00

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