

HS91.3 SCB 25KA; 20 TO 63A; 3 POLE; E CURVE

Product Environmental Profile

Environmental Product Declaration



Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations"

ORGANIZATION		CONTACT INFORMATION			
ABB STOTZ-KONTAKT GmbH		rupert.dehe@de.abb.com; Ralf Kraus: ralf.kraus@de.abb.com			
ADDRESS		WEBSITE			
Eppelheimer Str. 82, 69123 Heidelberg		www.abb.de/stotz-kontakt			
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ABB Purpose & Embedding Sustainability

ABB is committed to continually promoting and embedding sustainability across its operations and value chain, aspiring to become a role model for others to follow. With its ABB Purpose, ABB is focusing on reducing harmful emissions, preserving natural resources and championing ethical and humane behavior.

"other points or for example a QR code or link to ABB website, where more information on the topic"



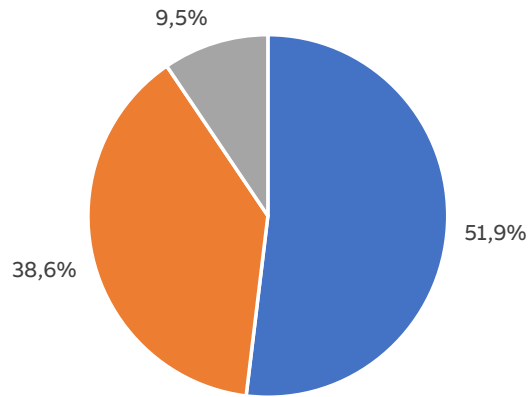
General Information

Reference product	Reference product identification: SCB HS91.3 PSR product category: Circuit Breaker
Description of the product	The HS91.3 range is designed to protect installations from overloads and short circuits, ensuring reliability and safety under all operating conditions.
Functional unit	The functional unit used in this study is to protect the household/commercial installation against overloads and short-circuits in a circuit with assigned voltage 240 V, AC and rated current 35 A, with 3 poles (L1, L2, L3), a rated breaking capacity 25kA, and the tripping curve E, according to the appropriate use scenario, and during the reference service life of the product of 20 years.
Other products covered	The products of the device series HS91.3 differ in their rated current (20A-63A). In total, the device series contains 6 different products.

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Constituent Materials



■ Plastics 680,9 g ■ Metals 506,0 g ■ Others 124,5 g

**Total weight of reference product
(including packaging)**

1312

g

Plastics as % of weight		Metals as % of weight		Others as % of weight	
Name and CAS number	Weight%	Name and CAS number	Weight%	Name and CAS number	Weight%
Glass-fibre reinforced	50,2	Aluminium 7429-90-5	0,9	Cardboard 9004-34-6	7,8
Other plastic	1,7	Copper 7440-50-8	11,4	Paper	0,4
-	x	Steel 1309-37-1	23,1	Other	1,3
-	x	Other metal	3,2	-	-

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Additional Environmental Information

Manufacturing	The product is partly assembled in Bulgaria. The production site of the products is certified according to ISO 14001.
Distribution	The domestic transport scenario of the PCR was applied to model the distribution.
Installation	As installation is performed manually, no environmental burdens are associated to this phase besides the disposal of product packaging.
Use	No consumables and maintenance. The energy consumption during 20 years is 22 kWh.
End of life	Due to the lack of knowledge of the disposal pathway, landfilling as proposed standard scenario in the PCR is considered.
Benefits and loads beyond the system boundaries	Not considered

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Environmental Impacts

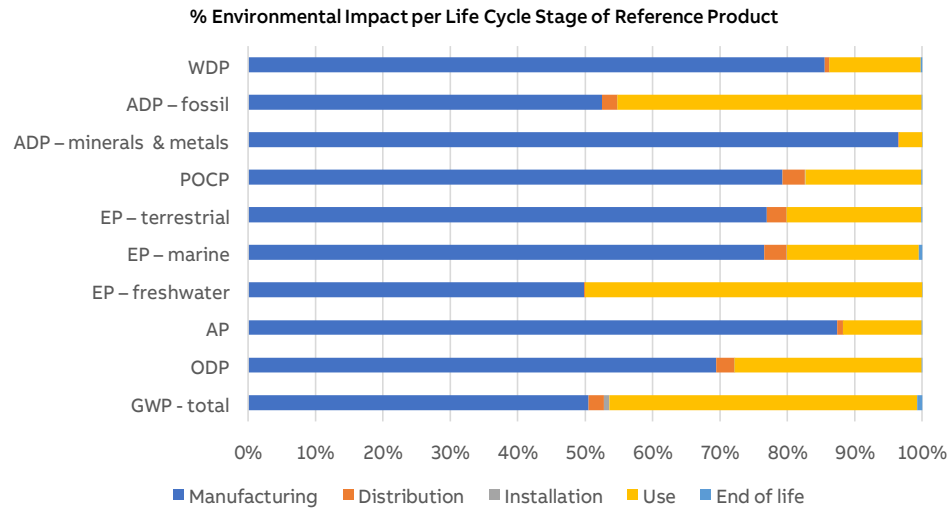
Reference lifetime	20 years
Product category	Electrical switchgear and control gear solutions
Installation elements	Does not require any special installation elements.
Use scenario	Load time: 15% of rated current Use time rate: 30% of reference lifetime.
Geographical representativeness	Production in Bulgaria, use phase in Germany
Technological representativeness	Represents device series HS91.3
Software and database used	SimaPro 9.5 with ecoinvent 3.9.1, cut-off and industry data 2.0

Energy model used

Manufacturing	Electricity, medium voltage {BG} market for electricity, medium voltage Cut-off, S
Installation	N/A
Use	Electricity, low voltage {DE} market for electricity, low voltage Cut-off, S
End of life	N/A

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Common base of mandatory indicators



Environmental impact indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Installation	Use	End of life	Bene- fits
GWP-total	kg CO₂ eq.	2,12E+01	1,07E+01	4,87E-01	1,77E-01	9,66E+00	1,60E-01	N/A
GWP-fossil	kg CO₂ eq.	2,08E+01	1,08E+01	4,86E-01	7,92E-03	9,48E+00	8,70E-02	N/A
GWP-biogenic	kg CO₂ eq.	2,35E-01	-1,74E-01	2,00E-04	1,69E-01	1,68E-01	7,25E-02	N/A
GWP-luluc	kg CO₂ eq.	1,18E-01	1,02E-01	2,26E-04	2,88E-06	1,56E-02	1,08E-05	N/A
GWP-fossil = Global Warming Potential fossil fuels GWP-biogenic = Global Warming Potential biogenic GWP-luluc = Global Warming Potential land use and land use change								
ODP	kg CFC-11 eq.	3,91E-07	2,71E-07	1,04E-08	1,25E-10	1,08E-07	3,34E-10	N/A
ODP = Depletion potential of the stratospheric ozone layer								
AP	H+ eq.	2,32E-01	2,03E-01	1,97E-03	3,65E-05	2,72E-02	1,01E-04	N/A
AP = Acidification potential, Accumulated Exceedance								
EP-freshwater	kg P eq.	2,83E-03	1,41E-03	3,85E-06	9,18E-08	1,42E-03	2,15E-07	N/A
EP-marine	kg N eq.	2,20E-02	1,68E-02	7,40E-04	1,43E-05	4,29E-03	1,17E-04	N/A
EP-terrestrial	mol N eq.	2,71E-01	2,09E-01	7,96E-03	1,49E-04	5,41E-02	3,93E-04	N/A
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment EP-terrestrial = Eutrophication potential, Accumulated Exceedance								
POCP	kg NMVOCeq.	8,97E-02	7,11E-02	2,99E-03	5,42E-05	1,54E-02	1,50E-04	N/A
POCP = Formation potential of tropo-spheric ozone								
ADP-minerals & metals	kg Sb eq.	2,99E-03	2,89E-03	1,29E-06	2,87E-08	1,04E-04	3,03E-08	N/A
ADP-fossil	MJ	3,10E+02	1,63E+02	6,97E+00	8,81E-02	1,40E+02	3,02E-01	N/A
ADP-minerals & metals = Abiotic depletion potential for non-fossil resources ADP-fossil = Abiotic depletion for fossil resources potential								
WDP	m³ e depr.	5,30E+00	4,54E+00	3,38E-02	9,13E-04	7,19E-01	1,20E-02	N/A
WDP = Water Deprivation potential								

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Common base of mandatory indicators

Inventory flows indicator – Resource use indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Installation	Use	End of life	Bene- fits
PERE	MJ	6,13E+01	2,09E+01	1,02E-01	2,73E-03	4,03E+01	5,71E-03	N/A
PERM	MJ	1,41E+00	1,41E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	N/A
PERT	MJ	6,27E+01	2,23E+01	1,02E-01	2,73E-03	4,03E+01	5,71E-03	N/A
PENRE	MJ	3,03E+02	1,56E+02	6,97E+00	8,81E-02	1,40E+02	3,02E-01	N/A
PENRM	MJ	6,49E+00	6,49E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	N/A
PENRT	MJ	3,10E+02	1,63E+02	6,97E+00	8,81E-02	1,40E+02	3,02E-01	N/A

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials
 PERM = Use of renewable primary energy resources used as raw materials
 PERT = Total Use of renewable primary energy resources
 PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials
 PENRM = Use of non-renewable primary energy resources used as raw materials
 PENRT = Total Use of non-renewable primary energy re-sources)

Inventory flows indicator – Indicators describing the use of secondary materials, water, and energy re-sources

Indicator	Unit	Total	Manu- facturing	Distri- bution	Installation	Use	End of life	Bene- fits
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	N/A
RSF	MJ	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A
NRSF	MJ	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A
FW	m ³	1,94E-01	1,24E-01	1,09E-03	3,23E-05	6,94E-02	2,92E-04	N/A

SM = Use of secondary material
 RSF = Use of renewable secondary fuels
 NRSF = Use of non-renewable secondary fuels
 FW = Use of net fresh water

Inventory flows indicator – Waste category indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Installation	Use	End of life	Bene- fits
Hazardous waste disposed	kg	6,22E-02	6,22E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	N/A
Non- hazardous waste disposed	kg	8,94E-03	8,94E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	N/A
Radioactive waste disposed	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	N/A

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Common base of mandatory indicators

Inventory flows indicator – Output flow indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Installation	Use	End of life	Bene- fits
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	N/A
Materials for recycling	kg	1,41E-01	3,42E-02	0,00E+00	1,07E-01	0,00E+00	0,00E+00	N/A
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	N/A
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	N/A

Inventory flow indicator – other indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Installation	Use	End of life	Bene- fits
Biogenic carbon content of the product	kg of C	1,98E-02	1,98E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	N/A
Biogenic carbon content of the associated packaging	kg of C	4,58E-02	4,58E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	N/A

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Optional indicators

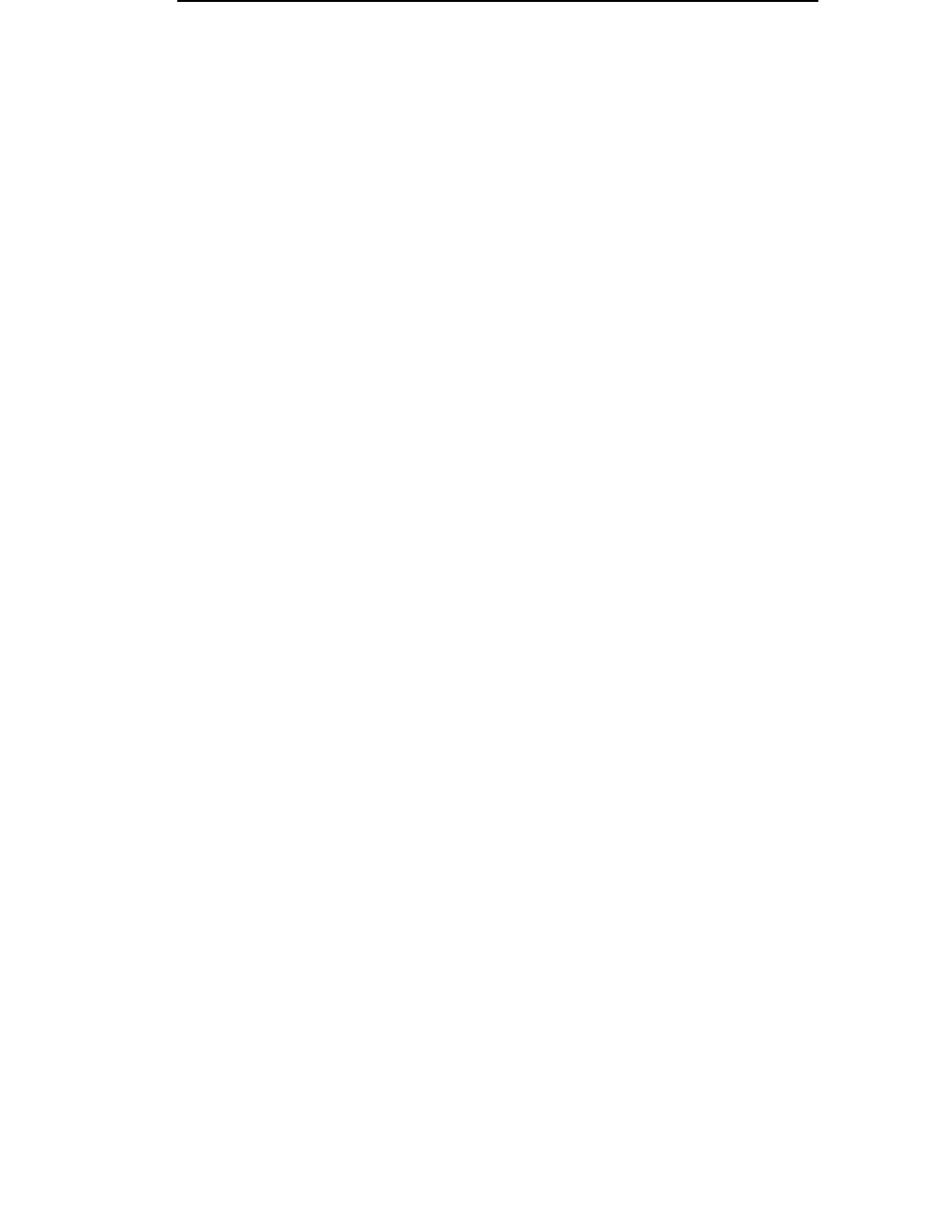
Environmental indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Installation	Use	End of life	Bene- fits
Total use of primary energy during the life cycle	MJ	3,73E+02	1,85E+02	7,07E+00	9,08E-02	1,80E+02	3,08E-01	N/A
Emissions of fine particles	incidence of diseases	9,89E-07	8,15E-07	4,88E-08	7,50E-10	1,23E-07	2,09E-09	N/A
Ionizing radiation, human health	kBq U235 eq.	1,22E+00	6,93E-01	3,36E-03	9,33E-05	5,19E-01	1,70E-04	N/A
Ecotoxicity (fresh water)	CTUe	2,58E+02	2,36E+02	3,65E+00	6,41E-02	1,78E+01	3,89E-01	N/A
Human toxicity, car-cinogenic effects	CTUh	3,85E-08	3,48E-08	2,06E-10	5,80E-12	3,45E-09	8,23E-12	N/A
Human toxicity, non-carcinogenic effects	incidence of diseases	2,54E-06	2,36E-06	6,50E-09	1,34E-10	1,65E-07	2,49E-10	N/A
Impact related to land use/soil quality		1,55E+02	1,13E+02	7,08E+00	4,46E-02	3,43E+01	6,34E-01	N/A

Other indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Installation	Use	End of life	Bene- fits
No Other indicators used								

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Environmental Impact Indicator Glossary

Impact indicators

Indicator	Description	Distribution
Global warming potential (GWP) - total	Indicator of potential global warming caused by emissions to air contributing to the greenhouse effect. The total global warming potential (GWP-total) is the sum of three sub-categories of climate change. GWP-total = GWP-fossil + GWP-biogenic + GWP- land use and land use change	kg CO ₂ eq.
Ozone depletion (ODP)	Emissions to air that contribute to the destruction of the stratospheric ozone layer	kg CFC-11 eq.
Acidification of soil and water (A)	Acidification of soils and water caused by the release of certain gases to the atmosphere, such as nitrogen oxides and sulphur oxides	H ⁺ eq.
Eutrophication (E)	Indicator of the contribution to eutrophication of water by the enrichment of the aquatic ecosystem with nutritional elements, e.g. industrial or domestic effluents, agriculture, etc. This indicator is divided to three: freshwater, marine and terrestrial.	kg P eq., kg N eq., mole N eq.
Photochemical ozone creation (POCP)	Indicator of emissions of gases that affect the creation of photochemical ozone in the lower atmosphere (smog) because of the rays of the sun.	kg NMVOC eq.
Depletion of abiotic resources – elements (ADPe)	Indicator of the depletion of natural non-fossil resources	kg Sb eq.
Depletion of abiotic resources – fossil fuels (ADPf)	The use of non-renewable fossil resources in an unsustainable way (e.g. from material to waste)	MJ (lower heating value)
Water Deprivation potential (WDP)	Deprivation-weighted water consumption. Assesses the potential of water deprivation, to either humans or ecosystems, building on the assumption that the less water remaining available per area, the more likely another user will be deprived.	m ³ e depr.

Resource use indicators

Indicator	Description	Distribution
Total use of primary energy	Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) + Total use of renewable primary energy re-sources (primary energy and primary energy resources used as raw materials)	MJ (lower heating value)

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Verifier accreditation number:	Information and reference documents:	
VH42	www.pep-ecopassport.org	
Date of issue:	Validity period:	5 years
Internal <input type="radio"/>	External <input checked="" type="radio"/>	
Independent verification of the declaration and data, in compliance with ISO 14025: 2006		
The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)		
PEP are compliant with XP C08-100-1 :2016 or EN 50693:2019 The elements of the present PEP cannot be compared with elements from another program		
Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations"		



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