ENVIRONMENTAL PRODUCT DECLARATION (EPD)

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

URSA XPS NIII E / URSA XPS NIII EI / URSA XPS NIII I / URSA XPS NIII L / URSA XPS PLUS/URSA XPS NR / URSA XPS ECO NIII E/ URSA XPS ECO NIII EI / URSA XPS ECO NIII I / URSA XPS ECO NIII L / URSA XPS ECO PLUS / URSA XPS ECO NR

20, 30, 40, 50, 60, 80, 100, 120, 140, 160, 180, 200, 220, 240 mm
R= 0.60, 0.90, 1.25, 1.55, 1.85, 2.30, 3.15, 3.70, 4.15, 4.75, 5.20, 5.70, 6.10, 6.65 m^2·K/W

Owner: URSA INSULATION S.A

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

Programme operator: EPD International AB

EPD registration number: S-P-08961

Publication date: 2023-04-25

Revision date: 2024-02-21 (Version 2)

Valid until: 2028-04-24

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

1. General information

1.1. Programme information

EPD Owner: URSA Insulation. Paseo de Recoletos 3, 28004 Madrid (Spain)
Programme used: The International EPD® System. www.environdec.com
info@environdec.com
EPD prepared by: Silvia Herranz (URSA Insulation)
Contact: silvia.herranz@etexgroup.com
Date of issue: 25-04-2023 **Valid:** 24-04-2028
Revision date: 21-02-2024 (version 2)

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+A2 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): *PCR 2019:14. Construction products (EN 15804+A2) Version 1.11. C-PCR-005 Thermal insulation products (EN 16783:2017) Version: 2019-12-20*
PCR review was conducted by: The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña. The review panel may be contacted via the Secretariat info@environdec.com
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification ☒ EPD verification
Third-party verifier: Marcel Gómez Ferrer, Marcel Gómez Consultoría Ambiental S.L Email: info@marcelgomez.com 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.

2. Company information

Owner of the EPD: URSA Insulation S.A.

Contact: Silvia Herranz (Sustainability & Technical Manager)
(silvia.herranz@etexgroup.com)

Description of the organization:

URSA is a company dedicated to the manufacture and commercialization of thermal and acoustic insulation materials oriented towards sustainability and energy efficiency in building. URSA is one of the leading mineral wool and extruded polystyrene (XPS) manufacturers in Europe.

Product-related or management system-related certifications:

Bondeno plant is covered by EPD process certification system, are certified ISO 9001, ISO 14001 and ISO 45001.

Name and location of production site(s): Bondeno Plant - Via Uralita, 10, 44012 Bondeno FE, Italy

3. Product information

This Environmental Product Declaration (EPD) describes the environmental impacts of 1m² extruded polystyrene insulation, thickness 20, 30, 40, 50, 60, 80, 100, 120, 140, 160, 180, 200, 220 and 240 mm and R-value 0.60, 0.90, 1.25, 1.55, 1.85, 2.30, 3.15, 3.70, 4.15, 4.75, 5.20, 5.70, 6.10 and 6.65 $m^2 \cdot K/W$ respectively.

URSA manufactures extruded polystyrene (XPS) with recycled materials (polystyrene). The products obtained are presented in the form of an "extruded polystyrene panel" composed of a rigid structure and air.

On Earth, the best insulator is dry and still air at 10 °C: its coefficient of thermal conductivity, expressed in lambda (λ), is 0.025 W/(m.K) (watts per meter and per degree Kelvin). The thermal conductivity of extruded polystyrene is close to that of air at rest since its lambda varies from 0.029 W/(m.K) for the most efficient, to 0.037 W/(m.K) for the least efficient.

Thanks to its alveolar plastic foam structure, extruded polystyrene is a material that traps air, making it a solution for insulation. In addition, extruded polystyrene has a high level of mechanical compressive strength, which makes it suitable for certain specific applications: underfloor heating, floors, flat roofs, insulation on the outside of buried walls and under foundations.

Extruded polystyrene insulation is used in buildings and in industrial installations. It ensures a high level of comfort, reduces energy costs, minimizes carbon dioxide (CO_2) emissions and limits heat loss through ceilings, walls, floors, pipes and boilers.

The service life of extruded polystyrene product is like that of a building, as it is a component of that installation (often established at 50 years).

UN CPC code: 369 - Other plastics products

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

Product name: URSA XPS NIII E/ URSA XPS NIII EI/ URSA XPS NIII I/ URSA XPS NIII L/ URSA XPS PLUS/URSA XPS NR / URSA XPS ECO NIII E/ URSA XPS ECO NIII EI / URSA XPS ECO NIII I / URSA XPS ECO NIII L / URSA XPS ECO PLUS / URSA XPS ECO NR

Product identification: URSA XPS extruded polystyrene panel in accordance with the EN 13164 standard. Supplied in panel format.

Functional unit: *Thermal insulation over 1 m^2 of enclosure for the application of interior wall insulation that guarantees the following thermal resistance:*

Thickness (mm)	R -Value (m^2·K/W)
20	0.60
30	0.90
40	1.25
50	1.55
60	1.85
80	2.30
100	3.15
120	3.70
140	4.15
160	4.75
180	5.20
200	5.70
220	6.10
240	6.65

Technical data and physical characteristics*:*

Products family: URSA XPS, URSA XPS ECO				NIII		PLUS		NR	
Parameters	**Unit**	**Test Standard**	**Designation code CE**	**Value**	**Range Thickness (mm)**	**Value**	**Range Thickness (mm)**	**Value**	**Range Thickness (mm)**
Compressive strength to 10%	Kpa	ISO 29469	CS(10/Y)	300	30-240	300	30-240	300	20
Reaction to fire - Euroclass	-	EN 13501-1	-	E	30-240	E	30-240	E	20
Deformation under load 40kPa and temp. 70 C	%	EN 1605	DLT(2)5	≤ 5	30-240	≤ 5	30-240	≤ 5	20
Dimensional stability (Δε) (70°c 90% humidity)	%	EN 1604	DS(70,90)	≤ 5	30-240	≤ 5	30-240	≤ 5	20
Long-term water absorption by immersion	%	EN 12087	WL(T)	0.7	30-240	0.7 1.5	30-80 100-240	NPD	-
Long-term water absorption by diffusion	%	EN 12088	WD(V)	≤ 1	30-240	NPD	-	NPD	-
Frost-thaw behaviour, for long-term diffusion	%	EN 12091	FTCD	≤ 1	30-240	NPD	-	NPD	-
Frost-thaw behaviour by long-term immersion	%	EN 12091	FTCI	≤ 2	30-240	NPD	-	NPD	-
Compressive strength at 2%, 50 years	KPa	EN 1606	CC(2/1,5/50)	130	30-240	NPD	-	NPD	-
Shear strength	KPa	EN 12089	SS	200	30-240	200	30-240	NPD	-
Percentage by volume of closed cells.	%	EN ISO 4590	-	CV95	30-240	CV95	30-240	CV95	20
Resistance to water vapour diffusion	-	EN 13164	MU(i)	150	30-240	100	30-240	150	20
Tensile strength perpendicular to faces	%	EN 1607	TR	200	30-240	200	30-240	200	20
Designation code EN				T1-CS(10/Y)300-CS(2/1,5/50)130-DLT(2)5-DS(70,90)-WL(T)0,7-WD(V)1-FTCD1-FTCI-SS200-MU150-TR200		T1-CS(10/Y)300-DLT(2)5-DS(70,90)-WL(T)0,7-WL(T)1,5-SS200-MU100-TR200		T1-CS(10/Y)300-DLT(2)5-DS(70,90)-MU100-TR200	
Reference standard to declare the efficacy of the product				EN 13164					
Application				Thermal insulation in Building/thermal insulation of floors/thermal insulation of interior walls and perimeter/counter-ground.					

Description of the main components of the extruded polystyrene product:

Product components	Weight, kg/m²														Post-consumer material, weight-%
Thickness, mm	20	30	40	50	60	80	100	120	140	160	180	200	220	240	47%
Extruded polystyrene	0.600	0.900	1.200	1.500	1.800	2.400	3.000	3.600	4.200	4.800	5.400	6.000	6.600	7.200	
Extruded polystyrene	>90%														
Additives and Blowing agent	<10%														

Packaging components	weight, kg/m²													
Thickness, mm	20	30	40	50	60	80	100	120	140	160	180	200	220	240
Plastic Packaging	0.012	0.018	0.024	0.030	0.035	0.047	0.059	0.071	0.083	0.094	0.106	0.118	0.130	0.142
XPS Pallet	0.003	0.004	0.005	0.007	0.008	0.011	0.013	0.016	0.018	0.021	0.024	0.026	0.029	0.032
TOTAL	0.014	0.022	0.029	0.036	0.043	0.058	0.072	0.087	0.101	0.115	0.130	0.144	0.159	0.173
Weight-% (versus the product)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

4. LCA Information

Functional unit: It performs the function of thermal isolation on 1 m^2 de wall ensuring thermal resistance of 0.60, 0.90, 1.25, 1.55, 1.85, 2.30, 3.15, 3.70, 4.15, 4.75, 5.20, 5.70, 6.10 and 6.65 $m^2 \cdot K/W$ for application Insulation (xps 0.600-7.200 kg/m^2) of roof.

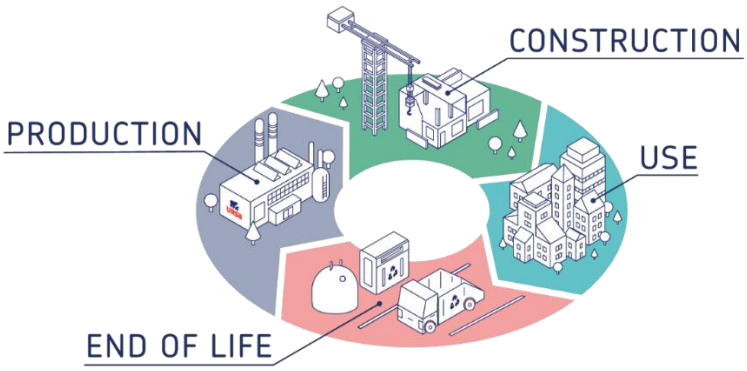
Reference service life: 50 years

Time representativeness: Plant production data for the complete year 2020.

Database(s) and LCA software used: ECOINVENT 3.6, EuGeos' 15804+A2_IA v4.1, OPENLCA 1.10.3 (2020)

Description of system boundaries:

Cradle to grave and module D (A + B + C + D)



Main hypotheses and considerations:

The polluter pays principle, the principle of modularity, and study exclusions (long-term emissions, infrastructure processes, and staff travel) have been considered.

Cutt-off rules:

In the case that there is not enough information, the process energy and materials representing less than 1% of the whole energy and mass used can be excluded (if they do not cause significant impacts). The addition of all the inputs and outputs excluded cannot be bigger than the 5% of the whole mass and energy used, as well of the emissions to environment occurred

Description of the data quality used:

All the raw materials for the manufacture of the declared product, the necessary energy, the water, the consumption, and the resulting emissions are considered in the life cycle analysis of this material. The production data of the Bondeno factory, for the full year 2020, have been used. The allocations of consumption, emissions and raw materials have been made based on physical criteria of the mass of polystyrene.

The Ecoinvent 3.6 and EuGeos' 15804+A2_IA v4.1 databases have been used to choose the most representative processes, considering that the data is representative of technological development, regionalized data and as current as possible. These data have been treated in the OpenLCA 1.10.3 software for LCA modeling and the calculation of environmental impact categories, complying with the quality requirements established in the RCP.

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 / A2 / A3	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
Geography	Italy	Italy	Global	Global	Global	Global	Global	Global	Global	Global	Global	Global	Global	Global	Global
Specific data used	>90% GWP	>90% GWP	>90% GWP												
Variation - Products	No variability	No variability	No variability												
Variation - Sites	Only plant	Only plant	Only plant												

A1-A3 Production phase

Description of the phase:

The production phase of extruded polystyrene products is divided into three modules: A1, supply of raw materials; A2, transport and A3, manufacture.

The addition of modules A1, A2 et A3 is an option provided by standard EN 15804+A2 and has been applied to this EPD.

A1 Supply of raw materials

This module considers the supply and processing of all raw materials and the energies they produce prior to the manufacturing process. In particular, it covers supply of raw materials for manufacturing Polyestyrene and blowing agent. In addition to these raw materials, recycled materials (PS) are used in the process.

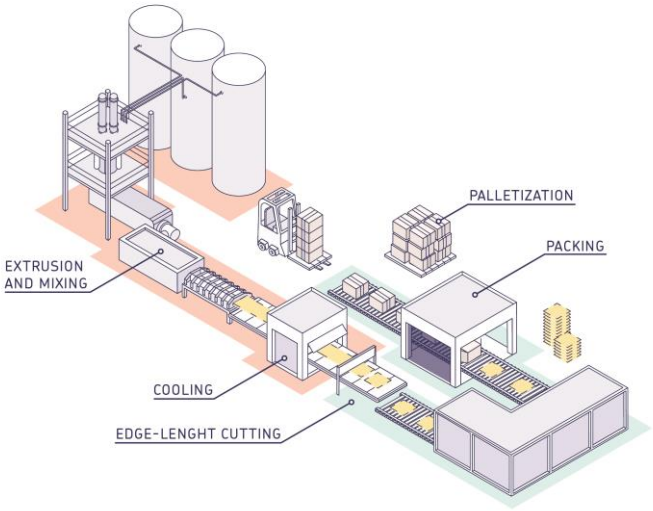
A2 Transport to manufacturer

Raw materials are transported to the manufacturing site. The modelling includes road, river or rail transport (average values) for each of the raw materials.

A3 Manufacturing

Extruded polystyrene manufacture includes stages of mixing, extrusion, and cooling (see diagram of manufacturing process). Furthermore, production of packaging is considered during this phase. The Italian electric mix has been used.

System Diagram:



A4-A5 Construction phase

Description:

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

Description of the scenarios and supplementary technical information.

A4 Transporte hasta la obra:

This module includes transport from factory to site. Average value of Italy.

The transport is calculated based on a scenario that includes the following parameters:

Parameter	Value
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 EURO5 and it falls under the truck size class of 7.5 to 16 metric tons
Average distance to site	Lorry: 460 km
Use of capacity (including returning empty)	100 % volume capacity
Density of transported product	198-15 m² per pallet and 22 pallets per lorry Density of product = 30 kg/m^3
Coefficient of use of volume capacity	>1 (products compressed in the packaging)

A5 Installation in the building:

This module includes the waste products created during manual installation of the extruded polystyrene in the building, supplementary production required to compensate losses and treatment of site waste. The scenarios used for the quantity of waste generated during the installation and the treatment of the site waste are as follows:

Parameter	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 required
Waste produced on the construction site prior to waste treatment generated by installation of the product (specified by type)	2 % of extruded polystyrene
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 extruded polystyrene waste, its packaging and waste deriving from excess production for installation are considered as disposed of in landfill 26-317 gr/UF
Transport to landfill	15 km
Direct emissions to atmosphere, soil and water	No emissions to be considered

B1-B7 Phase of use or exploitation (Excluding potential savings)

Phase of use is divided into seven modules:

- B1: Use or application of product installed
- B2: Maintenance
- B3: Repair
- B4: Replacement
- B5: Refurbishment
- B6: Energy needs during exploitation phase
- B7: Water needs during exploitation phase

Description of the scenarios and supplementary technical information.

No technical operation is required during the useful phase until the end of service life. Thus extruded polystyrene do not have any impact during this phase but they permit potential energy savings.

C1-C4 End of life phase

Description:

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.

Description of the scenarios and supplementary technical information.

C1 Deconstruction, demolition:

Deconstruction and /or dismantling of the insulation products is part of the demolition work of an entire building. In our case the environmental impact is considered to be very slight and can be ignored.

C2 Transport to waste treatment site:

The use of the model for transport is considered (see A4, transport to the construction site) at a distance of 15 km.

C3 Waste treatment with a view to reuse, recovery, and/or recycling:

The product is considered for landfill without reuse, recovery and/or recycling.

C4 Disposal:

extruded polystyrene should be installed in a storage facility for non-inert and non-hazardous waste

Parameter	Value
Collection procedure specified by type	0.600-7.200 kg of extruded polystyrene (collected with mixed construction waste)
Recovery system specified by type	No reuse, no recycling, no energy recovery
Disposal specified by type	0.600-7.200 kg of extruded polystyrene kept in storage facility for non-inert and non-hazardous waste
Hypotheses for creating scenarios (for example transport)	100% Landfill

D Benefit and charge (refer to standard)

There are no recycling benefits since 100% of the weight of the product and its packaging is considered landfilled.

5. Content information

For the functional unit "1m² of extruded polystyrene insulation with a thickness of 20, 30, 40, 50, 60, 80, 100, 120, 140, 160, 180, 200, 220 and 240 mm and thermal resistance of 0.60, 0.90, 1.25, 1.55, 1.85, 2.30, 3.15, 3.70, 4.15, 4.75, 5.20, 5.70, 6.10 and 6.65 $m^2 \cdot K/W$ respectively".

Estimated impact results are only relative statements that do not indicate impact category endpoints, exceeding threshold values, safety margins, or risks.

Results for 1m² of extruded polystyrene insulation with a thickness of 20 mm and thermal resistance of 0.60 $m^2 \cdot K/W$:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	1.74E+00	5.91E-02	3.68E-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	9.34E-02	0.00E+00	1.48E-03	0.00E+00
GWP-biogenic	kg CO_2 eq.	8.35E-02	1.21E-04	1.67E-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	7.08E-05	0.00E+00	2.62E-06	0.00E+00
GWP-luluc	kg CO_2 eq.	6.86E-04	2.78E-05	1.39E-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	6.84E-06	0.00E+00	5.88E-07	0.00E+00
GWP-total	kg CO_2 eq.	1.83E+00	5.93E-02	3.85E-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	9.35E-02	0.00E+00	1.49E-03	0.00E+00
ODP	kg CFC 11 eq.	6.55E-08	1.33E-08	1.36E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.93E-09	0.00E+00	3.46E-10	0.00E+00
AP	mol H^+ eq.	7.24E-03	2.35E-04	1.46E-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	5.53E-05	0.00E+00	7.51E-06	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	8.26E-04	1.37E-05	1.66E-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	2.98E-06	0.00E+00	2.98E-07	0.00E+00
EP-freshwater	kg P eq.	2.69E-04	4.47E-06	5.40E-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	9.69E-07	0.00E+00	9.70E-08	0.00E+00
EP-marine	kg N eq.	2.26E-03	6.85E-05	5.36E-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	4.21E-04	0.00E+00	2.59E-06	0.00E+00
EP-terrestrial	mol N eq.	1.44E-02	7.47E-04	2.93E-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	2.03E-04	0.00E+00	2.83E-05	0.00E+00
POCP	kg NMVOC eq.	2.52E-02	2.25E-04	5.06E-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	7.77E-05	0.00E+00	7.94E-06	0.00E+00
ADP-minerals&metals*	kg Sb eq.	4.73E-06	2.59E-07	9.51E-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	2.07E-08	0.00E+00	4.99E-09	0.00E+00
ADP-fossil*	MJ	4.39E+00	7.60E-02	8.83E-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	2.15E-02	0.00E+00	1.70E-03	0.00E+00
WDP*	m^3	1.17E+00	4.79E-03	2.36E-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	6.80E-03	0.00E+00	1.08E-04	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[1]	kg CO_2 eq.	1.63E+00	5.86E-02	3.39E-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	6.58E-02	0.00E+00	1.47E-03	0.00E+00

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	8.55E-01	1.11E-02	1.72E-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	2.15E-03	0.00E+00	2.40E-04	0.00E+00
PERM	MJ	1.55E+00	3.78E-03	3.09E-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	6.70E-04	0.00E+00	7.86E-05	0.00E+00
PERT	MJ	2.40E+00	1.49E-02	4.81E-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	2.82E-03	0.00E+00	3.18E-04	0.00E+00
PENRE	MJ	7.44E+00	9.82E-02	1.49E-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	2.51E-02	0.00E+00	2.17E-03	0.00E+00
PENRM	MJ.	2.80E+01	7.94E-01	5.63E-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	1.31E-01	0.00E+00	2.06E-02	0.00E+00
PENRT	MJ	3.54E+01	8.92E-01	7.12E-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	1.56E-01	0.00E+00	2.27E-02	0.00E+00
SM	kg	3.44E-01	1.08E-03	6.88E-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	2.24E-04	0.00E+00	2.28E-05	0.00E+00
RSF	MJ	3.07E-02	3.31E-04	6.15E-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	2.99E-05	0.00E+00	6.80E-06	0.00E+00
NRSF	MJ	2.83E-02	1.44E-03	5.67E-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	4.42E-05	0.00E+00	2.76E-05	0.00E+00
FW	m^3	3.09E-02	1.14E-04	6.22E-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	1.64E-04	0.00E+00	2.58E-06	0.00E+00
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	1.32E+00	2.32E-02	2.65E-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	4.91E-03	0.00E+00	5.00E-04	0.00E+00
Non-hazardous waste disposed	kg	2.60E-01	3.70E-02	1.73E-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	6.01E-01	0.00E+00	1.15E-03	0.00E+00
Radioactive waste disposed	kg	1.32E-03	1.98E-05	2.64E-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	3.01E-06	0.00E+00	4.50E-07	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	5.24E-02	9.18E-04	1.05E-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	9.46E-05	0.00E+00	1.90E-05	0.00E+00
Materials for energy recovery	kg	1.13E-03	2.40E-04	2.35E-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	4.22E-05	0.00E+00	5.22E-06	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

Results for 1m² of extruded polystyrene insulation with a thickness of 30 mm and thermal resistance of 0.90 m^2·K/W:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	2.62E+00	8.87E-02	5.52E-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	1.40E-01	0.00E+00	2.22E-03	0.00E+00
GWP-biogenic	kg CO_2 eq.	1.25E-01	1.82E-04	2.51E-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	1.06E-04	0.00E+00	3.94E-06	0.00E+00
GWP-luluc	kg CO_2 eq.	1.03E-03	4.17E-05	2.08E-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	1.03E-05	0.00E+00	8.82E-07	0.00E+00
GWP-total	kg CO_2 eq.	2.74E+00	8.89E-02	5.77E-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	1.40E-01	0.00E+00	2.23E-03	0.00E+00
ODP	kg CFC 11 eq.	9.82E-08	1.99E-08	2.03E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.89E-09	0.00E+00	5.19E-10	0.00E+00
AP	mol H^+ eq.	1.09E-02	3.52E-04	2.19E-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	8.29E-05	0.00E+00	1.13E-05	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	1.24E-03	2.06E-05	2.49E-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	4.46E-06	0.00E+00	4.47E-07	0.00E+00
EP-freshwater	kg P eq.	4.04E-04	6.70E-06	8.10E-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	1.45E-06	0.00E+00	1.45E-07	0.00E+00
EP-marine	kg N eq.	3.39E-03	1.03E-04	8.05E-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	6.31E-04	0.00E+00	3.88E-06	0.00E+00
EP-terrestrial	mol N eq.	2.16E-02	1.12E-03	4.39E-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	3.05E-04	0.00E+00	4.24E-05	0.00E+00
POCP	kg NMVOC eq.	3.78E-02	3.37E-04	7.60E-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	1.17E-04	0.00E+00	1.19E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	7.10E-06	3.88E-07	1.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.11E-08	0.00E+00	7.49E-09	0.00E+00
ADP-fossil*	MJ	6.59E+00	1.14E-01	1.32E-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	3.22E-02	0.00E+00	2.55E-03	0.00E+00
WDP*	m^3	1.76E+00	7.19E-03	3.53E-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	1.02E-02	0.00E+00	1.62E-04	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[2]	kg CO_2 eq.	2.44E+00	8.79E-02	5.08E-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	9.87E-02	0.00E+00	2.20E-03	0.00E+00

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	1.28E+00	1.67E-02	2.57E-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	3.22E-03	0.00E+00	3.60E-04	0.00E+00
PERM	MJ	2.32E+00	5.67E-03	4.64E-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	1.01E-03	0.00E+00	1.18E-04	0.00E+00
PERT	MJ	3.60E+00	2.23E-02	7.21E-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	4.23E-03	0.00E+00	4.77E-04	0.00E+00
PENRE	MJ	1.12E+01	1.47E-01	2.24E-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	3.77E-02	0.00E+00	3.26E-03	0.00E+00
PENRM	MJ.	4.20E+01	1.19E+00	8.44E-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	1.97E-01	0.00E+00	3.08E-02	0.00E+00
PENRT	MJ	5.31E+01	1.34E+00	1.07E+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	2.34E-01	0.00E+00	3.41E-02	0.00E+00
SM	kg	5.16E-01	1.63E-03	1.03E-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	3.36E-04	0.00E+00	3.42E-05	0.00E+00
RSF	MJ	4.60E-02	4.96E-04	9.22E-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	4.49E-05	0.00E+00	1.02E-05	0.00E+00
NRSF	MJ	4.24E-02	2.16E-03	8.51E-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	6.63E-05	0.00E+00	4.14E-05	0.00E+00
FW	m^3	4.64E-02	1.71E-04	9.33E-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	2.46E-04	0.00E+00	3.87E-06	0.00E+00
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															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	1.98E+00	3.49E-02	3.97E-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	7.36E-03	0.00E+00	7.50E-04	0.00E+00
Non-hazardous waste disposed	kg	3.91E-01	5.55E-02	2.59E-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	9.02E-01	0.00E+00	1.73E-03	0.00E+00
Radioactive waste disposed	kg	1.98E-03	2.96E-05	3.96E-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	4.51E-06	0.00E+00	6.75E-07	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	7.86E-02	1.38E-03	1.57E-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	1.42E-04	0.00E+00	2.84E-05	0.00E+00
Materials for energy recovery	kg	1.69E-03	3.60E-04	3.53E-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	6.33E-05	0.00E+00	7.83E-06	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

Results for 1m² of extruded polystyrene insulation with a thickness of 40 mm and thermal resistance of 1.25 $m^2 \cdot K/W$:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	3.49E+00	1.18E-01	7.35E-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	1.87E-01	0.00E+00	2.96E-03	0.00E+00
GWP-biogenic	kg CO_2 eq.	1.67E-01	2.42E-04	3.34E-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	1.42E-04	0.00E+00	5.25E-06	0.00E+00
GWP-luluc	kg CO_2 eq.	1.37E-03	5.56E-05	2.77E-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	1.37E-05	0.00E+00	1.18E-06	0.00E+00
GWP-total	kg CO_2 eq.	3.66E+00	1.19E-01	7.69E-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	1.87E-01	0.00E+00	2.97E-03	0.00E+00
ODP	kg CFC 11 eq.	1.31E-07	2.66E-08	2.71E-09	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-09	0.00E+00	6.92E-10	0.00E+00
AP	mol H^+ eq.	1.45E-02	4.70E-04	2.92E-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	1.11E-04	0.00E+00	1.50E-05	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	1.65E-03	2.74E-05	3.32E-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	5.95E-06	0.00E+00	5.96E-07	0.00E+00
EP-freshwater	kg P eq.	5.38E-04	8.94E-06	1.08E-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	1.94E-06	0.00E+00	1.94E-07	0.00E+00
EP-marine	kg N eq.	4.52E-03	1.37E-04	1.07E-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	8.42E-04	0.00E+00	5.18E-06	0.00E+00
EP-terrestrial	mol N eq.	2.88E-02	1.49E-03	5.85E-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	4.07E-04	0.00E+00	5.65E-05	0.00E+00
POCP	kg NMVOC eq.	5.05E-02	4.49E-04	1.01E-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	1.55E-04	0.00E+00	1.59E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	9.46E-06	5.18E-07	1.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.14E-08	0.00E+00	9.99E-09	0.00E+00
ADP-fossil*	MJ	8.79E+00	1.52E-01	1.77E-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	4.30E-02	0.00E+00	3.40E-03	0.00E+00
WDP*	m^3	2.34E+00	9.58E-03	4.71E-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	1.36E-02	0.00E+00	2.16E-04	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[3]	kg CO_2 eq.	3.25E+00	1.17E-01	6.78E-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	1.32E-01	0.00E+00	2.94E-03	0.00E+00

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	1.71E+00	2.22E-02	3.43E-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	4.29E-03	0.00E+00	4.79E-04	0.00E+00
PERM	MJ	3.09E+00	7.56E-03	6.19E-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	1.34E-03	0.00E+00	1.57E-04	0.00E+00
PERT	MJ	4.80E+00	2.98E-02	9.62E-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	5.63E-03	0.00E+00	6.37E-04	0.00E+00
PENRE	MJ	1.49E+01	1.96E-01	2.99E-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	5.03E-02	0.00E+00	4.34E-03	0.00E+00
PENRM	MJ.	5.60E+01	1.59E+00	1.13E+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	2.62E-01	0.00E+00	4.11E-02	0.00E+00
PENRT	MJ	7.08E+01	1.78E+00	1.42E+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	3.12E-01	0.00E+00	4.55E-02	0.00E+00
SM	kg	6.88E-01	2.17E-03	1.38E-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	4.48E-04	0.00E+00	4.56E-05	0.00E+00
RSF	MJ	6.14E-02	6.62E-04	1.23E-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	5.98E-05	0.00E+00	1.36E-05	0.00E+00
NRSF	MJ	5.66E-02	2.87E-03	1.13E-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	8.84E-05	0.00E+00	5.52E-05	0.00E+00
FW	m^3	6.19E-02	2.28E-04	1.24E-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	3.28E-04	0.00E+00	5.15E-06	0.00E+00
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															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	2.64E+00	4.65E-02	5.30E-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	9.82E-03	0.00E+00	9.99E-04	0.00E+00
Non-hazardous waste disposed	kg	5.21E-01	7.40E-02	3.45E-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	1.20E+00	0.00E+00	2.31E-03	0.00E+00
Radioactive waste disposed	kg	2.64E-03	3.95E-05	5.29E-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	6.02E-06	0.00E+00	8.99E-07	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	1.05E-01	1.84E-03	2.10E-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	1.89E-04	0.00E+00	3.79E-05	0.00E+00
Materials for energy recovery	kg	2.26E-03	4.80E-04	4.71E-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	8.44E-05	0.00E+00	1.04E-05	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

Results for 1m² of extruded polystyrene insulation with a thickness of 50 mm and thermal resistance of 1.55 $m^2 \cdot K/W$:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	4.36E+00	1.48E-01	9.19E-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	2.34E-01	0.00E+00	3.71E-03	0.00E+00
GWP-biogenic	kg CO_2 eq.	2.09E-01	3.03E-04	4.18E-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	1.77E-04	0.00E+00	6.56E-06	0.00E+00
GWP-luluc	kg CO_2 eq.	1.71E-03	6.94E-05	3.47E-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	1.71E-05	0.00E+00	1.47E-06	0.00E+00
GWP-total	kg CO_2 eq.	4.57E+00	1.48E-01	9.61E-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	2.34E-01	0.00E+00	3.71E-03	0.00E+00
ODP	kg CFC 11 eq.	1.64E-07	3.32E-08	3.39E-09	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-09	0.00E+00	8.65E-10	0.00E+00
AP	mol H^+ eq.	1.81E-02	5.87E-04	3.65E-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	1.38E-04	0.00E+00	1.88E-05	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	2.06E-03	3.43E-05	4.15E-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	7.44E-06	0.00E+00	7.44E-07	0.00E+00
EP-freshwater	kg P eq.	6.73E-04	1.12E-05	1.35E-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	2.42E-06	0.00E+00	2.42E-07	0.00E+00
EP-marine	kg N eq.	5.65E-03	1.71E-04	1.34E-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	1.05E-03	0.00E+00	6.47E-06	0.00E+00
EP-terrestrial	mol N eq.	3.60E-02	1.87E-03	7.31E-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	5.09E-04	0.00E+00	7.07E-05	0.00E+00
POCP	kg NMVOC eq.	6.31E-02	5.62E-04	1.27E-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	1.94E-04	0.00E+00	1.98E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	1.18E-05	6.47E-07	2.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.18E-08	0.00E+00	1.25E-08	0.00E+00
ADP-fossil*	MJ	1.10E+01	1.90E-01	2.21E-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	5.37E-02	0.00E+00	4.25E-03	0.00E+00
WDP*	m^3	2.93E+00	1.20E-02	5.89E-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	1.70E-02	0.00E+00	2.70E-04	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[4]	kg CO_2 eq.	4.07E+00	1.47E-01	8.47E-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	1.65E-01	0.00E+00	3.67E-03	0.00E+00

**Disclaimers shall be added, if required by EN 15804.*

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	2.14E+00	2.78E-02	4.29E-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	5.37E-03	0.00E+00	5.99E-04	0.00E+00
PERM	MJ	3.86E+00	9.45E-03	7.73E-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	1.68E-03	0.00E+00	1.97E-04	0.00E+00
PERT	MJ	6.00E+00	3.72E-02	1.20E-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	7.04E-03	0.00E+00	7.96E-04	0.00E+00
PENRE	MJ	1.86E+01	2.45E-01	3.73E-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	6.29E-02	0.00E+00	5.43E-03	0.00E+00
PENRM	MJ.	7.00E+01	1.98E+00	1.41E+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	3.28E-01	0.00E+00	5.14E-02	0.00E+00
PENRT	MJ	8.86E+01	2.23E+00	1.78E+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	3.91E-01	0.00E+00	5.68E-02	0.00E+00
SM	kg	8.60E-01	2.71E-03	1.72E-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	5.60E-04	0.00E+00	5.71E-05	0.00E+00
RSF	MJ	7.67E-02	8.27E-04	1.54E-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	7.48E-05	0.00E+00	1.70E-05	0.00E+00
NRSF	MJ	7.07E-02	3.59E-03	1.42E-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	1.11E-04	0.00E+00	6.90E-05	0.00E+00
FW	m^3	7.74E-02	2.85E-04	1.56E-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	4.10E-04	0.00E+00	6.44E-06	0.00E+00
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															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	3.30E+00	5.81E-02	6.62E-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	1.23E-02	0.00E+00	1.25E-03	0.00E+00
Non-hazardous waste disposed	kg	6.51E-01	9.25E-02	4.31E-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	1.50E+00	0.00E+00	2.88E-03	0.00E+00
Radioactive waste disposed	kg	3.29E-03	4.94E-05	6.61E-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	7.52E-06	0.00E+00	1.12E-06	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	1.31E-01	2.30E-03	2.62E-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	2.36E-04	0.00E+00	4.74E-05	0.00E+00
Materials for energy recovery	kg	2.82E-03	6.00E-04	5.88E-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	1.06E-04	0.00E+00	1.31E-05	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

Results for 1m² of extruded polystyrene insulation with a thickness of 60 mm and thermal resistance of 1.85 $m^2 \cdot K/W$:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	5.23E+00	1.77E-01	1.10E-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	2.80E-01	0.00E+00	4.45E-03	0.00E+00
GWP-biogenic	kg CO_2 eq.	2.50E-01	3.64E-04	5.01E-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	2.12E-04	0.00E+00	7.87E-06	0.00E+00
GWP-luluc	kg CO_2 eq.	2.06E-03	8.33E-05	4.16E-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	2.05E-05	0.00E+00	1.76E-06	0.00E+00
GWP-total	kg CO_2 eq.	5.48E+00	1.78E-01	1.15E-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	2.81E-01	0.00E+00	4.46E-03	0.00E+00
ODP	kg CFC 11 eq.	1.96E-07	3.99E-08	4.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.78E-09	0.00E+00	1.04E-09	0.00E+00
AP	mol H^+ eq.	2.17E-02	7.05E-04	4.38E-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	1.66E-04	0.00E+00	2.25E-05	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	2.48E-03	4.12E-05	4.98E-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	8.93E-06	0.00E+00	8.93E-07	0.00E+00
EP-freshwater	kg P eq.	8.07E-04	1.34E-05	1.62E-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	2.91E-06	0.00E+00	2.91E-07	0.00E+00
EP-marine	kg N eq.	6.78E-03	2.06E-04	1.61E-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	1.26E-03	0.00E+00	7.76E-06	0.00E+00
EP-terrestrial	mol N eq.	4.32E-02	2.24E-03	8.78E-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	6.10E-04	0.00E+00	8.48E-05	0.00E+00
POCP	kg NMVOC eq.	7.57E-02	6.74E-04	1.52E-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	2.33E-04	0.00E+00	2.38E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	1.42E-05	7.76E-07	2.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.21E-08	0.00E+00	1.50E-08	0.00E+00
ADP-fossil*	MJ	1.32E+01	2.28E-01	2.65E-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	6.45E-02	0.00E+00	5.10E-03	0.00E+00
WDP*	m^3	3.51E+00	1.44E-02	7.07E-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	2.04E-02	0.00E+00	3.25E-04	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[5]	kg CO_2 eq.	4.88E+00	1.76E-01	1.02E-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	1.97E-01	0.00E+00	4.41E-03	0.00E+00

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	2.57E+00	3.34E-02	5.15E-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	6.44E-03	0.00E+00	7.19E-04	0.00E+00
PERM	MJ	4.64E+00	1.13E-02	9.28E-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	2.01E-03	0.00E+00	2.36E-04	0.00E+00
PERT	MJ	7.20E+00	4.47E-02	1.44E-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	8.45E-03	0.00E+00	9.55E-04	0.00E+00
PENRE	MJ	2.23E+01	2.94E-01	4.48E-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	7.54E-02	0.00E+00	6.51E-03	0.00E+00
PENRM	MJ.	8.39E+01	2.38E+00	1.69E+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	3.93E-01	0.00E+00	6.17E-02	0.00E+00
PENRT	MJ	1.06E+02	2.68E+00	2.14E+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	4.69E-01	0.00E+00	6.82E-02	0.00E+00
SM	kg	1.03E+00	3.25E-03	2.06E-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	6.72E-04	0.00E+00	6.85E-05	0.00E+00
RSF	MJ	9.21E-02	9.92E-04	1.84E-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	8.97E-05	0.00E+00	2.04E-05	0.00E+00
NRSF	MJ	8.49E-02	4.31E-03	1.70E-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	1.33E-04	0.00E+00	8.27E-05	0.00E+00
FW	m^3	9.28E-02	3.42E-04	1.87E-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	4.92E-04	0.00E+00	7.73E-06	0.00E+00
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															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	3.96E+00	6.97E-02	7.95E-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	1.47E-02	0.00E+00	1.50E-03	0.00E+00
Non-hazardous waste disposed	kg	7.81E-01	1.11E-01	5.18E-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	1.80E+00	0.00E+00	3.46E-03	0.00E+00
Radioactive waste disposed	kg	3.95E-03	5.93E-05	7.93E-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	9.03E-06	0.00E+00	1.35E-06	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	1.57E-01	2.75E-03	3.15E-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	2.84E-04	0.00E+00	5.69E-05	0.00E+00
Materials for energy recovery	kg	3.39E-03	7.20E-04	7.06E-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	1.27E-04	0.00E+00	1.57E-05	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

Results for 1m² of extruded polystyrene insulation with a thickness of 80 mm and thermal resistance of 2.30 $m^2 \cdot K/W$:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	6.97E+00	2.37E-01	1.47E-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	3.74E-01	0.00E+00	5.93E-03	0.00E+00
GWP-biogenic	kg CO_2 eq.	3.34E-01	4.85E-04	6.68E-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	2.83E-04	0.00E+00	1.05E-05	0.00E+00
GWP-luluc	kg CO_2 eq.	2.74E-03	1.11E-04	5.55E-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	2.74E-05	0.00E+00	2.35E-06	0.00E+00
GWP-total	kg CO_2 eq.	7.31E+00	2.37E-01	1.54E-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	3.74E-01	0.00E+00	5.94E-03	0.00E+00
ODP	kg CFC 11 eq.	2.62E-07	5.32E-08	5.42E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.71E-09	0.00E+00	1.38E-09	0.00E+00
AP	mol H^+ eq.	2.90E-02	9.40E-04	5.84E-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	2.21E-04	0.00E+00	3.00E-05	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	3.30E-03	5.49E-05	6.63E-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	1.19E-05	0.00E+00	1.19E-06	0.00E+00
EP-freshwater	kg P eq.	1.08E-03	1.79E-05	2.16E-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	3.88E-06	0.00E+00	3.88E-07	0.00E+00
EP-marine	kg N eq.	9.03E-03	2.74E-04	2.15E-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	1.68E-03	0.00E+00	1.04E-05	0.00E+00
EP-terrestrial	mol N eq.	5.76E-02	2.99E-03	1.17E-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	8.14E-04	0.00E+00	1.13E-04	0.00E+00
POCP	kg NMVOC eq.	1.01E-01	8.99E-04	2.03E-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	3.11E-04	0.00E+00	3.17E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	1.89E-05	1.04E-06	3.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.29E-08	0.00E+00	2.00E-08	0.00E+00
ADP-fossil*	MJ	1.76E+01	3.04E-01	3.53E-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	8.60E-02	0.00E+00	6.80E-03	0.00E+00
WDP*	m^3	4.69E+00	1.92E-02	9.43E-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	2.72E-02	0.00E+00	4.33E-04	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[6]	kg CO_2 eq.	6.51E+00	2.34E-01	1.36E-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	2.63E-01	0.00E+00	5.88E-03	0.00E+00

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	3.42E+00	4.45E-02	6.86E-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	8.59E-03	0.00E+00	9.59E-04	0.00E+00
PERM	MJ	6.18E+00	1.51E-02	1.24E-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	2.68E-03	0.00E+00	3.15E-04	0.00E+00
PERT	MJ	9.60E+00	5.96E-02	1.92E-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	1.13E-02	0.00E+00	1.27E-03	0.00E+00
PENRE	MJ	2.98E+01	3.93E-01	5.97E-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-01	0.00E+00	8.68E-03	0.00E+00
PENRM	MJ.	1.12E+02	3.18E+00	2.25E+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	5.24E-01	0.00E+00	8.22E-02	0.00E+00
PENRT	MJ	1.42E+02	3.57E+00	2.85E+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	6.25E-01	0.00E+00	9.09E-02	0.00E+00
SM	kg	1.38E+00	4.34E-03	2.75E-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	8.96E-04	0.00E+00	9.13E-05	0.00E+00
RSF	MJ	1.23E-01	1.32E-03	2.46E-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	1.20E-04	0.00E+00	2.72E-05	0.00E+00
NRSF	MJ	1.13E-01	5.75E-03	2.27E-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	1.77E-04	0.00E+00	1.10E-04	0.00E+00
FW	m^3	1.24E-01	4.56E-04	2.49E-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	6.57E-04	0.00E+00	1.03E-05	0.00E+00
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															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	5.28E+00	9.30E-02	1.06E-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	1.96E-02	0.00E+00	2.00E-03	0.00E+00
Non-hazardous waste disposed	kg	1.04E+00	1.48E-01	6.90E-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	2.41E+00	0.00E+00	4.61E-03	0.00E+00
Radioactive waste disposed	kg	5.27E-03	7.90E-05	1.06E-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	1.20E-05	0.00E+00	1.80E-06	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	2.10E-01	3.67E-03	4.20E-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	3.78E-04	0.00E+00	7.59E-05	0.00E+00
Materials for energy recovery	kg	4.52E-03	9.60E-04	9.41E-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	1.69E-04	0.00E+00	2.09E-05	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

Results for 1m² of extruded polystyrene insulation with a thickness of 100 mm and thermal resistance of 3.15 $m^2 \cdot K/W$:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	8.72E+00	2.96E-01	1.84E-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	4.67E-01	0.00E+00	7.41E-03	0.00E+00
GWP-biogenic	kg CO_2 eq.	4.17E-01	6.06E-04	8.35E-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	3.54E-04	0.00E+00	1.31E-05	0.00E+00
GWP-luluc	kg CO_2 eq.	3.43E-03	1.39E-04	6.93E-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	3.42E-05	0.00E+00	2.94E-06	0.00E+00
GWP-total	kg CO_2 eq.	9.14E+00	2.96E-01	1.92E-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	4.68E-01	0.00E+00	7.43E-03	0.00E+00
ODP	kg CFC 11 eq.	3.27E-07	6.65E-08	6.78E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.64E-09	0.00E+00	1.73E-09	0.00E+00
AP	mol H^+ eq.	3.62E-02	1.17E-03	7.30E-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	2.76E-04	0.00E+00	3.75E-05	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	4.13E-03	6.86E-05	8.29E-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	1.49E-05	0.00E+00	1.49E-06	0.00E+00
EP-freshwater	kg P eq.	1.35E-03	2.23E-05	2.70E-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	4.85E-06	0.00E+00	4.85E-07	0.00E+00
EP-marine	kg N eq.	1.13E-02	3.43E-04	2.68E-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	2.10E-03	0.00E+00	1.29E-05	0.00E+00
EP-terrestrial	mol N eq.	7.20E-02	3.74E-03	1.46E-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	1.02E-03	0.00E+00	1.41E-04	0.00E+00
POCP	kg NMVOC eq.	1.26E-01	1.12E-03	2.53E-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	3.88E-04	0.00E+00	3.97E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	2.37E-05	1.29E-06	4.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-07	0.00E+00	2.50E-08	0.00E+00
ADP-fossil*	MJ	2.20E+01	3.80E-01	4.42E-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	1.07E-01	0.00E+00	8.50E-03	0.00E+00
WDP*	m^3	5.86E+00	2.40E-02	1.18E-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	3.40E-02	0.00E+00	5.41E-04	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[7]	kg CO_2 eq.	8.14E+00	2.93E-01	1.69E-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	3.29E-01	0.00E+00	7.35E-03	0.00E+00

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	4.28E+00	5.56E-02	8.58E-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	1.07E-02	0.00E+00	1.20E-03	0.00E+00
PERM	MJ	7.73E+00	1.89E-02	1.55E-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	3.35E-03	0.00E+00	3.93E-04	0.00E+00
PERT	MJ	1.20E+01	7.45E-02	2.40E-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	1.41E-02	0.00E+00	1.59E-03	0.00E+00
PENRE	MJ	3.72E+01	4.91E-01	7.47E-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	1.26E-01	0.00E+00	1.09E-02	0.00E+00
PENRM	MJ.	1.40E+02	3.97E+00	2.81E+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	6.55E-01	0.00E+00	1.03E-01	0.00E+00
PENRT	MJ	1.77E+02	4.46E+00	3.56E+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	7.81E-01	0.00E+00	1.14E-01	0.00E+00
SM	kg	1.72E+00	5.42E-03	3.44E-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-03	0.00E+00	1.14E-04	0.00E+00
RSF	MJ	1.53E-01	1.65E-03	3.07E-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	1.50E-04	0.00E+00	3.40E-05	0.00E+00
NRSF	MJ	1.41E-01	7.18E-03	2.84E-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	2.21E-04	0.00E+00	1.38E-04	0.00E+00
FW	m^3	1.55E-01	5.70E-04	3.11E-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	8.21E-04	0.00E+00	1.29E-05	0.00E+00
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															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	6.59E+00	1.16E-01	1.32E-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	2.45E-02	0.00E+00	2.50E-03	0.00E+00
Non-hazardous waste disposed	kg	1.30E+00	1.85E-01	8.63E-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	3.01E+00	0.00E+00	5.77E-03	0.00E+00
Radioactive waste disposed	kg	6.59E-03	9.88E-05	1.32E-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	1.50E-05	0.00E+00	2.25E-06	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	2.62E-01	4.59E-03	5.25E-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	4.73E-04	0.00E+00	9.48E-05	0.00E+00
Materials for energy recovery	kg	5.64E-03	1.20E-03	1.18E-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	2.11E-04	0.00E+00	2.61E-05	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

Results for 1m² of extruded polystyrene insulation with a thickness of 120 mm and thermal resistance of 3.70 $m^2 \cdot K/W$:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	1.05E+01	3.55E-01	2.21E-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	5.61E-01	0.00E+00	8.89E-03	0.00E+00
GWP-biogenic	kg CO_2 eq.	5.01E-01	7.27E-04	1.00E-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	4.25E-04	0.00E+00	1.57E-05	0.00E+00
GWP-luluc	kg CO_2 eq.	4.11E-03	1.67E-04	8.32E-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	4.11E-05	0.00E+00	3.53E-06	0.00E+00
GWP-total	kg CO_2 eq.	1.10E+01	3.56E-01	2.31E-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	5.61E-01	0.00E+00	8.91E-03	0.00E+00
ODP	kg CFC 11 eq.	3.93E-07	7.98E-08	8.13E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-08	0.00E+00	2.08E-09	0.00E+00
AP	mol H^+ eq.	4.34E-02	1.41E-03	8.76E-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	3.32E-04	0.00E+00	4.50E-05	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	4.96E-03	8.23E-05	9.95E-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	1.79E-05	0.00E+00	1.79E-06	0.00E+00
EP-freshwater	kg P eq.	1.61E-03	2.68E-05	3.24E-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	5.81E-06	0.00E+00	5.82E-07	0.00E+00
EP-marine	kg N eq.	1.36E-02	4.11E-04	3.22E-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	2.52E-03	0.00E+00	1.55E-05	0.00E+00
EP-terrestrial	mol N eq.	8.64E-02	4.48E-03	1.76E-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	1.22E-03	0.00E+00	1.70E-04	0.00E+00
POCP	kg NMVOC eq.	1.51E-01	1.35E-03	3.04E-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	4.66E-04	0.00E+00	4.76E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	2.84E-05	1.55E-06	5.71E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-07	0.00E+00	3.00E-08	0.00E+00
ADP-fossil*	MJ	2.64E+01	4.56E-01	5.30E-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	1.29E-01	0.00E+00	1.02E-02	0.00E+00
WDP*	m^3	7.03E+00	2.88E-02	1.41E-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	4.08E-02	0.00E+00	6.49E-04	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[8]	kg CO_2 eq.	9.76E+00	3.52E-01	2.03E-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	3.95E-01	0.00E+00	8.82E-03	0.00E+00

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	5.13E+00	6.67E-02	1.03E-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	1.29E-02	0.00E+00	1.44E-03	0.00E+00
PERM	MJ	9.27E+00	2.27E-02	1.86E-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	4.02E-03	0.00E+00	4.72E-04	0.00E+00
PERT	MJ	1.44E+01	8.94E-02	2.88E-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	1.69E-02	0.00E+00	1.91E-03	0.00E+00
PENRE	MJ	4.46E+01	5.89E-01	8.96E-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	1.51E-01	0.00E+00	1.30E-02	0.00E+00
PENRM	MJ.	1.68E+02	4.76E+00	3.38E+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	7.86E-01	0.00E+00	1.23E-01	0.00E+00
PENRT	MJ	2.13E+02	5.35E+00	4.27E+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	9.37E-01	0.00E+00	1.36E-01	0.00E+00
SM	kg	2.06E+00	6.51E-03	4.13E-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	1.34E-03	0.00E+00	1.37E-04	0.00E+00
RSF	MJ	1.84E-01	1.98E-03	3.69E-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	1.79E-04	0.00E+00	4.08E-05	0.00E+00
NRSF	MJ	1.70E-01	8.62E-03	3.40E-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	2.65E-04	0.00E+00	1.65E-04	0.00E+00
FW	m^3	1.86E-01	6.85E-04	3.73E-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	9.85E-04	0.00E+00	1.55E-05	0.00E+00
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															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	7.91E+00	1.39E-01	1.59E-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	2.95E-02	0.00E+00	3.00E-03	0.00E+00
Non-hazardous waste disposed	kg	1.56E+00	2.22E-01	1.04E-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	3.61E+00	0.00E+00	6.92E-03	0.00E+00
Radioactive waste disposed	kg	7.91E-03	1.19E-04	1.59E-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	1.81E-05	0.00E+00	2.70E-06	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	3.14E-01	5.51E-03	6.30E-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	5.67E-04	0.00E+00	1.14E-04	0.00E+00
Materials for energy recovery	kg	6.77E-03	1.44E-03	1.41E-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	2.53E-04	0.00E+00	3.13E-05	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

Results for 1m² of extruded polystyrene insulation with a thickness of 140 mm and thermal resistance of 4.15 $m^2 \cdot K/W$:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	1.22E+01	4.14E-01	2.57E-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	6.54E-01	0.00E+00	1.04E-02	0.00E+00
GWP-biogenic	kg CO_2 eq.	5.84E-01	8.49E-04	1.17E-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	4.96E-04	0.00E+00	1.84E-05	0.00E+00
GWP-luluc	kg CO_2 eq.	4.80E-03	1.94E-04	9.71E-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	4.79E-05	0.00E+00	4.11E-06	0.00E+00
GWP-total	kg CO_2 eq.	1.28E+01	4.15E-01	2.69E-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	6.55E-01	0.00E+00	1.04E-02	0.00E+00
ODP	kg CFC 11 eq.	4.58E-07	9.31E-08	9.49E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-08	0.00E+00	2.42E-09	0.00E+00
AP	mol H^+ eq.	5.07E-02	1.64E-03	1.02E-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	3.87E-04	0.00E+00	5.25E-05	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	5.78E-03	9.60E-05	1.16E-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	2.08E-05	0.00E+00	2.08E-06	0.00E+00
EP-freshwater	kg P eq.	1.88E-03	3.13E-05	3.78E-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	6.78E-06	0.00E+00	6.79E-07	0.00E+00
EP-marine	kg N eq.	1.58E-02	4.80E-04	3.75E-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	2.95E-03	0.00E+00	1.81E-05	0.00E+00
EP-terrestrial	mol N eq.	1.01E-01	5.23E-03	2.05E-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	1.42E-03	0.00E+00	1.98E-04	0.00E+00
POCP	kg NMVOC eq.	1.77E-01	1.57E-03	3.54E-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	5.44E-04	0.00E+00	5.55E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	3.31E-05	1.81E-06	6.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-07	0.00E+00	3.49E-08	0.00E+00
ADP-fossil*	MJ	3.08E+01	5.32E-01	6.18E-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	1.50E-01	0.00E+00	1.19E-02	0.00E+00
WDP*	m^3	8.20E+00	3.35E-02	1.65E-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	4.76E-02	0.00E+00	7.57E-04	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[9]	kg CO_2 eq.	1.14E+01	4.10E-01	2.37E-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	4.61E-01	0.00E+00	1.03E-02	0.00E+00

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	5.99E+00	7.78E-02	1.20E-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	1.50E-02	0.00E+00	1.68E-03	0.00E+00
PERM	MJ	1.08E+01	2.65E-02	2.16E-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	4.69E-03	0.00E+00	5.50E-04	0.00E+00
PERT	MJ	1.68E+01	1.04E-01	3.37E-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	1.97E-02	0.00E+00	2.23E-03	0.00E+00
PENRE	MJ	5.21E+01	6.87E-01	1.05E+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	1.76E-01	0.00E+00	1.52E-02	0.00E+00
PENRM	MJ.	1.96E+02	5.56E+00	3.94E+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	9.17E-01	0.00E+00	1.44E-01	0.00E+00
PENRT	MJ	2.48E+02	6.25E+00	4.98E+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	1.09E+00	0.00E+00	1.59E-01	0.00E+00
SM	kg	2.41E+00	7.59E-03	4.82E-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	1.57E-03	0.00E+00	1.60E-04	0.00E+00
RSF	MJ	2.15E-01	2.32E-03	4.30E-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	2.09E-04	0.00E+00	4.76E-05	0.00E+00
NRSF	MJ	1.98E-01	1.01E-02	3.97E-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	3.10E-04	0.00E+00	1.93E-04	0.00E+00
FW	m^3	2.17E-01	7.99E-04	4.36E-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	1.15E-03	0.00E+00	1.80E-05	0.00E+00
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															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	9.23E+00	1.63E-01	1.85E-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	3.44E-02	0.00E+00	3.50E-03	0.00E+00
Non-hazardous waste disposed	kg	1.82E+00	2.59E-01	1.21E-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+00	0.00E+00	8.07E-03	0.00E+00
Radioactive waste disposed	kg	9.22E-03	1.38E-04	1.85E-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	2.11E-05	0.00E+00	3.15E-06	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	3.67E-01	6.43E-03	7.35E-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	6.62E-04	0.00E+00	1.33E-04	0.00E+00
Materials for energy recovery	kg	7.90E-03	1.68E-03	1.65E-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	2.95E-04	0.00E+00	3.65E-05	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

Results for 1m² of extruded polystyrene insulation with a thickness of 160 mm and thermal resistance of 4.75 m^2·K/W:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	1.39E+01	4.73E-01	2.94E-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	7.47E-01	0.00E+00	1.19E-02	0.00E+00
GWP-biogenic	kg CO_2 eq.	6.68E-01	9.70E-04	1.34E-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	5.67E-04	0.00E+00	2.10E-05	0.00E+00
GWP-luluc	kg CO_2 eq.	5.49E-03	2.22E-04	1.11E-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	5.47E-05	0.00E+00	4.70E-06	0.00E+00
GWP-total	kg CO_2 eq.	1.46E+01	4.74E-01	3.08E-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	7.48E-01	0.00E+00	1.19E-02	0.00E+00
ODP	kg CFC 11 eq.	5.24E-07	1.06E-07	1.08E-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	1.54E-08	0.00E+00	2.77E-09	0.00E+00
AP	mol H^+ eq.	5.79E-02	1.88E-03	1.17E-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	4.42E-04	0.00E+00	6.01E-05	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	6.61E-03	1.10E-04	1.33E-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	2.38E-05	0.00E+00	2.38E-06	0.00E+00
EP-freshwater	kg P eq.	2.15E-03	3.58E-05	4.32E-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	7.75E-06	0.00E+00	7.76E-07	0.00E+00
EP-marine	kg N eq.	1.81E-02	5.48E-04	4.29E-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	3.37E-03	0.00E+00	2.07E-05	0.00E+00
EP-terrestrial	mol N eq.	1.15E-01	5.98E-03	2.34E-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	1.63E-03	0.00E+00	2.26E-04	0.00E+00
POCP	kg NMVOC eq.	2.02E-01	1.80E-03	4.05E-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	6.22E-04	0.00E+00	6.35E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	3.79E-05	2.07E-06	7.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.66E-07	0.00E+00	3.99E-08	0.00E+00
ADP-fossil*	MJ	3.51E+01	6.08E-01	7.07E-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	1.72E-01	0.00E+00	1.36E-02	0.00E+00
WDP*	m^3	9.37E+00	3.83E-02	1.89E-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	5.44E-02	0.00E+00	8.66E-04	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[10]	kg CO_2 eq.	1.30E+01	4.69E-01	2.71E-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	5.27E-01	0.00E+00	1.18E-02	0.00E+00

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	6.84E+00	8.89E-02	1.37E-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	1.72E-02	0.00E+00	1.92E-03	0.00E+00
PERM	MJ	1.24E+01	3.02E-02	2.47E-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	5.36E-03	0.00E+00	6.29E-04	0.00E+00
PERT	MJ	1.92E+01	1.19E-01	3.85E-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	2.25E-02	0.00E+00	2.55E-03	0.00E+00
PENRE	MJ	5.95E+01	7.85E-01	1.19E+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	2.01E-01	0.00E+00	1.74E-02	0.00E+00
PENRM	MJ.	2.24E+02	6.35E+00	4.50E+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	1.05E+00	0.00E+00	1.64E-01	0.00E+00
PENRT	MJ	2.83E+02	7.14E+00	5.70E+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	1.25E+00	0.00E+00	1.82E-01	0.00E+00
SM	kg	2.75E+00	8.68E-03	5.51E-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	1.79E-03	0.00E+00	1.83E-04	0.00E+00
RSF	MJ	2.46E-01	2.65E-03	4.92E-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	2.39E-04	0.00E+00	5.44E-05	0.00E+00
NRSF	MJ	2.26E-01	1.15E-02	4.54E-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	3.54E-04	0.00E+00	2.21E-04	0.00E+00
FW	m^3	2.48E-01	9.13E-04	4.98E-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	1.31E-03	0.00E+00	2.06E-05	0.00E+00
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															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	1.06E+01	1.86E-01	2.12E-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	3.93E-02	0.00E+00	4.00E-03	0.00E+00
Non-hazardous waste disposed	kg	2.08E+00	2.96E-01	1.38E-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	4.81E+00	0.00E+00	9.23E-03	0.00E+00
Radioactive waste disposed	kg	1.05E-02	1.58E-04	2.11E-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	2.41E-05	0.00E+00	3.60E-06	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	4.19E-01	7.35E-03	8.40E-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	7.57E-04	0.00E+00	1.52E-04	0.00E+00
Materials for energy recovery	kg	9.03E-03	1.92E-03	1.88E-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	3.38E-04	0.00E+00	4.18E-05	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

Results for 1m² of extruded polystyrene insulation with a thickness of 180 mm and thermal resistance of 5.20 $m^2 \cdot K/W$:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	1.57E+01	5.32E-01	3.31E-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	8.41E-01	0.00E+00	1.33E-02	0.00E+00
GWP-biogenic	kg CO_2 eq.	7.51E-01	1.09E-03	1.50E-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	6.37E-04	0.00E+00	2.36E-05	0.00E+00
GWP-luluc	kg CO_2 eq.	6.17E-03	2.50E-04	1.25E-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	6.16E-05	0.00E+00	5.29E-06	0.00E+00
GWP-total	kg CO_2 eq.	1.64E+01	5.34E-01	3.46E-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	8.42E-01	0.00E+00	1.34E-02	0.00E+00
ODP	kg CFC 11 eq.	5.89E-07	1.20E-07	1.22E-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	1.73E-08	0.00E+00	3.11E-09	0.00E+00
AP	mol H^+ eq.	6.51E-02	2.11E-03	1.31E-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	4.98E-04	0.00E+00	6.76E-05	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	7.43E-03	1.23E-04	1.49E-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	2.68E-05	0.00E+00	2.68E-06	0.00E+00
EP-freshwater	kg P eq.	2.42E-03	4.02E-05	4.86E-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	8.72E-06	0.00E+00	8.73E-07	0.00E+00
EP-marine	kg N eq.	2.03E-02	6.17E-04	4.83E-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	3.79E-03	0.00E+00	2.33E-05	0.00E+00
EP-terrestrial	mol N eq.	1.30E-01	6.73E-03	2.63E-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	1.83E-03	0.00E+00	2.54E-04	0.00E+00
POCP	kg NMVOC eq.	2.27E-01	2.02E-03	4.56E-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	6.99E-04	0.00E+00	7.14E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	4.26E-05	2.33E-06	8.56E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.86E-07	0.00E+00	4.49E-08	0.00E+00
ADP-fossil*	MJ	3.95E+01	6.84E-01	7.95E-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	1.93E-01	0.00E+00	1.53E-02	0.00E+00
WDP*	m^3	1.05E+01	4.31E-02	2.12E-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	6.12E-02	0.00E+00	9.74E-04	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[11]	kg CO_2 eq.	1.46E+01	5.28E-01	3.05E-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	5.92E-01	0.00E+00	1.32E-02	0.00E+00

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	7.70E+00	1.00E-01	1.54E-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	1.93E-02	0.00E+00	2.16E-03	0.00E+00
PERM	MJ	1.39E+01	3.40E-02	2.78E-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	6.03E-03	0.00E+00	7.08E-04	0.00E+00
PERT	MJ	2.16E+01	1.34E-01	4.33E-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	2.54E-02	0.00E+00	2.86E-03	0.00E+00
PENRE	MJ	6.70E+01	8.83E-01	1.34E+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	2.26E-01	0.00E+00	1.95E-02	0.00E+00
PENRM	MJ.	2.52E+02	7.15E+00	5.06E+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	1.18E+00	0.00E+00	1.85E-01	0.00E+00
PENRT	MJ	3.19E+02	8.03E+00	6.41E+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	1.41E+00	0.00E+00	2.05E-01	0.00E+00
SM	kg	3.09E+00	9.76E-03	6.19E-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	2.02E-03	0.00E+00	2.05E-04	0.00E+00
RSF	MJ	2.76E-01	2.98E-03	5.53E-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	2.69E-04	0.00E+00	6.12E-05	0.00E+00
NRSF	MJ	2.55E-01	1.29E-02	5.11E-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	3.98E-04	0.00E+00	2.48E-04	0.00E+00
FW	m^3	2.78E-01	1.03E-03	5.60E-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	1.48E-03	0.00E+00	2.32E-05	0.00E+00
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															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	1.19E+01	2.09E-01	2.38E-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	4.42E-02	0.00E+00	4.50E-03	0.00E+00
Non-hazardous waste disposed	kg	2.34E+00	3.33E-01	1.55E-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	5.41E+00	0.00E+00	1.04E-02	0.00E+00
Radioactive waste disposed	kg	1.19E-02	1.78E-04	2.38E-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	2.71E-05	0.00E+00	4.05E-06	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	4.71E-01	8.26E-03	9.45E-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	8.51E-04	0.00E+00	1.71E-04	0.00E+00
Materials for energy recovery	kg	1.02E-02	2.16E-03	2.12E-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	3.80E-04	0.00E+00	4.70E-05	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

Results for 1m² of extruded polystyrene insulation with a thickness of 200 mm and thermal resistance of 5.70 $m^2 \cdot K/W$:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	1.74E+01	5.91E-01	3.68E-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	9.34E-01	0.00E+00	1.48E-02	0.00E+00
GWP-biogenic	kg CO_2 eq.	8.35E-01	1.21E-03	1.67E-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	7.08E-04	0.00E+00	2.62E-05	0.00E+00
GWP-luluc	kg CO_2 eq.	6.86E-03	2.78E-04	1.39E-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	6.84E-05	0.00E+00	5.88E-06	0.00E+00
GWP-total	kg CO_2 eq.	1.83E+01	5.93E-01	3.85E-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	9.35E-01	0.00E+00	1.49E-02	0.00E+00
ODP	kg CFC 11 eq.	6.55E-07	1.33E-07	1.36E-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	1.93E-08	0.00E+00	3.46E-09	0.00E+00
AP	mol H^+ eq.	7.24E-02	2.35E-03	1.46E-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	5.53E-04	0.00E+00	7.51E-05	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	8.26E-03	1.37E-04	1.66E-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	2.98E-05	0.00E+00	2.98E-06	0.00E+00
EP-freshwater	kg P eq.	2.69E-03	4.47E-05	5.40E-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	9.69E-06	0.00E+00	9.70E-07	0.00E+00
EP-marine	kg N eq.	2.26E-02	6.85E-04	5.36E-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	4.21E-03	0.00E+00	2.59E-05	0.00E+00
EP-terrestrial	mol N eq.	1.44E-01	7.47E-03	2.93E-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	2.03E-03	0.00E+00	2.83E-04	0.00E+00
POCP	kg NMVOC eq.	2.52E-01	2.25E-03	5.06E-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	7.77E-04	0.00E+00	7.94E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	4.73E-05	2.59E-06	9.51E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-07	0.00E+00	4.99E-08	0.00E+00
ADP-fossil*	MJ	4.39E+01	7.60E-01	8.83E-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	2.15E-01	0.00E+00	1.70E-02	0.00E+00
WDP*	m^3	1.17E+01	4.79E-02	2.36E-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	6.80E-02	0.00E+00	1.08E-03	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[12]	kg CO_2 eq.	1.63E+01	5.86E-01	3.39E-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	6.58E-01	0.00E+00	1.47E-02	0.00E+00

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	8.55E+00	1.11E-01	1.72E-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	2.15E-02	0.00E+00	2.40E-03	0.00E+00
PERM	MJ	1.55E+01	3.78E-02	3.09E-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	6.70E-03	0.00E+00	7.86E-04	0.00E+00
PERT	MJ	2.40E+01	1.49E-01	4.81E-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	2.82E-02	0.00E+00	3.18E-03	0.00E+00
PENRE	MJ	7.44E+01	9.82E-01	1.49E+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	2.51E-01	0.00E+00	2.17E-02	0.00E+00
PENRM	MJ.	2.80E+02	7.94E+00	5.63E+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	1.31E+00	0.00E+00	2.06E-01	0.00E+00
PENRT	MJ	3.54E+02	8.92E+00	7.12E+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	1.56E+00	0.00E+00	2.27E-01	0.00E+00
SM	kg	3.44E+00	1.08E-02	6.88E-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	2.24E-03	0.00E+00	2.28E-04	0.00E+00
RSF	MJ	3.07E-01	3.31E-03	6.15E-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	2.99E-04	0.00E+00	6.80E-05	0.00E+00
NRSF	MJ	2.83E-01	1.44E-02	5.67E-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	4.42E-04	0.00E+00	2.76E-04	0.00E+00
FW	m^3	3.09E-01	1.14E-03	6.22E-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	1.64E-03	0.00E+00	2.58E-05	0.00E+00
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															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	1.32E+01	2.32E-01	2.65E-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	4.91E-02	0.00E+00	5.00E-03	0.00E+00
Non-hazardous waste disposed	kg	2.60E+00	3.70E-01	1.73E-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	6.01E+00	0.00E+00	1.15E-02	0.00E+00
Radioactive waste disposed	kg	1.32E-02	1.98E-04	2.64E-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	3.01E-05	0.00E+00	4.50E-06	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	5.24E-01	9.18E-03	1.05E-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	9.46E-04	0.00E+00	1.90E-04	0.00E+00
Materials for energy recovery	kg	1.13E-02	2.40E-03	2.35E-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	4.22E-04	0.00E+00	5.22E-05	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

Results for 1m² of extruded polystyrene insulation with a thickness of 220 mm and thermal resistance of 6.10 $m^2 \cdot K/W$:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	1.92E+01	6.51E-01	4.04E-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	1.03E+00	0.00E+00	1.63E-02	0.00E+00
GWP-biogenic	kg CO_2 eq.	9.18E-01	1.33E-03	1.84E-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	7.79E-04	0.00E+00	2.89E-05	0.00E+00
GWP-luluc	kg CO_2 eq.	7.54E-03	3.06E-04	1.53E-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	7.53E-05	0.00E+00	6.47E-06	0.00E+00
GWP-total	kg CO_2 eq.	2.01E+01	6.52E-01	4.23E-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	1.03E+00	0.00E+00	1.63E-02	0.00E+00
ODP	kg CFC 11 eq.	7.20E-07	1.46E-07	1.49E-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	2.12E-08	0.00E+00	3.80E-09	0.00E+00
AP	mol H^+ eq.	7.96E-02	2.58E-03	1.61E-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	6.08E-04	0.00E+00	8.26E-05	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	9.09E-03	1.51E-04	1.82E-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	3.27E-05	0.00E+00	3.28E-06	0.00E+00
EP-freshwater	kg P eq.	2.96E-03	4.92E-05	5.94E-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	1.07E-05	0.00E+00	1.07E-06	0.00E+00
EP-marine	kg N eq.	2.48E-02	7.54E-04	5.90E-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	4.63E-03	0.00E+00	2.85E-05	0.00E+00
EP-terrestrial	mol N eq.	1.58E-01	8.22E-03	3.22E-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	2.24E-03	0.00E+00	3.11E-04	0.00E+00
POCP	kg NMVOC eq.	2.78E-01	2.47E-03	5.57E-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	8.55E-04	0.00E+00	8.73E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	5.20E-05	2.85E-06	1.05E-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	2.28E-07	0.00E+00	5.49E-08	0.00E+00
ADP-fossil*	MJ	4.83E+01	8.36E-01	9.72E-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	2.36E-01	0.00E+00	1.87E-02	0.00E+00
WDP*	m^3	1.29E+01	5.27E-02	2.59E-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	7.47E-02	0.00E+00	1.19E-03	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[13]	kg CO_2 eq.	1.79E+01	6.45E-01	3.73E-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	7.24E-01	0.00E+00	1.62E-02	0.00E+00

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	9.41E+00	1.22E-01	1.89E-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	2.36E-02	0.00E+00	2.64E-03	0.00E+00
PERM	MJ	1.70E+01	4.16E-02	3.40E-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	7.37E-03	0.00E+00	8.65E-04	0.00E+00
PERT	MJ	2.64E+01	1.64E-01	5.29E-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	3.10E-02	0.00E+00	3.50E-03	0.00E+00
PENRE	MJ	8.18E+01	1.08E+00	1.64E+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	2.77E-01	0.00E+00	2.39E-02	0.00E+00
PENRM	MJ.	3.08E+02	8.73E+00	6.19E+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	1.44E+00	0.00E+00	2.26E-01	0.00E+00
PENRT	MJ	3.90E+02	9.81E+00	7.83E+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	1.72E+00	0.00E+00	2.50E-01	0.00E+00
SM	kg	3.78E+00	1.19E-02	7.57E-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	2.46E-03	0.00E+00	2.51E-04	0.00E+00
RSF	MJ	3.38E-01	3.64E-03	6.76E-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	3.29E-04	0.00E+00	7.48E-05	0.00E+00
NRSF	MJ	3.11E-01	1.58E-02	6.24E-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	4.86E-04	0.00E+00	3.03E-04	0.00E+00
FW	m^3	3.40E-01	1.25E-03	6.84E-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	1.81E-03	0.00E+00	2.83E-05	0.00E+00
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															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	1.45E+01	2.56E-01	2.91E-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	5.40E-02	0.00E+00	5.50E-03	0.00E+00
Non-hazardous waste disposed	kg	2.86E+00	4.07E-01	1.90E-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	6.62E+00	0.00E+00	1.27E-02	0.00E+00
Radioactive waste disposed	kg	1.45E-02	2.17E-04	2.91E-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	3.31E-05	0.00E+00	4.95E-06	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	5.76E-01	1.01E-02	1.15E-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	1.04E-03	0.00E+00	2.09E-04	0.00E+00
Materials for energy recovery	kg	1.24E-02	2.64E-03	2.59E-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	4.64E-04	0.00E+00	5.74E-05	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

Results for 1m² of extruded polystyrene insulation with a thickness of 240 mm and thermal resistance of 6.65 $m^2 \cdot K/W$:

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-fossil	kg CO_2 eq.	2.09E+01	7.10E-01	4.41E-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	1.12E+00	0.00E+00	1.78E-02	0.00E+00
GWP-biogenic	kg CO_2 eq.	1.00E+00	1.45E-03	2.00E-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	8.50E-04	0.00E+00	3.15E-05	0.00E+00
GWP-luluc	kg CO_2 eq.	8.23E-03	3.33E-04	1.66E-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	8.21E-05	0.00E+00	7.05E-06	0.00E+00
GWP-total	kg CO_2 eq.	2.19E+01	7.11E-01	4.61E-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	1.12E+00	0.00E+00	1.78E-02	0.00E+00
ODP	kg CFC 11 eq.	7.86E-07	1.60E-07	1.63E-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	2.31E-08	0.00E+00	4.15E-09	0.00E+00
AP	mol H^+ eq.	8.69E-02	2.82E-03	1.75E-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	6.63E-04	0.00E+00	9.01E-05	0.00E+00
EP-freshwater	kg PO_4^{3-} eq.	9.91E-03	1.65E-04	1.99E-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	3.57E-05	0.00E+00	3.57E-06	0.00E+00
EP-freshwater	kg P eq.	3.23E-03	5.36E-05	6.48E-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	1.16E-05	0.00E+00	1.16E-06	0.00E+00
EP-marine	kg N eq.	2.71E-02	8.22E-04	6.44E-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	5.05E-03	0.00E+00	3.11E-05	0.00E+00
EP-terrestrial	mol N eq.	1.73E-01	8.97E-03	3.51E-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	2.44E-03	0.00E+00	3.39E-04	0.00E+00
POCP	kg NMVOC eq.	3.03E-01	2.70E-03	6.08E-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	9.32E-04	0.00E+00	9.52E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	5.68E-05	3.11E-06	1.14E-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	2.49E-07	0.00E+00	5.99E-08	0.00E+00
ADP-fossil*	MJ	5.27E+01	9.12E-01	1.06E+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	2.58E-01	0.00E+00	2.04E-02	0.00E+00
WDP*	m^3	1.41E+01	5.75E-02	2.83E-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	8.15E-02	0.00E+00	1.30E-03	0.00E+00
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

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
GWP-GHG[14]	kg CO_2 eq.	1.95E+01	7.03E-01	4.07E-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	7.90E-01	0.00E+00	1.76E-02	0.00E+00

Use of resources

Results per functional or declared unit

		Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
Indicator	Unit	A1 / A2 / A3	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	
PERE	MJ	1.03E+01	1.33E-01	2.06E-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	2.58E-02	0.00E+00	2.88E-03	0.00E+00
PERM	MJ	1.85E+01	4.53E-02	3.71E-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	8.04E-03	0.00E+00	9.44E-04	0.00E+00
PERT	MJ	2.88E+01	1.79E-01	5.77E-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	3.38E-02	0.00E+00	3.82E-03	0.00E+00
PENRE	MJ	8.93E+01	1.18E+00	1.79E+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	3.02E-01	0.00E+00	2.60E-02	0.00E+00
PENRM	MJ.	3.36E+02	9.53E+00	6.75E+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	1.57E+00	0.00E+00	2.47E-01	0.00E+00
PENRT	MJ	4.25E+02	1.07E+01	8.54E+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	1.87E+00	0.00E+00	2.73E-01	0.00E+00
SM	kg	4.13E+00	1.30E-02	8.26E-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	2.69E-03	0.00E+00	2.74E-04	0.00E+00
RSF	MJ	3.68E-01	3.97E-03	7.38E-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	3.59E-04	0.00E+00	8.16E-05	0.00E+00
NRSF	MJ	3.40E-01	1.72E-02	6.81E-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	5.31E-04	0.00E+00	3.31E-04	0.00E+00
FW	m^3	3.71E-01	1.37E-03	7.47E-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	1.97E-03	0.00E+00	3.09E-05	0.00E+00
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															

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

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
Hazardous waste disposed	kg	1.58E+01	2.79E-01	3.18E-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	5.89E-02	0.00E+00	6.00E-03	0.00E+00
Non-hazardous waste disposed	kg	3.12E+00	4.44E-01	2.07E-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+00	0.00E+00	1.38E-02	0.00E+00
Radioactive waste disposed	kg	1.58E-02	2.37E-04	3.17E-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	3.61E-05	0.00E+00	5.40E-06	0.00E+00

Output flows

Results per functional or declared unit

Indicator	Unit	Production phase	Construction phase		Use phase							End of life phase				D Benefits and loads beyond the limits of the system
		A1 / A2 / A3	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	
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	6.29E-01	1.10E-02	1.26E-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	1.13E-03	0.00E+00	2.28E-04	0.00E+00
Materials for energy recovery	kg	1.35E-02	2.88E-03	2.82E-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	5.07E-04	0.00E+00	6.26E-05	0.00E+00
Exported energy, electricity	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
Exported energy, thermal	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

Information on biogenic carbon content

Results per functional or declared unit

BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	0

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

6. Additional Information

Emissions in the indoor air:

All URSA XPS, URSA XPS ECO (NIII E/ NIII EI/ NIII I/NIII L/ PLUS/ NR) contribute to indoor air quality. They meet the strictest voluntary EU standards for VOC emissions, as attested by Eurofins' INDOOR AIR COMFORT level GOLD certification.

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 extruded polystyrene products manufactured by URSA 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 know 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.

Global warming potential:

The environmental label "Österreichisches Umweltzeichen, Richtlinie UZ 43, Version 7.0, Ausgabe vom 01.01.2024" defines the limit for the GWP_{100} for modules A1/A2/A3 per functional unit (FE) under point 2.3.2:

$$< 0{,}133 * \varrho \text{ (ecoinvent) or } < 0{,}120 * \varrho \text{ (MLC-GaBi)}$$

The XPS-products covered by this EPD with R_0 = 1 m²K/W and A_0 = 1 m² at a thickness of 32mm achieve a GWP_{100} (ecoinvent) for modules A1/A2/A3 of 2,92 E+00 kg CO_2 eq.

Circular Economy:

Recycled XPS 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 Bondeno plant, in the year 2020, the values are:

	% Recovered material	% Recycled content (According to 14021)			% Total recycled
		Pre- consumer	Post-consumer	% Total	
URSA XPS URSA XPS ECO	0	0	47	47	47

For the Bondeno plant, in the year 2023, the average annual share of material from internal and external recycling in URSA XPS (NIII E/ NIII EI/ NIII I/NIII L/ PLUS/ NR), URSA XPS ECO (NIII E/ NIII EI/ NIII I/NIII L/ PLUS/ NR) is 70%.

European Waste Codes

Waste extruded polystyrene in the module 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

7. References

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

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

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

- PCR 2019:14-c-PCR-005 c-PCR-005 Thermal Insulation products (EN 16783) (2019-12-20)

- PCR 2012:01-Sub-PCR-I Sub-PCR-I Thermal insulation products (EN 16783) (2021-11-08)

- General Programme Instructions of the International EPD® System. Version 3.01.

- LCA Report (Version 1 – 26.01.2023)