Environmental Product Declaration (EPD)

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

Tectonic FP, FP Basic & FP Advance

EPD of multiple products Tectonic FP, Tectonic FP Basic and Tectonic FP Advanced, based on a representative product (Tectonic FP Basic, 100 mm, R= 2.85 m2·K/W)

List of all covered products on Annex I

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General information

EPD Owner: URSA Insulation

Programme used: The International EPD® System. www.environdec.com info@environdec.com

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CEN standard EN 15804+A2 serves as the Core Product Category Rules (PCR)	
Product Category Rules (PCR): *PCR 2019:14. Construction products (EN 15804+A2) Version 1.3.4. PCR 2019:14-c-PCR-005 c-PCR-005 Thermal Insulation products (EN 16783) (2024-05-03)*	
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	
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification* ☒ EPD verification by individual verifier *For EPD Process Certification, an accredited certification body certifies and reviews the management process and verifies EPDs published on a regular basis. For details about third-party verification procedure of the EPDs, see GPI.	
Third-party verifier: Itxaso Trabudua, IK Ingeniería S.L. Approved by: The International EPD® System	
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EPDs within the same product category but registered in different EPD programs, 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 characterization 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: URSA Insulation

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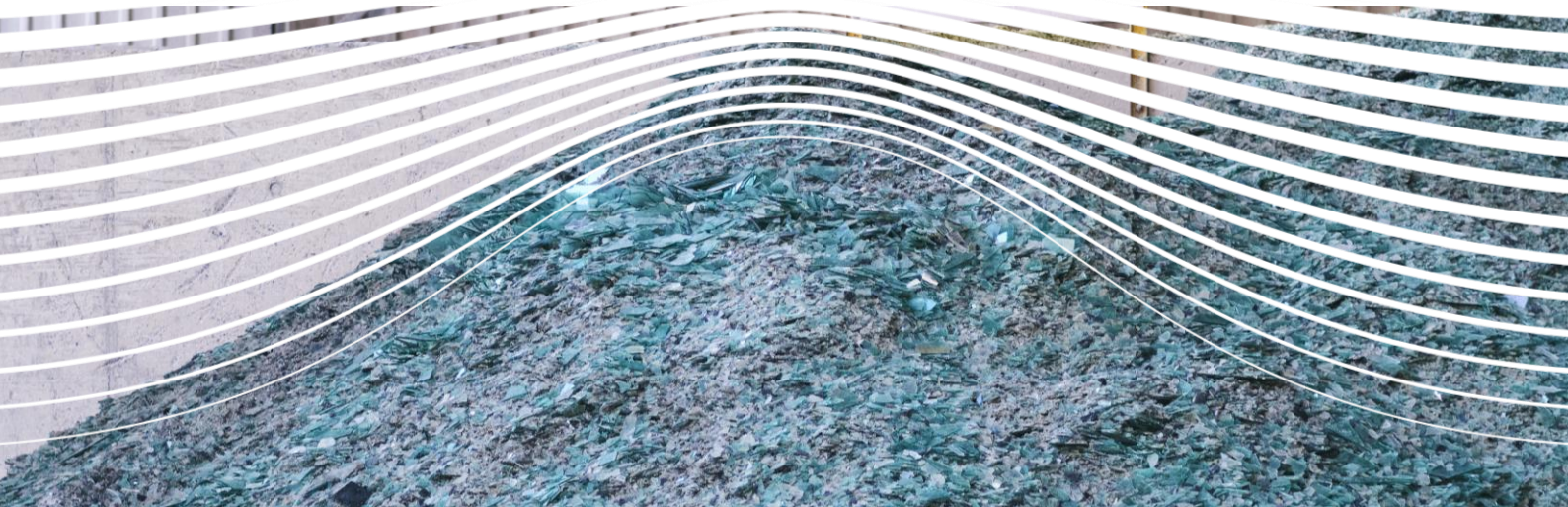
Description of the organization: URSA is a company dedicated to the production and commercialization of thermal and acoustic insulation materials aimed at sustainability and energy efficiency in buildings. It is currently one of the largest manufacturers in Europe of mineral wool and extruded polystyrene (XPS), two totally complementary insulation materials that contribute to the thermal and acoustic insulation of buildings. There are 11 factories throughout Europe and the headquarters are in Spain.

URSA manufactures products for thermal and acoustic insulation that is used in buildings, building equipment and industrial installations following European standards:

- EN 13162:2012+A1:2015 Thermal insulation products for buildings - Factory made mineral wool (MW) products – Specification.
- EN 14303:2015 Thermal insulation products for building equipment and industrial installations - Factory made mineral wool (MW) products – Specification.
- EN 14064-1:2018 Thermal insulation products for buildings - In-situ formed loose-fill mineral wool (MW) products - Part 1: Specification for the loose-fill products before installation.
- EN 14064-2:2010 Thermal insulation products for buildings - In-situ formed loose-fill mineral wool (MW) products - Part 2: Specification for the installed products.

Product-related or management system-related certifications: Novo Mesto plant is covered by EPD process certification system and certified ISO 9001 and ISO 14001.

Name and location of production site(s): Novo Mesto plant (Povhova ulica 2, 8000 Novo mesto, Slovenia).



Product information

Product name: Tectonic FP Basic

Product identification: this EPD describes the environmental impacts of URSA FP Basic, a glass mineral wool product manufactured by URSA in Novo Mesto's plant.

Product description: ridget mineral wool boards to be used in ETICS systems or insulation on interior walls. Thermal and sound insulation for contact façade systems or insulation on interior walls. Manufactured with the new TECTONIC technology, which achieves the best ratio between thermal and sound insulation and the mechanical properties of the plates.

The following table gathers all the main technical information for the representative product. The service life of this glass wool product was established at 50 years.

Technical data and physical characteristics Tectonic FP Basic		
Technical data	**Value**	**Standard**
Thickness	80, **100**, 120, 140 mm	
Thermal conductivity λ_D	0,035 W/mK	EN 13162
Reaction to fire	A1	EN 13501-1
Air flow resistivity	AFr10 (AFr20 FP Advanced)	EN 29053
Temperature limit of usage	250°C	
Compressive strength	CS(10)15	EN 826
Tensile strength	Tr ≥ 7.5 kPa	EN 1607
Dimensional stability	70,90	EN 1604
Tolerance class	T5	EN 823
Water vapour transmission	MU1	EN 12086
Short-term water absorption	WS	EN 12087
Long term water absorption	WL(P)	EN 12087

UN CPC code: 37990 Non-metallic mineral products N.E.C (including mineral wool, expanded mineral materials, worked mica, articles of mica, non-electrical articles of graphite or other carbon and articles of pear)

Geographical scope: The product is manufactured in Slovenia. The product is marketed mainly in Europe.

LCA Information

Functional unit: "Perform a thermal insulation function on 1 m^2 of wall by ensuring the thermal resistance of R = 2.85 K.m². W-1", include thickness 100 mm."

Mass conversion: 6.0 kg/m^2.

The following table shows the variability for the mandatory indicators comparing the representative against the smaller and higher thicknesses of all the products covered by this EPD.

Indicators	FP40 (A-C)	FP200 (A-C)
GWP-total	-55%	175%
GWP-fossil	-55%	175%
GWP-biogenic	-53%	179%
GWP-luluc	-42%	196%
ODP	-45%	192%
AP	-63%	162%
EP-freshwater	-56%	173%
EP- marine	-55%	175%
EP-terrestrial	-62%	164%
POCP	-52%	181%
ADP-minerals&metals*	-40%	200%
ADP-fossil*	-54%	177%
WDP*	-44%	194%

Reference service life: 50 years.

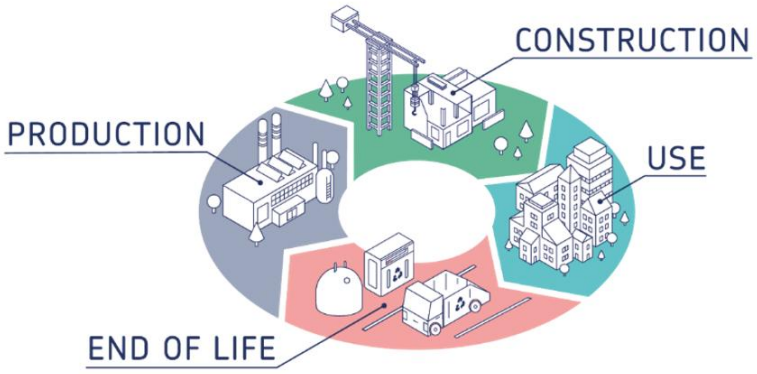
The choice of a 50-year-old RSL is based on the provisions included in the document prepared by CEN TC 88 "Thermal insulation products — Product category rules (PCR) for factory made and in-situ formed products for preparing environmental product declarations — Complementary element » System boundaries, scenarios, and modelling assumptions.

Time representativeness: Plant production data for the complete year 2023.

Database(s) and LCA software used: EcoInvent 3.10, 1, OpenLCA 2.4.0 (2023). Environmental Footprint 3.1.

Description of system boundaries: this LCA report considers the scope '**c) Cradle to grave and module D (A + B + C + D)'** defined in the PCR 2019:14-c-PCR-005 Thermal Insulation products (EN

16783) (2024-05-03). The analysis covers the full life cycle of the glass wool products, from the extraction of raw materials to the final disposal.



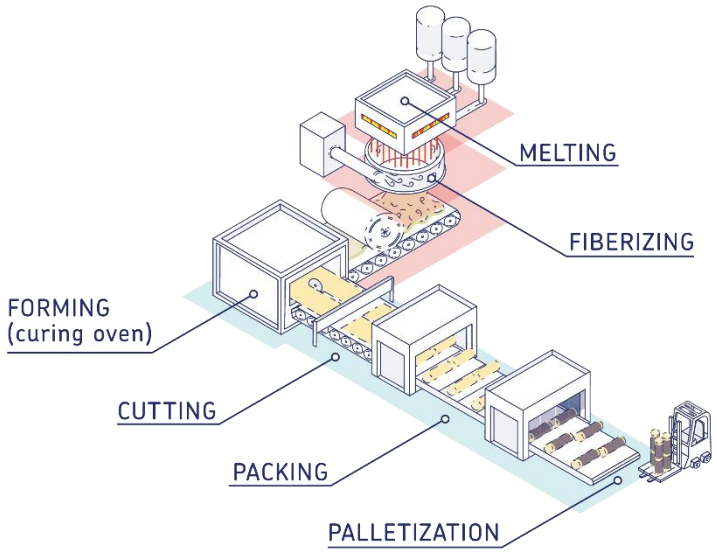
Product stage A1-A3

The production phase of mineral wool products is divided into three modules: raw materials (A1), raw materials transport (A2) and manufacturing process (A3).

A1 Raw materials supply: this module includes the environmental impacts associated with the raw material consumption data compiled for 2023.

A2 Raw materials supply transport: This stage considers the transportation from the suppliers to Novo Mesto's manufacturing plant. The precise data of suppliers and their location is part of the confidential data.

A3 Manufacturing: Glass wool manufacture includes stages of fusion and fiber formation (see diagram of manufacturing process). This stage considers all data related to the consumption (energy, water, gas…) for the manufacturing process, Novo Mest's electricity mix and plant emissions, the products' packaging materials and the plant's waste from production where an average distance of 50 km is considered for the transportation of waste.



For the electricity modelling, as Novo Mesto only had nuclear energy during 2023, the next dataset has been considered: “electricity production, nuclear, pressure water reactor | electricity, high voltage | EN15804, U – SI”. Also, the nuclear production of 1 kWh of electricity consumed by the average production in Novo Mesto in 2023 generated 0.0064 kg of CO2 eq. emissions.

Construction phase A4-A5

The construction phase is divided into two modules: transport to the construction site (A4) and installation in the building (A5).

A4 Transport

This phase gathers the distances between the manufacturing plant and the final client. It uses the average distance from 2023 is obtained from registered clients’ deliveries.

A4 module characteristics	Description
Average distance	450 km
Type of fuel and consumption of the vehicle or type of vehicle used for the transport for example, long distance lorry, boat, etc.	The vehicle runs on diesel, its emission standard is classified as EURO6 and it fallssi under the truck size class of 7.5 to 16 metric tons
Use of capacity (including returning empty)	100 % volume capacity
Coefficient of use of volume capacity	>1 (products compressed in the packaging)

A5 Installation: GW products require manual installation by the operator, without any other resources than the product itself. It is expected to have some leftovers in the installation,

approximately 2 % of the product. The polyethylene-based packaging film is recyclable and recycled in those countries having a return system. The generated waste goes directly to landfill, an estimated distance of 50 km.

A5 module characteristics	Value
Ancillary inputs for installation (specified by material)	No ancillary inputs
Use of water	No water used
Use of other resources	No other resources
Quantitative description of the type of energy (regional mix) and consumption during the installation process	No energy consumption during installation
Waste produced on the construction site prior to waste treatment generated by installation of the product (specified by type)	2% of glass wool
Materials (specified by type) produced by waste treatment on the construction site, for example collection with a view to recycling, recovery of energy, disposal (specified by channel)	All glass wool waste, its packaging and waste deriving from excess production for installation are considered as disposed of in landfill
Direct emissions to atmosphere, soil and water	No emissions considered

B1-B7 Phase of use

The use phase is considered, but its impact is zero due to the type of functionality of the glass mineral wool products. No technical operation is required during the useful phase until the end of service life. Thus, glass mineral wool does not have any impact during this phase and also permits potential energy savings during its lifetimes.

C1-C4 End of life phase

This phase includes the different modules of the end of service life as follows: C1, deconstruction, demolition; C2, transport to waste treatment; C3, waste treatment with a view to their reuse, recovery and/or recycling; C4, disposal.

Deconstruction, demolition: Deconstruction and /or dismantling of the insulation products is part of the demolition work of an entire building. The deconstruction stages for glass mineral wool only requires manual work from the operator without any additional resources.

Transport to waste treatment site: In this stage 50 km have been considered for transport between the place of generation of waste and its treatment point.

Waste treatment with a view to reuse, recovery, and/or recycling: There is not a specific treatment for this stage.

Disposal: The final disposal of glass mineral wool product considers 100% to landfill.

Parameter	Value
Collection procedure specified by type	Wool (collected with mixed construction waste)
Recovery system specified by type	No reuse, no recycling, no energy recovery
Disposal specified by type	Wool kept in storage facility for non-inert and non-hazardous waste
Hypotheses for creating scenarios (for example transport)	100% to landfill

D Benefit and charge (refer to standard)

This module considers the hypothetical stage where potential glass and packaging leftovers and its possibilities to be recycled. For our glass wool products, we supposed plastic and wood recycling, gathered right after installation (A5), considering the rates published by the European Commission in Annex C of the Product Environmental Footprint (PEF) recommendations.

Allocation procedures

The allocation procedure used for the LCI is physical, based on the mass (kg of production).

Regarding the pre-consumer material, part of the external cullet, an economic allocation shall be done as it is stated on PCR 2019:14 v1.3.4 section 4.5.5 Guidance on the allocation of scrap. The external cullet for Poland has two suppliers and glass comes from two different sectors (car windows and medical glass).

Applying the allocation rules with estimated prices from existing companies in the market the economic allocation is less than 1%. Due to this low value and following standard EN 15804+A2, no impact will be applied to the pre-consumer cullet and the economic allocation will be negligible.

Table – Economic allocation for glass

Glass	Source	Year	Economic allocation
Primary glass	External source	2025	99.57%
Recycled glass	Internal source	2023	**0.43%**

Hypotheses and considerations:

The LCA study has been developed using the Ecoinvent v3.10 database and the software OpenLCA v2.4.0. The main hypothesis of the study are listed below:

- The production data used on the LCI analysis corresponds to 2023.

- For module C2, a distance of 50 km has been considered for transport between the place of generation of waste and its treatment point. (Model for Life Cycle Assessment (LCA) of buildings, JRC Technical Reports 2018).
- The recycling rates defined on the Annex C of the PEF (Product Environmental Footprint) have been used for the calculation of the material for recycling and module D assumptions.

Cut-off rules:

In the case that there is not enough information, the energy process and materials According to PCR 2019:14 Construction Products v1.3.4 and EN 15804:2012+A2:2019/AC:2021, at least 95% of all mass and energy inputs and outputs of the central system have been included in the analysis.

The infrastructure and capital goods have been excluded from the LCA. Besides, the following flows are excluded from the system boundaries, given their relatively low contribution to the impacts of the production system:

- Lighting, heating and cleaning of workshops,
- the administrative department,
- transportation of employees,
- the manufacture of the production tool and transport systems (machines, trucks, etc.),
- the maintenance of the factory infrastructure has not been considered,
- diffuse emissions of particulate matter during transport and storage of raw materials, & long-term emissions.

Data quality requirements

The data collection has considered 1 year (2023), following “Data quality level and criteria of the UN Environment Global Guidance on LCA database development” annex E, EN 15804+A2. It is quantified that all the data gathered for the LCA has a medium level of quality (3.9 out of 5), having a range of ‘very poor’ (1), poor (2), medium (3), good (4) and very good (5).

The Ecoinvent 3.10 and EuGeos' 15804+A2_IA v4.1 databases have been used to choose the most representative processes, it is calculated / expected to have some leftovers in the installation, approximately 2 % of the product. The generated waste goes directly to landfill, an estimated distance of 50 km in the OpenLCA 2.4.0 software for LCA modeling and the calculation of environmental impact categories, complying with the quality requirements established in the PCR. Modules declared, geographical scope, share of specific data (in GWP-GHG indicator) and data variation:

Phases and modules of life cycle taken into account																		
	Production phase			Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Module	A1 Raw materials	A2 Transport	A3 Manufacturing	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Energy use	B7 Use of water	C1 Deconstruction / demolition	C2 Transport	C3 Waste treatment	C4 Removal	
Module declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	EUR	EUR	SLOVENIA	Global	Global	Global	Global	Global	Global	Global	Global	Global	Global	Global	Global	Global	Global
Specific data used	24%			>90% GWP	>90% GWP	-	-	-	-	-	-	-	-	-	-	-	-
Variation - Products	-39%/+66%			No variability	No variability	-	-	-	-	-	-	-	-	-	-	-	-
Variation - Sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Content information

The content of the information gathered on the following table refers to the representative product Tectonic FP Basic of 100 mm thickness (6 kg/m^2 of weight).

Product components	Weight (%)	Pre-consumer material, weight-%	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Glass wool	90-100	45	32	0
Binder	0-15	-	-	0
Total	100	45	32	0

Packaging components	Weight, kg/m2	Weight-% (versus the product)	Weight biogenic carbon, kg C/kg
Plastic Packaging	0.0019	0.3	-
Wood Pallet	0.579	9.6	0.29
TOTAL	0.598	9.9	0.29

Results of the environmental performance indicators

The following tables gather the environmental impacts for Tectonic FP Basic 100 mm. Estimated impact results are only relative statements that do not indicate impact category endpoints, exceeding threshold values, safety margins, or risks.

Potential environmental impact – mandatory indicators according to EN 15804

The use of the results of modules A1-A3 (A1-A5 for services) without considering the results of module C.

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	3.45E+00	1.30E+00	7.43E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.22E-02	0.00E+00	3.10E-02	-1.13E-02
GWP-biogenic	kg CO_2 eq.	-7.52E-01	7.58E-04	8.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.21E-05	0.00E+00	2.92E-05	2.12E-01
GWP-luluc	kg CO_2 eq.	2.92E-03	4.08E-04	6.27E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-05	0.00E+00	2.92E-05	-2.23E-04
GWP-total	kg CO_2 eq.	2.70E+00	1.30E+00	9.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.22E-02	0.00E+00	3.10E-02	2.01E-01
ODP	kg CFC 11 eq.	4.83E-07	2.59E-08	1.11E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-09	0.00E+00	1.28E-08	-2.02E-09
AP	mol H^+ eq.	2.21E-02	3.21E-03	4.88E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-04	0.00E+00	2.97E-04	-6.83E-05
EP-freshwater	kg P eq.	1.83E-03	8.48E-05	3.71E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.71E-06	0.00E+00	2.89E-06	-4.70E-06
EP- marine	kg N eq.	3.29E-03	9.50E-04	8.58E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.23E-05	0.00E+00	1.03E-04	-2.31E-05
EP-terrestrial	mol N eq.	4.39E-02	1.03E-02	1.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.87E-04	0.00E+00	1.13E-03	-2.39E-04
POCP	kg NMVOC eq.	1.05E-02	5.21E-03	2.67E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.40E-04	0.00E+00	3.29E-04	-1.18E-04
ADP-minerals&metals*	kg Sb eq.	4.18E-04	4.25E-06	8.37E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.36E-07	0.00E+00	1.86E-08	-1.36E-08
ADP-fossil*	MJ	3.91E+01	1.81E+01	8.29E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E+00	0.00E+00	5.19E-02	-5.26E-02
WDP*	m^3	3.55E+00	8.68E-02	7.17E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.82E-03	0.00E+00	2.74E-03	-5.52E-03
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.*

Potential environmental impact – additional mandatory and voluntary 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.	3.48E+00	1.30E+00	8.01E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.22E-02	0.00E+00	3.10E-02	-1.16E-02

[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.

Use of resources

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	1.11E-01	3.49E-01	4.35E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-02	0.00E+00	5.11E-03	-9.38E-03
PERM	MJ	4.26E+00	0.00E+00	-4.26E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	4.37E+00	3.49E-01	8.86E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-02	0.00E+00	5.11E-03	-9.38E-03
PENRE	MJ	3.38E+01	1.81E+01	6.05E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E+00	0.00E+00	5.20E-02	-5.29E-02
PENRM	MJ	5.22E+00	0.00E+00	-5.22E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	3.91E+01	1.81E+01	8.29E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E+00	0.00E+00	5.20E-02	-5.29E-02
SM	kg	4.19E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	8.81E-02	2.45E-03	1.91E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-04	0.00E+00	9.43E-04	-8.80E-05
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															

Waste production and output flows

Waste production

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	3.51E-03	1.60E-02	1.10E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.88E-04	0.00E+00	1.33E-06	-6.23E-07
Non-hazardous waste disposed	kg	5.16E-01	2.02E-01	1.09E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E-02	0.00E+00	0.00E+00	0.00E+00
Radioactive waste disposed	kg	2.82E-04	6.93E-06	6.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.85E-07	0.00E+00	5.78E-06	-1.19E-06

Output flows

Indicator	Unit	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	3.49E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	5.94E-07	3.41E-06	2.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.89E-07	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ	8.85E-03	3.90E-03	1.86E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E-04	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	2.54E-04	2.21E-02	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-03	0.00E+00	0.00E+00	0.00E+00

Additional Information

Conversion factors:

This EPD covers the representative product FP Basic of 100 mm. The family has three commercial names, FP, FP Basic and FP Advance with the same properties, but different thicknesses between 40 and 200 mm. A conversion factor can be applied to obtain the environmental behavior of every thickness. To determine the environmental performance for each specific thickness, the results presented in this EPD "*Results of the environmental performance indicators*" section, must be multiplied by the corresponding conversion factor. This factor is calculated based on the GWP-GHG indicator for stages A1-A3, as stated in the PCR 2019:14.

Thickness (mm)	Thermal resistance (m^2k/W)	Conversion factor for all GWP-GHG (A1-A3)
40	1.1	0.61
50	1.4	0.67
60	1.7	0.74
80	2.25	0.87
100	**2.85**	**1**
120	3.4	1.13
140	4	1.26
150	4.15	1.33
160	4.4	1.39
180	5	1.52
200	5.55	1.66

EUCEB:

Mineral wool fibers have been exempted from carcinogenic classification according to: Regulation on classification and labelling of substances and mixtures Regulation (EC) n° 1272/2008 and its last update Regulation (EU) nº 2021/643. They have in fact successfully passed the tests established by this Regulation and their biopersistance is lower than the values defined in note « Q » of this text. This exemption is certified by the European Certification Board (EUCEB - www.euceb.org).

The EUCEB certifies that fibers conform to note « Q » of the Regulation (EC) n° 1272/2008. The EUCEB guarantees that the exemption tests have been executed in conformance with European protocols, that industrial entities have control procedures in place during manufacture of the products, and that third parties inspect and approve the results.

The industrial entities in respect of EUCEB undertake as follows:

- To provide a test report compiled by a EUCEB recognized laboratory providing proof that the fibers satisfy one of the four exemption conditions established in note « Q » of Regulation (EC) n° 1272/2008,
- Twice yearly, to undergo production inspection by an independent third party recognized by EUCEB (sample taking and conformance with initial chemical analysis),
- To set up internal control procedures in each factory.

The products with this certification are recognizable as they have the EUCEB logo affixed to their packaging

RAL (Bio solubility):

Our products comply with RAL- GZ 388 Erzeugnisse aus Mineralwolle – Gütesicherung. The conformity of our products is assessed periodically by the independent body, GGM Gütegemeinschaft Mineralwolle RAL, which certifies that they are harmless to health.

Blue Angel Ecolabel

Our products comply with DE-UZ 132, low emission thermal insulation material and suspended ceilings for indoor Use. Our products are awarded with Blue Angel eco-label and they have been produced in a low-pollutant manufacturing process and pose no health hazard in indoor spaces. This award criteria includes requirements for thermal and sound insulation and defines limits for emissions from the products.

REACH:

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

The glass wool products (rolls and boards) manufactured by Superglass are defined as “articles” according to the article 3 (3) of EC Regulation 1907/2006 (REACH). Articles, whose functionality is more determinate by the shape, surface or design given in their production process, than by its chemical composition.

There, according to Art. 2 of EC Regulation 1907/2006 (REACH) our articles are excluded from the EC Regulation 1907/2006 (REACH).

Our products do not contain Substances of Very High Concern (SVHC) in a higher concentration than 0,01 % by weight according to the last update of the candidate list known at the date this document was issued.

ECHA-European Chemicals Agency regularly published an update SHVC list. The validity of this statement is therefore of ECHA new publications.

Circularity:

Recycled Glass Content:

According to ISO 14021:

1) Recycled Content is a Proportion, by mass, of recycled material in a product. *Only pre-consumer and post-consumer materials shall be considered as recycled content, consistent with the following use of terms,*

Pre-consumer material: Material diverted from waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

Post-consumer material: Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose. This includes returns of materials from the distribution chain.

2) Recovered material: Material that would have otherwise been disposed of a waste or used for energy recovery but has instead been collected and recovered as a material input, in lieu of new primary material, for a recycling or a manufacturing process.

For the Novo Mesto plant, in the year 2023, the values are:

Minimum 77% Recycled Glass Content, a mix of pre-consumer and post-consumer recycled material.

Recycled materials content in the product:

According to ISO 14021:
Recycled Content is a Proportion, by mass, of recycled material in a product. Only pre-consumer and post-consumer materials shall be considered as recycled content, consistent with the following use of terms:
Pre-consumer material: Material diverted from waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.
Post-consumer material: Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose. This includes returns of materials from the distribution chain.

	% Recovered material	% Recycled content (According to ISO 14021)			% Total recycled
		Pre- consumer	Post-consumer	% Total	
URSA TECTONIC		45	32	77	>77%

Recycled Content in packaging:

The polyethylene-based packaging film is recyclable and recycled in those countries having a return system. Besides, the packaging foil has a 30% of recycled material.

European Waste Codes

Waste glass wool in modules A5 and C will be classified according to the European Waste Codes:

17 06 04 insulation materials other than those mentioned in 17 06 01 and 17 06 03

References

- ISO 14040:2006 Environmental management — Life cycle assessment — Principles and framework

- ISO 14044:2006 Environmental management — Life cycle assessment — Requirements and guidelines

- UNE-EN ISO 14020:2002 -Environmental labels and declarations - General principles. (ISO 14020:2000)

- UNE-EN ISO 14025:2006 - Environmental labels and declarations — Type III environmental declarations — Principles and procedures.

- EN 15804:2012+A2:2019 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products

- EN 16783:2024 Thermal insulation products. Environmental Product

- PCR 2019:14. Construction products (EN 15804+A2) Version 1.3.4. PCR 2019:14

- c-PCR-005 c-PCR-005 Thermal Insulation products (EN 16783) (2024-05-03)

- General Programme Instructions of the International EPD® System. Version 4.

Annex I: list of products covered by the EPD

References	Description	Thickness (mm)	Density (kg/m^3)
Ref 1	TectONIC FP	40	60
Ref 2	TectONIC FP	50	60
Ref 3	TectONIC FP	60	60
Ref 4	TectONIC FP Basic	80	60
Ref 5	TectONIC FP Basic	100	60
Ref 6	TectONIC FP Basic	120	60
Ref 7	TectONIC FP Basic	140	60
Ref 8	TectONIC FP Advance	150	60
Ref 9	TectONIC FP Advance	160	60
Ref 10	TectONIC FP Advance	180	60
Ref 11	TectONIC FP Advance	200	60