

CARLON® PC BOXES

PEP ecopassport®

Product Environmental Profile



Document in compliance with ISO 14025: 2010 "Environmental labels and declarations. Type III environmental declarations"

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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.



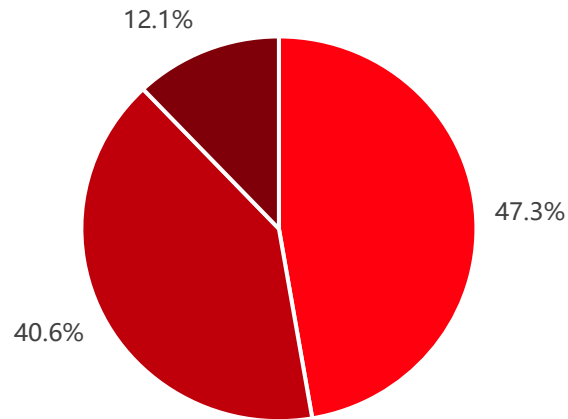
General Information

Reference product	Product BH614R
Description of the product	Carlton® PC Non – Metallic Box is an outlet box in electrical construction that features a rugged polycarbonate construction to withstand extreme temperatures.
Functional unit	<p>The functional unit is to connect a workstation remote from the wall to the energy and communication networks for 20 years, via 120-volt AC electrical switches and outlets with a maximum of 20 amps. The majority of the Polycarbonate boxes are ceiling boxes which are used for light fixtures or ceiling fans in 2-hour fire-rated ceilings. Typical load ratings for these boxes are 50 Lb. light fixture rating and 35 Lb. fan rating. Wall box usage is approximately 1/10th of ceiling box usage.</p> <p>The Carlton® PC Boxes family belong to the “Other Cable Management Products” category indicated in the PSR-0003-ed2, in particular the sub-category “Non-equipped service poles, service posts, multi-outlets extensions and floor boxes”</p> <p>The reference flow is one piece of BH614R box (reference product) with a weight of 0.149 kg and its packaging of 0.0203 Kg.</p>
Other product covered	B620K, B520AUPC, FN-CFB, BH614R, BH525AUPC, B618RR, B720R-SHK, B518AUPC, FN-23, FN-426-C-V

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Constituent Materials



■ Plastics 79.97 g ■ Metals 68.71 g ■ Others 20.40 g

**Total weight of
Reference product**

169.1

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%
Polycarbonate	46.66	Steel	40.63	Inorganic pigment	0.266
Polyethylene	0.634	-	-	Carton	3.27
-	-	-	-	Label	0.15
-	-	-	-	Wood	8.38

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Additional Environmental Information

Manufacturing	The manufacturing stage includes the production and transportation to the manufacturer's last logistic platform of Carlon® PC Boxes and its packaging. The production occurs at the ABB factory located in Portland (TN).
Distribution	The transport from ABB Portland factory to storages (Byhalia, Phoenix and NEDC) sites was taken into account. For the distribution of the product from storage to the final customer, primary data for lorry distance has been used and a weighted average has been computed relative to distances with a cut-off about 20%.
Installation	No installation materials are required in the life cycle of the product.
Use	No material and energy consumption occur during the use stage. No maintenance happens during the use phase, the environmental impacts linked to this procedure have been considered equal to zero in the respective results section.
End of life	The default end-of-life scenario provided by the PCR document has been adopted for the steel boxes (100% incineration).
Benefits and loads beyond the system boundaries	No benefits and loads beyond the system boundaries has been considered.

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Environmental Impacts

Reference lifetime	20 years
Product category	PCR-ed4-EN-2021 09 06 PSR-0003-ed2-EN-2023 06 06
Installation elements	No installation materials are required in the life cycle of the product.
Use scenario	No material and energy consumption occur during the use stage. No maintenance phase is planned for the steel boxes.
Geographical representativeness	Global
Technological representativeness	Technological representativeness refers to the specific production process for primary data.
Software and database used	SimaPro 9.5 and ecoinvent 3.9.1

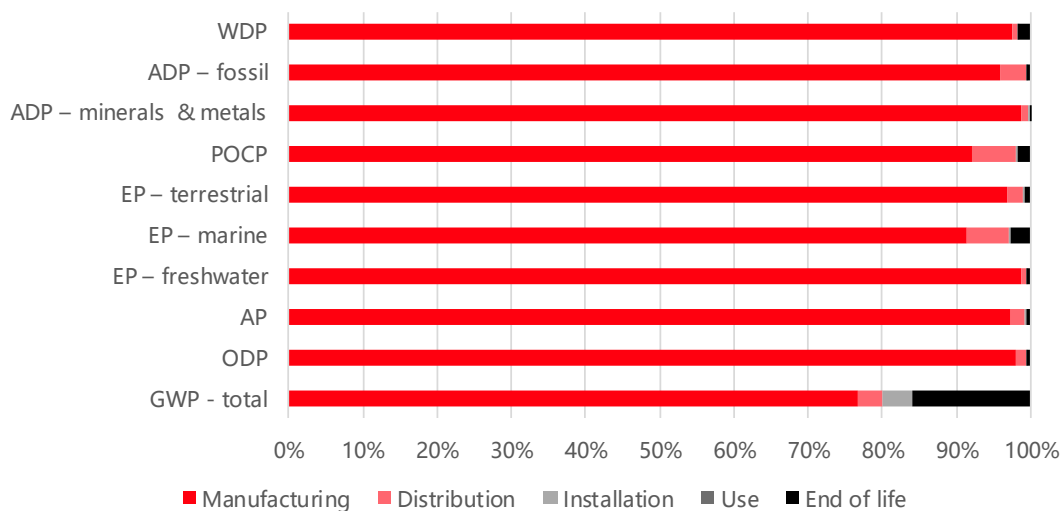
Energy model used

Manufacturing	The energy-related processes used for the remaining inputs of the manufacturing stage are those included in the ecoinvent 3.9.1 datasets selected for the analysis
Installation	No energy consumption occur during the installation stage.
Use	No energy consumption occur during the use stage.
End of life	The energy-related processes used for the inputs of the end-of-life stage are those included in ecoinvent 3.9.1

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Common base of mandatory indicators

% Environmental Impact per Life Cycle Stage of Reference Product



Environmental impact indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Installation	Use	End of life
GWP-total	kg CO ₂ eq	1.23E+00	9.43E-01	4.01E-02	5.04E-02	0.00E+00	1.96E-01
GWP-fossil	kg CO ₂ eq	1.19E+00	9.56E-01	4.00E-02	1.89E-03	0.00E+00	1.95E-01
GWP-biogenic	kg CO ₂ eq	3.57E-02	-1.38E-02	1.48E-05	4.85E-02	0.00E+00	9.36E-04
GWP-luluc	kg CO ₂ eq	1.08E-03	1.06E-03	1.99E-05	3.48E-07	0.00E+00	4.18E-06
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.	4.63E-08	4.54E-08	6.60E-10	1.94E-11	0.00E+00	2.55E-10
ODP = Depletion potential of the stratospheric ozone layer							
AP	H+ eq	9.16E-03	8.92E-03	1.76E-04	6.18E-06	0.00E+00	6.01E-05
AP = Acidification potential, Accumulated Exceedance							
EP-freshwater	kg P eq	3.68E-04	3.63E-04	3.26E-06	1.67E-07	0.00E+00	1.72E-06
EP-marine	kg N eq	1.12E-03	1.03E-03	6.43E-05	2.97E-06	0.00E+00	3.08E-05
EP-terrestrial	mol N eq	3.06E-02	2.96E-02	6.88E-04	2.84E-05	0.00E+00	2.76E-04
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.	4.16E-03	3.83E-03	2.47E-04	7.86E-06	0.00E+00	7.58E-05
POCP = Formation potential of tropo-sphéric ozone							
ADP-minerals & metals	kg Sb eq.	9.88E-06	9.75E-06	1.09E-07	2.15E-09	0.00E+00	2.04E-08
ADP-fossil	MJ	1.62E+01	1.55E+01	5.86E-01	9.39E-03	0.00E+00	8.87E-02
ADP-minerals & metals = Abiotic depletion potential for non-fossil resources ADP-fossil = Abiotic depletion for fossil resources potential							
WDP	m ³ e depr.	4.45E-01	4.35E-01	2.99E-03	8.06E-05	0.00E+00	7.78E-03
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
PERE	MJ	1.78E+00	1.77E+00	7.42E-03	1.87E-04	0.00E+00	2.21E-03
PERM	MJ	4.92E-01	4.92E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.27E+00	2.26E+00	7.42E-03	1.87E-04	0.00E+00	2.21E-03
PENRE	MJ	1.38E+01	1.31E+01	5.86E-01	9.39E-03	0.00E+00	8.87E-02
PENRM	MJ	2.36E+00	2.36E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	1.62E+01	1.55E+01	5.86E-01	9.39E-03	0.00E+00	8.87E-02

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
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m ³	1.20E-02	1.16E-02	9.36E-05	5.35E-06	0.00E+00	2.56E-04

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
Hazardous waste disposed	kg	6.19E-05	5.76E-05	3.70E-06	5.72E-08	0.00E+00	5.47E-07
Non-hazardous waste disposed	kg	2.17E-01	1.59E-01	5.11E-02	6.54E-04	0.00E+00	6.15E-03
Radioactive waste disposed	kg	1.57E-05	1.56E-05	1.28E-07	2.59E-09	0.00E+00	2.96E-08

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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
Component for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	3.04E-02	3.04E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ	1.20E+00	1.48E-03	0.00E+00	1.43E-01	0.00E+00	1.06E+00

Inventory flows indicator – Other indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Installation	Use	End of life
Biogenic carbon content of the product	kg of C	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the associated packaging	kg of C	1.06E-02	1.06E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00

The data quality rating (DQR) has been performed following the indication provided in PCR-ed4-EN-2021, § 2.9.3. All the processes contributing to at least 80% of the reference indicators (total global warming, abiotic resource depletion – mineral, eutrophication, use of total non-renewable primary energy, and non-hazardous waste disposal) on the whole life cycle of the product are included in the Data Quality Rating.

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Optional indicators

Environmental indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Installation	Use	End of life
Total use of primary energy during the life cycle	MJ	1.84E+01	1.77E+01	5.94E-01	9.58E-03	0.00E+00	9.09E-02
Emissions of fine particles	Incidence of diseases	1.09E-07	1.04E-07	4.12E-09	7.55E-11	0.00E+00	6.38E-10
Ionizing radiation, human health	kBq U235 eq.	6.34E-02	6.27E-02	5.38E-04	1.06E-05	0.00E+00	1.19E-04
Ecotoxicity (freshwater)	CTU _e	2.47E+01	2.40E+01	3.11E-01	1.62E-02	0.00E+00	4.16E-01
Human toxicity, carcinogenic effects	CTUh	2.79E-09	2.75E-09	1.74E-11	1.46E-12	0.00E+00	2.01E-11
Human toxicity, non-carcinogenic effects	CTUh	1.19E-08	1.08E-08	4.27E-10	5.82E-11	0.00E+00	6.22E-10
Impact related to land use/soil quality	Pt	9.04E+00	8.39E+00	5.94E-01	4.60E-03	0.00E+00	5.16E-02

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Extrapolation Factors

The PEP can cover products different from the reference product if they belong to a homogeneous environmental family. This means that the group of products must satisfy the following characteristics:

- same function;
- same product standard;
- same manufacturing technology: the same type of materials and same manufacturing processes.

The Carlon® PC Boxes product family satisfy these conditions, so extrapolation rules were applied to assess the environmental impact of the products belonging to the family presented in the table below, following the PCR indication.

To determinate the environmental impacts associated with each product, the multiplication factor must be multiplied by the impacts of the reference product. Each environmental indicator value for each phase shall be calculated using the following formulas:

$$y = a * x$$

Where:

- y is the impact chosen category;
- x is the impact chosen category of reference product;
- a is the multiplication factor;

The calculation of the coefficients a for the Use Stage was not performed because the selected parameters do not affect the values for this stage.

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Name	Weight (g)	Composition		
		PEP Material Category	Material	Weight (g)
B620K	301.82	Plastic	PC	78.65
		Metal	Steel	223.17
B520AUPC	95.30	Plastic	PC	86.30
		Metal	Steel	9.00
FN-CFB	252.58	Plastic	PC	150.33
		Metal	Steel	99.17
		Plastic	PVC	3.08
BH614R	148.84	Plastic	PC	78.92
		Metal	Steel	68.72
		Other	Masterbatch (PE+inorganic pigment)	1.20
BH525AUPC	133.61	Plastic	PC	122.46
		Metal	Steel	9.00
		Other	Masterbatch (PE+organic pigment)	2.15
B618RR	101.13	Plastic	PC	94.83
		Metal	Steel	6.30
B720RSHK	93.90	Plastic	PC	77.10
		Metal	Steel	16.80
B518AUPC	88.70	Plastic	PC	78.50
		Metal	Steel	10.20
FN-23	116.09	Plastic	PC	99.00
		Metal	Steel	13.40
		Plastic	PVC	3.69
FN-426-C-V	164.80	Plastic	PC	151.80
		Metal	Steel	9.20
		Plastic	PVC	3.80

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MULTIPLICATION FACTORS (a) FOR MANUFACTURING									
	B620K	B520AUPC	FN-CFB	BH525AUPC	B618RR	B720RSHK	B518AUPC	FN-23	FN-426-CV
Climate change	2.272	0.651	1.800	0.930	0.702	0.764	0.604	0.773	1.106
Climate change - Fossil	2.224	0.676	1.819	0.945	0.722	0.781	0.630	0.809	1.174
Climate change - Biogenic	-1.003	2.375	3.115	1.961	2.083	1.966	2.369	3.276	5.775
Climate change - Land use and LU change	2.196	0.580	1.719	0.833	0.573	0.884	0.556	0.697	1.034
Ozone depletion	1.555	0.927	2.502	1.311	1.004	0.888	0.850	1.154	1.709
Acidification	4.535	0.396	0.934	0.533	0.332	0.367	0.375	0.458	0.628
Eutrophication, freshwater	2.208	0.601	1.707	0.831	0.625	0.681	0.565	0.724	1.029
Eutrophication, marine	3.064	0.580	1.591	0.788	0.591	0.742	0.547	0.693	0.998
Eutrophication, terrestrial	5.416	0.304	0.656	0.376	0.205	0.249	0.292	0.343	0.447
Photochemical ozone formation	2.430	0.652	1.873	0.906	0.696	0.808	0.609	0.790	1.143
Resource use, minerals and metals	2.182	0.437	1.075	1.084	0.442	0.450	0.407	0.517	0.745
Resource use, fossils	1.936	0.781	1.906	1.111	0.844	0.855	0.722	0.927	1.370
Water use (from AWARE)	1.209	0.669	1.254	1.388	0.723	0.680	0.614	0.769	1.171
Use of renewable primary energy. excluding renewable primary energy resources used as raw materials	1.595	0.566	1.541	1.024	0.569	0.767	0.542	0.719	1.049
Use of renewable primary energy resources used as raw materials	1.285	0.850	1.978	0.779	0.661	1.625	0.893	1.174	1.913
Total use renew. primary energy res.	1.527	0.628	1.637	0.970	0.589	0.954	0.619	0.819	1.238
Use of non-renewable primary energy. excluding non-renewable primary energy resources used as raw materials	2.105	0.726	1.823	1.032	0.780	0.827	0.673	0.862	1.265
Use of non-renewable primary energy resources used as raw materials	0.999	1.088	2.366	1.545	1.196	1.010	0.991	1.285	1.954
Total use non-renew. primary energy res.	1.936	0.781	1.906	1.111	0.844	0.855	0.722	0.927	1.370
Use of secondary material	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Use of renewable secondary fuels	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Use of non-renewable secondary fuels	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Net use of fresh water	1.372	0.652	1.268	1.302	0.701	0.671	0.600	0.750	1.133
Hazardous waste disposed	3.302	0.481	1.477	0.667	0.486	0.608	0.455	0.576	0.799
Non-hazardous waste disposed	4.139	0.437	1.701	0.772	0.514	0.935	0.414	0.535	0.747
Radioactive waste disposed	1.769	0.632	1.605	1.079	0.668	0.686	0.588	0.756	1.098
Components for re-use	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials for recycling	2.779	0.200	1.607	0.191	0.148	9.271	0.226	0.299	0.273
Materials for energy recovery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Exported energy	2.028	0.640	1.697	0.898	0.679	0.631	0.596	0.780	1.107
Particulate matter	4.403	0.381	1.049	0.502	0.326	0.520	0.365	0.448	0.610
Ionising radiation	1.823	0.647	1.645	1.054	0.683	0.703	0.602	0.774	1.122
Ecotoxicity, freshwater	1.459	0.969	1.815	1.381	1.055	0.918	0.885	1.117	1.698
Human toxicity, cancer	2.760	0.356	1.479	0.469	0.351	0.479	0.346	0.446	0.572
Human toxicity, non-cancer	2.316	0.620	1.653	0.946	0.647	0.779	0.581	0.740	1.080
Land use	2.121	0.758	2.079	0.764	0.699	1.351	0.761	1.047	1.593

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MULTIPLICATION FACTORS (a) FOR DISTRIBUTION									
	B620K	B520AUPC	FN-CFB	BH525AUPC	B618RR	B720RSHK	B518AUPC	FN-23	FN-426-CV
Climate change	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Climate change - Fossil	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Climate change - Biogenic	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Climate change - Land use and LU change	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Ozone depletion	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Acidification	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Eutrophication, freshwater	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Eutrophication, marine	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Eutrophication, terrestrial	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Photochemical ozone formation	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Resource use, minerals and metals	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Resource use, fossils	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Water use (from AWARE)	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Use of renewable primary energy. excluding renewable primary energy resources used as raw materials	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Use of renewable primary energy resources used as raw materials	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total use renew. primary energy res.	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Use of non-renewable primary energy. excluding non-renewable primary energy resources used as raw materials	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Use of non-renewable primary energy resources used as raw materials	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total use non-renew. primary energy res.	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Use of secondary material	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Use of renewable secondary fuels	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Use of non-renewable secondary fuels	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Net use of fresh water	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Hazardous waste disposed	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Non-hazardous waste disposed	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Radioactive waste disposed	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Components for re-use	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials for recycling	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials for energy recovery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Exported energy	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Particulate matter	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Ionising radiation	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Ecotoxicity, freshwater	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Human toxicity, cancer	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Human toxicity, non-cancer	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335
Land use	1.936	0.717	1.825	0.904	0.723	0.836	0.683	0.898	1.335

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MULTIPLICATION FACTORS (a) FOR INSTALLATION									
	B620K	B520AUPC	FN-CFB	BH525AUPC	B618RR	B720RSHK	B518AUPC	FN-23	FN-426-CV
Climate change	1.177	1.210	2.689	0.861	0.968	2.367	1.249	1.631	2.812
Climate change - Fossil	1.206	1.070	13.512	0.901	0.920	4.231	1.091	1.575	2.557
Climate change - Biogenic	1.176	1.215	2.268	0.860	0.970	2.294	1.255	1.633	2.822
Climate change - Land use and LU change	1.172	1.256	2.599	0.862	0.990	2.382	1.300	1.664	2.906
Ozone depletion	1.142	1.435	2.571	0.833	1.061	2.752	1.499	1.760	3.248
Acidification	1.172	1.266	2.789	0.865	0.996	2.447	1.311	1.676	2.930
Eutrophication, freshwater	1.197	1.093	2.494	0.882	0.922	2.036	1.118	1.570	2.589
Eutrophication, marine	1.171	1.265	2.793	0.861	0.994	2.466	1.309	1.670	2.923
Eutrophication, terrestrial	1.175	1.250	2.837	0.869	0.990	2.420	1.292	1.668	2.899
Photochemical ozone formation	1.176	1.247	2.805	0.870	0.989	2.401	1.289	1.667	2.894
Resource use, minerals and metals	1.173	1.258	2.636	0.868	0.994	2.372	1.302	1.672	2.915
Resource use, fossils	1.178	1.235	2.663	0.875	0.986	2.326	1.275	1.663	2.873
Water use (from AWARE)	0.713	3.603	1.539	0.277	1.826	7.349	3.943	2.694	7.239
Use of renewable primary energy. excluding renewable primary energy resources used as raw materials	1.160	1.331	2.581	0.851	1.020	2.524	1.384	1.706	3.051
Use of renewable primary energy resources used as raw materials	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total use renew. primary energy res.	1.160	1.331	2.581	0.851	1.020	2.524	1.384	1.706	3.051
Use of non-renewable primary energy. excluding non-renewable primary energy resources used as raw materials	1.178	1.235	2.663	0.875	0.986	2.326	1.275	1.663	2.873
Use of non-renewable primary energy resources used as raw materials	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total use non-renew. primary energy res.	1.178	1.235	2.663	0.875	0.986	2.326	1.275	1.663	2.873
Use of secondary material	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Use of renewable secondary fuels	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Use of non-renewable secondary fuels	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Net use of fresh water	0.971	2.326	2.133	0.622	1.384	4.588	2.503	2.163	4.902
Hazardous waste disposed	1.179	1.204	2.899	0.866	0.967	2.320	1.242	1.631	2.802
Non-hazardous waste disposed	1.168	1.215	2.648	0.833	0.957	2.423	1.258	1.603	2.800
Radioactive waste disposed	1.160	1.333	2.578	0.853	1.022	2.526	1.385	1.709	3.056
Components for re-use	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials for recycling	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials for energy recovery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Exported energy	1.185	1.227	3.089	0.891	0.990	2.212	1.265	1.676	2.869
Particulate matter	1.181	1.225	2.569	0.880	0.983	2.272	1.263	1.662	2.856
Ionising radiation	1.161	1.326	2.580	0.854	1.019	2.511	1.378	1.706	3.043
Ecotoxicity, freshwater	1.106	1.637	2.388	0.794	1.138	3.092	1.727	1.861	3.631
Human toxicity, cancer	1.159	1.301	2.791	0.837	0.999	2.627	1.352	1.669	2.978
Human toxicity, non-cancer	1.166	1.275	2.828	0.850	0.993	2.539	1.322	1.665	2.936
Land use	1.179	1.212	2.608	0.869	0.972	2.291	1.250	1.641	2.822

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MULTIPLICATION FACTORS (a) FOR END OF LIFE									
	B620K	B520AUPC	FN-CFB	BH525AUPC	B618RR	B720RSHK	B518AUPC	FN-23	FN-426-CV
Climate change	1.013	1.058	2.198	1.534	1.162	0.947	0.963	1.255	1.901
Climate change - Fossil	1.003	1.062	2.201	1.541	1.167	0.951	0.967	1.260	1.909
Climate change - Biogenic	3.211	0.146	1.564	0.154	0.109	0.256	0.162	0.225	0.176
Climate change - Land use and LU change	2.044	0.638	3.720	0.889	0.677	0.629	0.594	0.997	1.329
Ozone depletion	1.320	0.948	6.828	1.346	1.034	0.865	0.866	1.693	2.270
Acidification	1.367	0.921	2.645	1.314	1.003	0.844	0.842	1.164	1.706
Eutrophication, freshwater	2.343	0.512	3.277	0.700	0.531	0.534	0.483	0.812	1.047
Eutrophication, marine	1.256	0.969	2.329	1.384	1.058	0.881	0.885	1.176	1.754
Eutrophication, terrestrial	1.304	0.947	2.331	1.354	1.033	0.864	0.865	1.153	1.714
Photochemical ozone formation	1.396	0.908	2.395	1.296	0.988	0.834	0.831	1.120	1.652
Resource use, minerals and metals	1.693	0.785	4.132	1.109	0.846	0.741	0.723	1.200	1.644
Resource use, fossils	1.804	0.737	2.971	1.039	0.791	0.705	0.681	1.011	1.416
Water use (from AWARE)	0.766	1.191	13.605	1.697	1.314	1.051	1.080	2.758	3.543
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	1.510	0.866	6.188	1.226	0.939	0.803	0.794	1.531	2.044
Use of renewable primary energy resources used as raw materials	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total use renew. primary energy res.	1.510	0.866	6.188	1.226	0.939	0.803	0.794	1.531	2.044
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	1.804	0.737	2.971	1.039	0.791	0.705	0.681	1.011	1.415
Use of non-renewable primary energy resources used as raw materials	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total use non-renew. primary energy res.	1.804	0.737	2.971	1.039	0.791	0.705	0.681	1.011	1.415
Use of secondary material	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Use of renewable secondary fuels	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Use of non-renewable secondary fuels	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Net use of fresh water	0.848	1.155	12.820	1.645	1.273	1.024	1.049	2.626	3.381
Hazardous waste disposed	1.781	0.740	2.665	1.052	0.794	0.706	0.683	0.978	1.384
Non-hazardous waste disposed	1.588	0.828	4.711	1.176	0.896	0.774	0.761	1.315	1.795
Radioactive waste disposed	1.564	0.843	5.749	1.192	0.913	0.785	0.774	1.454	1.948
Components for re-use	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials for recycling	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials for energy recovery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Exported energy	0.975	1.070	2.142	1.557	1.176	0.956	0.973	1.261	1.917
Particulate matter	2.034	0.640	2.393	0.894	0.679	0.631	0.596	0.841	1.170
Ionising radiation	1.582	0.835	5.632	1.180	0.904	0.779	0.767	1.432	1.919
Ecotoxicity, freshwater	1.171	1.016	10.180	1.441	1.112	0.917	0.926	2.165	2.805
Human toxicity, cancer	1.319	0.945	2.463	1.346	1.031	0.863	0.864	1.167	1.728
Human toxicity, non-cancer	1.072	1.047	2.538	1.501	1.149	0.940	0.954	1.283	1.921
Land use	2.225	0.560	2.744	0.774	0.587	0.570	0.112	0.146	1.068

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MULTIPLICATION FACTORS (a) FOR BIOGENIC CARBON CONTENT									
	B620K	B520AUPC	FN-CFB	BH525AUPC	B618RR	B720RSHK	B518AUPC	FN-23	FN-426-CV
Biogenic carbon content in the product	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biogenic carbon content in accompanying packaging	1.168	2.262	2.305	0.842	0.980	2.447	1.304	1.646	2.882

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Environmental Impact Indicator Glossary

Impact indicators

Indicator	Description	Unit
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 atmospheric, 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 emission 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 unsuitable 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 ecosystem, 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	Unit
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 resources (primary energy and primary energy resources used as raw materials)	MJ (lower heating value)

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www.pep-ecopassport.org

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Internal



External



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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