

Environmental product declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

Sandwich panels with PIR (polyisocyanurate) insulation core



Programme:

The International EPD® System, www.environdec.com

Programme operator:

EPD International AB

EPD registration number:

S-P-02418

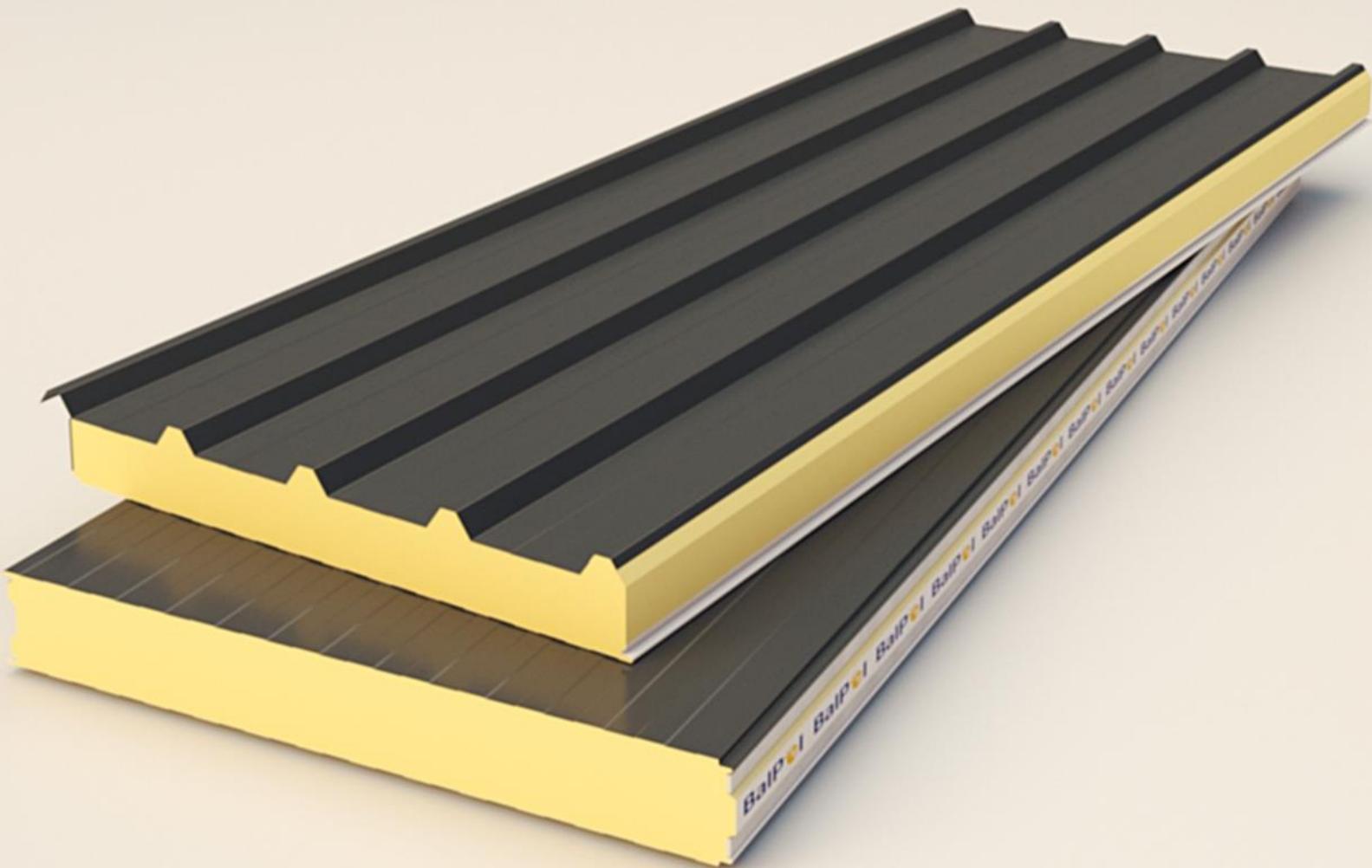
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2025-12-09

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



Company information

Owner of the EPD:

Baltijos Polistirenas, UAB
E-mail info@balpol.lt
Tel +370 37 551 518
<https://www.balpol.eu>

Description of the organisation: The company was founded in 2002 when its first unit (polystyrene foam production department) was opened. Balpol supplies a selection of sandwich panels with PIR and MW insulation core for a wide variety of applications. Innovative solutions will make the construction process faster, safer, and more effective. The mission of the company is to help modern technology and experienced staff become an attractive and professional business partner focused on the high quality of products and competitive prices. The vision of the company is to be the best in its field at improving production processes, introducing modern technologies, and producing high quality products that meet the needs of all interested parties.

The company has implemented the quality management system in accordance with the standard requirements of LST EN ISO 9001: 2015 and the environmental management system in accordance with the requirements of LST EN ISO 14001: 2015.

Name and location of production site(s): The manufacturing plant of Baltijos Polistirenas is based in Utēna (Lithuania).

Product information

Product name: Sandwich panels with PIR (polyisocyanurate) insulation core

Product identification: Balpol sandwich panels have CE marking and represent that products comply with the EU's New Approach Directives. Sandwich panels are manufactured in compliance with these European standards which specifies all requirements for factory-made, self-supporting, double skin metal faced insulating sandwich panels:

- EN 14509
- EN 13165
- EN 13501
- EN 10346

Product description: Sandwich panel is a building product consisting of two metal faces positioned on either side of a core that is thermally insulating material, which is firmly bonded to both faces so that the three components act compositely when under load. One or both metal faces may be flat, lightly profiled or fully profiled. Metal faces are protected against corrosion by galvanization with zinc layer and paint. The core material is consisting of a chemically formulated foam (polyisocyanurate).

Sandwich panels are widely used for industrial and commercial buildings, logistic centres, sports arenas, warehouses, power plants and other structures that require to ensure the rapid pace of construction, high building's resistance to external factors and high energy efficiency. Factory-made self-supporting sandwich panels are intended for discontinuous laying in the following applications:

- External walls and wall cladding;
- Roofs and roof cladding;
- Walls (including partitions) and ceilings within the building envelope.

Product general characteristics:

Product group	Thickness (mm)	Weight (kg/m ²)	U-value (W/m ² K)	Material content (% in weight)		
				Steel	Insulation	Protective film
Sandwich panel with PIR core for wall, insulation density 40 kg/m ³	50	11.0	0.44	78.82	20.45	0.73
	80	12.2	0.28	70.08	29.26	0.66
	100	13.0	0.22	64.38	35.00	0.62
	120	13.8	0.18	61.81	37.61	0.58
	140	14.6	0.16	59.11	40.34	0.55
	150	15.0	0.15	55.40	44.07	0.53
	160	15.4	0.14	53.12	46.36	0.52
	180	16.2	0.12	49.81	49.69	0.49
	200	17.0	0.11	46.59	52.94	0.47
Sandwich panel with PIR core for roof, insulation density 40 kg/m ³	40	11.4	0.55	79.12	19.74	0.70
	80	12.8	0.27	68.20	28.41	0.63
	100	13.6	0.22	61.25	34.03	0.60
	120	14.4	0.18	54.31	36.55	0.56
	150	15.6	0.15	50.32	42.92	0.52

Geographical scope: Europe

LCA information

Declared unit: In accordance with the PCR (Product Category Rules) the declared unit is 1 m² of product, with an average mass of 14.2 kg.

Reference service life: The reference service life for the panels is set at 50 years.

Time representativeness: Primary data was collected internally. The production data refer to an average of the year 2019.

Database(s) and LCA software used: The Ecoinvent database provides the life cycle inventory data for the raw materials and processes obtained from the background system. The used database is Ecoinvent 3.6. The LCA software used is One Click LCA.

Description of system boundaries: Cradle to gate with options. The L. C. A. was carried out

System boundary:

Product stage		Construction process stage		Use stage						End of life stage				Resource recovery stage		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
x	x	x	x	MND	MND	x	MND	MND	MND	MND	MND	x	x	x	x	Reuse-Recovery-Recycling-potential
																x

Description of the system boundary (X = Included in LCA; MND = Module Not declared)

Product stage:

A1: This stage considers the extraction and processing of raw materials (steel, PIR insulation and others), as well as energy consumption.

A2: The raw materials are transported to the manufacturing plant. In our case, the model includes road transport of each raw material.

A3: This stage includes the manufacturing and packaging production. Specifically, it covers insulation production and panel assembly. On the other hand, it considers the energy consumption and waste generated in the production plant.

Production process description

The first section starts with the metal sheet decoilers and continues with the equipment for forming the two sheets into the desired shape. The panel could be formed for walls or roofs. The surfaces of the metal sheets are pre-heated to the temperature required by the process and then the insulating material is prepared.

Polyurethane foam is formed by starting from the required chemical components metered and mixed in the foaming machine. The resulting liquid mixture is evenly distributed across the lower metal sheet, which is covered with the primer to increase adhesion. The metallic facings, foam, and possible side strips or gaskets are pressed inside the double conveyor. This machine maintains metal sheets separated at the required distance while the foam expands. In this way, the panel will have the desired thickness and shape when the foam expands and fully cures. After being formed, the panel is cut, cooled, stacked, and wrapped with a plastic film.

Construction process stage:

A4: This stage includes transport from the production facility to the construction site where the product will be installed.

Transportation is calculated based on data from manufacturer and a scenario with the parameters described in the following table.

Parameter	Value/Description
Vehicle type used for transport	EURO 5 truck using a trailer with an average load of 32t or container ship
Distance	90 % of production: Truck – 163 km. 10 % of production: Truck – 989 km; Ship - 294 km.
Capacity utilization	56 % of the capacity in volume (truck) 50 % of the capacity in volume (ship)

Use stage:

B2: This stage includes cleaning of the surface of the panels using detergent four times during the lifetime.

In a typical use scenario, it is assumed that there is no repair (B3), replacement (B4) and refurbishment (B5) needed.

End of Life stage:

This stage includes the next modules:

C1: Deconstruction, dismantling, demolition.

Consumption of fuel in the demolition process is calculated according to transported mass.

C2: Transportation of the discarded product to the processing site

Panel elements made of steel are transported to the recycling plant, while the rest of the materials that make up the panel are sent to a landfill. In both cases, the materials are transported by truck with a 16-32-ton trailer. A transport distance of 150 km has been considered.

C3: Waste processing for reuse, recovery and/or recycling

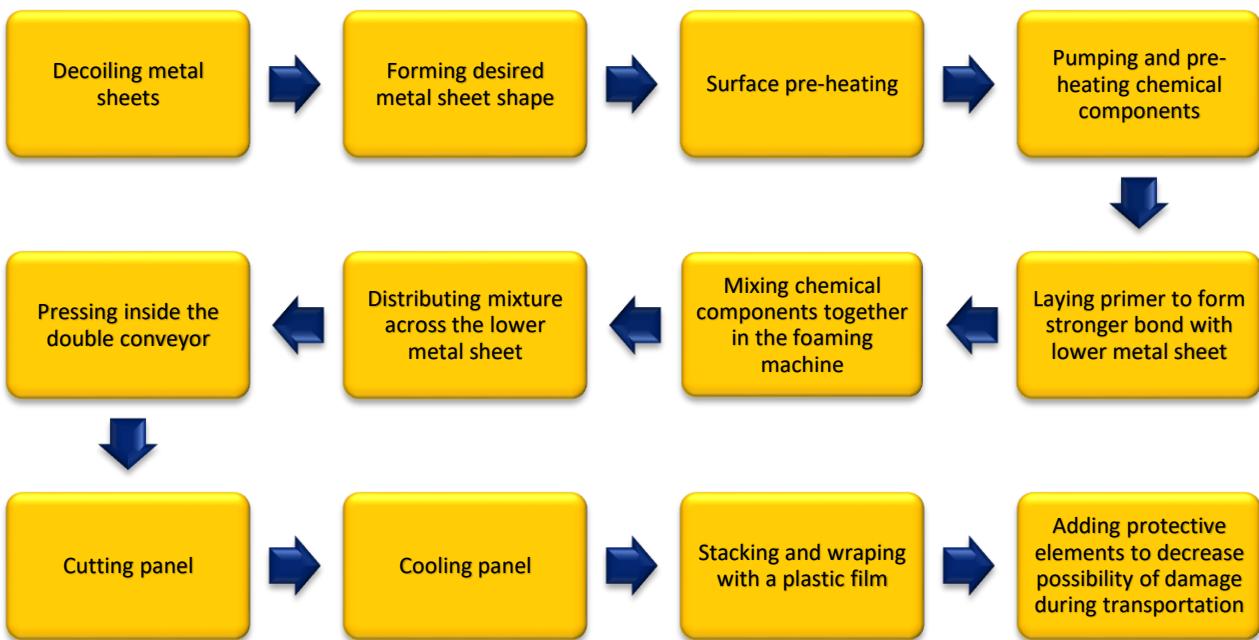
Waste containing steel is separated from the rest of the panel materials for subsequent recycling.

C4: Discharge (disposal)

Panel elements made of steel (polyester coated metal sheets and screws) are transformed into secondary material in a recycling plant, while the PIR insulation that structures the panel core is deposited in a landfill as inert waste.

Benefits and loads beyond the system boundary (D):

Benefits beyond the life cycle (D) is calculated as the net new steel that is recycled and replace primary steel production. Therefore, if your product had 30 % recycled content in the composition, and 100 % of your products are recycled in the end of life, you can count as external recycling benefit $(100\% - 30\%) * 100\% = 70\%$ of the product mass.



Content information

Process flow	Unit	Sandwich panels for walls with polyisocyanurate core								
Collection process specified by type	Thickness, mm	50	80	100	120	140	150	160	180	200
	Product mass, kg	11.0	12.2	13.0	13.8	14.6	15.0	15.4	16.2	17.0
	Collected separately, kg	11.0	12.2	13.0	13.8	14.6	15.0	15.4	16.2	17.0
	Collected with mixed construction waste, kg	-	-	-	-	-	-	-	-	-
Recovery system specified by type	For reuse, kg	-	-	-	-	-	-	-	-	-
	For recycling, kg	8.8	8.6	8.5	8.6	8.7	8.4	8.3	8.2	8.0
	For energy recovery, kg	-	-	-	-	-	-	-	-	-
Disposal specified by type	Products or material for final deposition, kg	2.3	3.6	4.6	5.2	5.9	6.6	7.1	8.1	9.0

Process flow	Unit	Sandwich panels for roofs with polyisocyanurate core				
Collection process specified by type	Thickness, mm	40	80	100	120	150
	Product mass, kg	11.4	12.8	13.6	14.4	15.6
	Collected separately, kg	11.4	12.8	13.6	14.4	15.6
	Collected with mixed construction waste, kg	-	-	-	-	-
Recovery system specified by type	For reuse, kg	-	-	-	-	-
	For recycling, kg	9.1	8.8	8.4	7.9	7.9
	For energy recovery, kg	-	-	-	-	-
Disposal specified by type	Products or material for final deposition, kg	2.3	4.0	5.2	6.5	7.7

No dangerous substances from the candidate list of SVHC for Authorisation are included in the product.

Packaging

Distribution packaging: protective film; polystyrene foam packaging.

After use, packaging materials can be reused or recycled. Polystyrene foam packaging, plastic film can be collected separately and directed to the recycling circuit.

Environmental Information

Sandwich panel for walls (thickness 50 mm)



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Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	2.72E+01	6.506E-1	7.131E-1	2.85E+01	2.464E-1	6.734E-1	3.599E-2	9.453E-2	2.137E-1	1.189E-2	-1.083E1
GWP-biogenic	kg CO ₂ eq.	3.395E-1	3.108E-3	6.913E-3	3.495E-1	1.195E-3	2.197E-1	6.099E-5	4.124E-4	2.606E-2	7.543E-5	-1.325E-1
GWP-luluc	kg CO ₂ eq.	1.378E-2	2.091E-4	3.957E-4	1.438E-2	7.597E-5	4.668E-2	3.064E-6	3.541E-5	2.465E-4	3.597E-6	-3.231E-3
GWP-total	kg CO ₂ eq.	2.75E+01	6.539E-1	7.204E-1	2.89E+01	2.477E-1	9.397E-1	3.606E-2	9.498E-2	2.4E-1	1.197E-2	-1.097E1
ODP	kg CFC 11 eq.	1.069E-6	1.533E-7	5.664E-8	1.279E-6	5.834E-8	9.549E-8	7.831E-9	2.072E-8	3.119E-8	4.988E-9	-5.232E-7
AP	mol H ⁺ eq.	1.336E-1	2.447E-3	4.358E-3	1.404E-1	6.757E-4	4.465E-3	6.199E-5	3.648E-4	1.775E-3	5.711E-5	-4.364E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.236E-2	4.586E-5	6.21E-4	1.303E-2	1.763E-5	2.45E-4	1.317E-6	8.064E-6	1.845E-4	1.254E-6	-5.567E-3
EP-marine	kg N eq.	3.494E-2	4.504E-4	1.127E-2	4.666E-2	1.068E-4	1.378E-3	8.338E-6	1.037E-4	1.928E-4	1.119E-5	-8.877E-3
EP-terrestrial	mol N eq.	2.545E-1	4.913E-3	1.082E-2	2.702E-1	1.151E-3	9.355E-3	8.921E-5	1.127E-3	2.181E-3	1.215E-4	-8.608E-2
POCP	kg NMVOC eq	9.783E-2	1.929E-3	2.189E-3	1.02E-1	5.562E-4	2.378E-3	8.876E-5	3.458E-4	7.657E-4	4.982E-5	-4.199E-2
WDP	m ³	9.31E+02	1.42E+01	1.09E+01	9.56E+02	5.50E+00	4.56E+01	2.786E-1	1.74E+00	2.12E+01	2.989E-1	-2.782E2

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.

Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		1.252E-1	6.68E+00	6.81E+00	4.833E-2			1.571E-2			
PERM	MJ	2.45E+01		3.235E-1	2.49E+01		2.67E+00	2.699E-3		4.722E-1	2.738E-3	4.30E+00
PERT	MJ	2.45E+01	1.252E-1	7.01E+00	3.17E+01	4.833E-2	2.67E+00	2.699E-3	1.571E-2	4.722E-1	2.738E-3	4.30E+00
PENRE	MJ		1.02E+01	3.68E+00	1.39E+01	3.89E+00			1.44E+00			
PENRM	MJ	4.81E+02		1.02E+01	4.92E+02		1.27E+01	4.963E-1		3.35E+00	3.407E-1	1.55E+02
PENRT	MJ	4.81E+02	1.02E+01	1.39E+01	5.06E+02	3.89E+00	1.27E+01	4.963E-1	1.44E+00	3.35E+00	3.407E-1	1.55E+02
SM	kg	4.76E+00	3.534E-3	1.258E-2	4.77E+00	1.336E-3	5.999E-3	2.451E-4	5.526E-4	8.81E+00	9.178E-5	-1.339E0
RSF	MJ	3.193E-1	4.35E-3	4.476E-3	3.281E-1	1.688E-3	1.216E-2	6.641E-5	3.071E-4	1.209E-2	6.362E-5	-1.285E-1
NRSF	MJ	1.19E+01	1.526E-2	4.072E-2	1.20E+01	5.725E-3	1.569E-3	9.772E-4	2.604E-3	8.265E-3	3.256E-4	-1.171E1
FW	m ³	1.71E+01	1.559E-1	1.666E-1	1.74E+01	6.015E-2	7.614E-1	4.041E-3	3.014E-2	1.28E-1	4.884E-3	-2.676E0
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 resources; 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 per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	5.77E+00	9.918E-3	4.852E-2	5.83E+00	3.756E-3	3.798E-2	5.37E-4	1.84E-3	1.572E-2	3.168E-4	-1.843E0
Non-hazardous waste disposed	kg	5.01E+01	1.05E+00	1.47E+00	5.27E+01	4.111E-1	9.006E-1	5.74E-3	1.024E-1	9.394E-1	2.31E+00	-1.994E1
Radioactive waste disposed	kg	4.72E-4	6.985E-5	1.555E-5	5.574E-4	2.66E-5	1.873E-5	3.5E-6	9.337E-6	1.797E-5	2.246E-6	-1.903E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	4.73E+00	3.121E-3	1.245E-2	4.75E+00	1.163E-3	2.14E-3	2.407E-4	4.62E-4	8.80E+00	8.617E-5	-1.329E0
Materials for energy recovery	kg	3.8E-3	4.785E-5	5.194E-5	3.9E-3	1.856E-5	2.958E-3	7.462E-7	3.997E-6	1.319E-4	6.965E-7	-1.575E-3
Exported energy	MJ	0.00E+00										

Environmental Information

Sandwich panel for walls (thickness 80 mm)



Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	3.36E+01	7.337E-1	8.445E-1	3.52E+01	2.717E-1	6.734E-1	3.926E-2	3.145E-1	2.089E-1	1.861E-2	-1.059E1
GWP-biogenic	kg CO ₂ eq.	3.565E-1	3.475E-3	7.993E-3	3.68E-1	1.318E-3	2.197E-1	6.653E-5	1.372E-3	2.546E-2	1.181E-4	-1.295E-1
GWP-luluc	kg CO ₂ eq.	1.411E-2	2.41E-4	4.161E-4	1.477E-2	8.377E-5	4.668E-2	3.342E-6	1.178E-4	2.409E-4	5.63E-6	-3.157E-3
GWP-total	kg CO ₂ eq.	3.40E+01	7.374E-1	8.529E-1	3.55E+01	2.731E-1	9.397E-1	3.933E-2	3.16E-1	2.346E-1	1.873E-2	-1.072E1
ODP	kg CFC 11 eq.	1.11E-6	1.723E-7	5.816E-8	1.341E-6	6.434E-8	9.549E-8	8.543E-9	6.894E-8	3.048E-8	7.807E-9	-5.113E-7
AP	mol H ⁺ eq.	1.672E-1	3.166E-3	4.896E-3	1.752E-1	7.441E-4	4.465E-3	6.763E-5	1.214E-3	1.735E-3	8.939E-5	-4.264E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.306E-2	5.129E-5	6.291E-4	1.374E-2	1.944E-5	2.45E-4	1.436E-6	2.683E-5	1.803E-4	1.963E-6	-5.441E-3
EP-marine	kg N eq.	4.596E-2	6.112E-4	1.136E-2	5.794E-2	1.175E-4	1.378E-3	9.096E-6	3.451E-4	1.884E-4	1.752E-5	-8.675E-3
EP-terrestrial	mol N eq.	3.131E-1	6.689E-3	1.179E-2	3.316E-1	1.267E-3	9.355E-3	9.732E-5	3.751E-3	2.132E-3	1.902E-4	-8.412E-2
POCP	kg NMVOC eq	1.181E-1	2.457E-3	2.586E-3	1.231E-1	6.126E-4	2.378E-3	9.683E-5	1.151E-3	7.483E-4	7.798E-5	-4.103E-2
WDP	m ³	9.78E+02	1.58E+01	1.29E+01	1.01E+03	6.07E+00	4.56E+01	3.039E-1	5.80E+00	2.07E+01	4.678E-1	-2.719E2

Acronyms
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Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		1.397E-1	6.68E+00	6.82E+00	5.331E-2			5.227E-2			
PERM	MJ	2.92E+01		3.598E-1	2.95E+01		2.67E+00	2.945E-3		4.614E-1	4.285E-3	4.21E+00
PERT	MJ	2.92E+01	1.397E-1	7.04E+00	3.64E+01	5.331E-2	2.67E+00	2.945E-3	5.227E-2	4.614E-1	4.285E-3	4.21E+00
PENRE	MJ		1.15E+01	3.68E+00	1.51E+01	4.29E+00			4.78E+00			
PENRM	MJ	6.15E+02		1.35E+01	6.28E+02		1.27E+01	5.415E-1		3.28E+00	5.333E-1	1.52E+02
PENRT	MJ	6.15E+02	1.15E+01	1.72E+01	6.43E+02	4.29E+00	1.27E+01	5.415E-1	4.78E+00	3.28E+00	5.333E-1	1.52E+02
SM	kg	4.76E+00	3.989E-3	1.272E-2	4.78E+00	1.473E-3	5.999E-3	2.674E-4	1.839E-3	8.61E+00	1.437E-4	-1.308E0
RSF	MJ	3.679E-1	4.841E-3	5.126E-3	3.779E-1	1.862E-3	1.216E-2	7.245E-5	1.022E-3	1.181E-2	9.958E-5	-1.256E-1
NRSF	MJ	1.19E+01	1.729E-2	4.089E-2	1.20E+01	6.313E-3	1.569E-3	1.066E-3	8.665E-3	8.077E-3	5.097E-4	-1.145E1
FW	m ³	1.74E+01	1.739E-1	1.982E-1	1.78E+01	6.634E-2	7.614E-1	4.408E-3	1.003E-1	1.251E-1	7.644E-3	-2.616E0
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 resources; 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 per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	5.95E+00	1.118E-2	5.11E-2	6.02E+00	4.142E-3	3.798E-2	5.858E-4	6.122E-3	1.536E-2	4.959E-4	-1.802E0
Non-hazardous waste disposed	kg	5.15E+01	1.17E+00	1.57E+00	5.42E+01	4.534E-1	9.006E-1	6.262E-3	3.408E-1	9.18E-1	3.61E+00	-1.949E1
Radioactive waste disposed	kg	4.938E-4	7.853E-5	1.645E-5	5.888E-4	2.934E-5	1.873E-5	3.818E-6	3.107E-5	1.756E-5	3.515E-6	-1.86E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	4.73E+00	3.55E-3	1.253E-2	4.75E+00	1.282E-3	2.14E-3	2.625E-4	1.537E-3	8.60E+00	1.349E-4	-1.299E0
Materials for energy recovery	kg	4.285E-3	5.324E-5	5.884E-5	4.397E-3	2.047E-5	2.958E-3	8.14E-7	1.33E-5	1.289E-4	1.09E-6	-1.539E-3
Exported energy	MJ	0.00E+00										

Environmental Information

Sandwich panel for walls (thickness 100 mm)



Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	3.84E+01	7.919E-1	9.656E-1	4.02E+01	2.912E-1	6.734E-1	4.254E-2	3.352E-1	2.064E-1	2.377E-2	-1.046E1
GWP-biogenic	kg CO ₂ eq.	3.694E-1	3.728E-3	8.921E-3	3.82E-1	1.412E-3	2.197E-1	7.208E-5	1.462E-3	2.517E-2	1.509E-4	-1.28E-1
GWP-luluc	kg CO ₂ eq.	1.436E-2	2.642E-4	4.336E-4	1.506E-2	8.978E-5	4.668E-2	3.621E-6	1.255E-4	2.381E-4	7.193E-6	-3.121E-3
GWP-total	kg CO ₂ eq.	3.88E+01	7.959E-1	9.75E-1	4.06E+01	2.927E-1	9.397E-1	4.261E-2	3.367E-1	2.318E-1	2.393E-2	-1.059E1
ODP	kg CFC 11 eq.	1.14E-6	1.856E-7	5.947E-8	1.385E-6	6.894E-8	9.549E-8	9.255E-9	7.346E-8	3.013E-8	9.976E-9	-5.054E-7
AP	mol H ⁺ eq.	1.925E-1	3.74E-3	5.391E-3	2.016E-1	7.986E-4	4.465E-3	7.326E-5	1.293E-3	1.715E-3	1.142E-4	-4.215E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.359E-2	5.503E-5	6.361E-4	1.429E-2	2.083E-5	2.45E-4	1.556E-6	2.859E-5	1.782E-4	2.508E-6	-5.378E-3
EP-marine	kg N eq.	5.429E-2	7.419E-4	1.145E-2	6.648E-2	1.263E-4	1.378E-3	9.854E-6	3.678E-4	1.862E-4	2.239E-5	-8.574E-3
EP-terrestrial	mol N eq.	3.574E-1	8.135E-3	1.268E-2	3.782E-1	1.361E-3	9.355E-3	1.054E-4	3.997E-3	2.107E-3	2.43E-4	-8.315E-2
POCP	kg NMVOC eq	1.334E-1	2.877E-3	2.95E-3	1.392E-1	6.573E-4	2.378E-3	1.049E-4	1.226E-3	7.396E-4	9.964E-5	-4.056E-2
WDP	m ³	1.01E+03	1.69E+01	1.46E+01	1.04E+03	6.51E+00	4.56E+01	3.293E-1	6.18E+00	2.04E+01	5.977E-1	-2.687E2

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.

Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		1.496E-1	6.68E+00	6.83E+00	5.712E-2			5.569E-2			
PERM	MJ	3.27E+01		3.917E-1	3.31E+01		2.67E+00	3.19E-3		4.561E-1	5.475E-3	4.16E+00
PERT	MJ	3.27E+01	1.496E-1	7.07E+00	3.99E+01	5.712E-2	2.67E+00	3.19E-3	5.569E-2	4.561E-1	5.475E-3	4.16E+00
PENRE	MJ		1.23E+01	3.68E+00	1.60E+01	4.59E+00			5.09E+00			
PENRM	MJ	7.15E+02		1.66E+01	7.31E+02		1.27E+01	5.866E-1		3.24E+00	6.815E-1	1.50E+02
PENRT	MJ	7.15E+02	1.23E+01	2.03E+01	7.47E+02	4.59E+00	1.27E+01	5.866E-1	5.09E+00	3.24E+00	6.815E-1	1.50E+02
SM	kg	4.76E+00	4.309E-3	1.284E-2	4.78E+00	1.579E-3	5.999E-3	2.896E-4	1.959E-3	8.50E+00	1.836E-4	-1.293E0
RSF	MJ	4.046E-1	5.173E-3	5.686E-3	4.155E-1	1.995E-3	1.216E-2	7.848E-5	1.089E-3	1.168E-2	1.272E-4	-1.241E-1
NRSF	MJ	1.19E+01	1.874E-2	4.105E-2	1.20E+01	6.766E-3	1.569E-3	1.155E-3	9.233E-3	7.984E-3	6.513E-4	-1.131E1
FW	m ³	1.76E+01	1.863E-1	2.254E-1	1.81E+01	7.108E-2	7.614E-1	4.775E-3	1.068E-1	1.237E-1	9.767E-3	-2.585E0
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 resources; 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

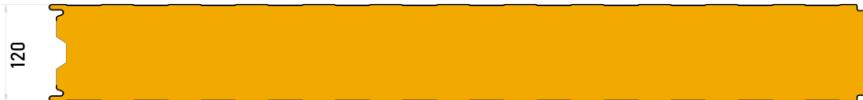
Waste production per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6.09E+00	1.207E-2	5.343E-2	6.16E+00	4.439E-3	3.798E-2	6.346E-4	6.523E-3	1.519E-2	6.336E-4	-1.781E0
Non-hazardous waste disposed	kg	5.25E+01	1.24E+00	1.64E+00	5.53E+01	4.859E-1	9.006E-1	6.784E-3	3.632E-1	9.073E-1	4.61E+00	-1.926E1
Radioactive waste disposed	kg	5.102E-4	8.456E-5	1.723E-5	6.12E-4	3.144E-5	1.873E-5	4.136E-6	3.31E-5	1.736E-5	4.492E-6	-1.838E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	4.74E+00	3.857E-3	1.259E-2	4.75E+00	1.374E-3	2.14E-3	2.844E-4	1.638E-3	8.50E+00	1.723E-4	-1.284E0
Materials for energy recovery	kg	4.652E-3	5.69E-5	6.478E-5	4.773E-3	2.194E-5	2.958E-3	8.818E-7	1.417E-5	1.274E-4	1.393E-6	-1.521E-3
Exported energy	MJ	0.00E+00										

Environmental Information



Sandwich panel for walls (thickness 120 mm)

Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	4.15E+01	8.357E-1	1.17E+00	4.35E+01	3.029E-1	6.734E-1	4.581E-2	3.558E-1	2.089E-1	2.688E-2	-1.059E1
GWP-biogenic	kg CO ₂ eq.	3.776E-1	3.925E-3	9.868E-3	3.913E-1	1.47E-3	2.197E-1	7.762E-5	1.552E-3	2.546E-2	1.705E-4	-1.295E-1
GWP-luluc	kg CO ₂ eq.	1.453E-2	2.803E-4	4.525E-4	1.526E-2	9.335E-5	4.668E-2	3.9E-6	1.333E-4	2.409E-4	8.132E-6	-3.157E-3
GWP-total	kg CO ₂ eq.	4.19E+01	8.399E-1	1.18E+00	4.39E+01	3.045E-1	9.397E-1	4.589E-2	3.575E-1	2.346E-1	2.705E-2	-1.072E1
ODP	kg CFC 11 eq.	1.16E-6	1.958E-7	6.123E-8	1.417E-6	7.173E-8	9.549E-8	9.967E-9	7.799E-8	3.048E-8	1.128E-8	-5.113E-7
AP	mol H ⁺ eq.	2.085E-1	4.062E-3	6.226E-3	2.188E-1	8.264E-4	4.465E-3	7.89E-5	1.373E-3	1.735E-3	1.291E-4	-4.264E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.393E-2	5.796E-5	6.445E-4	1.463E-2	2.168E-5	2.45E-4	1.676E-6	3.035E-5	1.803E-4	2.835E-6	-5.441E-3
EP-marine	kg N eq.	5.955E-2	8.121E-4	1.159E-2	7.195E-2	1.302E-4	1.378E-3	1.061E-5	3.904E-4	1.884E-4	2.531E-5	-8.675E-3
EP-terrestrial	mol N eq.	3.854E-1	8.909E-3	1.416E-2	4.084E-1	1.403E-3	9.355E-3	1.135E-4	4.243E-3	2.132E-3	2.747E-4	-8.412E-2
POCP	kg NMVOC eq	1.43E-1	3.116E-3	3.551E-3	1.497E-1	6.808E-4	2.378E-3	1.13E-4	1.301E-3	7.483E-4	1.126E-4	-4.103E-2
WDP	m ³	1.04E+03	1.78E+01	1.64E+01	1.07E+03	6.77E+00	4.56E+01	3.546E-1	6.56E+00	2.07E+01	6.757E-1	-2.719E2

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.

Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		1.574E-1	6.68E+00	6.84E+00	5.944E-2			5.912E-2			
PERM	MJ	3.49E+01		4.321E-1	3.53E+01		2.67E+00	3.436E-3		4.614E-1	6.19E-3	4.21E+00
PERT	MJ	3.49E+01	1.574E-1	7.11E+00	4.22E+01	5.944E-2	2.67E+00	3.436E-3	5.912E-2	4.614E-1	6.19E-3	4.21E+00
PENRE	MJ		1.30E+01	3.68E+00	1.67E+01	4.78E+00			5.41E+00			
PENRM	MJ	7.78E+02		2.18E+01	8.00E+02		1.27E+01	6.317E-1		3.28E+00	7.703E-1	1.52E+02
PENRT	MJ	7.78E+02	1.30E+01	2.55E+01	8.17E+02	4.78E+00	1.27E+01	6.317E-1	5.41E+00	3.28E+00	7.703E-1	1.52E+02
SM	kg	4.76E+00	4.548E-3	1.298E-2	4.78E+00	1.642E-3	5.999E-3	3.119E-4	2.08E-3	8.61E+00	2.075E-4	-1.308E0
RSF	MJ	4.278E-1	5.44E-3	6.275E-3	4.395E-1	2.076E-3	1.216E-2	8.452E-5	1.156E-3	1.181E-2	1.438E-4	-1.256E-1
NRSF	MJ	1.19E+01	1.98E-2	4.127E-2	1.20E+01	7.038E-3	1.569E-3	1.244E-3	9.802E-3	8.077E-3	7.362E-4	-1.145E1
FW	m ³	1.78E+01	1.961E-1	2.549E-1	1.83E+01	7.397E-2	7.614E-1	5.143E-3	1.134E-1	1.251E-1	1.104E-2	-2.616E0
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 resources; 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 per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6.18E+00	1.274E-2	5.685E-2	6.25E+00	4.618E-3	3.798E-2	6.834E-4	6.925E-3	1.536E-2	7.163E-4	-1.802E0
Non-hazardous waste disposed	kg	5.31E+01	1.31E+00	1.72E+00	5.61E+01	5.057E-1	9.006E-1	7.306E-3	3.855E-1	9.18E-1	5.22E+00	-1.949E1
Radioactive waste disposed	kg	5.206E-4	8.917E-5	1.82E-5	6.279E-4	3.271E-5	1.873E-5	4.455E-6	3.514E-5	1.756E-5	5.077E-6	-1.86E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	4.74E+00	4.079E-3	1.267E-2	4.76E+00	1.429E-3	2.14E-3	3.063E-4	1.739E-3	8.60E+00	1.948E-4	-1.299E0
Materials for energy recovery	kg	4.883E-3	5.984E-5	7.103E-5	5.014E-3	2.283E-5	2.958E-3	9.496E-7	1.504E-5	1.289E-4	1.575E-6	-1.539E-3
Exported energy	MJ	0.00E+00										

Environmental Information



Sandwich panel for walls (thickness 140 mm)

Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	4.50E+01	8.796E-1	1.25E+00	4.71E+01	3.224E-1	6.734E-1	4.777E-2	3.764E-1	2.113E-1	3.411E-2	-1.071E1
GWP-biogenic	kg CO ₂ eq.	3.867E-1	4.119E-3	1.049E-2	4.013E-1	1.564E-3	2.197E-1	8.095E-5	1.642E-3	2.576E-2	2.165E-4	-1.31E-1
GWP-luluc	kg CO ₂ eq.	1.471E-2	2.974E-4	4.641E-4	1.547E-2	9.937E-5	4.668E-2	4.067E-6	1.41E-4	2.437E-4	1.032E-5	-3.194E-3
GWP-total	kg CO ₂ eq.	4.54E+01	8.84E-1	1.26E+00	4.75E+01	3.241E-1	9.397E-1	4.786E-2	3.782E-1	2.373E-1	3.434E-2	-1.084E1
ODP	kg CFC 11 eq.	1.181E-6	2.058E-7	6.211E-8	1.449E-6	7.634E-8	9.549E-8	1.039E-8	8.251E-8	3.084E-8	1.431E-8	-5.173E-7
AP	mol H ⁺ eq.	2.266E-1	4.456E-3	6.538E-3	2.376E-1	8.809E-4	4.465E-3	8.228E-5	1.453E-3	1.755E-3	1.639E-4	-4.314E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.431E-2	6.081E-5	6.492E-4	1.502E-2	2.307E-5	2.45E-4	1.747E-6	3.211E-5	1.824E-4	3.598E-6	-5.504E-3
EP-marine	kg N eq.	6.551E-2	9.007E-4	1.164E-2	7.805E-2	1.39E-4	1.378E-3	1.107E-5	4.13E-4	1.906E-4	3.212E-5	-8.776E-3
EP-terrestrial	mol N eq.	4.17E-1	9.888E-3	1.472E-2	4.416E-1	1.497E-3	9.355E-3	1.184E-4	4.489E-3	2.156E-3	3.486E-4	-8.51E-2
POCP	kg NMVOC eq	1.539E-1	3.405E-3	3.781E-3	1.611E-1	7.255E-4	2.378E-3	1.178E-4	1.377E-3	7.57E-4	1.43E-4	-4.151E-2
WDP	m ³	1.06E+03	1.86E+01	1.76E+01	1.10E+03	7.20E+00	4.56E+01	3.698E-1	6.94E+00	2.09E+01	8.576E-1	-2.751E2

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.

Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		1,651E-1	6,68E+00	6,85E+00	6.325E-2			6.255E-2			
PERM	MJ	3.74E+01		4,529E-1	3,79E+01		2.67E+00	3.583E-3		4.668E-1	7.856E-3	4.25E+00
PERT	MJ	3.74E+01	1,651E-1	7,13E+00	4,47E+01	6.325E-2	2.67E+00	3.583E-3	6.255E-2	4.668E-1	7.856E-3	4.25E+00
PENRE	MJ		1,37E+01	3,68E+00	1,74E+01	5.09E+00			5.72E+00			
PENRM	MJ	8.50E+02		2,37E+01	8,73E+02		1.27E+01	6.588E-1		3.32E+00	9.777E-1	1.53E+02
PENRT	MJ	8.50E+02	1,37E+01	2,74E+01	8,91E+02	5.09E+00	1.27E+01	6.588E-1	5.72E+00	3.32E+00	9.777E-1	1.53E+02
SM	kg	4.77E+00	4,789E-3	1,306E-2	4,79E+00	1.748E-3	5.999E-3	3.253E-4	2.2E-3	8.71E+00	2.634E-4	-1.324E0
RSF	MJ	4.541E-1	5,696E-3	6,647E-3	4,664E-1	2.209E-3	1.216E-2	8.814E-5	1.223E-3	1.195E-2	1.826E-4	-1.27E-1
NRSF	MJ	1.19E+01	2,088E-2	4,138E-2	1,20E+01	7.49E-3	1.569E-3	1.297E-3	1.037E-2	8.171E-3	9.345E-4	-1.158E1
FW	m ³	1.80E+01	2,056E-1	2,73E-1	1,85E+01	7.872E-2	7.614E-1	5.363E-3	1.2E-1	1.266E-1	1.401E-2	-2.646E0
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 resources; 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 per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6.28E+00	1.341E-2	5.834E-2	6.35E+00	4.915E-3	3.798E-2	7.127E-4	7.326E-3	1.554E-2	9.091E-4	-1.823E0
Non-hazardous waste disposed	kg	5.38E+01	1.37E+00	1.78E+00	5.69E+01	5.381E-1	9.006E-1	7.619E-3	4.079E-1	9.287E-1	6.62E+00	-1.972E1
Radioactive waste disposed	kg	5.322E-4	9.374E-5	1.873E-5	6.447E-4	3.481E-5	1.873E-5	4.645E-6	3.718E-5	1.777E-5	6.444E-6	-1.881E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	4.74E+00	4.307E-3	1.271E-2	4.76E+00	1.521E-3	2.14E-3	3.194E-4	1.84E-3	8.70E+00	2.473E-4	-1.314E0
Materials for energy recovery	kg	5.145E-3	6.266E-5	7.497E-5	5.283E-3	2.429E-5	2.958E-3	9.903E-7	1.591E-5	1.304E-4	1.999E-6	-1.557E-3
Exported energy	MJ	0.00E+00										

Environmental Information



Sandwich panel for walls (thickness 150 mm)

Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	4.85E+01	9.31E-1	1.30E+00	5.07E+01	3.283E-1	6.734E-1	4.908E-2	3.867E-1	2.04E-1	3.411E-2	-1.034E1
GWP-biogenic	kg CO ₂ eq.	3.961E-1	4.352E-3	1.11E-2	4.115E-1	1.593E-3	2.197E-1	8.317E-5	1.687E-3	2.487E-2	2.165E-4	-1.265E-1
GWP-luluc	kg CO ₂ eq.	1.489E-2	3.16E-4	4.754E-4	1.568E-2	1.011E-4	4.668E-2	4.178E-6	1.448E-4	2.353E-4	1.032E-5	-3.084E-3
GWP-total	kg CO ₂ eq.	4.89E+01	9.356E-1	1.31E+00	5.12E+01	3.3E-1	9.397E-1	4.917E-2	3.886E-1	2.291E-1	3.434E-2	-1.047E1
ODP	kg CFC 11 eq.	1.204E-6	2.177E-7	6.281E-8	1.485E-6	7.773E-8	9.549E-8	1.068E-8	8.477E-8	2.978E-8	1.431E-8	-4.994E-7
AP	mol H ⁺ eq.	2.45E-1	4.81E-3	6.75E-3	2.566E-1	8.948E-4	4.465E-3	8.454E-5	1.492E-3	1.695E-3	1.639E-4	-4.165E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.469E-2	6.427E-5	6.534E-4	1.541E-2	2.349E-5	2.45E-4	1.795E-6	3.299E-5	1.761E-4	3.598E-6	-5.314E-3
EP-marine	kg N eq.	7.156E-2	9.772E-4	1.168E-2	8.421E-2	1.41E-4	1.378E-3	1.137E-5	4.243E-4	1.841E-4	3.212E-5	-8.473E-3
EP-terrestrial	mol N eq.	4.492E-1	1.073E-2	1.511E-2	4.75E-1	1.519E-3	9.355E-3	1.216E-4	4.612E-3	2.082E-3	3.486E-4	-8.217E-2
POCP	kg NMVOC eq	1.65E-1	3.669E-3	3.941E-3	1.726E-1	7.372E-4	2.378E-3	1.21E-4	1.415E-3	7.309E-4	1.43E-4	-4.008E-2
WDP	m ³	1.09E+03	1.97E+01	1.87E+01	1.12E+03	7.34E+00	4.56E+01	3.799E-1	7.13E+00	2.02E+01	8.576E-1	-2.656E2

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.

Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		1.744E-1	6.68E+00	6.86E+00	6.441E-2			6.426E-2			
PERM	MJ	4.00E+01		4.713E-1	4.04E+01		2.67E+00	3.681E-3		4.507E-1	7.856E-3	4.11E+00
PERT	MJ	4.00E+01	1.744E-1	7.15E+00	4.73E+01	6.441E-2	2.67E+00	3.681E-3	6.426E-2	4.507E-1	7.856E-3	4.11E+00
PENRE	MJ		1.45E+01	3.68E+00	1.81E+01	5.18E+00			5.88E+00			
PENRM	MJ	9.23E+02		2.51E+01	9.48E+02		1.27E+01	6.768E-1		3.20E+00	9.777E-1	1.48E+02
PENRT	MJ	9.23E+02	1.45E+01	2.87E+01	9.66E+02	5.18E+00	1.27E+01	6.768E-1	5.88E+00	3.20E+00	9.777E-1	1.48E+02
SM	kg	4.77E+00	5.07E-3	1.313E-2	4.79E+00	1.78E-3	5.999E-3	3.342E-4	2.261E-3	8.40E+00	2.634E-4	-1.278E0
RSF	MJ	4.807E-1	6.014E-3	7.009E-3	4.938E-1	2.25E-3	1.216E-2	9.056E-5	1.256E-3	1.154E-2	1.826E-4	-1.227E-1
NRSF	MJ	1.19E+01	2.212E-2	4.145E-2	1.20E+01	7.626E-3	1.569E-3	1.333E-3	1.065E-2	7.89E-3	9.345E-4	-1.118E1
FW	m ³	1.82E+01	2.171E-1	2.903E-1	1.87E+01	8.016E-2	7.614E-1	5.51E-3	1.233E-1	1.222E-1	1.401E-2	-2.555E0
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 resources; 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 per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6.38E+00	1.419E-2	5.95E-2	6.46E+00	5.004E-3	3.798E-2	7.322E-4	7.527E-3	1.501E-2	9.091E-4	-1.76E0
Non-hazardous waste disposed	kg	5.45E+01	1.44E+00	1.82E+00	5.78E+01	5.48E-1	9.006E-1	7.828E-3	4.191E-1	8.967E-1	6.62E+00	-1.904E1
Radioactive waste disposed	kg	5.442E-4	9.916E-5	1.918E-5	6.625E-4	3.545E-5	1.873E-5	4.773E-6	3.82E-5	1.715E-5	6.444E-6	-1.816E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	4.74E+00	4.566E-3	1.275E-2	4.76E+00	1.549E-3	2.14E-3	3.282E-4	1.89E-3	8.40E+00	2.473E-4	-1.269E0
Materials for energy recovery	kg	5.411E-3	6.615E-5	7.882E-5	5.556E-3	2.474E-5	2.958E-3	1.017E-6	1.635E-5	1.259E-4	1.999E-6	-1.503E-3
Exported energy	MJ	0.00E+00										

Environmental Information



Sandwich panel for walls (thickness 160 mm)

Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	5.11E+01	9.572E-1	1.36E+00	5.34E+01	3.419E-1	6.734E-1	5.039E-2	3.97E-1	2.016E-1	3.67E-2	-1.022E1
GWP-biogenic	kg CO ₂ eq.	4.029E-1	4.461E-3	1.186E-2	4.192E-1	1.658E-3	2.197E-1	8.538E-5	1.732E-3	2.458E-2	2.328E-4	-1.25E-1
GWP-luluc	kg CO ₂ eq.	1.503E-2	3.274E-4	4.894E-4	1.584E-2	1.054E-4	4.668E-2	4.29E-6	1.487E-4	2.325E-4	1.11E-5	-3.047E-3
GWP-total	kg CO ₂ eq.	5.15E+01	9.62E-1	1.37E+00	5.38E+01	3.436E-1	9.397E-1	5.048E-2	3.989E-1	2.264E-1	3.694E-2	-1.034E1
ODP	kg CFC 11 eq.	1.221E-6	2.236E-7	6.366E-8	1.508E-6	8.094E-8	9.549E-8	1.096E-8	8.703E-8	2.942E-8	1.54E-8	-4.935E-7
AP	mol H ⁺ eq.	2.584E-1	5.146E-3	7.004E-3	2.706E-1	9.354E-4	4.465E-3	8.679E-5	1.532E-3	1.674E-3	1.763E-4	-4.116E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.497E-2	6.588E-5	6.587E-4	1.57E-2	2.446E-5	2.45E-4	1.843E-6	3.387E-5	1.74E-4	3.871E-6	-5.251E-3
EP-marine	kg N eq.	7.596E-2	1.056E-3	1.172E-2	8.873E-2	1.477E-4	1.378E-3	1.167E-5	4.357E-4	1.819E-4	3.456E-5	-8.372E-3
EP-terrestrial	mol N eq.	4.726E-1	1.16E-2	1.557E-2	4.998E-1	1.591E-3	9.355E-3	1.249E-4	4.735E-3	2.057E-3	3.75E-4	-8.119E-2
POCP	kg NMVOC eq	1.731E-1	3.912E-3	4.133E-3	1.812E-1	7.701E-4	2.378E-3	1.243E-4	1.452E-3	7.222E-4	1.538E-4	-3.96E-2
WDP	m ³	1.10E+03	2.01E+01	2.00E+01	1.14E+03	7.64E+00	4.56E+01	3.9E-1	7.32E+00	2.00E+01	9.225E-1	-2.624E2

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.

Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		1.785E-1	6.68E+00	6.86E+00	6.707E-2			6.598E-2			
PERM	MJ	4.18E+01		4.939E-1	4.23E+01		2.67E+00	3.779E-3		4.454E-1	8.451E-3	4.06E+00
PERT	MJ	4.18E+01	1.785E-1	7.18E+00	4.92E+01	6.707E-2	2.67E+00	3.779E-3	6.598E-2	4.454E-1	8.451E-3	4.06E+00
PENRE	MJ		1.49E+01	3.68E+00	1.85E+01	5.39E+00			6.03E+00			
PENRM	MJ	9.76E+02		2.67E+01	1.00E+03		1.27E+01	6.949E-1		3.16E+00	1.05E+00	1.46E+02
PENRT	MJ	9.76E+02	1.49E+01	3.03E+01	1.02E+03	5.39E+00	1.27E+01	6.949E-1	6.03E+00	3.16E+00	1.05E+00	1.46E+02
SM	kg	4.77E+00	5.215E-3	1.322E-2	4.79E+00	1.854E-3	5.999E-3	3.431E-4	2.321E-3	8.30E+00	2.833E-4	-1.263E0
RSF	MJ	5.001E-1	6.151E-3	7.462E-3	5.137E-1	2.342E-3	1.216E-2	9.297E-5	1.29E-3	1.14E-2	1.964E-4	-1.212E-1
NRSF	MJ	1.19E+01	2.278E-2	4.154E-2	1.20E+01	7.943E-3	1.569E-3	1.368E-3	1.094E-2	7.796E-3	1.005E-3	-1.105E1
FW	m ³	1.83E+01	2.224E-1	3.119E-1	1.88E+01	8.346E-2	7.614E-1	5.657E-3	1.266E-1	1.207E-1	1.508E-2	-2.524E0
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 resources; 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

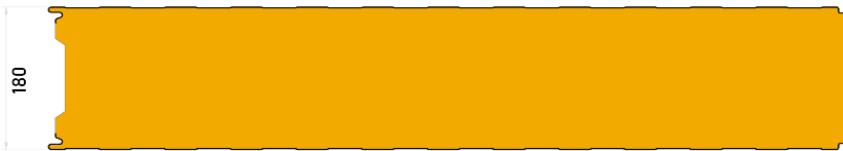
Waste production per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6.46E+00	1.459E-2	6.092E-2	6.53E+00	5.212E-3	3.798E-2	7.518E-4	7.728E-3	1.483E-2	9.78E-4	-1.739E0
Non-hazardous waste disposed	kg	5.51E+01	1.47E+00	1.86E+00	5.84E+01	5.705E-1	9.006E-1	8.036E-3	4.302E-1	8.86E-1	7.12E+00	-1.881E1
Radioactive waste disposed	kg	5.529E-4	1.018E-4	1.972E-5	6.744E-4	3.691E-5	1.873E-5	4.9E-6	3.922E-5	1.695E-5	6.933E-6	-1.795E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	4.74E+00	4.71E-3	1.279E-2	4.76E+00	1.613E-3	2.14E-3	3.369E-4	1.941E-3	8.30E+00	2.66E-4	-1.254E0
Materials for energy recovery	kg	5.605E-3	6.766E-5	8.362E-5	5.756E-3	2.576E-5	2.958E-3	1.045E-6	1.679E-5	1.244E-4	2.15E-6	-1.485E-3
Exported energy	MJ	0.00E+00										

Environmental Information



Sandwich panel for walls (thickness 180 mm)

Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	5.56E+01	1.01E+00	1.45E+00	5.81E+01	3.613E-1	6.734E-1	5.301E-2	4.177E-1	1.992E-1	4.186E-2	-1.009E1
GWP-biogenic	kg CO ₂ eq.	4.148E-1	4.712E-3	1.263E-2	4.322E-1	1.753E-3	2.197E-1	8.982E-5	1.822E-3	2.428E-2	2.656E-4	-1.235E-1
GWP-luluc	kg CO ₂ eq.	1.526E-2	3.496E-4	5.039E-4	1.611E-2	1.114E-4	4.668E-2	4.512E-6	1.564E-4	2.297E-4	1.267E-5	-3.01E-3
GWP-total	kg CO ₂ eq.	5.60E+01	1.02E+00	1.46E+00	5.85E+01	3.632E-1	9.397E-1	5.31E-2	4.196E-1	2.237E-1	4.214E-2	-1.022E1
ODP	kg CFC 11 eq.	1.248E-6	2.367E-7	6.471E-8	1.55E-6	8.555E-8	9.549E-8	1.153E-8	9.155E-8	2.907E-8	1.757E-8	-4.876E-7
AP	mol H ⁺ eq.	2.82E-1	5.658E-3	7.372E-3	2.95E-1	9.898E-4	4.465E-3	9.13E-5	1.612E-3	1.654E-3	2.011E-4	-4.066E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.547E-2	6.959E-5	6.644E-4	1.62E-2	2.585E-5	2.45E-4	1.939E-6	3.563E-5	1.719E-4	4.416E-6	-5.188E-3
EP-marine	kg N eq.	8.371E-2	1.171E-3	1.178E-2	9.667E-2	1.564E-4	1.378E-3	1.228E-5	4.583E-4	1.797E-4	3.942E-5	-8.271E-3
EP-terrestrial	mol N eq.	5.138E-1	1.287E-2	1.623E-2	5.429E-1	1.685E-3	9.355E-3	1.314E-4	4.981E-3	2.032E-3	4.279E-4	-8.021E-2
POCP	kg NMVOC eq	1.873E-1	4.288E-3	4.405E-3	1.96E-1	8.148E-4	2.378E-3	1.307E-4	1.528E-3	7.135E-4	1.755E-4	-3.912E-2
WDP	m ³	1.14E+03	2.12E+01	2.14E+01	1.18E+03	8.07E+00	4.56E+01	4.103E-1	7.70E+00	1.97E+01	1.05E+00	-2.593E2

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.

Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		1,884E-1	6,68E+00	6,87E+00	7.088E-2			6.94E-2			
PERM	MJ	4.51E+01		5,194E-1	4,56E+01		2.67E+00	3.976E-3		4.4E-1	9.641E-3	4.01E+00
PERT	MJ	4.51E+01	1,884E-1	7,20E+00	5,25E+01	7.088E-2	2.67E+00	3.976E-3	6.94E-2	4.4E-1	9.641E-3	4.01E+00
PENRE	MJ		1,57E+01	3,68E+00	1,94E+01	5.70E+00			6.35E+00			
PENRM	MJ	1.07E+03		2,90E+01	1,10E+03		1.27E+01	7.31E-1		3.12E+00	1.20E+00	1.44E+02
PENRT	MJ	1.07E+03	1,57E+01	3,26E+01	1,12E+03	5.70E+00	1.27E+01	7.31E-1	6.35E+00	3.12E+00	1.20E+00	1.44E+02
SM	kg	4.77E+00	5,528E-3	1,332E-2	4,79E+00	1.959E-3	5.999E-3	3.609E-4	2.442E-3	8.20E+00	3.232E-4	-1.248E0
RSF	MJ	5.343E-1	6,485E-3	7,925E-3	5,487E-1	2.475E-3	1.216E-2	9.78E-5	1.357E-3	1.126E-2	2.241E-4	-1.197E-1
NRSF	MJ	1.19E+01	2,419E-2	4,166E-2	1,20E+01	8.395E-3	1.569E-3	1.439E-3	1.151E-2	7.702E-3	1.147E-3	-1.091E1
FW	m ³	1.85E+01	2,347E-1	3,343E-1	1,91E+01	8.821E-2	7.614E-1	5.951E-3	1.332E-1	1.193E-1	1.72E-2	-2.494E0
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 resources; 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 per 1 m² of product

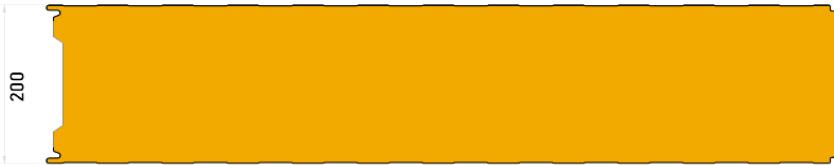
Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6.59E+00	1.546E-2	6.271E-2	6.66E+00	5.508E-3	3.798E-2	7.908E-4	8.129E-3	1.465E-2	1.116E-3	-1.718E0
Non-hazardous waste disposed	kg	5.60E+01	1.55E+00	1.93E+00	5.95E+01	6.029E-1	9.006E-1	8.454E-3	4.526E-1	8.753E-1	8.13E+00	-1.858E1
Radioactive waste disposed	kg	5.681E-4	1.078E-4	2.036E-5	6.962E-4	3.901E-5	1.873E-5	5.155E-6	4.125E-5	1.675E-5	7.909E-6	-1.773E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	4.75E+00	5.006E-3	1.284E-2	4.76E+00	1.705E-3	2.14E-3	3.544E-4	2.041E-3	8.20E+00	3.035E-4	-1.239E0
Materials for energy recovery	kg	5.946E-3	7.134E-5	8.853E-5	6.106E-3	2.722E-5	2.958E-3	1.099E-6	1.766E-5	1.229E-4	2.453E-6	-1.467E-3
Exported energy	MJ	0.00E+00										

Environmental Information

Sandwich panel for walls (thickness 200 mm)



Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	6.41E+01	1.13E+00	1.52E+00	6.68E+01	3.731E-1	6.734E-1	5.563E-2	4.383E-1	1.943E-1	4.652E-2	-9.847E0
GWP-biogenic	kg CO ₂ eq.	4.372E-1	5.234E-3	1.31E-2	4.556E-1	1.81E-3	2.197E-1	9.425E-5	1.912E-3	2.369E-2	2.952E-4	-1.205E-1
GWP-luluc	kg CO ₂ eq.	1.569E-2	3.928E-4	5.128E-4	1.66E-2	1.15E-4	4.668E-2	4.735E-6	1.642E-4	2.241E-4	1.407E-5	-2.937E-3
GWP-total	kg CO ₂ eq.	6.46E+01	1.14E+00	1.53E+00	6.72E+01	3.75E-1	9.397E-1	5.572E-2	4.404E-1	2.182E-1	4.683E-2	-9.97E0
ODP	kg CFC 11 eq.	1.297E-6	2.636E-7	6.545E-8	1.626E-6	8.834E-8	9.549E-8	1.21E-8	9.607E-8	2.836E-8	1.952E-8	-4.757E-7
AP	mol H ⁺ eq.	3.265E-1	6.556E-3	7.642E-3	3.407E-1	1.018E-3	4.465E-3	9.581E-5	1.691E-3	1.614E-3	2.235E-4	-3.967E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.64E-2	7.73E-5	6.68E-4	1.715E-2	2.67E-5	2.45E-4	2.035E-6	3.739E-5	1.677E-4	4.907E-6	-5.061E-3
EP-marine	kg N eq.	9.837E-2	1.368E-3	1.183E-2	1.116E-1	1.604E-4	1.378E-3	1.289E-5	4.809E-4	1.753E-4	4.38E-5	-8.07E-3
EP-terrestrial	mol N eq.	5.915E-1	1.505E-2	1.672E-2	6.233E-1	1.728E-3	9.355E-3	1.379E-4	5.227E-3	1.983E-3	4.754E-4	-7.826E-2
POCP	kg NMVOC eq	2.141E-1	4.952E-3	4.603E-3	2.236E-1	8.383E-4	2.378E-3	1.372E-4	1.603E-3	6.961E-4	1.95E-4	-3.817E-2
WDP	m ³	1.20E+03	2.35E+01	2.23E+01	1.24E+03	8.34E+00	4.56E+01	4.306E-1	8.08E+00	1.92E+01	1.17E+00	-2.529E2

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.

Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		2.091E-1	6.68E+00	6.89E+00	7.32E-2			7.283E-2			
PERM	MJ	5.13E+01		5.36E-1	5.18E+01		2.67E+00	4.172E-3		4.293E-1	1.071E-2	3.91E+00
PERT	MJ	5.13E+01	2.091E-1	7.22E+00	5.87E+01	7.32E-2	2.67E+00	4.172E-3	7.283E-2	4.293E-1	1.071E-2	3.91E+00
PENRE	MJ		1.75E+01	3.68E+00	2.12E+01	5.89E+00			6.66E+00			
PENRM	MJ	1.24E+03		3.06E+01	1.27E+03		1.27E+01	7.671E-1		3.05E+00	1.33E+00	1.41E+02
PENRT	MJ	1.24E+03	1.75E+01	3.43E+01	1.30E+03	5.89E+00	1.27E+01	7.671E-1	6.66E+00	3.05E+00	1.33E+00	1.41E+02
SM	kg	4.78E+00	6.163E-3	1.338E-2	4.80E+00	2.023E-3	5.999E-3	3.788E-4	2.562E-3	8.00E+00	3.592E-4	-1.217E0
RSF	MJ	5.989E-1	7.191E-3	8.207E-3	6.143E-1	2.556E-3	1.216E-2	1.026E-4	1.424E-3	1.099E-2	2.489E-4	-1.168E-1
NRSF	MJ	1.19E+01	2.701E-2	4.175E-2	1.20E+01	8.667E-3	1.569E-3	1.51E-3	1.207E-2	7.514E-3	1.274E-3	-1.065E1
FW	m ³	1.89E+01	2.604E-1	3.481E-1	1.95E+01	9.11E-2	7.614E-1	6.245E-3	1.397E-1	1.164E-1	1.911E-2	-2.433E0
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 resources; 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 per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6.83E+00	1.723E-2	6.395E-2	6.91E+00	5.687E-3	3.798E-2	8.299E-4	8.531E-3	1.429E-2	1.24E-3	-1.676E0
Non-hazardous waste disposed	kg	5.77E+01	1.71E+00	1.99E+00	6.14E+01	6.227E-1	9.006E-1	8.871E-3	4.749E-1	8.54E-1	9.03E+00	-1.813E1
Radioactive waste disposed	kg	5.966E-4	1.2E-4	2.079E-5	7.374E-4	4.028E-5	1.873E-5	5.409E-6	4.329E-5	1.634E-5	8.788E-6	-1.73E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	4.75E+00	5.599E-3	1.287E-2	4.77E+00	1.76E-3	2.14E-3	3.719E-4	2.142E-3	8.00E+00	3.372E-4	-1.208E0
Materials for energy recovery	kg	6.59E-3	7.91E-5	9.153E-5	6.761E-3	2.812E-5	2.958E-3	1.153E-6	1.853E-5	1.199E-4	2.726E-6	-1.431E-3
Exported energy	MJ	0.00E+00										

Environmental Information

Sandwich panel for roofs (thickness 40 mm)



Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	2.84E+01	6.881E-1	8.767E-1	3.00E+01	2.523E-1	6.734E-1	3.73E-2	9.797E-2	2.21E-1	1.189E-2	-1.12E1
GWP-biogenic	kg CO ₂ eq.	3.603E-1	3.289E-3	7.999E-3	3.716E-1	1.224E-3	2.197E-1	6.321E-5	4.274E-4	2.694E-2	7.543E-5	-1.37E-1
GWP-luluc	kg CO ₂ eq.	1.467E-2	2.207E-4	4.164E-4	1.531E-2	7.775E-5	4.668E-2	3.175E-6	3.669E-5	2.549E-4	3.597E-6	-3.341E-3
GWP-total	kg CO ₂ eq.	2.88E+01	6.916E-1	8.851E-1	3.04E+01	2.536E-1	9.397E-1	3.737E-2	9.843E-2	2.482E-1	1.197E-2	-1.134E1
ODP	kg CFC 11 eq.	1.137E-6	1.621E-7	5.821E-8	1.358E-6	5.973E-8	9.549E-8	8.116E-9	2.147E-8	3.226E-8	4.988E-9	-5.411E-7
AP	mol H ⁺ eq.	1.396E-1	2.553E-3	5.024E-3	1.472E-1	6.897E-4	4.465E-3	6.425E-5	3.781E-4	1.836E-3	5.711E-5	-4.512E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.313E-2	4.855E-5	6.295E-4	1.381E-2	1.805E-5	2.45E-4	1.364E-6	8.358E-6	1.908E-4	1.254E-6	-5.757E-3
EP-marine	kg N eq.	3.63E-2	4.677E-4	1.138E-2	4.815E-2	1.088E-4	1.378E-3	8.641E-6	1.075E-4	1.994E-4	1.119E-5	-9.179E-3
EP-terrestrial	mol N eq.	2.663E-1	5.099E-3	1.201E-2	2.835E-1	1.173E-3	9.355E-3	9.245E-5	1.168E-3	2.255E-3	1.215E-4	-8.902E-2
POCP	kg NMVOC eq	1.026E-1	2.016E-3	2.675E-3	1.073E-1	5.679E-4	2.378E-3	9.199E-5	3.584E-4	7.918E-4	4.982E-5	-4.342E-2
WDP	m ³	9.89E+02	1.50E+01	1.30E+01	1.02E+03	5.64E+00	4.56E+01	2.887E-1	1.81E+00	2.19E+01	2.989E-1	-2.877E2

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.

Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		1.325E-1	6.68E+00	6.81E+00	4.949E-2			1.628E-2			
PERM	MJ	2.58E+01		3.63E-1	2.61E+01		2.67E+00	2.798E-3		4.883E-1	2.738E-3	4.45E+00
PERT	MJ	2.58E+01	1.325E-1	7.04E+00	3.29E+01	4.949E-2	2.67E+00	2.798E-3	1.628E-2	4.883E-1	2.738E-3	4.45E+00
PENRE	MJ		1.08E+01	3.68E+00	1.45E+01	3.98E+00			1.49E+00			
PENRM	MJ	5.02E+02		1.43E+01	5.16E+02		1.27E+01	5.144E-1		3.47E+00	3.407E-1	1.60E+02
PENRT	MJ	5.02E+02	1.08E+01	1.80E+01	5.31E+02	3.98E+00	1.27E+01	5.144E-1	1.49E+00	3.47E+00	3.407E-1	1.60E+02
SM	kg	5.08E+00	3.738E-3	1.273E-2	5.09E+00	1.368E-3	5.999E-3	2.54E-4	5.727E-4	9.11E+00	9.178E-5	-1.384E0
RSF	MJ	3.362E-1	4.605E-3	5.135E-3	3.459E-1	1.728E-3	1.216E-2	6.882E-5	3.183E-4	1.25E-2	6.362E-5	-1.329E-1
NRSF	MJ	1.27E+01	1.613E-2	4.091E-2	1.28E+01	5.861E-3	1.569E-3	1.013E-3	2.699E-3	8.547E-3	3.256E-4	-1.211E1
FW	m ³	1.82E+01	1.65E-1	1.989E-1	1.85E+01	6.159E-2	7.614E-1	4.188E-3	3.123E-2	1.324E-1	4.884E-3	-2.768E0
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 resources; 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 per 1 m² of product

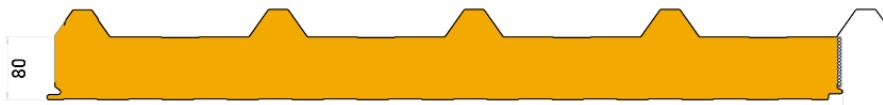
Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6.14E+00	1.049E-2	5.152E-2	6.20E+00	3.846E-3	3.798E-2	5.565E-4	1.907E-3	1.626E-2	3.168E-4	-1.906E0
Non-hazardous waste disposed	kg	5.34E+01	1.11E+00	1.53E+00	5.60E+01	4.21E-1	9.006E-1	5.949E-3	1.062E-1	9.714E-1	2.31E+00	-2.062E1
Radioactive waste disposed	kg	5.017E-4	7.389E-5	1.647E-5	5.921E-4	2.724E-5	1.873E-5	3.627E-6	9.677E-6	1.858E-5	2.246E-6	-1.968E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	5.05E+00	3.298E-3	1.253E-2	5.07E+00	1.19E-3	2.14E-3	2.494E-4	4.788E-4	9.10E+00	8.617E-5	-1.375E0
Materials for energy recovery	kg	4.01E-3	5.065E-5	5.894E-5	4.12E-3	1.901E-5	2.958E-3	7.733E-7	4.142E-6	1.364E-4	6.965E-7	-1.628E-3
Exported energy	MJ	0.00E+00										

Environmental Information

Sandwich panel for roofs (thickness 80 mm)



Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	3.67E+01	7.922E-1	1.00E+00	3.85E+01	2.805E-1	6.734E-1	4.188E-2	3.3E-1	2.137E-1	2.067E-2	-1.083E1
GWP-biogenic	kg CO ₂ eq.	3.824E-1	3.747E-3	9.079E-3	3.952E-1	1.361E-3	2.197E-1	7.097E-5	1.44E-3	2.606E-2	1.312E-4	-1.325E-1
GWP-luluc	kg CO ₂ eq.	1.51E-2	2.613E-4	4.368E-4	1.58E-2	8.644E-5	4.668E-2	3.565E-6	1.236E-4	2.465E-4	6.255E-6	-3.231E-3
GWP-total	kg CO ₂ eq.	3.71E+01	7.962E-1	1.01E+00	3.89E+01	2.82E-1	9.397E-1	4.196E-2	3.316E-1	2.4E-1	2.081E-2	-1.097E1
ODP	kg CFC 11 eq.	1.19E-6	1.86E-7	5.974E-8	1.436E-6	6.643E-8	9.549E-8	9.113E-9	7.233E-8	3.119E-8	8.675E-9	-5.232E-7
AP	mol H ⁺ eq.	1.829E-1	3.499E-3	5.546E-3	1.919E-1	7.65E-4	4.465E-3	7.214E-5	1.273E-3	1.775E-3	9.933E-5	-4.364E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.404E-2	5.531E-5	6.376E-4	1.473E-2	2.007E-5	2.45E-4	1.532E-6	2.815E-5	1.845E-4	2.181E-6	-5.567E-3
EP-marine	kg N eq.	5.053E-2	6.805E-4	1.147E-2	6.269E-2	1.205E-4	1.378E-3	9.703E-6	3.621E-4	1.928E-4	1.947E-5	-8.877E-3
EP-terrestrial	mol N eq.	3.42E-1	7.452E-3	1.295E-2	3.624E-1	1.299E-3	9.355E-3	1.038E-4	3.936E-3	2.181E-3	2.113E-4	-8.608E-2
POCP	kg NMVOC eq	1.287E-1	2.71E-3	3.061E-3	1.345E-1	6.302E-4	2.378E-3	1.033E-4	1.207E-3	7.657E-4	8.665E-5	-4.199E-2
WDP	m ³	1.05E+03	1.70E+01	1.49E+01	1.08E+03	6.27E+00	4.56E+01	3.242E-1	6.09E+00	2.12E+01	5.197E-1	-2.782E2

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.

Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		1.505E-1	6.68E+00	6.83E+00	5.505E-2			5.484E-2			
PERM	MJ	3.18E+01		3.988E-1	3.22E+01		2.67E+00	3.141E-3		4.722E-1	4.761E-3	4.30E+00
PERT	MJ	3.18E+01	1.505E-1	7.08E+00	3.90E+01	5.505E-2	2.67E+00	3.141E-3	5.484E-2	4.722E-1	4.761E-3	4.30E+00
PENRE	MJ		1.24E+01	3.68E+00	1.60E+01	4.43E+00			5.02E+00			
PENRM	MJ	6.73E+02		1.76E+01	6.91E+02		1.27E+01	5.776E-1		3.35E+00	5.926E-1	1.55E+02
PENRT	MJ	6.73E+02	1.24E+01	2.13E+01	7.07E+02	4.43E+00	1.27E+01	5.776E-1	5.02E+00	3.35E+00	5.926E-1	1.55E+02
SM	kg	5.08E+00	4.308E-3	1.286E-2	5.10E+00	1.521E-3	5.999E-3	2.852E-4	1.929E-3	8.81E+00	1.596E-4	-1.339E0
RSF	MJ	3.99E-1	5.213E-3	5.784E-3	4.1E-1	1.922E-3	1.216E-2	7.728E-5	1.072E-3	1.209E-2	1.106E-4	-1.285E-1
NRSF	MJ	1.27E+01	1.869E-2	4.108E-2	1.28E+01	6.517E-3	1.569E-3	1.137E-3	9.091E-3	8.265E-3	5.663E-4	-1.171E1
FW	m ³	1.86E+01	1.874E-1	2.303E-1	1.90E+01	6.85E-2	7.614E-1	4.702E-3	1.052E-1	1.28E-1	8.493E-3	-2.676E0
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 resources; 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 per 1 m² of product

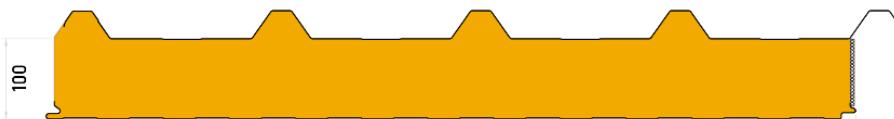
Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6.38E+00	1.208E-2	5.405E-2	6.45E+00	4.277E-3	3.798E-2	6.248E-4	6.423E-3	1.572E-2	5.51E-4	-1.843E0
Non-hazardous waste disposed	kg	5.51E+01	1.26E+00	1.64E+00	5.80E+01	4.683E-1	9.006E-1	6.68E-3	3.576E-1	9.394E-1	4.01E+00	-1.994E1
Radioactive waste disposed	kg	5.298E-4	8.474E-5	1.738E-5	6.319E-4	3.029E-5	1.873E-5	4.073E-6	3.259E-5	1.797E-5	3.906E-6	-1.903E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	5.06E+00	3.84E-3	1.26E-2	5.07E+00	1.324E-3	2.14E-3	2.8E-4	1.613E-3	8.80E+00	1.499E-4	-1.329E0
Materials for energy recovery	kg	4.636E-3	5.734E-5	6.583E-5	4.759E-3	2.114E-5	2.958E-3	8.682E-7	1.395E-5	1.319E-4	1.211E-6	-1.575E-3
Exported energy	MJ	0.00E+00										

Environmental Information

Sandwich panel for roofs (thickness 100 mm)



Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	4.26E+01	8.701E-1	1.13E+00	4.46E+01	3E-1	6.734E-1	4.45E-2	3.506E-1	2.04E-1	2.688E-2	-1.034E1
GWP-biogenic	kg CO ₂ eq.	3.979E-1	4.093E-3	1.001E-2	4.12E-1	1.455E-3	2.197E-1	7.54E-5	1.53E-3	2.487E-2	1.705E-4	-1.265E-1
GWP-luluc	kg CO ₂ eq.	1.541E-2	2.907E-4	4.543E-4	1.615E-2	9.246E-5	4.668E-2	3.788E-6	1.313E-4	2.353E-4	8.132E-6	-3.084E-3
GWP-total	kg CO ₂ eq.	4.30E+01	8.745E-1	1.14E+00	4.50E+01	3.016E-1	9.397E-1	4.458E-2	3.523E-1	2.291E-1	2.705E-2	-1.047E1
ODP	kg CFC 11 eq.	1.227E-6	2.039E-7	6.105E-8	1.492E-6	7.103E-8	9.549E-8	9.682E-9	7.685E-8	2.978E-8	1.128E-8	-4.994E-7
AP	mol H ⁺ eq.	2.135E-1	4.141E-3	6.041E-3	2.237E-1	8.195E-4	4.465E-3	7.665E-5	1.353E-3	1.695E-3	1.291E-4	-4.165E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.468E-2	6.043E-5	6.446E-4	1.538E-2	2.147E-5	2.45E-4	1.628E-6	2.991E-5	1.761E-4	2.835E-6	-5.314E-3
EP-marine	kg N eq.	6.06E-2	8.231E-4	1.156E-2	7.297E-2	1.292E-4	1.378E-3	1.031E-5	3.847E-4	1.841E-4	2.531E-5	-8.473E-3
EP-terrestrial	mol N eq.	3.955E-1	9.027E-3	1.384E-2	4.184E-1	1.393E-3	9.355E-3	1.103E-4	4.182E-3	2.082E-3	2.747E-4	-8.217E-2
POCP	kg NMVOC eq	1.472E-1	3.183E-3	3.425E-3	1.538E-1	6.749E-4	2.378E-3	1.097E-4	1.283E-3	7.309E-4	1.126E-4	-4.008E-2
WDP	m ³	1.09E+03	1.85E+01	1.66E+01	1.13E+03	6.70E+00	4.56E+01	3.445E-1	6.47E+00	2.02E+01	6.757E-1	-2.656E2

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.

Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		1.643E-1	6.68E+00	6.85E+00	5.886E-2			5.827E-2			
PERM	MJ	3.60E+01		4.308E-1	3.64E+01		2.67E+00	3.338E-3		4.507E-1	6.19E-3	4.11E+00
PERT	MJ	3.60E+01	1.643E-1	7.11E+00	4.33E+01	5.886E-2	2.67E+00	3.338E-3	5.827E-2	4.507E-1	6.19E-3	4.11E+00
PENRE	MJ		1.36E+01	3.68E+00	1.72E+01	4.73E+00			5.33E+00			
PENRM	MJ	7.95E+02		2.07E+01	8.15E+02		1.27E+01	6.136E-1		3.20E+00	7.703E-1	1.48E+02
PENRT	MJ	7.95E+02	1.36E+01	2.43E+01	8.33E+02	4.73E+00	1.27E+01	6.136E-1	5.33E+00	3.20E+00	7.703E-1	1.48E+02
SM	kg	5.09E+00	4.735E-3	1.298E-2	5.10E+00	1.627E-3	5.999E-3	3.03E-4	2.05E-3	8.40E+00	2.075E-4	-1.278E0
RSF	MJ	4.433E-1	5.678E-3	6.344E-3	4.553E-1	2.056E-3	1.216E-2	8.211E-5	1.139E-3	1.154E-2	1.438E-4	-1.227E-1
NRSF	MJ	1.27E+01	2.059E-2	4.124E-2	1.28E+01	6.97E-3	1.569E-3	1.208E-3	9.659E-3	7.89E-3	7.362E-4	-1.118E1
FW	m ³	1.89E+01	2.045E-1	2.576E-1	1.94E+01	7.325E-2	7.614E-1	4.996E-3	1.118E-1	1.222E-1	1.104E-2	-2.555E0
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 resources; 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 per 1 m² of product

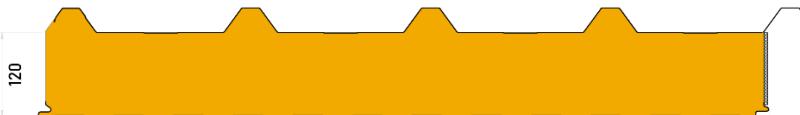
Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6.55E+00	1.326E-2	5.637E-2	6.62E+00	4.573E-3	3.798E-2	6.639E-4	6.824E-3	1.501E-2	7.163E-4	-1.76E0
Non-hazardous waste disposed	kg	5.63E+01	1.36E+00	1.71E+00	5.94E+01	5.007E-1	9.006E-1	7.097E-3	3.799E-1	8.967E-1	5.22E+00	-1.904E1
Radioactive waste disposed	kg	5.496E-4	9.289E-5	1.816E-5	6.607E-4	3.239E-5	1.873E-5	4.327E-6	3.463E-5	1.715E-5	5.077E-6	-1.816E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	5.06E+00	4.24E-3	1.266E-2	5.08E+00	1.415E-3	2.14E-3	2.975E-4	1.714E-3	8.40E+00	1.948E-4	-1.269E0
Materials for energy recovery	kg	5.079E-3	6.245E-5	7.176E-5	5.213E-3	2.261E-5	2.958E-3	9.225E-7	1.482E-5	1.259E-4	1.575E-6	-1.503E-3
Exported energy	MJ	0.00E+00										

Environmental Information

Sandwich panel for roofs (thickness 120 mm)



Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	4.90E+01	9.451E-1	1.33E+00	5.13E+01	3.195E-1	6.734E-1	4.712E-2	3.713E-1	1.7E-1	3.359E-2	-9.724E0
GWP-biogenic	kg CO ₂ eq.	4.15E-1	4.416E-3	1.095E-2	4.303E-1	1.55E-3	2.197E-1	7.984E-5	1.62E-3	2.073E-2	2.132E-4	-1.189E-1
GWP-luluc	kg CO ₂ eq.	1.574E-2	3.212E-4	4.731E-4	1.654E-2	9.847E-5	4.668E-2	4.011E-6	1.391E-4	1.961E-4	1.016E-5	-2.9E-3
GWP-total	kg CO ₂ eq.	4.94E+01	9.499E-1	1.34E+00	5.17E+01	3.211E-1	9.397E-1	4.72E-2	3.73E-1	1.909E-1	3.382E-2	-9.846E0
ODP	kg CFC 11 eq.	1.268E-6	2.21E-7	6.281E-8	1.552E-6	7.564E-8	9.549E-8	1.025E-8	8.138E-8	2.481E-8	1.41E-8	-4.697E-7
AP	mol H ⁺ eq.	2.471E-1	4.917E-3	6.876E-3	2.589E-1	8.739E-4	4.465E-3	8.115E-5	1.433E-3	1.412E-3	1.614E-4	-3.917E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.538E-2	6.521E-5	6.53E-4	1.61E-2	2.286E-5	2.45E-4	1.723E-6	3.167E-5	1.468E-4	3.544E-6	-4.998E-3
EP-marine	kg N eq.	7.162E-2	1.001E-3	1.169E-2	8.432E-2	1.38E-4	1.378E-3	1.092E-5	4.074E-4	1.534E-4	3.164E-5	-7.969E-3
EP-terrestrial	mol N eq.	4.541E-1	1.099E-2	1.532E-2	4.804E-1	1.487E-3	9.355E-3	1.168E-4	4.428E-3	1.735E-3	3.433E-4	-7.728E-2
POCP	kg NMVOC eq	1.674E-1	3.748E-3	4.026E-3	1.752E-1	7.196E-4	2.378E-3	1.162E-4	1.358E-3	6.091E-4	1.408E-4	-3.769E-2
WDP	m ³	1.14E+03	1.99E+01	1.85E+01	1.18E+03	7.14E+00	4.56E+01	3.647E-1	6.85E+00	1.68E+01	8.446E-1	-2.498E2

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.

Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		1.769E-1	6.68E+00	6.86E+00	6.267E-2			6.169E-2			
PERM	MJ	4.06E+01		4.711E-1	4.11E+01		2.67E+00	3.534E-3		3.756E-1	7.737E-3	3.86E+00
PERT	MJ	4.06E+01	1.769E-1	7.15E+00	4.80E+01	6.267E-2	2.67E+00	3.534E-3	6.169E-2	3.756E-1	7.737E-3	3.86E+00
PENRE	MJ		1.47E+01	3.68E+00	1.84E+01	5.04E+00			5.64E+00			
PENRM	MJ	9.27E+02		2.58E+01	9.53E+02		1.27E+01	6.497E-1		2.67E+00	9.629E-1	1.39E+02
PENRT	MJ	9.27E+02	1.47E+01	2.95E+01	9.72E+02	5.04E+00	1.27E+01	6.497E-1	5.64E+00	2.67E+00	9.629E-1	1.39E+02
SM	kg	5.09E+00	5.147E-3	1.312E-2	5.11E+00	1.732E-3	5.999E-3	3.208E-4	2.17E-3	7.00E+00	2.594E-4	-1.202E0
RSF	MJ	4.919E-1	6.101E-3	6.933E-3	5.049E-1	2.189E-3	1.216E-2	8.694E-5	1.206E-3	9.616E-3	1.798E-4	-1.154E-1
NRSF	MJ	1.27E+01	2.246E-2	4.146E-2	1.28E+01	7.422E-3	1.569E-3	1.279E-3	1.023E-2	6.575E-3	9.203E-4	-1.051E1
FW	m ³	1.92E+01	2.203E-1	2.871E-1	1.97E+01	7.799E-2	7.614E-1	5.29E-3	1.184E-1	1.018E-1	1.38E-2	-2.403E0
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 resources; 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 per 1 m² of product

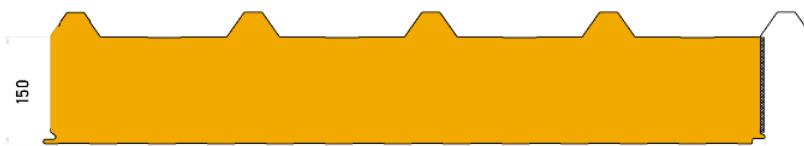
Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6.73E+00	1.44E-2	5.979E-2	6.81E+00	4.87E-3	3.798E-2	7.03E-4	7.226E-3	1.251E-2	8.953E-4	-1.655E0
Non-hazardous waste disposed	kg	5.76E+01	1.46E+00	1.78E+00	6.09E+01	5.331E-1	9.006E-1	7.515E-3	4.023E-1	7.472E-1	6.52E+00	-1.791E1
Radioactive waste disposed	kg	5.713E-4	1.007E-4	1.913E-5	6.911E-4	3.449E-5	1.873E-5	4.582E-6	3.667E-5	1.43E-5	6.347E-6	-1.708E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	5.06E+00	4.638E-3	1.275E-2	5.08E+00	1.507E-3	2.14E-3	3.15E-4	1.815E-3	7.00E+00	2.435E-4	-1.193E0
Materials for energy recovery	kg	5.564E-3	6.711E-5	7.801E-5	5.709E-3	2.407E-5	2.958E-3	9.768E-7	1.57E-5	1.049E-4	1.968E-6	-1.413E-3
Exported energy	MJ	0.00E+00										

Environmental Information

Sandwich panel for roofs (thickness 150 mm)



Potential environmental impact per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	4.85E+01	9.31E-1	1.30E+00	5.07E+01	3.283E-1	6.734E-1	4.908E-2	3.867E-1	2.04E-1	3.411E-2	-1.034E1
GWP-biogenic	kg CO ₂ eq.	3.961E-1	4.352E-3	1.11E-2	4.115E-1	1.593E-3	2.197E-1	8.317E-5	1.687E-3	2.487E-2	2.165E-4	-1.265E-1
GWP-luluc	kg CO ₂ eq.	1.489E-2	3.16E-4	4.754E-4	1.568E-2	1.011E-4	4.668E-2	4.178E-6	1.448E-4	2.353E-4	1.032E-5	-3.084E-3
GWP-total	kg CO ₂ eq.	4.89E+01	9.356E-1	1.31E+00	5.12E+01	3.3E-1	9.397E-1	4.917E-2	3.886E-1	2.291E-1	3.434E-2	-1.047E1
ODP	kg CFC 11 eq.	1.204E-6	2.177E-7	6.281E-8	1.485E-6	7.773E-8	9.549E-8	1.068E-8	8.477E-8	2.978E-8	1.431E-8	-4.994E-7
AP	mol H ⁺ eq.	2.45E-1	4.81E-3	6.75E-3	2.566E-1	8.948E-4	4.465E-3	8.454E-5	1.492E-3	1.695E-3	1.639E-4	-4.165E-2
EP-freshwater	kg PO ₄ ³⁻ eq.	1.469E-2	6.427E-5	6.534E-4	1.541E-2	2.349E-5	2.45E-4	1.795E-6	3.299E-5	1.761E-4	3.598E-6	-5.314E-3
EP-marine	kg N eq.	7.156E-2	9.772E-4	1.168E-2	8.421E-2	1.41E-4	1.378E-3	1.137E-5	4.243E-4	1.841E-4	3.212E-5	-8.473E-3
EP-terrestrial	mol N eq.	4.492E-1	1.073E-2	1.511E-2	4.75E-1	1.519E-3	9.355E-3	1.216E-4	4.612E-3	2.082E-3	3.486E-4	-8.217E-2
POCP	kg NMVOC eq	1.65E-1	3.669E-3	3.941E-3	1.726E-1	7.372E-4	2.378E-3	1.21E-4	1.415E-3	7.309E-4	1.43E-4	-4.008E-2
WDP	m ³	1.09E+03	1.97E+01	1.87E+01	1.12E+03	7.34E+00	4.56E+01	3.799E-1	7.13E+00	2.02E+01	8.576E-1	-2.656E2

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.

Use of resources per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
PERE	MJ		1.744E-1	6.68E+00	6.86E+00	6.441E-2			6.426E-2			
PERM	MJ	4.00E+01		4.713E-1	4.04E+01		2.67E+00	3.681E-3		4.507E-1	7.856E-3	4.11E+00
PERT	MJ	4.00E+01	1.744E-1	7.15E+00	4.73E+01	6.441E-2	2.67E+00	3.681E-3	6.426E-2	4.507E-1	7.856E-3	4.11E+00
PENRE	MJ		1.45E+01	3.68E+00	1.81E+01	5.18E+00			5.88E+00			
PENRM	MJ	9.23E+02		2.51E+01	9.48E+02		1.27E+01	6.768E-1		3.20E+00	9.777E-1	1.48E+02
PENRT	MJ	9.23E+02	1.45E+01	2.87E+01	9.66E+02	5.18E+00	1.27E+01	6.768E-1	5.88E+00	3.20E+00	9.777E-1	1.48E+02
SM	kg	4.77E+00	5.07E-3	1.313E-2	4.79E+00	1.78E-3	5.999E-3	3.342E-4	2.261E-3	8.40E+00	2.634E-4	-1.278E0
RSF	MJ	4.807E-1	6.014E-3	7.009E-3	4.938E-1	2.25E-3	1.216E-2	9.056E-5	1.256E-3	1.154E-2	1.826E-4	-1.227E-1
NRSF	MJ	1.19E+01	2.212E-2	4.145E-2	1.20E+01	7.626E-3	1.569E-3	1.333E-3	1.065E-2	7.89E-3	9.345E-4	-1.118E1
FW	m ³	1.82E+01	2.171E-1	2.903E-1	1.87E+01	8.016E-2	7.614E-1	5.51E-3	1.233E-1	1.222E-1	1.401E-2	-2.555E0
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 resources; 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 per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6.38E+00	1.419E-2	5.95E-2	6.46E+00	5.004E-3	3.798E-2	7.322E-4	7.527E-3	1.501E-2	9.091E-4	-1.76E0
Non-hazardous waste disposed	kg	5.45E+01	1.44E+00	1.82E+00	5.78E+01	5.48E-1	9.006E-1	7.828E-3	4.191E-1	8.967E-1	6.62E+00	-1.904E1
Radioactive waste disposed	kg	5.442E-4	9.916E-5	1.918E-5	6.625E-4	3.545E-5	1.873E-5	4.773E-6	3.82E-5	1.715E-5	6.444E-6	-1.816E-4

Output flows per 1 m² of product

Indicator	Unit	A1	A2	A3	A1-A3	A4	B2	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00										
Material for recycling	kg	4.74E+00	4.566E-3	1.275E-2	4.76E+00	1.549E-3	2.14E-3	3.282E-4	1.89E-3	8.40E+00	2.473E-4	-1.269E0
Materials for energy recovery	kg	5.411E-3	6.615E-5	7.882E-5	5.556E-3	2.474E-5	2.958E-3	1.017E-6	1.635E-5	1.259E-4	1.999E-6	-1.503E-3
Exported energy	MJ	0.00E+00										

Programme information

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

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product category rules (PCR): C-PCR-005 (TO PCR 2019:14) Thermal Insulation Products (version 2019-12-20)

PCR review was conducted by: The International EPD® System

Independent third-party verification of the declaration and data, according to ISO 14025:2006:

EPD process certification EPD verification

Third party verifier: Silvia Vilčeková



Approved by: The International EPD® System

Procedure for follow-up of data during EPD validity involves third party 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 programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025

References

- General Programme Instructions of the International EPD® System. Version 3.01;
- C-PCR-005 (TO PCR 2019:14) Thermal Insulation Products (version 2019-12-20);
- PCR 2019:14 Construction products (version 1.1)
- EN 15804:2012+A2:2019 Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products;
- ISO 14044:2006 Environmental management. Life Cycle Assessment. Requirements and guidelines.
- ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations. Principles and procedures.

Tools and database

- One Click LCA tool;
- Ecoinvent 3.6 database

Contact information



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Programme operator:

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