ACTIS
INNOVER POUR MIEUX ISOLER

ACTIS Isolation

ENVIRONMENTAL PRODUCT DECLARATION

Reflective alveolar insulation EOLIS BR

EOLIS BR 45 mm | EOLIS BR 65 mm | EOLIS BR 85 mm |
EOLIS BR 105 mm | EOLIS BR 120 mm | EOLIS BR 135 mm

Production site: ACTIS Isolation - 09500 La Bastide de Bousignac - France

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

Programme Operator	EPDItaly
Publisher	EPDItaly

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GENERAL INFORMATION

EPD OWNER	
Company name	ACTIS Isolation
Registered office	30, Avenue de Catalogne 11300 Limoux France
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PROGRAMME OPERATOR	
EPDItaly	Via Gaetano De Castillia no. 10 20124 Milan Italy

EPD INFORMATION	
Product name(s)	EOLIS BR - 45 mm EOLIS BR - 65 mm EOLIS BR - 85 mm EOLIS BR - 105 mm EOLIS BR - 120 mm EOLIS BR - 135 mm
Production Site(s)	ACTIS Isolation La Bastide de Bousignac site D625, ZI du Caraud 09500 La Bastide de Bousignac France
Summary description and technical information of product(s)	The products assessed in this LCA are EOLIS BR reflective alveolar insulation manufactured and marketed by ACTIS. The EOLIS BR products are thermal insulation products with additional roof underlay and rain barrier functions. EOLIS BR products are available in 6 different thicknesses, each with a unique thermal resistance value. The thickness and thermal resistance values are summarised in Table 2 below.
Scope of product(s)	Each of the 6 product is declared separately From cradle to grave with module D
Type of EPD	Specific product EPD
Product reference standard(s) (if any)	None
CPC Code (number) https://unstats.un.org/unsd/classifications/Econ	36390

VERIFICATION/VALIDATION INFORMATION	
PCR (title, version, date of publication or update)	PCR for Construction products: ICMQ-001/15 rev 3.2 (according to EN 15804+A2), 03/11/2025, ICMQ S.p.A. and UNIMORE (Università Modena e Reggio Emilia)
EPDItaly Regulations (version, date of publication or update)	EPDItaly Regulations Rev 6.0, 30/10/2023, EPD Italy
LCA Project Report	"2025.11.04_ACTIS_LCA Report_ EOLIS BR & EOLIS HC_v6.5_IT_EN"
Independent Statement Verification/Validation	The PCR review was performed by TÜV Italia - info@epditaly.it. Independent verification of the declaration and of data performed according to ISO 14025:2010. ☐ Internal ☑ External Third-party verification/validation performed by: TÜV Italia S.r.l. Viale Fulvio Testi, 280/6, 20126 – Milan, accreditation number 00077
Statement Comparability	Environmental statements published within the same product category, but from different programmes, may not be comparable. In particular, EPDs of construction products may not be comparable if they do not comply with EN 15804:2012+A2:2019.
Statement Responsibility	The EPD Owner releases EPDItaly from any non-compliance with environmental legislation. The holder of the declaration will be responsible for the information and supporting evidence. EPDItaly accepts no responsibility for the information, data and results provided by the EPD Owner for the life cycle assessment.
Statement Validation	The production data used is considered representative on the basis of the sensitivity analysis carried out with respect to the data of a similar product of the EPD Owner

PURPOSE AND TYPE OF EPD

- EPD type : Specific product EPD
- Production site: ACTIS Isolation - 09500 La Bastide de Bousignac - France
- System boundary : From cradle to grave with module D
- Background database : ecoinvent 3.10 (cut-off)
- LCA software : SimaPro version 9.6.0

Table 1: Declared modules

	PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
	Raw material supply	Transport	Production	Transport from the gate to the site	Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/demolition	Transport	Waste processing	Disposal	reuse- recovery- recycling potential
MODULE	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Module declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	mdt	mdt	mdt	mdt	mdt	mdt	mdt	mdt	mdt	mdt	mdt	mdt	mdt	mdt	mdt	mdt	mdt

DETAILED PRODUCT DESCRIPTION

Product Description

The products assessed in this LCA are EOLIS BR reflective alveolar insulation manufactured and marketed by ACTIS.

The EOLIS BR products are thermal insulation products with additional roof underlay and rain barrier functions.

They use Triplex® technology, which traps air at 3 different levels: between the reflective films, between the fibres, and inside the fibres, thereby improving thermal resistance while maintaining high flexibility, compressibility and workability. Triplex® is made from polyester fibres (PET) with a 50% recycled fibre content

They also have a perspirant HVP membrane that prevents the risk of condensation and optimises under-roof ventilation.

Technical Information

EOLIS BR products are available in 6 different thicknesses, each with a unique thermal resistance value. The thickness and thermal resistance values are summarised in the table below.

Table 2 : Thickness and thermal resistance of EOLIS BR products

Property	EOLIS BR – 45 mm	EOLIS BR – 65 mm	EOLIS BR – 85 mm	EOLIS BR – 105 mm	EOLIS BR – 120 mm	EOLIS BR – 135 mm
Thickness 'e'	45 mm	65 mm	85 mm	105 mm	120 mm	135 mm
Thermal resistance 'Rcore'	1,4 m2.K/W	2,0 m2.K/W	2,65 m2.K/W	3,25 m2.K/W	3,75 m2.K/W	4,2 m2.K/W

Main Product Contents

EOLIS BR insulation is composed of several 2 cm thick Triplex® layers. They contain polyester (PET) fibres of which 50% recycled PET fibres and are separated by so-called "internal" metallised reflective films bonded to and between the fibres. Each insulation product has a so-called "reinforced" film to improve its mechanical properties.

The products are therefore composed of non-woven polyester (PET) fibres and different types of metallised film, mainly made of low- and high-density PE, as well as a PP HVP membrane.

Table 3 : Composition of EOLIS BR products

Property	EOLIS BR – 45 mm	EOLIS BR – 65 mm	EOLIS BR – 85 mm	EOLIS BR – 105 mm	EOLIS BR – 120 mm	EOLIS BR – 135 mm
PET	30-50%	30-50%	30-50%	30-50%	30-50%	30-50%
PP	10-25%	10-25%	10-25%	10-25%	10-25%	10-25%
Other plastics (PE mainly)	40-45%	40-45%	40-45%	40-45%	40-45%	40-45%
Other components (Aluminium mainly)	1-3%	1-3%	1-3%	1-3%	1-3%	1-3%

The products are packed in LDPE rolls wrapped in LDPE film on wooden pallets which are not reused. Wooden extensions are used to reinforce how the rolls are kept in place on the pallets.

Table 4 : Mass of product and packaging per functional unit

Property	EOLIS BR – 45 mm	EOLIS BR – 65 mm	EOLIS BR – 85 mm	EOLIS BR – 105 mm	EOLIS BR – 120 mm	EOLIS BR – 135 mm
Mass of product per FU	557 g/UF	716 g/UF	874 g/UF	1033 g/UF	1191 g/UF	1350 g/UF
Mass of LDPE packaging per FU	16 g/UF	27 g/UF	27 g/UF	27 g/UF	36 g/UF	36 g/UF
Mass of wood packaging per FU	59 g/UF	84 g/UF	84 g/UF	84 g/UF	112 g/UF	112 g/UF

Functional unit

The assessed functional unit (FU) is to provide the thermal insulation function with a complementary airtightness and roof underlay function (EAD 040007-00-1201 Thermal insulation products for buildings with radiant heat reflective components and EN 13859-1:2014- Flexible sheets for waterproofing - Definitions and characteristics of underlays - Part 1: Underlays for discontinuous roofing) on 1 m² of wall for a reference service life of 50 years, of thickness 'e' mm and thermal resistance without air gap 'R core' m'2.K/W.

Service life

The product service life is assumed to be 50 years.

This RSL is in accordance with Appendix H of the French standard ("National complement to NF EN 15804+A2"). 2022. AFNOR.) for this product category.

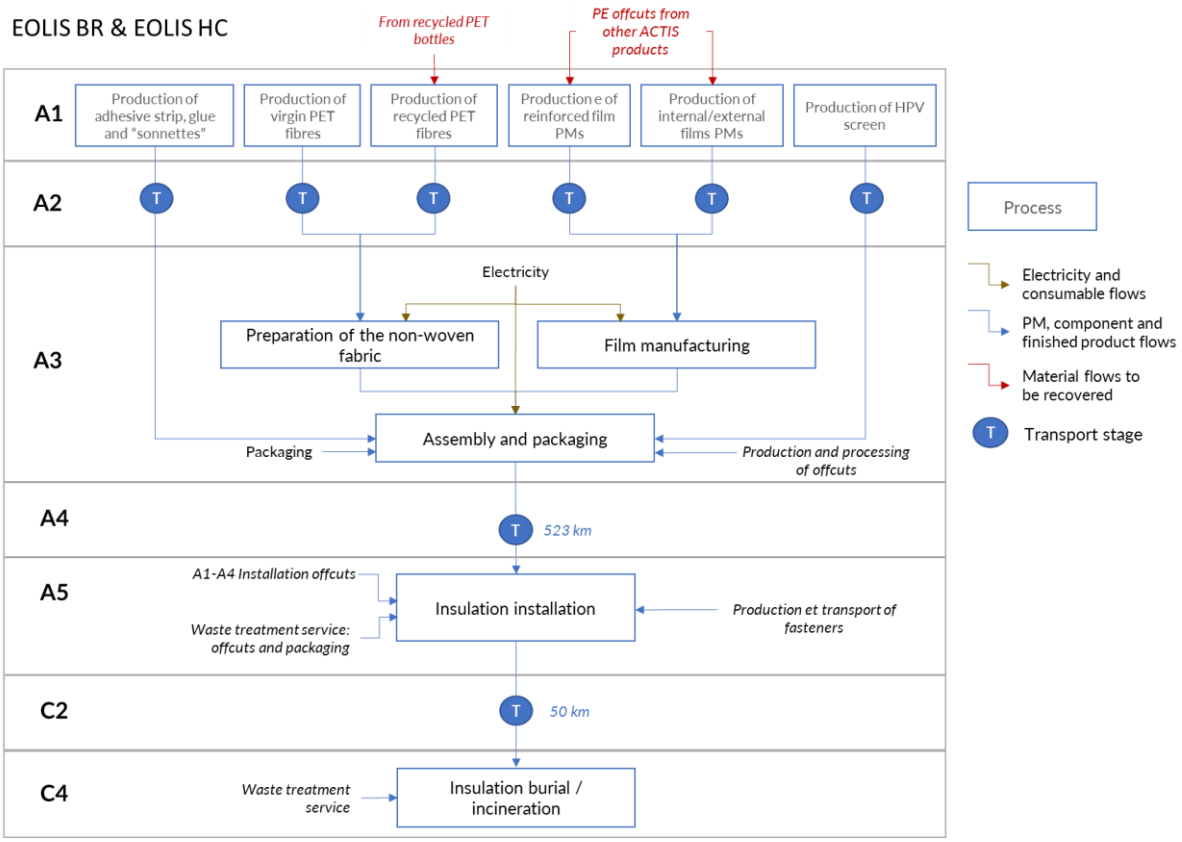
Manufacturing Process

The production stages include:

- Raw material (RM) production: PE, non-woven PET, polypropylene, additives and aluminium.
- The transport of the RM to the ACTIS production site
- The manufacture of the insulation, including energy consumption, production and treatment of offcuts and production waste.
- Production and transport of packaging to the manufacturing site: wooden pallets and extensions, and LDPE stretch film.

The manufacturing process (module A3) utilises a French residual electricity mix, as indicated in the ecoinvent data: "Electricity, medium voltage {FR}| electricity, medium voltage, residual mix | Cut-off, U", with an emission factor of 0.188 kg CO2-Eq./kWh.

Process flow diagram



Construction Installation

The insulation is installed using conventional methods, between the battens and the roof covering. The low density of the insulation makes it easier to install. Furthermore, it requires no

eye and breathing protection equipment as it releases no irritant fibres or dust. The installation recommendations are detailed in the product installation guides.

In terms of installation environments, EOLIS BR products can be installed anywhere in Italy, in all types of buildings with low or medium humidity levels (heated and ventilated with natural ventilation or mechanical ventilation).

The installation waste rate is estimated at 2% Installing the insulation requires no installation accessories.

This stage includes:

- The production, transport and end-of-life of the off-cuts related to the installation of the insulation (2%).
- The end-of-life of the insulation packaging: LDPE film and pallet.

Use Information

EOLIS BR insulation is neutral when used and no maintenance or use of water or energy are required during their use

End of Life

This stage includes the following end-of-life modules: C1, deconstruction, demolition; C2, transport to waste treatment; C3, waste treatment with a view to reuse, recovery and/or recycling; C4, elimination by incineration.

LCA RESULT

EOLIS BR – 45 mm

Mandatory impact category indicators			Product stage			Construction process stage		Use stage							End of life				Potential benefits and loads beyond the system boundaries
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Climate change – total	Global Warming Potential total (GWP-total)	[kg CO2-Eq. / FU]	1,95E+00	1,16E-01	9,16E-02	1,70E-01	1,98E-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-03	0,00E+00	1,48E+00	-6,05E-01
Climate change - fossil	Global Warming Potential fossil fuels (GWP-fossil)	[kg CO2-Eq. / FU]	1,92E+00	1,16E-01	1,79E-01	1,70E-01	1,11E-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	5,39E-03	0,00E+00	1,48E+00	-5,85E-01
Climate change - biogenic	Global Warming Potential biogenic (GWP-biogenic)	[kg CO2-Eq. / FU]	2,41E-02	4,80E-05	-8,74E-02	7,04E-05	8,73E-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	3,70E-06	0,00E+00	2,86E-05	-2,04E-02
Climate change - land use and land use change	Global Warming Potential land use and land use change (GWP-luluc)	[kg CO2-Eq. / FU]	1,75E-03	4,37E-05	1,37E-04	2,46E-05	3,95E-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	1,76E-06	0,00E+00	3,92E-06	-7,92E-05
Ozone Depletion	Depletion potential of the stratospheric ozone layer (ODP)	[kg CFC11-Eq. / FU]	1,56E-06	2,15E-09	3,95E-09	3,52E-09	3,15E-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	1,07E-10	0,00E+00	2,21E-10	-1,94E-08
Acidification	Acidification potential, Accumulated Exceedance (AP)	[mol H+ Eq. / FU]	8,44E-03	1,06E-03	5,21E-04	3,75E-04	2,27E-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	1,69E-05	0,00E+00	2,12E-04	-1,06E-03
Eutrophication aquatic freshwater	Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater)	[kg (P) Eq. / FU]	8,80E-05	7,96E-07	5,08E-06	6,11E-07	1,91E-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	4,15E-08	0,00E+00	1,87E-07	-5,40E-06
Eutrophication aquatic marine	Eutrohical potential, fraction of nutrients reaching marine end compartment (EP-marine)	[kg N Eq. / FU]	1,58E-03	2,88E-04	1,19E-04	1,21E-04	5,14E-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	5,62E-06	0,00E+00	1,04E-04	-2,10E-04

Eutrophication terrestrial	Eutrohical potential, Accumulated Exceedance (EP-terrestrial)	[mol N Eq. / FU]	1,58E-02	3,19E-03	1,32E-03	1,32E-03	5,32E-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	6,19E-05	0,00E+00	1,10E-03	-2,35E-03
Photochemical ozone formation	Formation potential of tropospheric ozone photochemical oxidants (POCP)	[kg NMVOC Eq. / FU]	1,07E-02	1,03E-03	6,14E-04	6,77E-04	2,86E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,64E-05	0,00E+00	2,73E-04	-1,24E-03
Depletion of abiotic resources - minerals and metals	Abiotic depletion potential for non-fossil resources (ADP-mineral&metals)	[kg Sb-Eq. / FU]	1,33E-05	3,02E-07	6,96E-07	1,27E-07	2,93E-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	1,72E-08	0,00E+00	3,19E-08	-7,60E-07
Depletion of abiotic resources - fossil fuels	Abiotic depletion potential for fossil resources (ADP-fossil)	MJ, net calorific value	4,36E+01	1,59E+00	6,43E+00	2,38E+00	1,10E+00	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-02	0,00E+00	1,59E-01	-9,39E+00
Water use	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	[m3 world eq. Deprived / FU]	4,42E-01	6,13E-03	5,18E-02	5,38E-03	9,61E-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	3,10E-04	0,00E+00	8,37E-03	-1,68E-01

Additional impact indicators (optional)			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Particulate matter emissions	Potential incidence of disease due to PM emissions (PM)	[Disease	6,99E-08	8,18E-09	5,03E-09	8,55E-09	2,01E-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	4,22E-10	0,00E+00	1,07E-09	-5,49E-09
Ionozing radiation, human health	Potential Human exposure efficiency relative to UR25 (IRP)	[kBq U235 eq / FU]	4,29E-02	6,26E-04	4,39E-02	6,39E-04	1,77E-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	3,46E-05	0,00E+00	6,37E-05	-1,22E-02
Eco-toxicity (freshwater)	Potential Comparative Toxic unit for ecosystems (ETP-fw)	[CTUe / FU]	1,28E+01	3,86E-01	7,32E-01	2,54E-01	3,14E-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	2,03E-02	0,00E+00	4,54E-01	-8,04E-01

Human toxicity, cancer effects	Potential Comparative Toxic unit for human (HTP-c	[CTUh / FU]	6,25E-09	7,17E-10	6,76E-10	3,76E-10	1,86E-10	0,00E+00	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-11	0,00E+00	2,13E-10	-1,14E-09
Human toxicity, non-cancer effects	Potential Comparative Toxic unit for human (HTP-nc)	[CTUh / FU]	1,70E-08	8,73E-10	1,17E-09	7,60E-10	6,04E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,72E-11	0,00E+00	2,66E-09	-1,60E-09
Land use related impacts/Soil quality	Potential soil quality index (SQP)	[Dimension less / FU]	5,58E+00	8,92E-01	8,26E+00	1,12E+00	3,27E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,51E-02	0,00E+00	3,92E-02	-8,58E-01

Indicators: use of resources			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)		[MJ / FU]	1,67E+00	1,81E-02	9,18E-02	1,70E-02	3,63E-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	9,96E-04	0,00E+00	2,33E-03	-1,21E+00
Use of renewable primary energy resources used as raw materials (PERM)		[MJ / FU]	0,00E+00	0,00E+00	1,01E+00	0,00E+00	2,02E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)		[MJ / FU]	1,67E+00	1,81E-02	1,10E+00	1,70E-02	5,65E-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	9,96E-04	0,00E+00	2,33E-03	-1,21E+00
Use of non-renewable primary energy excluding non- renewable primary energy resources used as raw materials (PENRE)		[MJ / FU]	9,45E+00	1,46E+00	4,60E+00	2,19E+00	3,64E-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	6,91E-02	0,00E+00	5,76E-02	-1,62E+00
Use of non-renewable primary energy resources used as raw materials (PENRM)		[MJ / FU]	2,04E+01	7,37E-05	6,95E-01	4,88E-05	4,22E-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-06	0,00E+00	1,22E-05	-6,49E-05

Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PENRT)	[MJ / FU]	2,99E+01	1,46E+00	5,29E+00	2,19E+00	7,86E-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	6,91E-02	0,00E+00	5,76E-02	-1,62E+00
Use of secondary material (SM)	[kg / FU]	1,19E-01	0,00E+00	0,00E+00	0,00E+00	2,38E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels [RSF]	[MJ / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels [NRSF]	[MJ / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water [FW]	[m3 / FU]	1,52E-02	1,89E-04	2,22E-03	1,81E-04	3,55E-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	9,87E-06	0,00E+00	2,61E-04	-4,55E-03

Indicators: wastes categories			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Eliminated hazardous waste (EHW)		[kg / FU]	7,53E-02	1,62E-03	5,43E-03	1,12E-03	3,64E-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	7,60E-05	0,00E+00	2,55E-02	-4,78E-03
Eliminated non-hazardous waste (EHW)		[kg / FU]	1,19E+00	8,69E-02	7,87E-02	9,84E-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	4,41E-03	0,00E+00	1,48E-02	-7,15E-02
Eliminated radioactive waste (EHW)		[kg / FU]	3,15E-05	4,30E-07	5,54E-05	4,40E-07	1,76E-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	2,41E-08	0,00E+00	4,18E-08	-9,67E-06

Indicators: output streams	**Product stage**	**Construction process stage**	**Use stage**	**End of life**	**Potential benefits and loads beyond the system boundaries**

Impact category	Indicator	Unit	A1 - Raw material supply	A2 - Transport	A3 - Manufacturing	A4 - Transport	A5 - Construction	B1 - Use	B2 - Maintenance	B3 - Repair	B4 - Replacement	B5 - Refurbishment	B6 - Operational energy use	B7 - Operational water use	C1 - Deconstruction, demolition	C2 - Transport	C3 - Waste processing	C4 - Disposal	D
Components for re-use (CRU)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling (MFR)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery (MER)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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 (EEE – electrical)		[MJ per energy carrier / FU]	0,00E+00	0,00E+00	4,96E-02	0,00E+00	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	0,00E+00	0,00E+00	2,16E+00	0,00E+00
Exported energy (EET - thermal)		[MJ per energy carrier / FU]	0,00E+00	0,00E+00	9,92E-02	0,00E+00	2,87E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,31E+00	0,00E+00

EOLIS BR – 65 mm

Mandatory impact category indicators			Product stage			Construction process stage		Use stage							End of life				Potential benefits and loads beyond the system boundaries
Impact category	Indicator	Unit	A1 - Raw material supply	A2 - Transport	A3 - Manufacturing	A4 - Transport	A5 - Construction	B1 - Use	B2 - Maintenance	B3 - Repair	B4 - Replacement	B5 - Refurbishment	B6 - Operational energy use	B7 - Operational water use	C1 - Deconstruction, demolition	C2 - Transport	C3 - Waste processing	C4 - Disposal	D
Climate change – total	Global Warming Potential total (GWP-total)	[kg CO2-Eq. / FU]	2,46E+00	1,43E-01	1,40E-01	2,22E-01	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	6,94E-03	0,00E+00	1,87E+00	-7,69E-01
Climate change - fossil	Global Warming Potential fossil fuels (GWP-fossil)	[kg CO2-Eq. / FU]	2,42E+00	1,43E-01	2,64E-01	2,22E-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	6,93E-03	0,00E+00	1,87E+00	-7,43E-01
Climate change - biogenic	Global Warming Potential biogenic (GWP-biogenic)	[kg CO2-Eq. / FU]	3,67E-02	5,18E-05	-1,24E-01	9,21E-05	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	4,75E-06	0,00E+00	3,64E-05	-2,58E-02
Climate change - land use and land use change	Global Warming Potential land use and land use change (GWP-luluc)	[kg CO2-Eq. / FU]	2,24E-03	5,51E-05	2,06E-04	3,21E-05	5,14E-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	2,26E-06	0,00E+00	5,00E-06	-1,02E-04
Ozone Depletion	Depletion potential of the stratospheric ozone layer (ODP)	[kg CFC11-Eq. / FU]	2,28E-06	2,61E-09	6,00E-09	4,60E-09	4,59E-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	1,38E-10	0,00E+00	2,85E-10	-2,47E-08
Acidification	Acidification potential, Accumulated Exceedance (AP)	[mol H+ Eq. / FU]	1,09E-02	1,48E-03	7,99E-04	4,89E-04	3,01E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,17E-05	0,00E+00	2,75E-04	-1,34E-03
Eutrophication aquatic freshwater	Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater)	[kg (P) Eq. / FU]	1,16E-04	9,56E-07	7,69E-06	7,99E-07	2,55E-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	5,33E-08	0,00E+00	2,40E-07	-6,84E-06
Eutrophication aquatic marine	Eutrohical potential, fraction of nutrients reaching marine end compartment (EP-marine)	[kg N Eq. / FU]	2,01E-03	3,96E-04	1,81E-04	1,58E-04	6,83E-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	7,22E-06	0,00E+00	1,35E-04	-2,66E-04

Eutrophication terrestrial	Eutrohical potential, Accumulated Exceedance (EP-terrestrial)	[mol N Eq. / FU]	2,00E-02	4,39E-03	2,00E-03	1,73E-03	7,06E-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	7,95E-05	0,00E+00	1,43E-03	-2,98E-03
Photochemical ozone formation	Formation potential of tropospheric ozone photochemical oxidants (POCP)	[kg NMVOC Eq. / FU]	1,35E-02	1,38E-03	9,49E-04	8,85E-04	3,73E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,40E-05	0,00E+00	3,54E-04	-1,57E-03
Depletion of abiotic resources - minerals and metals	Abiotic depletion potential for non-fossil resources (ADP-mineral&metals)	[kg Sb-Eq. / FU]	1,68E-05	3,56E-07	1,08E-06	1,66E-07	3,73E-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	2,22E-08	0,00E+00	4,08E-08	-9,66E-07
Depletion of abiotic resources - fossil fuels	Abiotic depletion potential for fossil resources (ADP-fossil)	MJ, net calorific value	5,43E+01	1,95E+00	9,46E+00	3,10E+00	1,40E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,73E-02	0,00E+00	2,05E-01	-1,19E+01
Water use	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	[m3 world eq. Deprived / FU]	5,33E-01	7,38E-03	8,21E-02	7,03E-03	1,16E-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	3,99E-04	0,00E+00	1,07E-02	-2,13E-01

Additional impact indicators (optional)			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy**	**B7 - Operational water use**	**C1 - Deconstruction,**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Particulate matter emissions	Potential incidence of disease due to PM emissions (PM)	[Disease	8,65E-08	9,79E-09	7,76E-09	1,12E-08	2,57E-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	5,42E-10	0,00E+00	1,39E-09	-6,97E-09
Ionozing radiation, human health	Potential Human exposure efficiency relative to UR25 (IRP)	[kBq U235 eq / FU]	5,30E-02	7,42E-04	6,24E-02	8,35E-04	2,35E-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	4,44E-05	0,00E+00	8,13E-05	-1,60E-02
Eco-toxicity (freshwater)	Potential Comparative Toxic unit for ecosystems (ETP-fw)	[CTUe / FU]	1,53E+01	4,64E-01	1,14E+00	3,32E-01	3,91E-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	2,61E-02	0,00E+00	6,07E-01	-1,02E+00
Human toxicity, cancer effects	Potential Comparative Toxic unit for human (HTP-c	[CTUh / FU]	7,76E-09	8,61E-10	1,01E-09	4,91E-10	2,40E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,84E-11	0,00E+00	2,74E-10	-1,45E-09

Human toxicity, non-cancer effects	Potential Comparative Toxic unit for human (HTP-nc)	[CTUh / FU]	2,16E-08	1,04E-09	1,77E-09	9,93E-10	8,12E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,07E-11	0,00E+00	3,51E-09	-2,03E-09
Land use related impacts/Soil quality	Potential soil quality index (SQP)	[Dimensionless / FU]	6,88E+00	1,06E+00	1,18E+01	1,46E+00	4,39E-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	5,79E-02	0,00E+00	5,00E-02	-1,10E+00

Indicators: use of resources			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy**	**B7 - Operational water use**	**C1 - Deconstruction,**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)		[MJ / FU]	2,20E+00	2,14E-02	1,41E-01	2,22E-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	1,28E-03	0,00E+00	2,97E-03	-1,53E+00
Use of renewable primary energy resources used as raw materials (PERM)		[MJ / FU]	0,00E+00	0,00E+00	1,43E+00	0,00E+00	2,86E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)		[MJ / FU]	2,20E+00	2,14E-02	1,57E+00	2,22E-02	7,67E-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	1,28E-03	0,00E+00	2,97E-03	-1,53E+00
Use of non-renewable primary energy excluding non- renewable primary energy resources used as raw materials (PENRE)		[MJ / FU]	1,19E+01	1,78E+00	6,57E+00	2,86E+00	4,78E-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	8,87E-02	0,00E+00	7,37E-02	-2,06E+00
Use of non-renewable primary energy resources used as raw materials (PENRM)		[MJ / FU]	2,55E+01	9,09E-05	1,16E+00	6,38E-05	5,32E-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	4,23E-06	0,00E+00	1,55E-05	-8,25E-05
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PENRT)		[MJ / FU]	3,74E+01	1,78E+00	7,74E+00	2,86E+00	1,01E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,87E-02	0,00E+00	7,37E-02	-2,06E+00
Use of secondary material (SM)		[kg / FU]	1,78E-01	0,00E+00	0,00E+00	0,00E+00	3,57E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels [RSF]		[MJ / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels [NRSF]		[MJ / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Net use of fresh water [FW]		[m3 / FU]	1,88E-02	2,27E-04	3,34E-03	2,37E-04	4,47E-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	1,27E-05	0,00E+00	3,32E-04	-5,76E-03
Indicators: wastes categories			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy**	**B7 - Operational water use**	**C1 - Deconstruction,**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Eliminated hazardous waste (EHW)		[kg / FU]	9,56E-02	1,99E-03	8,18E-03	1,47E-03	5,00E-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	9,76E-05	0,00E+00	3,23E-02	-6,08E-03
Eliminated non-hazardous waste (EHW)		[kg / FU]	1,49E+00	1,03E-01	1,22E-01	1,29E-01	4,94E-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	5,66E-03	0,00E+00	1,89E-02	-9,07E-02
Eliminated radioactive waste (EHW)		[kg / FU]	3,90E-05	5,07E-07	7,84E-05	5,75E-07	2,38E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,10E-08	0,00E+00	5,34E-08	-1,25E-05
Indicators: output streams			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy**	**B7 - Operational water use**	**C1 - Deconstruction,**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Components for re-use (CRU)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling (MFR)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery (MER)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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 (EEE – electrical)		[MJ per energy carrier / FU]	0,00E+00	0,00E+00	6,27E-02	0,00E+00	1,97E-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	0,00E+00	0,00E+00	2,73E+00	0,00E+00
Exported energy (EET - thermal)		[MJ per energy carrier / FU]	0,00E+00	0,00E+00	1,25E-01	0,00E+00	3,94E-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	0,00E+00	0,00E+00	5,45E+00	0,00E+00

EOLIS BR – 85 mm

Mandatory impact category indicators			Product stage			Construction process stage		Use stage							End of life				Potential benefits and loads beyond the system boundaries
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Climate change – total	Global Warming Potential total (GWP-total)	[kg CO2-Eq. / FU]	2,96E+00	1,70E-01	1,76E-01	2,65E-01	2,98E-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	8,47E-03	0,00E+00	2,27E+00	-9,22E-01
Climate change - fossil	Global Warming Potential fossil fuels (GWP-fossil)	[kg CO2-Eq. / FU]	2,91E+00	1,70E-01	3,00E-01	2,65E-01	1,74E-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	8,46E-03	0,00E+00	2,27E+00	-8,91E-01
Climate change - biogenic	Global Warming Potential biogenic (GWP-biogenic)	[kg CO2-Eq. / FU]	4,94E-02	5,56E-05	-1,24E-01	1,10E-04	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	5,80E-06	0,00E+00	4,43E-05	-3,12E-02
Climate change - land use and land use change	Global Warming Potential land use and land use change (GWP-luluc)	[kg CO2-Eq. / FU]	2,74E-03	6,65E-05	2,11E-04	3,82E-05	6,18E-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	2,77E-06	0,00E+00	6,08E-06	-1,20E-04
Ozone Depletion	Depletion potential of the stratospheric ozone layer (ODP)	[kg CFC11-Eq. / FU]	3,00E-06	3,06E-09	6,79E-09	5,48E-09	6,03E-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	1,68E-10	0,00E+00	3,49E-10	-2,95E-08
Acidification	Acidification potential, Accumulated Exceedance (AP)	[mol H+ Eq. / FU]	1,33E-02	1,90E-03	8,76E-04	5,83E-04	3,62E-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	2,65E-05	0,00E+00	3,38E-04	-1,61E-03
Eutrophication aquatic freshwater	Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater)	[kg (P) Eq. / FU]	1,45E-04	1,12E-06	8,36E-06	9,52E-07	3,13E-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	6,51E-08	0,00E+00	2,93E-07	-8,23E-06
Eutrophication aquatic marine	Eutrohical potential, fraction of nutrients reaching marine end compartment (EP-marine)	[kg N Eq. / FU]	2,44E-03	5,03E-04	1,99E-04	1,88E-04	8,07E-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	8,82E-06	0,00E+00	1,67E-04	-3,19E-04

Eutrophication terrestrial	Eutrohical potential, Accumulated Exceedance (EP-terrestrial)	[mol N Eq. / FU]	2,42E-02	5,58E-03	2,19E-03	2,06E-03	8,31E-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	9,71E-05	0,00E+00	1,76E-03	-3,57E-03
Photochemical ozone formation	Formation potential of tropospheric ozone photochemical oxidants (POCP)	[kg NMVOC Eq. / FU]	1,64E-02	1,73E-03	1,02E-03	1,05E-03	4,43E-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	4,15E-05	0,00E+00	4,35E-04	-1,88E-03
Depletion of abiotic resources - minerals and metals	Abiotic depletion potential for non-fossil resources (ADP-mineral&metals)	[kg Sb-Eq. / FU]	2,02E-05	4,11E-07	1,18E-06	1,98E-07	4,45E-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	2,71E-08	0,00E+00	4,98E-08	-1,16E-06
Depletion of abiotic resources - fossil fuels	Abiotic depletion potential for fossil resources (ADP-fossil)	MJ, net calorific value	6,50E+01	2,30E+00	1,14E+01	3,70E+00	1,68E+00	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-01	0,00E+00	2,51E-01	-1,43E+01
Water use	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	[m3 world eq. Deprived / FU]	6,23E-01	8,62E-03	8,63E-02	8,37E-03	1,36E-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	4,87E-04	0,00E+00	1,29E-02	-2,57E-01

Additional impact indicators (optional)			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Particulate matter emissions	Potential incidence of disease due to PM emissions (PM)	[Disease	1,03E-07	1,14E-08	8,13E-09	1,33E-08	2,99E-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	6,62E-10	0,00E+00	1,72E-09	-8,36E-09
Ionozing radiation, human health	Potential Human exposure efficiency relative to UR25 (IRP)	[kBq U235 eq / FU]	6,31E-02	8,57E-04	7,95E-02	9,95E-04	2,90E-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	5,42E-05	0,00E+00	9,90E-05	-1,83E-02
Eco-toxicity (freshwater)	Potential Comparative Toxic unit for ecosystems (ETP-fw)	[CTUe / FU]	1,78E+01	5,41E-01	1,21E+00	3,96E-01	4,49E-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	3,19E-02	0,00E+00	7,59E-01	-1,22E+00
Human toxicity,	Potential Comparative Toxic unit for human (HTP-c	[CTUh / FU]	9,26E-09	1,01E-09	1,07E-09	5,85E-10	2,78E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,91E-11	0,00E+00	3,35E-10	-1,74E-09

cancer effects																			
Human toxicity, non-cancer effects	Potential Comparative Toxic unit for human (HTP-nc)	[CTUh / FU]	2,62E-08	1,20E-09	1,98E-09	1,18E-09	9,32E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,41E-11	0,00E+00	4,36E-09	-2,44E-09
Land use related impacts/Soil quality	Potential soil quality index (SQP)	[Dimensionless / FU]	8,19E+00	1,23E+00	1,19E+01	1,74E+00	4,76E-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	7,07E-02	0,00E+00	6,09E-02	-1,30E+00

Indicators: use of resources			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)		[MJ / FU]	2,72E+00	2,48E-02	1,55E-01	2,64E-02	5,90E-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	1,56E-03	0,00E+00	3,62E-03	-1,84E+00
Use of renewable primary energy resources used as raw materials (PERM)		[MJ / FU]	0,00E+00	0,00E+00	1,43E+00	0,00E+00	2,86E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)		[MJ / FU]	2,72E+00	2,48E-02	1,58E+00	2,64E-02	8,76E-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	1,56E-03	0,00E+00	3,62E-03	-1,84E+00
Use of non-renewable primary energy excluding non- renewable primary energy resources used as raw materials (PENRE)		[MJ / FU]	1,44E+01	2,11E+00	8,24E+00	3,41E+00	5,79E-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	1,08E-01	0,00E+00	8,99E-02	-2,46E+00
Use of non-renewable primary energy resources used as raw materials (PENRM)		[MJ / FU]	3,05E+01	1,08E-04	1,16E+00	7,60E-05	6,33E-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	5,17E-06	0,00E+00	1,88E-05	-9,87E-05
Total use of renewable primary energy resources (primary energy and primary		[MJ / FU]	4,49E+01	2,11E+00	9,41E+00	3,41E+00	1,21E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,08E-01	0,00E+00	8,99E-02	-2,46E+00

energy resources used as raw materials) (PENRT)																			
Use of secondary material (SM)	[kg / FU]	2,38E-01	0,00E+00	0,00E+00	0,00E+00	4,76E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels [RSF]	[MJ / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels [NRSF]	[MJ / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water [FW]	[m3 / FU]	2,24E-02	2,64E-04	3,85E-03	2,82E-04	5,32E-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	1,55E-05	0,00E+00	4,03E-04	-6,95E-03	

Indicators: wastes categories			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Eliminated hazardous waste (EHW)		[kg / FU]	1,16E-01	2,36E-03	9,05E-03	1,75E-03	5,58E-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	1,19E-04	0,00E+00	3,91E-02	-7,28E-03
Eliminated non-hazardous waste (EHW)		[kg / FU]	1,79E+00	1,20E-01	1,33E-01	1,53E-01	5,66E-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	6,92E-03	0,00E+00	2,30E-02	-1,09E-01
Eliminated radioactive waste (EHW)		[kg / FU]	4,65E-05	5,85E-07	1,00E-04	6,85E-07	2,97E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,79E-08	0,00E+00	6,50E-08	-1,46E-05

Indicators: output streams	**Product stage**	**Construction process stage**	**Use stage**	**End of life**	**Potential benefits and loads beyond the system boundaries**

Impact category	Indicator	Unit	A1 - Raw material supply	A2 - Transport	A3 - Manufacturing	A4 - Transport	A5 - Construction	B1 - Use	B2 - Maintenance	B3 - Repair	B4 - Replacement	B5 - Refurbishment	B6 - Operational energy use	B7 - Operational water use	C1 - Deconstruction, demolition	C2 - Transport	C3 - Waste processing	C4 - Disposal	D
Components for re-use (CRU)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling (MFR)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery (MER)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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 (EEE – electrical)		[MJ per energy carrier / FU]	0,00E+00	0,00E+00	7,58E-02	0,00E+00	2,08E-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	0,00E+00	0,00E+00	3,29E+00	0,00E+00
Exported energy (EET - thermal)		[MJ per energy carrier / FU]	0,00E+00	0,00E+00	1,52E-01	0,00E+00	4,17E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,59E+00	0,00E+00

EOLIS BR – 105 mm

Mandatory impact category indicators			Product stage			Construction process stage		Use stage							End of life				Potential benefits and loads beyond the system boundaries
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Climate change – total	Global Warming Potential total (GWP-total)	[kg CO2-Eq. / FU]	3,47E+00	1,96E-01	2,13E-01	3,08E-01	3,19E-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	1,00E-02	0,00E+00	2,67E+00	-1,08E+00
Climate change - fossil	Global Warming Potential fossil fuels (GWP-fossil)	[kg CO2-Eq. / FU]	3,41E+00	1,96E-01	3,36E-01	3,08E-01	1,94E-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	1,00E-02	0,00E+00	2,67E+00	-1,04E+00
Climate change - biogenic	Global Warming Potential biogenic (GWP-biogenic)	[kg CO2-Eq. / FU]	6,20E-02	5,94E-05	-1,23E-01	1,27E-04	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	6,85E-06	0,00E+00	5,21E-05	-3,66E-02
Climate change - land use and land use change	Global Warming Potential land use and land use change (GWP-luluc)	[kg CO2-Eq. / FU]	3,24E-03	7,79E-05	2,16E-04	4,44E-05	7,22E-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	3,27E-06	0,00E+00	7,17E-06	-1,38E-04
Ozone Depletion	Depletion potential of the stratospheric ozone layer (ODP)	[kg CFC11-Eq. / FU]	3,72E-06	3,52E-09	7,58E-09	6,36E-09	7,48E-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	1,99E-10	0,00E+00	4,13E-10	-3,44E-08
Acidification	Acidification potential, Accumulated Exceedance (AP)	[mol H+ Eq. / FU]	1,57E-02	2,31E-03	9,53E-04	6,77E-04	4,24E-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	3,13E-05	0,00E+00	4,01E-04	-1,88E-03
Eutrophication aquatic freshwater	Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater)	[kg (P) Eq. / FU]	1,73E-04	1,27E-06	9,02E-06	1,11E-06	3,72E-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	7,69E-08	0,00E+00	3,46E-07	-9,61E-06
Eutrophication aquatic marine	Eutrohical potential, fraction of nutrients reaching marine end compartment (EP-marine)	[kg N Eq. / FU]	2,86E-03	6,11E-04	2,17E-04	2,18E-04	9,30E-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	1,04E-05	0,00E+00	1,98E-04	-3,73E-04

Eutrophication terrestrial	Eutrohical potential, Accumulated Exceedance (EP-terrestrial)	[mol N Eq. / FU]	2,83E-02	6,77E-03	2,38E-03	2,39E-03	9,55E-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	0,00E+00	1,15E-04	0,00E+00	2,09E-03	-4,16E-03
Photochemical ozone formation	Formation potential of tropospheric ozone photochemical oxidants (POCP)	[kg NMVOC Eq. / FU]	1,92E-02	2,08E-03	1,08E-03	1,22E-03	5,14E-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	0,00E+00	4,90E-05	0,00E+00	5,17E-04	-2,20E-03
Depletion of abiotic resources - minerals and metals	Abiotic depletion potential for non-fossil resources (ADP-mineral&metals)	[kg Sb-Eq. / FU]	2,36E-05	4,65E-07	1,27E-06	2,30E-07	5,17E-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	0,00E+00	3,20E-08	0,00E+00	5,87E-08	-1,35E-06
Depletion of abiotic resources - fossil fuels	Abiotic depletion potential for fossil resources (ADP-fossil)	MJ, net calorific value	7,58E+01	2,66E+00	1,33E+01	4,29E+00	1,95E+00	0,00E+00	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	2,98E-01	-1,67E+01
Water use	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	[m3 world eq. Deprived / FU]	7,13E-01	9,87E-03	9,05E-02	9,72E-03	1,56E-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	0,00E+00	5,75E-04	0,00E+00	1,52E-02	-3,01E-01

Additional impact indicators (optional)			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Particulate matter emissions	Potential incidence of disease due to PM emissions (PM)	[Disease	1,20E-07	1,30E-08	8,49E-09	1,55E-08	3,41E-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	7,82E-10	0,00E+00	2,05E-09	-9,76E-09
Ionozing radiation, human health	Potential Human exposure efficiency relative to UR25 (IRP)	[kBq U235 eq / FU]	7,32E-02	9,72E-04	9,67E-02	1,16E-03	3,46E-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	6,41E-05	0,00E+00	1,17E-04	-2,06E-02
Eco-toxicity (freshwater)	Potential Comparative Toxic unit for ecosystems (ETP-fw)	[CTUe / FU]	2,03E+01	6,19E-01	1,29E+00	4,59E-01	5,07E-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	3,77E-02	0,00E+00	9,12E-01	-1,43E+00
Human toxicity,	Potential Comparative Toxic unit for human (HTP-c	[CTUh / FU]	1,08E-08	1,15E-09	1,12E-09	6,79E-10	3,15E-10	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-11	0,00E+00	3,96E-10	-2,03E-09

cancer effects																			
Human toxicity, non-cancer effects	Potential Comparative Toxic unit for human (HTP-nc)	[CTUh / FU]	3,08E-08	1,37E-09	2,19E-09	1,37E-09	1,05E-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	8,75E-11	0,00E+00	5,21E-09	-2,84E-09
Land use related impacts/Soil quality	Potential soil quality index (SQP)	[Dimensionless / FU]	9,49E+00	1,40E+00	1,19E+01	2,02E+00	5,13E-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	8,35E-02	0,00E+00	7,17E-02	-1,50E+00

Indicators: use of resources			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)		[MJ / FU]	3,24E+00	2,81E-02	1,70E-01	3,06E-02	6,99E-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	1,85E-03	0,00E+00	4,26E-03	-2,15E+00
Use of renewable primary energy resources used as raw materials (PERM)		[MJ / FU]	0,00E+00	0,00E+00	1,43E+00	0,00E+00	2,86E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)		[MJ / FU]	3,24E+00	2,81E-02	1,60E+00	3,06E-02	9,85E-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	1,85E-03	0,00E+00	4,26E-03	-2,15E+00
Use of non-renewable primary energy excluding non- renewable primary energy resources used as raw materials (PENRE)		[MJ / FU]	1,68E+01	2,44E+00	9,91E+00	3,96E+00	6,80E-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	1,28E-01	0,00E+00	1,06E-01	-2,86E+00
Use of non-renewable primary energy resources used as raw materials (PENRM)		[MJ / FU]	3,55E+01	1,25E-04	1,16E+00	8,82E-05	7,34E-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	6,10E-06	0,00E+00	2,22E-05	-1,15E-04
Total use of renewable primary energy resources (primary energy and primary		[MJ / FU]	5,24E+01	2,44E+00	1,11E+01	3,96E+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	1,28E-01	0,00E+00	1,06E-01	-2,86E+00

energy resources used as raw materials) (PENRT)																			
Use of secondary material (SM)	[kg / FU]	2,97E-01	0,00E+00	0,00E+00	0,00E+00	5,95E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels [RSF]	[MJ / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels [NRSF]	[MJ / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water [FW]	[m3 / FU]	2,61E-02	3,01E-04	4,36E-03	3,27E-04	6,18E-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	1,83E-05	0,00E+00	4,73E-04	-8,13E-03	
Indicators: wastes categories		**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**	
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Eliminated hazardous waste (EHW)		[kg / FU]	1,36E-01	2,73E-03	9,91E-03	2,03E-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	1,41E-04	0,00E+00	4,59E-02	-8,48E-03
Eliminated non-hazardous waste (EHW)		[kg / FU]	2,09E+00	1,36E-01	1,43E-01	1,78E-01	6,37E-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	8,17E-03	0,00E+00	2,71E-02	-1,27E-01
Eliminated radioactive waste (EHW)		[kg / FU]	5,40E-05	6,62E-07	1,23E-04	7,95E-07	3,57E-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	4,47E-08	0,00E+00	7,66E-08	-1,67E-05
Indicators: output streams		**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**	

Impact category	Indicator	Unit	A1 - Raw material supply	A2 - Transport	A3 - Manufacturing	A4 - Transport	A5 - Construction	B1 - Use	B2 - Maintenance	B3 - Repair	B4 - Replacement	B5 - Refurbishment	B6 - Operational energy use	B7 - Operational water use	C1 - Deconstruction, demolition	C2 - Transport	C3 - Waste processing	C4 - Disposal	D
Components for re-use (CRU)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling (MFR)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery (MER)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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 (EEE – electrical)		[MJ per energy carrier / FU]	0,00E+00	0,00E+00	8,88E-02	0,00E+00	2,20E-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	0,00E+00	0,00E+00	3,86E+00	0,00E+00
Exported energy (EET - thermal)		[MJ per energy carrier / FU]	0,00E+00	0,00E+00	1,78E-01	0,00E+00	4,40E-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	0,00E+00	0,00E+00	7,72E+00	0,00E+00

EOLIS BR – 120 mm

Mandatory impact category indicators			Product stage			Construction process stage		Use stage							End of life				Potential benefits and loads beyond the system boundaries
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Climate change – total	Global Warming Potential total (GWP-total)	[kg CO2-Eq. / FU]	3,98E+00	2,23E-01	2,50E-01	3,60E-01	3,99E-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	1,15E-02	0,00E+00	3,07E+00	-1,24E+00
Climate change - fossil	Global Warming Potential fossil fuels (GWP-fossil)	[kg CO2-Eq. / FU]	3,90E+00	2,23E-01	4,15E-01	3,60E-01	2,34E-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	1,15E-02	0,00E+00	3,07E+00	-1,20E+00
Climate change - biogenic	Global Warming Potential biogenic (GWP-biogenic)	[kg CO2-Eq. / FU]	7,47E-02	6,33E-05	-1,65E-01	1,49E-04	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	7,90E-06	0,00E+00	5,99E-05	-4,20E-02
Climate change - land use and land use change	Global Warming Potential land use and land use change (GWP-luluc)	[kg CO2-Eq. / FU]	3,73E-03	8,93E-05	2,84E-04	5,20E-05	8,41E-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	3,77E-06	0,00E+00	8,25E-06	-1,61E-04
Ozone Depletion	Depletion potential of the stratospheric ozone layer (ODP)	[kg CFC11-Eq. / FU]	4,44E-06	3,97E-09	9,46E-09	7,45E-09	8,92E-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	2,29E-10	0,00E+00	4,77E-10	-3,97E-08
Acidification	Acidification potential, Accumulated Exceedance (AP)	[mol H+ Eq. / FU]	1,81E-02	2,73E-03	1,21E-03	7,93E-04	4,97E-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	4,64E-04	-2,17E-03
Eutrophication aquatic freshwater	Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater)	[kg (P) Eq. / FU]	2,01E-04	1,43E-06	1,15E-05	1,29E-06	4,35E-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	8,87E-08	0,00E+00	3,99E-07	-1,11E-05
Eutrophication aquatic marine	Eutrohical potential, fraction of nutrients reaching marine end compartment (EP-marine)	[kg N Eq. / FU]	3,29E-03	7,18E-04	2,74E-04	2,56E-04	1,10E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,20E-05	0,00E+00	2,30E-04	-4,30E-04

Eutrophication terrestrial	Eutrohical potential, Accumulated Exceedance (EP-terrestrial)	[mol N Eq. / FU]	3,25E-02	7,97E-03	3,02E-03	2,80E-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	1,32E-04	0,00E+00	2,42E-03	-4,80E-03
Photochemical ozone formation	Formation potential of tropospheric ozone photochemical oxidants (POCP)	[kg NMVOC Eq. / FU]	2,21E-02	2,43E-03	1,39E-03	1,43E-03	5,99E-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	5,65E-05	0,00E+00	5,98E-04	-2,53E-03
Depletion of abiotic resources - minerals and metals	Abiotic depletion potential for non-fossil resources (ADP-mineral&metals)	[kg Sb-Eq. / FU]	2,70E-05	5,19E-07	1,61E-06	2,69E-07	5,96E-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	3,69E-08	0,00E+00	6,76E-08	-1,56E-06
Depletion of abiotic resources - fossil fuels	Abiotic depletion potential for fossil resources (ADP-fossil)	MJ, net calorific value	8,65E+01	3,01E+00	1,61E+01	5,03E+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	1,62E-01	0,00E+00	3,44E-01	-1,92E+01
Water use	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	[m3 world eq. Deprived / FU]	8,04E-01	1,11E-02	1,17E-01	1,14E-02	1,77E-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	6,64E-04	0,00E+00	1,75E-02	-3,46E-01

Additional impact indicators (optional)			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Particulate matter emissions	Potential incidence of disease due to PM emissions (PM)	[Disease	1,36E-07	1,46E-08	1,10E-08	1,81E-08	3,96E-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	9,02E-10	0,00E+00	2,38E-09	-1,12E-08
Ionozing radiation, human health	Potential Human exposure efficiency relative to UR25 (IRP)	[kBq U235 eq / FU]	8,33E-02	1,09E-03	1,15E-01	1,35E-03	4,03E-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	7,39E-05	0,00E+00	1,34E-04	-2,45E-02
Eco-toxicity (freshwater)	Potential Comparative Toxic unit for ecosystems (ETP-fw)	[CTUe / FU]	2,29E+01	6,96E-01	1,66E+00	5,38E-01	5,83E-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	4,35E-02	0,00E+00	1,06E+00	-1,65E+00
Human toxicity,	Potential Comparative Toxic unit for human (HTP-c	[CTUh / FU]	1,23E-08	1,29E-09	1,45E-09	7,95E-10	3,69E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,06E-11	0,00E+00	4,57E-10	-2,34E-09

cancer effects																			
Human toxicity, non-cancer effects	Potential Comparative Toxic unit for human (HTP-nc)	[CTUh / FU]	3,54E-08	1,53E-09	2,75E-09	1,61E-09	1,26E-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	1,01E-10	0,00E+00	6,06E-09	-3,28E-09
Land use related impacts/Soil quality	Potential soil quality index (SQP)	[Dimensionless / FU]	1,08E+01	1,56E+00	1,59E+01	2,36E+00	6,33E-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	9,63E-02	0,00E+00	8,26E-02	-1,75E+00

Indicators: use of resources			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)		[MJ / FU]	3,76E+00	3,15E-02	2,15E-01	3,59E-02	8,16E-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	2,13E-03	0,00E+00	4,91E-03	-2,48E+00
Use of renewable primary energy resources used as raw materials (PERM)		[MJ / FU]	0,00E+00	0,00E+00	1,90E+00	0,00E+00	3,81E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)		[MJ / FU]	3,76E+00	3,15E-02	2,12E+00	3,59E-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	2,13E-03	0,00E+00	4,91E-03	-2,48E+00
Use of non-renewable primary energy excluding non- renewable primary energy resources used as raw materials (PENRE)		[MJ / FU]	1,93E+01	2,77E+00	1,19E+01	4,64E+00	7,93E-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	1,48E-01	0,00E+00	1,22E-01	-3,31E+00
Use of non-renewable primary energy resources used as raw materials (PENRM)		[MJ / FU]	4,05E+01	1,43E-04	1,55E+00	1,03E-04	8,42E-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	7,04E-06	0,00E+00	2,55E-05	-1,33E-04
Total use of renewable primary energy resources (primary energy and primary		[MJ / FU]	5,98E+01	2,77E+00	1,34E+01	4,64E+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	1,48E-01	0,00E+00	1,22E-01	-3,31E+00

energy resources used as raw materials) (PENRT)																			
Use of secondary material (SM)	[kg / FU]	3,57E-01	0,00E+00	0,00E+00	0,00E+00	7,14E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels [RSF]	[MJ / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels [NRSF]	[MJ / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water [FW]	[m3 / FU]	2,97E-02	3,39E-04	5,39E-03	3,83E-04	7,10E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,11E-05	0,00E+00	5,44E-04	-9,34E-03	
Indicators: wastes categories		**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**	
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Eliminated hazardous waste (EHW)		[kg / FU]	1,57E-01	3,10E-03	1,24E-02	2,38E-03	7,50E-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	1,62E-04	0,00E+00	5,27E-02	-9,79E-03
Eliminated non-hazardous waste (EHW)		[kg / FU]	2,39E+00	1,52E-01	1,82E-01	2,08E-01	7,55E-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	9,43E-03	0,00E+00	3,13E-02	-1,46E-01
Eliminated radioactive waste (EHW)		[kg / FU]	6,14E-05	7,40E-07	1,45E-04	9,31E-07	4,18E-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	5,16E-08	0,00E+00	8,81E-08	-1,96E-05
Indicators: output streams		**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**	

Impact category	Indicator	Unit	A1 - Raw material supply	A2 - Transport	A3 - Manufacturing	A4 - Transport	A5 - Construction	B1 - Use	B2 - Maintenance	B3 - Repair	B4 - Replacement	B5 - Refurbishment	B6 - Operational energy use	B7 - Operational water use	C1 - Deconstruction, demolition	C2 - Transport	C3 - Waste processing	C4 - Disposal	D
Components for re-use (CRU)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling (MFR)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery (MER)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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 (EEE – electrical)		[MJ per energy carrier / FU]	0,00E+00	0,00E+00	1,02E-01	0,00E+00	2,79E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,43E+00	0,00E+00
Exported energy (EET - thermal)		[MJ per energy carrier / FU]	0,00E+00	0,00E+00	2,04E-01	0,00E+00	5,57E-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	0,00E+00	0,00E+00	8,86E+00	0,00E+00

EOLIS BR – 135 mm

Mandatory impact category indicators			Product stage			Construction process stage		Use stage							End of life				Potential benefits and loads beyond the system boundaries
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Climate change – total	Global Warming Potential total (GWP-total)	[kg CO2-Eq. / FU]	4,49E+00	2,50E-01	2,86E-01	4,03E-01	4,20E-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	1,31E-02	0,00E+00	3,47E+00	-1,39E+00
Climate change - fossil	Global Warming Potential fossil fuels (GWP-fossil)	[kg CO2-Eq. / FU]	4,40E+00	2,50E-01	4,51E-01	4,03E-01	2,54E-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	1,31E-02	0,00E+00	3,47E+00	-1,35E+00
Climate change - biogenic	Global Warming Potential biogenic (GWP-biogenic)	[kg CO2-Eq. / FU]	8,73E-02	6,71E-05	-1,65E-01	1,67E-04	1,66E-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	8,95E-06	0,00E+00	6,78E-05	-4,74E-02
Climate change - land use and land use change	Global Warming Potential land use and land use change (GWP-luluc)	[kg CO2-Eq. / FU]	4,23E-03	1,01E-04	2,89E-04	5,81E-05	9,45E-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	4,27E-06	0,00E+00	9,34E-06	-1,79E-04
Ozone Depletion	Depletion potential of the stratospheric ozone layer (ODP)	[kg CFC11-Eq. / FU]	5,16E-06	4,43E-09	1,02E-08	8,33E-09	1,04E-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	2,60E-10	0,00E+00	5,41E-10	-4,46E-08
Acidification	Acidification potential, Accumulated Exceedance (AP)	[mol H+ Eq. / FU]	2,05E-02	3,15E-03	1,28E-03	8,87E-04	5,58E-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	4,09E-05	0,00E+00	5,27E-04	-2,44E-03
Eutrophication aquatic freshwater	Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater)	[kg (P) Eq. / FU]	2,29E-04	1,59E-06	1,22E-05	1,45E-06	4,94E-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	1,00E-07	0,00E+00	4,52E-07	-1,25E-05
Eutrophication aquatic marine	Eutrohical potential, fraction of nutrients reaching marine end compartment (EP-marine)	[kg N Eq. / FU]	3,72E-03	8,26E-04	2,92E-04	2,86E-04	1,22E-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	1,36E-05	0,00E+00	2,62E-04	-4,83E-04

Eutrophication terrestrial	Eutrohical potential, Accumulated Exceedance (EP-terrestrial)	[mol N Eq. / FU]	3,66E-02	9,16E-03	3,21E-03	3,13E-03	1,25E-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	1,50E-04	0,00E+00	2,75E-03	-5,40E-03
Photochemical ozone formation	Formation potential of tropospheric ozone photochemical oxidants (POCP)	[kg NMVOC Eq. / FU]	2,49E-02	2,78E-03	1,46E-03	1,60E-03	6,70E-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	6,40E-05	0,00E+00	6,79E-04	-2,85E-03
Depletion of abiotic resources - minerals and metals	Abiotic depletion potential for non-fossil resources (ADP-mineral&metals)	[kg Sb-Eq. / FU]	3,05E-05	5,73E-07	1,71E-06	3,01E-07	6,69E-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	4,18E-08	0,00E+00	7,65E-08	-1,75E-06
Depletion of abiotic resources - fossil fuels	Abiotic depletion potential for fossil resources (ADP-fossil)	MJ, net calorific value	9,72E+01	3,37E+00	1,80E+01	5,62E+00	2,53E+00	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-01	0,00E+00	3,90E-01	-2,16E+01
Water use	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	[m3 world eq. Deprived / FU]	8,94E-01	1,24E-02	1,21E-01	1,27E-02	1,97E-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	7,52E-04	0,00E+00	1,98E-02	-3,90E-01

Additional impact indicators (optional)			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Particulate matter emissions	Potential incidence of disease due to PM emissions (PM)	[Disease	1,53E-07	1,62E-08	1,14E-08	2,02E-08	4,39E-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	1,02E-09	0,00E+00	2,70E-09	-1,26E-08
Ionozing radiation, human health	Potential Human exposure efficiency relative to UR25 (IRP)	[kBq U235 eq / FU]	9,34E-02	1,20E-03	1,32E-01	1,51E-03	4,59E-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	8,37E-05	0,00E+00	1,52E-04	-2,69E-02
Eco-toxicity (freshwater)	Potential Comparative Toxic unit for ecosystems (ETP-fw)	[CTUe / FU]	2,54E+01	7,73E-01	1,73E+00	6,01E-01	6,41E-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	4,93E-02	0,00E+00	1,22E+00	-1,85E+00

Human toxicity, cancer effects	Potential Comparative Toxic unit for human (HTP-c	[CTUh / FU]	1,38E-08	1,44E-09	1,51E-09	8,89E-10	4,07E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,13E-11	0,00E+00	5,18E-10	-2,63E-09
Human toxicity, non-cancer effects	Potential Comparative Toxic unit for human (HTP-nc)	[CTUh / FU]	4,00E-08	1,69E-09	2,95E-09	1,80E-09	1,38E-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	0,00E+00	1,14E-10	0,00E+00	6,91E-09	-3,69E-09
Land use related impacts/Soil quality	Potential soil quality index (SQP)	[Dimensionless / FU]	1,21E+01	1,73E+00	1,59E+01	2,64E+00	6,70E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,09E-01	0,00E+00	9,34E-02	-1,94E+00

Indicators: use of resources			**Product stage**			**Construction process stage**		**Use stage**							**End of life**				**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)		[MJ / FU]	4,29E+00	3,48E-02	2,29E-01	4,01E-02	9,25E-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-03	0,00E+00	5,55E-03	-2,79E+00
Use of renewable primary energy resources used as raw materials (PERM)		[MJ / FU]	0,00E+00	0,00E+00	1,90E+00	0,00E+00	3,81E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)		[MJ / FU]	4,29E+00	3,48E-02	2,13E+00	4,01E-02	1,31E-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	2,41E-03	0,00E+00	5,55E-03	-2,79E+00
Use of non-renewable primary energy excluding non- renewable primary energy resources used as raw materials (PENRE)		[MJ / FU]	2,18E+01	3,09E+00	1,35E+01	5,19E+00	8,94E-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	1,67E-01	0,00E+00	1,38E-01	-3,70E+00
Use of non-renewable primary energy resources used as raw materials (PENRM)		[MJ / FU]	4,56E+01	1,60E-04	1,55E+00	1,15E-04	9,43E-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	7,98E-06	0,00E+00	2,88E-05	-1,49E-04

Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PENRT)		[MJ / FU]	6,73E+01	3,09E+00	1,51E+01	5,19E+00	1,84E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,67E-01	0,00E+00	1,38E-01	-3,70E+00
Use of secondary material (SM)		[kg / FU]	4,16E-01	0,00E+00	0,00E+00	0,00E+00	8,33E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels [RSF]		[MJ / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels [NRSF]		[MJ / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water [FW]		[m3 / FU]	3,33E-02	3,76E-04	5,90E-03	4,28E-04	7,96E-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	0,00E+00	2,39E-05	0,00E+00	6,15E-04	-1,05E-02
Indicators: wastes categories			**Product stage**			**Construction process stage**		**Use stage**							**End of life**					**Potential benefits and loads beyond the system boundaries**
Impact category	**Indicator**	**Unit**	**A1 - Raw material supply**	**A2 - Transport**	**A3 - Manufacturing**	**A4 - Transport**	**A5 - Construction**	**B1 - Use**	**B2 - Maintenance**	**B3 - Repair**	**B4 - Replacement**	**B5 - Refurbishment**	**B6 - Operational energy use**	**B7 - Operational water use**	**C1 - Deconstruction, demolition**	**C2 - Transport**	**C3 - Waste processing**	**C4 - Disposal**	**D**
Eliminated hazardous waste (EHW)		[kg / FU]	1,77E-01	3,47E-03	1,33E-02	2,66E-03	8,07E-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	1,84E-04	0,00E+00	5,95E-02	-1,10E-02
Eliminated non-hazardous waste (EHW)		[kg / FU]	2,69E+00	1,69E-01	1,93E-01	2,33E-01	8,27E-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	3,54E-02	-1,65E-01
Eliminated radioactive waste (EHW)		[kg / FU]	6,89E-05	8,17E-07	1,68E-04	1,04E-06	4,78E-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	5,85E-08	0,00E+00	9,97E-08	-2,17E-05
Indicators: output streams			**Product stage**			**Construction process stage**		**Use stage**							**End of life**					**Potential benefits and loads beyond the system boundaries**

Impact category	Indicator	Unit	A1 - Raw material supply	A2 - Transport	A3 - Manufacturing	A4 - Transport	A5 - Construction	B1 - Use	B2 - Maintenance	B3 - Repair	B4 - Replacement	B5 - Refurbishment	B6 - Operational energy use	B7 - Operational water use	C1 - Deconstruction, demolition	C2 - Transport	C3 - Waste processing	C4 - Disposal	D
Components for re-use (CRU)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling (MFR)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery (MER)		[Kg / FU]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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 (EEE – electrical)		[MJ per energy carrier / FU]	0,00E+00	0,00E+00	1,15E-01	0,00E+00	2,90E-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	0,00E+00	0,00E+00	5,00E+00	0,00E+00
Exported energy (EET - thermal)		[MJ per energy carrier / FU]	0,00E+00	0,00E+00	2,30E-01	0,00E+00	5,81E-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	0,00E+00	0,00E+00	1,00E+01	0,00E+00

CALCULATION RULES

Data sources, quality and allocation

Generic data from the ecoinvent 3.10 database (cut-off).

The database used is regarded as representative on the basis of a comparative study, which examined the data for a reference product(s) of the EPD Owner. The production data used is considered representative based on the sensitivity analysis carried out with respect to data from a similar product[1] of ACTIS.

The data collection process was conducted as follows:

- The reference year for data concerning product composition (including recycled materials) is 2025.
- Regarding the recycled PET used in the product fibres, the declared recycling rate corresponds to the rate applied to productions under the new nomenclature and is expected to remain valid for the next five years.
- Manufacturing-related data (electricity consumption, transport and distribution) was collected by ACTIS in 2024 based on 2023 data (January–December 2023) for similar products.
- The activity data for modules A1, A2 and A3 was generated using information provided by the ACTIS financial department.
- Specific data for the other modules (A4, A5 and C) was collected by ACTIS in 2024 using 2023 data and is also considered valid for the next five years. For example, the data used for distribution (module A4) is based on the average distribution scheme of ACTIS products in Italy.

The generic data was selected, and extrapolated if necessary, in such a way as to be as close as possible in terms of time, geography, and technology to the processes to be described, given the current state of knowledge of the study's author. In particular, the inventory database - ecoinvent v3.10 - was selected by the author for the completeness, consistency and transparency of its datasets. Version 3.10 of the ecoinvent database was published in 2023

Modelling is conducted according to an attribution principle, i.e. the processes are modelled with reference to the value chain as it exists at the time of the study.

Inventory assignments of secondary processes are managed by the ecoinvent database, " cut-off " version. For co-products, the assignment is made at the unit process level using their "true value". For recoverable waste, all operations carried out on it after it has reached "end-of-waste" status as defined in ("Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives" 2008) are excluded (cut-off).

[1] The similar product refers to product "TRISO HYDRID S", which has been on the market for several years and differs from the analysed product only in that it does not contain recycled PET content.

On foreground data, one allocation procedure has been used: the energy consumed by each machine used by Actis was allocated based on the quantity of film (m^2) produced or assembled produced by each machine.

Cut-off criteria

All the inputs and outputs for which data is available have been included, except for primary infrastructure, production line maintenance and materials, and components of which the weight is less than 0.1%wt of the finished product. The data not supplied by ACTIS was replaced based on conservative assumptions using generic data taken from the literature or directly from the ecoinvent database.

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

Scenarios

Table 5: Description of scenarios

Scenarios and additional technical information			
Scenario	Parameter	Units	Results
A4 – Transport to the building site	Fuel type / Vehicle type	Litre of fuel type per distance or vehicle type	lorry >32 metric ton, EURO5 50%, EURO6 50%
	Distance:	km	1053 km
	Capacity utilisation (incl. empty returns)	%	18%
	Bulk density of transported products	kg/m^3	10,5 +/-10%
A5 – Installation in the building	Auxiliary inputs	_	None
	Energy consumption	kWh	0
	Water consumption	m^3	0
	Waste production: offcuts	m^2/UF	0,02 m^2/UF
	Waste production: packaging	g/UF	EOLIS BR – 45 mm: 75 g/UF EOLIS BR – 65 mm: 111 g/UF EOLIS BR – 85 mm: 111 g/UF EOLIS BR – 105 mm: 111 g/UF EOLIS BR – 120 mm: 148 g/UF EOLIS BR – 135 mm: 148 g/UF

Scenarios and additional technical information			
Scenario	Parameter	Units	Results
	Direct emissions	_	None
B2 – Maintenance	Maintenance process	_	None
	Maintenance cycle	_	None
	Auxiliary inputs	_	None
	Energy consumption	_	None
	Water consumption	_	None
	Waste production	_	None
B3 – Repair	Repair process	_	None
	Repair cycle	_	None
	Auxiliary inputs	_	None
	Energy consumption	_	None
	Water consumption	_	None
	Waste production	_	None
B4 – Replacement	Replacement process	_	None
	Replacement cycle	_	None
	Auxiliary inputs	_	None
	Energy consumption	_	None
	Water consumption	_	None
	Waste production	_	None
B5 – Refurbishment	Refurbishment process	_	None
	Refurbishment cycle	_	None
	Auxiliary inputs	_	None
	Energy consumption	_	None
	Water consumption	_	None

Scenarios and additional technical information			
Scenario	Parameter	Units	Results
	Waste production	_	None
Reference service life	Reference service life	years	50
	Declared product properties	_	Under-roof screen
	Declared thermal resistance *According to EN ISO 22097:2023*	m^2.K/W	EOLIS BR – 45 mm: 1,4 m^2.K/W EOLIS BR – 65 mm: 2,0 m^2.K/W EOLIS BR – 85 mm: 2,65 m^2.K/W EOLIS BR – 105 mm: 3,25 m^2.K/W EOLIS BR – 120 mm: 3,75 m^2.K/W EOLIS BR – 135 mm: 4,2 m^2.K/W
	Theoretical application parameters	_	Installation guide provided by ACTIS
	Conditions of use	_	In accordance with the product data sheet
B6 – Use of energy; B7 – Use of water	Auxiliary inputs	_	None
	Water consumption	_	None
	Type of energy carrier	_	None
	Equipment power output	_	None
	Characteristic performance	_	None
	Other assumptions	_	None
C1 to C4 End of life	Collection process: with mixed construction waste	g/UF	EOLIS BR – 45 mm: 557 g/UF EOLIS BR – 65 mm: 716 g/UF EOLIS BR – 85 mm: 874 g/UF EOLIS BR – 105 mm: 1033 g/UF EOLIS BR – 120 mm: 1191 g/UF EOLIS BR – 135 mm: 1350 g/UF
	Recovery system specified	_	None
	Disposal specified: incineration with energy recovery	g/UF	EOLIS BR – 45 mm: 557 g/UF EOLIS BR – 65 mm: 716 g/UF EOLIS BR – 85 mm: 874 g/UF EOLIS BR – 105 mm: 1033 g/UF EOLIS BR – 120 mm: 1191 g/UF EOLIS BR – 135 mm: 1350 g/UF
	Assumptions for scenario development: waste transport	km	50
Module D	Recovered materials leaving system boundaries	_	None
	Recycling processes beyond system boundaries	_	None
	Materials saved	_	None
	Efficiency of the incineration process for electricity generation	%	12
	efficiency of the incineration process for heat generation	%	24

Other technical characteristics not included in the functional unit

EOLIS BR insulation has other characteristics that are not part of the functional unit: Most of them are listed in the product DOPs. They include, amongst others:

- Fire behaviour ("EN 13501-1:2018 - Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests") : F
- Summer comfort:
  - Optimised summer thermal resistance due to the unventilated air gaps,
  - Protection from very high temperatures by metallised films tat reflect up to 94% of infra-red thermal radiation.

Information on biogenic carbon content

The studied products are mainly composed of PET, PP and PE and contain no biogenic carbon. However, the packaging used to deliver them does contain some.

The biogenic carbon content of the product packaging is calculated from the amount of biogenic CO2 absorbed by the wooden pallet and extensions.

Table 6: Biogenic carbon content of products and packaging

Property	EOLIS BR – 45 mm	EOLIS BR – 65 mm	EOLIS BR – 85 mm	EOLIS BR – 105 mm	EOLIS BR – 120 mm	EOLIS BR – 135 mm
Biogenic carbon content of the product (on leaving the factory)	0 kgC/FU	0 kgC/FU	0 kgC/FU	0 kgC/FU	0 kgC/FU	0 kgC/FU
Biogenic carbon content of the associated packaging (on leaving the factory)	0.09 kgC/FU	0.13 kgC/FU	0.13 kgC/FU	0.13 kgC/FU	0.17 kgC/FU	0.17 kgC/FU

ADDITIONAL MANDATORY INFORMATION ON THE RELEASE OF HAZARDOUS SUBSTANCES INTO THE AIR, SOIL AND WATER IN CLOSED LOCATIONS

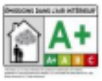
REACH substances

The product does not contain substances on the REACH regulation candidate list (in quantities in excess of 0.1% by weight):

Interior air

The product is not exposed to interior air once installed in the building.

Potentially released substances / gas / radiation	**Product information**
Volatile Organic Compounds (VOC)	The measurement of volatile organic compounds (VOCs) in the insulation as per the "ISO 16000-5:2007 standard - Indoor air - Part 5: Sampling strategy for volatile organic compounds (VOCs)" for indoor air quality standard. See results table below taken from report Eurofins No. 392-2022-00529201, of November 2022
Viable particles, including micro-organisms such as small insects, protozoa, mould, bacteria, and viruses	NC
Non-viable particles (including fibres), such as fibres and particles in suspension whether inhalable or not, and dust	NC
Radon and other gases (CO, CO_2, Nox, SOx, hydrocarbons)	NC
Radiation	NC

Regulation or protocol	Conclusion	Version of regulation or protocol
French VOC Regulation		Decree of March 2011 (DEVL1101903D) and Arrêté of April 2011 (DEVL1104875A) modified in February 2012 (DEVL1133129A)
French CMR components	Pass	Regulation of April and May 2009 (DEVP0908633A and DEVP0910046A)
Italian CAM Edilizia	Pass	DM 23 giugno 2022 n. 256, GURI n. 183 del 6 agosto 2022
ABG/AgBB	Pass	Ausschuss zur gesundheitlichen Bewertung von Bauprodukten (June 2021)
Belgian Regulation	Pass	Royal decree of May 2014 (C-2014/24239)
Indoor Air Comfort	Pass	Indoor Air Comfort 8.0 of June 2022
Indoor Air Comfort GOLD	Pass	Indoor Air Comfort GOLD 8.0 of June 2022
Blue Angel (DE-UZ 132)	Pass	Low-Emission Thermal Insulation Material and Suspended Ceilings for Use in Buildings, January 2020
BREEAM International	Exemplary Level	BREEAM International New Construction v6.0 (2021)
BREEAM NOR	Exemplary Level	BREEAM-NOR v6.0 New Construction (2022)
LEED v4.1 BETA (outside U.S.)	Pass	LEED v4.1 BETA for Building Design and Construction (February 2021)

Full details based on the testing and direct comparison with limit values are available in the following pages
Regarding pass/fail decision rule please see appendix

Ground and water

Not concerned. The material is neither in contact with water for human consumption, nor with run-off water, infiltration water, the water table, ground water.

OTHER OPTIONAL ADDITIONAL ENVIRONMENTAL INFORMATION

Information on recycled content

The polyester recycled content is calculated using Global Recycled Standard certificate.

Table 7 : Minimum content of recycled, recovered, by-product materials (EPDItaly Regulations ; Rev6.0 ; 2025)

Minimum content of recycled, recovered, by-product materials									
Product name		Recycled material			Recovered material	By-product material			Total content of Recycled, Recovered, By-product material
		Total [%]	Pre-consumer [%]	Post-consumer [%]	Total [%]	Internal [%]	External [%]		Total [%]
EOLIS BR – 45 mm	≥	16%	0%	16%	0%	0%	0%		16%
EOLIS BR – 65 mm		19%	0%	19%	0%	0%	0%		19%
EOLIS BR – 85 mm		21%	0%	21%	0%	0%	0%		21%
EOLIS BR – 105 mm		22%	0%	22%	0%	0%	0%		22%
EOLIS BR – 120 mm		23%	0%	23%	0%	0%	0%		23%
EOLIS BR – 135 mm		23%	0%	23%	0%	0%	0%		23%
Legend: *n.p.d.: no performance determined*									
Production unit: ACTIS Isolation, La Bastide de Bousignac site									
Method for determining the content of recycled /recovered/by-product: "Global Recycled Standard for MEKONG FIBER LTD. "Scope Certificate Number: CU1005371GRS-2025-00075141". 2025. Control Union Certifications B.V."									
Reference period of the data used: *For products composition: 01/01/2025- 31/12/2025* For recycled content (PET): *2025*									

Product contribution to quality of life inside buildings

Contribution of the insulation to thermal comfort and the reduction of thermal bridges

By its design and physical properties, the alveolar insulation for the studied product range is both lightweight and does not settle over time. Its thermal resistance and emissivity are certified as per the EN ISO 22097:2023 standard.

This data is important for the long-term reduction of thermal bridges once the insulation has been installed. It has a positive impact on thermal comfort in winter by preventing cold wall effects and on the reduction of energy consumption by long-term insulating performance.

Contribution of the insulation to summer thermal and hygrometric comfort

Through its reflective properties, the alveolar insulation under study contributes to very effective summer thermal insulation. Its reflective films reflect up to 94% of infrared heat radiation, in line with the emissivity of the certificates issued in accordance with the EN ISO 22097:2023 standard. Considering the reversed thermal flows in summer, when the insulation is installed on roofs or walls, the unventilated air gaps (between the insulation and the finish covering) provides even higher additional thermal resistance to that calculated in winter.

Product specifications contributing to the creation of visual comfort conditions inside the building

The product is compatible with all types of indoor covering making it possible to adapt the light reflection coefficient in walls and thus optimise natural and artificial light. For roofing, the product plays no role in visual comfort.

Product specifications contributing to the creation of olfactory comfort conditions inside the building

No specific measurements have been made. The product does not participate in the building's olfactory comfort in normal use conditions.

ADDITIONAL INFORMATION

The reflective alveolar insulation in the studied product range is new-generation insulation which provides high, long-lasting insulation performance thanks to its alveolar structure.

The packaging has also been optimised so that the product is very compact on the pallet, reducing the amount of packaging (patented method).

Using a circular economy logic, the products include 50% of recycled polyester in the fibres.

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