S300P MCB 25KA; 0.2 TO 63A; 1 TO 4 POLES; B, C, D, K OR Z CURVE

Product Environmental Profile

Environmental Product Declaration



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

ORGANIZATION		CONTACT INFORMATION	
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STATUS	SECURITY LEVEL	REGISTRATION NUMBER	PAGE
Approved	Public	ABBG-00142-V01.01-EN	1/23

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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	Reference product identification: 2CDS381001R0164 PSR product category: Circuit Breaker
Description of the product	The S300 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 installation against overloads and short-circuits in a circuit with assigned voltage 240 V AC and rated current 16 A for 20 years. This protection is ensured in accordance with the following parameters: • Number of poles Np: 1 • Rated breaking capacity In: 25 kA (AC) • Tripping curve: C
Other products covered	The products of the device series S300P differ in their pole numbers (1-4 poles), rated current (0.2A-63A) and tripping curves (B, C, D, K and Z). In total, the device series contains 486 different products.

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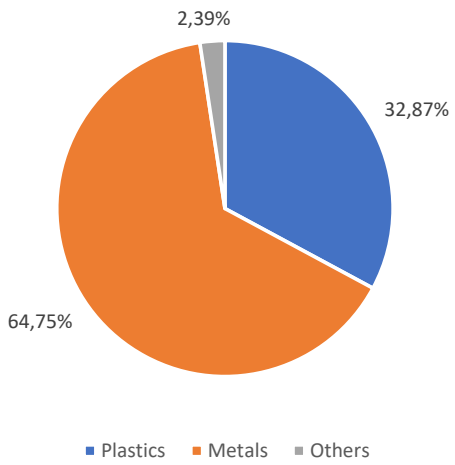
Constituent materials



Total weight of Reference product	127 g (including packaging)

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 plastic	30,19	Aluminium 7429-90-5	1,65	Cardboard 9004-34-6	2,39
PA66 32131-17-2	0,81	Copper 7440-50-8	15,32	–	–
Other	1,87	Stainless steel	1,72	–	–
–	–	Steel 1309-37-1	46,02	–	–
–	–	Other	0,04	–	–

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Additional Environmental Information

Manufacturing	The product is partly assembled manually in Bulgaria and finalized in Germany. The production site of the products is certified according to ISO 14001.
Distribution	The intracontinental 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 by incineration.
Use	No consumables and maintenance. The energy consumption during 20 years is 22.3 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

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: 50% of rated current Use time rate: 30% of reference lifetime.
Geographical representativeness	Europe
Technological representativeness	Represents the device series MCB S300P
Software and database used	SimaPro 9.4 with ecoinvent 3.8, cut-off and industry data 2.0

Energy model used	
Manufacturing	German grid mix, medium voltage
Installation	N/A
Use	European grid mix, low voltage
End of life	N/A

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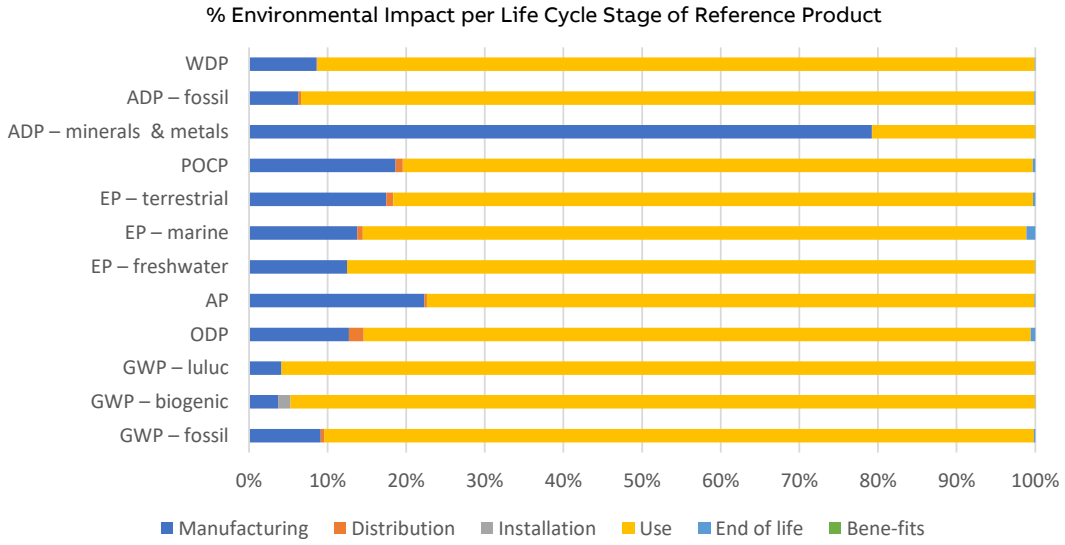
Common base of mandatory indicators



Environmental impact indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life	Bene-fits
GWP-total	kg CO_2 eq.	9,97E+00	8,94E-01	4,01E-02	4,92E-03	9,02E+00	1,67E-02	0,00E+00
GWP-fossil	kg CO_2 eq.	9,65E+00	8,82E-01	4,00E-02	3,57E-04	8,71E+00	1,67E-02	NA
GWP-biogenic	kg CO_2 eq.	2,97E-01	1,11E-02	4,11E-05	4,57E-03	2,81E-01	1,75E-05	NA
GWP-luluc	kg CO_2 eq.	2,15E-02	8,81E-04	1,45E-05	1,27E-07	2,06E-02	5,15E-06	NA
GWP-fossil = Global Warming Potential fossil fuels GWP-biogenic = Global Warming Potential biogenic GWP-luluc = Global Warming Potential land use and land use change								
OPD	kg CFC-11 eq.	5,18E-07	6,59E-08	9,63E-09	7,06E-11	4,39E-07	3,02E-09	NA
OPD = Depletion potential of the stratospheric ozone layer								
AP	H+ eq.	6,42E-02	1,43E-02	2,03E-04	2,13E-06	4,96E-02	6,61E-05	NA
AP = Acidification potential, Accumulated Exceedance								
EP-freshwater	kg P eq.	1,00E-02	1,25E-03	2,51E-06	2,77E-08	8,77E-03	8,88E-07	NA
EP-marine	kg N eq.	9,80E-03	1,35E-03	6,98E-05	8,66E-07	8,27E-03	1,11E-04	NA
EP-terrestrial	mol N eq.	8,96E-02	1,56E-02	7,64E-04	8,56E-06	7,29E-02	2,47E-04	NA
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 NMVOC eq.	2,50E-02	4,66E-03	2,28E-04	2,37E-06	2,00E-02	7,45E-05	NA
POCP = Formation potential of tropo-spheric ozone								
ADP-minerals & metals	kg Sb eq.	3,95E-04	3,13E-04	9,25E-08	8,60E-10	8,19E-05	2,90E-08	NA
ADP-fossil	MJ	1,99E+02	1,26E+01	6,29E-01	4,75E-03	1,86E+02	2,01E-01	NA
ADP-minerals & metals = Abiotic depletion potential for non-fossil resources ADP-fossil = Abiotic deple-tion for fossil resources potential								
WDP	m^3 e depr.	2,38E+00	2,05E-01	2,16E-03	1,21E-04	2,17E+00	1,70E-03	NA
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	Instal-lation	Use	End of life	Bene-fits
PERE	MJ	3,94E+01	1,11E+00	8,00E-03	7,83E-05	3,82E+01	2,69E-03	NA
PERM	MJ	1,24E-02	1,24E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	NA
PERT	MJ	3,94E+01	1,13E+00	8,00E-03	7,83E-05	3,82E+01	2,69E-03	NA
PENRE	MJ	1,98E+02	1,21E+01	6,29E-01	4,75E-03	1,86E+02	2,01E-01	NA
PENRM	MJ	5,09E-01	5,09E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	NA
PENRT	MJ	1,99E+02	1,26E+01	6,29E-01	4,75E-03	1,86E+02	2,01E-01	NA

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	Instal-lation	Use	End of life	Bene-fits
SM	kg	9,31E-03	9,31E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	NA
RSF	MJ	0,00E+00	NA	NA	NA	NA	NA	NA
NRSF	MJ	0,00E+00	NA	NA	NA	NA	NA	NA
FW	m^3	1,68E-01	6,49E-03	7,48E-05	4,08E-06	1,61E-01	4,76E-05	NA

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	Instal-lation	Use	End of life	Bene-fits
Hazardous waste disposed	kg	2,04E-02	2,04E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	NA
Non- hazardous waste disposed	kg	2,94E-03	2,94E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	NA
Radioactive waste disposed	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	NA

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Common base of mandatory indicators

Inventory flows indicator – Output flow indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	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	NA
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	NA
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	NA
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	NA

Inventory flow indicator – other indicators

Indicator	Unit	Total
Biogenic carbon content of the product	kg of C	0,00E+00
Biogenic carbon content of the associated packaging	kg of C	1,38E-03

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Optional indicators

Environmental indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life	Bene-fits
Emissions of fine particles	incidence of diseases	2,31E-07	6,59E-08	4,82E-09	3,78E-11	1,58E-07	1,53E-09	NA
Ionizing radiation, human health	kBq U235 eq.	5,20E+00	1,09E-01	3,18E-03	2,28E-05	5,08E+00	1,01E-03	NA
Ecotoxicity (fresh water)	CTUe	2,31E+02	1,11E+02	4,91E-01	8,93E-03	1,17E+02	1,47E+00	NA
Human toxicity, carcinogenic effects	CTUh	7,21E-09	3,58E-09	1,36E-11	3,51E-13	3,62E-09	4,52E-12	NA
Human toxicity, non-carcinogenic effects	CTUh	3,05E-07	1,89E-07	5,37E-10	1,44E-11	1,15E-07	1,68E-10	NA
Impact related to land use/soil quality	kg	4,21E+01	7,57E+00	7,20E-01	4,91E-03	3,35E+01	2,58E-01	NA

Other indicators

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

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* if the coefficient is "1", the impacts of the phase of the life cycle are assimilated to the Reference product, meaning that the impacts are unchanged in comparison to the Reference product

Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
S301P-B10	1	1	1	0,8	1	NA
S301P-B10NA	2	2	2	1,6	2	NA
S301P-B13	1	1	1	0,9	1	NA
S301P-B13NA	2	2	2	2,2	2	NA
S301P-B16	1	1	1	1	1	NA
S301P-B16NA	2	2	2	1,9	2	NA
S301P-B20	1	1	1	1,4	1	NA
S301P-B20NA	2	2	2	2,4	2	NA
S301P-B25	1	1	1	1,4	1	NA
S301P-B25NA	2	2	2	3,9	2	NA
S301P-B32	1	1	1	1,7	1	NA
S301P-B32NA	2	2	2	3,9	2	NA
S301P-B40	1	1	1	1,7	1	NA
S301P-B40NA	2	2	2	3,8	2	NA
S301P-B50	1	1	1	2,2	1	NA
S301P-B50NA	2	2	2	4,2	2	NA
S301P-B6	1	1	1	0,6	1	NA
S301P-B63	1	1	1	3,5	1	NA
S301P-B63NA	2	2	2	7,1	2	NA
S301P-B6NA	2	2	2	1,2	2	NA
S301P-B8	1	1	1	0,9	1	NA
S301P-B8NA	2	2	2	1,9	2	NA
S301P-C0.5	1	1	1	0,8	1	NA
S301P-C0.5NA	2	2	2	1,6	2	NA
S301P-C1	1	1	1	0,8	1	NA
S301P-C1.6	1	1	1	0,8	1	NA
S301P-C1.6NA	2	2	2	1,6	2	NA
S301P-C10	1	1	1	0,9	1	NA
S301P-C10NA	2	2	2	1,7	2	NA
S301P-C13	1	1	1	0,8	1	NA
S301P-C13NA	2	2	2	1,6	2	NA
S301P-C16	1	1	1	1	1	NA
S301P-C16NA	2	2	2	1,9	2	NA
S301P-C1NA	2	2	2	1,7	2	NA
S301P-C2	1	1	1	0,8	1	NA
S301P-C20	1	1	1	1,4	1	NA
S301P-C20NA	2	2	2	2,4	2	NA
S301P-C25	1	1	1	1,4	1	NA
S301P-C25NA	2	2	2	3,9	2	NA
S301P-C2NA	2	2	2	1,6	2	NA

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* if the coefficient is "1", the impacts of the phase of the life cycle are assimilated to the Reference product, meaning that the impacts are unchanged in comparison to the Reference product

Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
S301P-C3	1	1	1	0,8	1	NA
S301P-C32	1	1	1	1,7	1	NA
S301P-C32NA	2	2	2	3,9	2	NA
S301P-C3NA	2	2	2	1,6	2	NA
S301P-C4	1	1	1	0,8	1	NA
S301P-C40	1	1	1	1,7	1	NA
S301P-C40NA	2	2	2	3,8	2	NA
S301P-C4NA	2	2	2	1,7	2	NA
S301P-C50	1	1	1	2,2	1	NA
S301P-C50NA	2	2	2	4,2	2	NA
S301P-C6	1	1	1	0,5	1	NA
S301P-C63	1	1	1	3,3	1	NA
S301P-C63NA	2	2	2	6,6	2	NA
S301P-C6NA	2	2	2	1,1	2	NA
S301P-C8	1	1	1	0,9	1	NA
S301P-C8NA	2	2	2	1,9	2	NA
S301P-D0.5	1	1	1	0,7	1	NA
S301P-D0.5NA	2	2	2	1,5	2	NA
S301P-D1	1	1	1	0,8	1	NA
S301P-D1.6	1	1	1	0,7	1	NA
S301P-D1.6NA	2	2	2	1,5	2	NA
S301P-D10	1	1	1	0,7	1	NA
S301P-D10NA	2	2	2	1,4	2	NA
S301P-D13	1	1	1	0,8	1	NA
S301P-D13NA	2	2	2	1,6	2	NA
S301P-D16	1	1	1	0,9	1	NA
S301P-D16NA	2	2	2	1,5	2	NA
S301P-D1NA	2	2	2	1,5	2	NA
S301P-D2	1	1	1	0,8	1	NA
S301P-D20	1	1	1	1,4	1	NA
S301P-D20NA	2	2	2	2,4	2	NA
S301P-D25	1	1	1	1,4	1	NA
S301P-D25NA	2	2	2	3,9	2	NA
S301P-D2NA	2	2	2	1,6	2	NA
S301P-D3	1	1	1	0,8	1	NA
S301P-D32	1	1	1	1,7	1	NA
S301P-D32NA	2	2	2	3,9	2	NA
S301P-D3NA	2	2	2	1,5	2	NA
S301P-D4	1	1	1	0,8	1	NA
S301P-D40	1	1	1	1,7	1	NA

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* if the coefficient is "1", the impacts of the phase of the life cycle are assimilated to the Reference product, meaning that the impacts are unchanged in comparison to the Reference product

Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
S301P-D40NA	2	2	2	3,8	2	NA
S301P-D4NA	2	2	2	1,7	2	NA
S301P-D50	1	1	1	2	1	NA
S301P-D50NA	2	2	2	4	2	NA
S301P-D6	1	1	1	0,5	1	NA
S301P-D63	1	1	1	3,5	1	NA
S301P-D63NA	2	2	2	7,1	2	NA
S301P-D6NA	2	2	2	1	2	NA
S301P-D8	1	1	1	0,8	1	NA
S301P-D8NA	2	2	2	1,6	2	NA
S301P-K0.2	1	1	1	0,7	1	NA
S301P-K0.2NA	2	2	2	1,3	2	NA
S301P-K0.3	1	1	1	0,7	1	NA
S301P-K0.3NA	2	2	2	1,3	2	NA
S301P-K0.5	1	1	1	0,7	1	NA
S301P-K0.5NA	2	2	2	1,5	2	NA
S301P-K0.75	1	1	1	0,7	1	NA
S301P-K0.75NA	2	2	2	1,3	2	NA
S301P-K1	1	1	1	0,8	1	NA
S301P-K1.6	1	1	1	0,7	1	NA
S301P-K1.6NA	2	2	2	1,5	2	NA
S301P-K10	1	1	1	0,8	1	NA
S301P-K10NA	2	2	2	0,7	2	NA
S301P-K13	1	1	1	1,1	1	NA
S301P-K13NA	2	2	2	1,8	2	NA
S301P-K16	1	1	1	0,8	1	NA
S301P-K16NA	2	2	2	1,5	2	NA
S301P-K1NA	2	2	2	1,5	2	NA
S301P-K2	1	1	1	0,8	1	NA
S301P-K20	1	1	1	1,2	1	NA
S301P-K20NA	2	2	2	2,8	2	NA
S301P-K25	1	1	1	1,9	1	NA
S301P-K25NA	2	2	2	3,2	2	NA
S301P-K2NA	2	2	2	1,6	2	NA
S301P-K3	1	1	1	0,8	1	NA
S301P-K32	1	1	1	1,7	1	NA
S301P-K32NA	2	2	2	2,8	2	NA
S301P-K3NA	2	2	2	1,5	2	NA
S301P-K4	1	1	1	0,8	1	NA
S301P-K40	1	1	1	2	1	NA

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Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
S301P-K40NA	2	2	2	4,4	2	NA
S301P-K4NA	2	2	2	1,7	2	NA
S301P-K50	1	1	1	2,3	1	NA
S301P-K50NA	2	2	2	4,6	2	NA
S301P-K6	1	1	1	1	1	NA
S301P-K63	1	1	1	3,5	1	NA
S301P-K63NA	2	2	2	7,1	2	NA
S301P-K6NA	2	2	2	1,9	2	NA
S301P-K8	1	1	1	0,7	1	NA
S301P-K8NA	2	2	2	1,4	2	NA
S301P-Z0.5	1	1	1	1,3	1	NA
S301P-Z0.5NA	2	2	2	2,5	2	NA
S301P-Z1	1	1	1	1,3	1	NA
S301P-Z1.6	1	1	1	1,4	1	NA
S301P-Z1.6NA	2	2	2	2,8	2	NA
S301P-Z10	1	1	1	1,2	1	NA
S301P-Z10NA	2	2	2	2,1	2	NA
S301P-Z16	1	1	1	1,2	1	NA
S301P-Z16NA	2	2	2	2,8	2	NA
S301P-Z1NA	2	2	2	2,6	2	NA
S301P-Z2	1	1	1	1,3	1	NA
S301P-Z20	1	1	1	1,5	1	NA
S301P-Z20NA	2	2	2	3,1	2	NA
S301P-Z25	1	1	1	1,9	1	NA
S301P-Z25NA	2	2	2	3,3	2	NA
S301P-Z2NA	2	2	2	2,5	2	NA
S301P-Z3	1	1	1	1,3	1	NA
S301P-Z32	1	1	1	1,8	1	NA
S301P-Z32NA	2	2	2	3,1	2	NA
S301P-Z3NA	2	2	2	2,6	2	NA
S301P-Z4	1	1	1	1,3	1	NA
S301P-Z40	1	1	1	2,9	1	NA
S301P-Z40NA	2	2	2	4,4	2	NA
S301P-Z4NA	2	2	2	2,6	2	NA
S301P-Z50	1	1	1	3,1	1	NA
S301P-Z50NA	2	2	2	6,1	2	NA
S301P-Z6	1	1	1	1,5	1	NA
S301P-Z63	1	1	1	3,5	1	NA
S301P-Z63NA	2	2	2	7,1	2	NA
S301P-Z6NA	2	2	2	2,9	2	NA

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* if the coefficient is "1", the impacts of the phase of the life cycle are assimilated to the Reference product, meaning that the impacts are unchanged in comparison to the Reference product

Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
S301P-Z8	1	1	1	1,1	1	NA
S301P-Z8NA	2	2	2	2,1	2	NA
S302P-B10	2	2	2	1,6	2	NA
S302P-B13	2	2	2	2,2	2	NA
S302P-B16	2	2	2	1,9	2	NA
S302P-B20	2	2	2	2,4	2	NA
S302P-B25	2	2	2	3,9	2	NA
S302P-B32	2	2	2	3,9	2	NA
S302P-B40	2	2	2	3,8	2	NA
S302P-B50	2	2	2	4,2	2	NA
S302P-B6	2	2	2	1,2	2	NA
S302P-B63	2	2	2	7,1	2	NA
S302P-B8	2	2	2	1,9	2	NA
S302P-C0.5	2	2	2	1,6	2	NA
S302P-C1	2	2	2	1,7	2	NA
S302P-C1.6	2	2	2	1,6	2	NA
S302P-C10	2	2	2	1,7	2	NA
S302P-C13	2	2	2	1,6	2	NA
S302P-C16	2	2	2	1,9	2	NA
S302P-C2	2	2	2	1,6	2	NA
S302P-C20	2	2	2	2,4	2	NA
S302P-C25	2	2	2	3,9	2	NA
S302P-C3	2	2	2	1,6	2	NA
S302P-C32	2	2	2	3,9	2	NA
S302P-C4	2	2	2	1,7	2	NA
S302P-C40	2	2	2	3,8	2	NA
S302P-C50	2	2	2	4,2	2	NA
S302P-C6	2	2	2	1,1	2	NA
S302P-C63	2	2	2	6,6	2	NA
S302P-C8	2	2	2	1,9	2	NA
S302P-D0.5	2	2	2	1,5	2	NA
S302P-D1	2	2	2	1,5	2	NA
S302P-D1.6	2	2	2	1,5	2	NA
S302P-D10	2	2	2	1,4	2	NA
S302P-D13	2	2	2	1,6	2	NA
S302P-D16	2	2	2	1,5	2	NA
S302P-D2	2	2	2	1,6	2	NA
S302P-D20	2	2	2	2,4	2	NA
S302P-D25	2	2	2	3,9	2	NA
S302P-D3	2	2	2	1,5	2	NA

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Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
S302P-D32	2	2	2	3,9	2	NA
S302P-D4	2	2	2	1,7	2	NA
S302P-D40	2	2	2	3,8	2	NA
S302P-D50	2	2	2	4	2	NA
S302P-D6	2	2	2	1	2	NA
S302P-D63	2	2	2	7,1	2	NA
S302P-D8	2	2	2	1,6	2	NA
S302P-K0.2	2	2	2	1,3	2	NA
S302P-K0.3	2	2	2	1,3	2	NA
S302P-K0.5	2	2	2	1,5	2	NA
S302P-K0.75	2	2	2	1,3	2	NA
S302P-K1	2	2	2	1,5	2	NA
S302P-K1.6	2	2	2	1,5	2	NA
S302P-K10	2	2	2	0,7	2	NA
S302P-K13	2	2	2	1,8	2	NA
S302P-K16	2	2	2	1,5	2	NA
S302P-K2	2	2	2	1,6	2	NA
S302P-K20	2	2	2	2,8	2	NA
S302P-K25	2	2	2	3,2	2	NA
S302P-K3	2	2	2	1,5	2	NA
S302P-K32	2	2	2	2,8	2	NA
S302P-K4	2	2	2	1,7	2	NA
S302P-K40	2	2	2	4,4	2	NA
S302P-K50	2	2	2	4,6	2	NA
S302P-K6	2	2	2	1,9	2	NA
S302P-K63	2	2	2	7,1	2	NA
S302P-K8	2	2	2	1,4	2	NA
S302P-Z0.5	2	2	2	2,5	2	NA
S302P-Z1	2	2	2	2,6	2	NA
S302P-Z1.6	2	2	2	2,8	2	NA
S302P-Z10	2	2	2	2,1	2	NA
S302P-Z16	2	2	2	2,8	2	NA
S302P-Z2	2	2	2	2,5	2	NA
S302P-Z20	2	2	2	3,1	2	NA
S302P-Z25	2	2	2	3,3	2	NA
S302P-Z3	2	2	2	2,6	2	NA
S302P-Z32	2	2	2	3,1	2	NA
S302P-Z4	2	2	2	2,6	2	NA
S302P-Z40	2	2	2	4,4	2	NA
S302P-Z50	2	2	2	6,1	2	NA

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Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
S302P-Z6	2	2	2	2,9	2	NA
S302P-Z63	2	2	2	7,1	2	NA
S302P-Z8	2	2	2	2,1	2	NA
S303P-B10	3	3	3	2,5	3	NA
S303P-B10NA	4	4	4	3,3	4	NA
S303P-B13	3	3	3	3,4	3	NA
S303P-B13NA	4	4	4	4,5	4	NA
S303P-B16	3	3	3	2,8	3	NA
S303P-B16NA	4	4	4	3,8	4	NA
S303P-B20	3	3	3	3,5	3	NA
S303P-B20NA	4	4	4	4,7	4	NA
S303P-B25	3	3	3	5,8	3	NA
S303P-B25NA	4	4	4	7,8	4	NA
S303P-B32	3	3	3	5,8	3	NA
S303P-B32NA	4	4	4	7,8	4	NA
S303P-B40	3	3	3	5,6	3	NA
S303P-B40NA	4	4	4	7,5	4	NA
S303P-B50	3	3	3	6,4	3	NA
S303P-B50NA	4	4	4	8,5	4	NA
S303P-B6	3	3	3	1,8	3	NA
S303P-B63	3	3	3	10,6	3	NA
S303P-B63NA	4	4	4	14,1	4	NA
S303P-B6NA	4	4	4	2,4	4	NA
S303P-B8	3	3	3	2,8	3	NA
S303P-B8NA	4	4	4	3,7	4	NA
S303P-C0.5	3	3	3	2,3	3	NA
S303P-C0.5NA	4	4	4	3,1	4	NA
S303P-C1	3	3	3	2,5	3	NA
S303P-C1.6	3	3	3	2,4	3	NA
S303P-C1.6NA	4	4	4	3,2	4	NA
S303P-C10	3	3	3	2,6	3	NA
S303P-C10NA	4	4	4	3,4	4	NA
S303P-C13	3	3	3	2,5	3	NA
S303P-C13NA	4	4	4	3,3	4	NA
S303P-C16	3	3	3	2,8	3	NA
S303P-C16NA	4	4	4	3,8	4	NA
S303P-C1NA	4	4	4	3,4	4	NA
S303P-C2	3	3	3	2,4	3	NA
S303P-C20	3	3	3	3,5	3	NA
S303P-C20NA	4	4	4	4,7	4	NA

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Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
S303P-C25	3	3	3	5,8	3	NA
S303P-C25NA	4	4	4	7,8	4	NA
S303P-C2NA	4	4	4	3,2	4	NA
S303P-C3	3	3	3	2,4	3	NA
S303P-C32	3	3	3	5,8	3	NA
S303P-C32NA	4	4	4	7,8	4	NA
S303P-C3NA	4	4	4	3,2	4	NA
S303P-C4	3	3	3	2,5	3	NA
S303P-C40	3	3	3	5,6	3	NA
S303P-C40NA	4	4	4	7,5	4	NA
S303P-C4NA	4	4	4	3,3	4	NA
S303P-C50	3	3	3	6,4	3	NA
S303P-C50NA	4	4	4	8,5	4	NA
S303P-C6	3	3	3	1,6	3	NA
S303P-C63	3	3	3	9,9	3	NA
S303P-C63NA	4	4	4	13,2	4	NA
S303P-C6NA	4	4	4	2,1	4	NA
S303P-C8	3	3	3	2,8	3	NA
S303P-C8NA	4	4	4	3,7	4	NA
S303P-D0.5	3	3	3	2,2	3	NA
S303P-D0.5NA	4	4	4	3	4	NA
S303P-D1	3	3	3	2,3	3	NA
S303P-D1.6	3	3	3	2,2	3	NA
S303P-D1.6NA	4	4	4	3	4	NA
S303P-D10	3	3	3	2,1	3	NA
S303P-D10NA	4	4	4	2,8	4	NA
S303P-D13	3	3	3	2,5	3	NA
S303P-D13NA	4	4	4	3,3	4	NA
S303P-D16	3	3	3	2,3	3	NA
S303P-D16NA	4	4	4	3,1	4	NA
S303P-D1NA	4	4	4	3,1	4	NA
S303P-D2	3	3	3	2,4	3	NA
S303P-D20	3	3	3	3,5	3	NA
S303P-D20NA	4	4	4	4,7	4	NA
S303P-D25	3	3	3	5,8	3	NA
S303P-D25NA	4	4	4	7,8	4	NA
S303P-D2NA	4	4	4	3,1	4	NA
S303P-D3	3	3	3	2,3	3	NA
S303P-D32	3	3	3	5,8	3	NA
S303P-D32NA	4	4	4	7,8	4	NA

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Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
S303P-D3NA	4	4	4	3	4	NA
S303P-D4	3	3	3	2,5	3	NA
S303P-D40	3	3	3	5,6	3	NA
S303P-D40NA	4	4	4	7,5	4	NA
S303P-D4NA	4	4	4	3,3	4	NA
S303P-D50	3	3	3	6	3	NA
S303P-D50NA	4	4	4	8	4	NA
S303P-D6	3	3	3	1,4	3	NA
S303P-D63	3	3	3	10,6	3	NA
S303P-D63NA	4	4	4	14,1	4	NA
S303P-D6NA	4	4	4	1,9	4	NA
S303P-D8	3	3	3	2,4	3	NA
S303P-D8NA	4	4	4	3,2	4	NA
S303P-K0.2	3	3	3	2	3	NA
S303P-K0.2NA	4	4	4	2,6	4	NA
S303P-K0.3	3	3	3	2	3	NA
S303P-K0.3NA	4	4	4	2,7	4	NA
S303P-K0.5	3	3	3	2,2	3	NA
S303P-K0.5NA	4	4	4	3	4	NA
S303P-K0.75	3	3	3	2	3	NA
S303P-K0.75NA	4	4	4	2,7	4	NA
S303P-K1	3	3	3	2,3	3	NA
S303P-K1.6	3	3	3	2,2	3	NA
S303P-K1.6NA	4	4	4	3	4	NA
S303P-K10	3	3	3	1,4	3	NA
S303P-K10NA	4	4	4	2,2	4	NA
S303P-K13	3	3	3	2,6	3	NA
S303P-K13NA	4	4	4	3,5	4	NA
S303P-K16	3	3	3	2,3	3	NA
S303P-K16NA	4	4	4	3,1	4	NA
S303P-K1NA	4	4	4	3,1	4	NA
S303P-K2	3	3	3	2,4	3	NA
S303P-K20	3	3	3	4,2	3	NA
S303P-K20NA	4	4	4	5,6	4	NA
S303P-K25	3	3	3	4,8	3	NA
S303P-K25NA	4	4	4	6,4	4	NA
S303P-K2NA	4	4	4	3,1	4	NA
S303P-K3	3	3	3	2,3	3	NA
S303P-K32	3	3	3	4,2	3	NA
S303P-K32NA	4	4	4	5,6	4	NA

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Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
S303P-K3NA	4	4	4	3	4	NA
S303P-K4	3	3	3	2,5	3	NA
S303P-K40	3	3	3	6,5	3	NA
S303P-K40NA	4	4	4	8,7	4	NA
S303P-K4NA	4	4	4	3,3	4	NA
S303P-K50	3	3	3	6,9	3	NA
S303P-K50NA	4	4	4	9,2	4	NA
S303P-K6	3	3	3	2,9	3	NA
S303P-K63	3	3	3	10,6	3	NA
S303P-K63NA	4	4	4	14,1	4	NA
S303P-K6NA	4	4	4	3,8	4	NA
S303P-K8	3	3	3	2,1	3	NA
S303P-K8NA	4	4	4	2,9	4	NA
S303P-Z0.5	3	3	3	3,8	3	NA
S303P-Z0.5NA	4	4	4	5,1	4	NA
S303P-Z1	3	3	3	3,9	3	NA
S303P-Z1.6	3	3	3	4,3	3	NA
S303P-Z1.6NA	4	4	4	5,7	4	NA
S303P-Z10	3	3	3	3,1	3	NA
S303P-Z10NA	4	4	4	4,2	4	NA
S303P-Z16	3	3	3	4,2	3	NA
S303P-Z16NA	4	4	4	5,6	4	NA
S303P-Z1NA	4	4	4	5,2	4	NA
S303P-Z2	3	3	3	3,8	3	NA
S303P-Z20	3	3	3	4,6	3	NA
S303P-Z20NA	4	4	4	6,1	4	NA
S303P-Z25	3	3	3	4,9	3	NA
S303P-Z25NA	4	4	4	6,6	4	NA
S303P-Z2NA	4	4	4	5,1	4	NA
S303P-Z3	3	3	3	3,9	3	NA
S303P-Z32	3	3	3	4,6	3	NA
S303P-Z32NA	4	4	4	6,1	4	NA
S303P-Z3NA	4	4	4	5,2	4	NA
S303P-Z4	3	3	3	3,9	3	NA
S303P-Z40	3	3	3	6,5	3	NA
S303P-Z40NA	4	4	4	8,7	4	NA
S303P-Z4NA	4	4	4	5,1	4	NA
S303P-Z50	3	3	3	9,2	3	NA
S303P-Z50NA	4	4	4	12,2	4	NA
S303P-Z6	3	3	3	4,4	3	NA

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Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
S303P-Z63	3	3	3	10,6	3	NA
S303P-Z63NA	4	4	4	14,1	4	NA
S303P-Z6NA	4	4	4	5,8	4	NA
S303P-Z8	3	3	3	3,2	3	NA
S303P-Z8NA	4	4	4	4,2	4	NA
S304P-B10	4	4	4	3,3	4	NA
S304P-B13	4	4	4	4,5	4	NA
S304P-B16	4	4	4	3,8	4	NA
S304P-B20	4	4	4	4,7	4	NA
S304P-B25	4	4	4	7,8	4	NA
S304P-B32	4	4	4	7,8	4	NA
S304P-B40	4	4	4	7,5	4	NA
S304P-B50	4	4	4	8,5	4	NA
S304P-B6	4	4	4	2,4	4	NA
S304P-B63	4	4	4	14,1	4	NA
S304P-B8	4	4	4	3,7	4	NA
S304P-C0.5	4	4	4	3,1	4	NA
S304P-C1	4	4	4	3,4	4	NA
S304P-C1.6	4	4	4	3,2	4	NA
S304P-C10	4	4	4	3,4	4	NA
S304P-C13	4	4	4	3,3	4	NA
S304P-C16	4	4	4	3,8	4	NA
S304P-C2	4	4	4	3,2	4	NA
S304P-C20	4	4	4	4,7	4	NA
S304P-C25	4	4	4	7,8	4	NA
S304P-C3	4	4	4	3,2	4	NA
S304P-C32	4	4	4	7,8	4	NA
S304P-C4	4	4	4	3,3	4	NA
S304P-C40	4	4	4	7,5	4	NA
S304P-C50	4	4	4	8,5	4	NA
S304P-C6	4	4	4	2,1	4	NA
S304P-C63	4	4	4	13,2	4	NA
S304P-C8	4	4	4	3,7	4	NA
S304P-D0.5	4	4	4	3	4	NA
S304P-D1	4	4	4	3,1	4	NA
S304P-D1.6	4	4	4	3	4	NA
S304P-D10	4	4	4	2,8	4	NA
S304P-D13	4	4	4	3,3	4	NA
S304P-D16	4	4	4	3,1	4	NA
S304P-D2	4	4	4	3,1	4	NA

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Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
S304P-D20	4	4	4	4,7	4	NA
S304P-D25	4	4	4	7,8	4	NA
S304P-D3	4	4	4	3	4	NA
S304P-D32	4	4	4	7,8	4	NA
S304P-D4	4	4	4	3,3	4	NA
S304P-D40	4	4	4	7,5	4	NA
S304P-D50	4	4	4	8	4	NA
S304P-D6	4	4	4	1,9	4	NA
S304P-D63	4	4	4	14,1	4	NA
S304P-D8	4	4	4	3,2	4	NA
S304P-K0.2	4	4	4	2,6	4	NA
S304P-K0.3	4	4	4	2,7	4	NA
S304P-K0.5	4	4	4	3	4	NA
S304P-K0.75	4	4	4	2,7	4	NA
S304P-K1	4	4	4	3,1	4	NA
S304P-K1.6	4	4	4	3	4	NA
S304P-K10	4	4	4	2,2	4	NA
S304P-K13	4	4	4	3,5	4	NA
S304P-K16	4	4	4	3,1	4	NA
S304P-K2	4	4	4	3,1	4	NA
S304P-K20	4	4	4	5,6	4	NA
S304P-K25	4	4	4	6,4	4	NA
S304P-K3	4	4	4	3	4	NA
S304P-K32	4	4	4	5,6	4	NA
S304P-K4	4	4	4	3,3	4	NA
S304P-K40	4	4	4	8,7	4	NA
S304P-K50	4	4	4	9,2	4	NA
S304P-K6	4	4	4	3,8	4	NA
S304P-K63	4	4	4	14,1	4	NA
S304P-K8	4	4	4	2,9	4	NA
S304P-Z0.5	4	4	4	5,1	4	NA
S304P-Z1	4	4	4	5,2	4	NA
S304P-Z1.6	4	4	4	5,7	4	NA
S304P-Z10	4	4	4	4,2	4	NA
S304P-Z16	4	4	4	5,6	4	NA
S304P-Z2	4	4	4	5,1	4	NA
S304P-Z20	4	4	4	6,1	4	NA
S304P-Z25	4	4	4	6,6	4	NA
S304P-Z3	4	4	4	5,2	4	NA
S304P-Z32	4	4	4	6,1	4	NA

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For other products than the Reference product covered by this PEP, the environmental impacts for each phase of the lifecycle are obtained by multiplying the values of the Reference product by the following coefficients:

* if the coefficient is "1", the impacts of the phase of the life cycle are assimilated to the Reference product, meaning that the impacts are unchanged in comparison to the Reference product

Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
S304P-Z4	4	4	4	5,1	4	NA
S304P-Z40	4	4	4	8,7	4	NA
S304P-Z50	4	4	4	12,2	4	NA
S304P-Z6	4	4	4	5,8	4	NA
S304P-Z63	4	4	4	14,1	4	NA
S304P-Z8	4	4	4	4,2	4	NA
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–	–	–	–	–	–	–

Registration number:		Drafting Rules:	PCR–ed4-EN-2021 09 06
ABBG-00142-V01.01-EN		Supplemented by:	PSR-0005-ed2-EN-2016 03 29
Verifier accreditation number:		Information and reference documents:	
VH42		www.pep-ecopassport.org	
Date of issue:	02.2023	Validity period:	5 years

Independent verification of the declaration and data, in compliance with ISO 14025: 2010

Internal	○	External	◉

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: 2010 "Environmental labels and declarations. Type III environmental declarations"

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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 (OD)	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	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 re-sources (primary energy and primary energy resources used as raw materials)	MJ (lower heating value)

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