Product Environmental Profile

Power Module for Galaxy V Ranges



General information

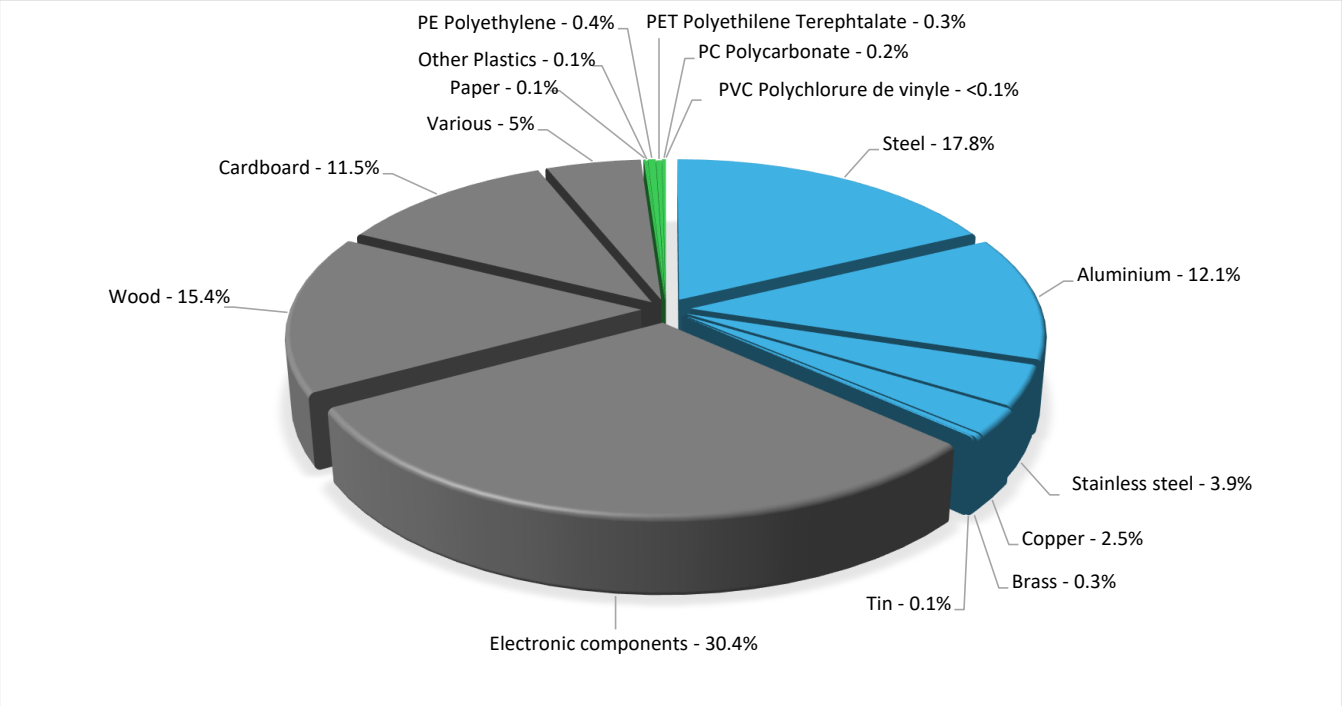
Reference product	Power Module, 50 kW at 400/480V, 25 kW at 208V, for Galaxy V Ranges - GVPM50KD
Description of the product	A 50kW (400V or 480V) / 25kW (208V) power module compatible with the Galaxy VS and Galaxy VL 3-phase UPS. When the power module is installed, the UPS automatically detects the change. Available as a power module replacement, or for increased capacity for the scalable Galaxy VS models.
Description of the range	The environmental impacts of this reference product are representative of the impacts of the other products of the range which are developed with a similar technology. The products of the range are: Galaxy VS Accessories

Linked products	Description	Net weight (kg)	Weight with packaging (kg)	Dimension (mm) HxWxD	Power Module Rating (PF=1)
GVPM50KD	**Galaxy V series Power Module 50kW 400V/480V, 25kW 208V**	**38.00**	**51.00**	**130×432×645**	**50kVA/kW**
GVPM20KD	Galaxy V series Power Module 20kW 400V/480V, 10kW 208V	25.00	38.00	130×432×645	20kVA/kW

Functional unit	To ensure the supply of power to remain within specified characteristics to equipment with load of 100 watts for a RSL of 1 year.
Declared unit	To ensure the supply of power to remian within specified characteristic to equipment with load of 50k Watts for a RSL of 15 years.

Constituent materials

Reference product mass	54 kg	including the product, its packaging, additional elements and accessories



Plastics	1.0%
Metals	36.7%
Others	62.3%

Substance assessment

RoHS compliance	Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 8 June 2011) on restriction of lead, mercury, cadmium, hexavalent chromium or flame retardants -PBB&PBDE or phthalates-DEHP, BBP, DBP, DIBP.
REACH compliance	Products of this range are designed in conformity with the requirements of the REACH 1907/2006 regulation and its latest updates.

Details of ROHS and REACH substances information are available on the Schneider-Electric website
https://www.se.com

Additional environmental information

End Of Life	Recyclability potential:	**50%**	The recyclability rate was calculated from the recycling rates of each material making up the product based on REEECY'LAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the EIME database and the related PSR was taken. If no data was found a conservative assumption was used (0% recyclability).

Environmental impacts

Reference service life time	15 years
Product category	Uninterruptible Power Supply (UPS) - without energy storage system incorporated - P > 10000W **There is no specific PSR criterion for power modules. As such modules are core components of the power system during UPS system operation, this report references PSR 0010 applicable to UPS systems.*
Life cycle of the product	The manufacturing, the distribution, the installation, the use and the end of life were taken into consideration in this study
Electricity consumtion	The electricity consumed during manufacturing processes is considered for each part of the product individually, the final assembly generates a negligable consumption
Installation elements	The product does not need specific tools or services, only packaging of the product needs to be eliminated.
Use scenario	Power consumption conforms to the requirements in PSR-0010-ed2-EN-2023 12 08_UPS:

Load rate	25%	50%	75%	100%
Proportion of time at specified load	0.25	0.5	0.25	0

The referent Power module is modeled to operate in normal mode (average efficiency of 97.0% and annual use of 96086.25 kWh) 100% of the time after 15 years.

Linked products	Description	Average energy efficiency	Electricity consumption (kWh over 15 years)
GVPM50KD	**Galaxy V series Power Module 50kW 400V/480V, 25kW 208V**	**97.0%**	**96,086**
GVPM20KD	Galaxy V series Power Module 20kW 400V/480V, 10kW 208V	96.1%	48,618

**The products of power modules are showed on the above table just in 400V voltage use scenario. If more products' data is required for product in 480V or 208V voltage, please contact Schneider Electric.*

Time representativeness	The collected data are representative of the year 2026			
Technological representativeness	The Modules of Technologies such as material production, manufacturing processes and transport technology used in the PEP analysis (LCA EIME in the case) are Similar and représentaive of the actual type of technologies used to make the product.			
Geographical representativeness	**Final assembly site**	**Use phase**		**End-of-life**
	India	Europe		Europe
Energy model used	**[A1 - A3]**	**[A5]**	**[B6]**	**[C1 - C4]**
	Electricity Mix; Low voltage; 2020; India, IN	No energy used	Electricity Mix; Low voltage; 2020; Europe, EU-27	Global, European and French datasets are used.

Detailed results of the optional indicators mentioned in PCRed4 are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.se.com/contact

The calculation result is scientific counting method. For example, 1.37E+06=1.37*10^6=1370000, 1.64E-04=1.64*10^(-4)=0.000164

All environmental impacts are calculated for the declared unit, then data should be divided by the factor calculated with formulas listed in PSR-0010-ed2.0-EN 2023 12 08 3.1.3 to get the functional unit result (see the section titled "Functional Unit").

Mandatory Indicators		Power Module, 50 kW at 400/480V, 25 kW at 208V, for Galaxy V Ranges - GVPM50KD						
Impact indicators	**Unit**	**Total (without Module D)**	**[A1 - A3] - Manufacturing**	**[A4] - Distribution**	**[A5] - Installation**	**[B1 - B7] - Use**	**[C1 - C4] - End of life**	**[D] - Benefits and loads**
Contribution to climate change	kg CO2 eq	3.98E+04	8.27E+02	3.59E+01	3.79E+01	3.88E+04	8.50E+01	-1.38E+02
Contribution to climate change-fossil	kg CO2 eq	3.90E+04	8.46E+02	3.59E+01	1.56E+01	3.80E+04	8.45E+01	-1.46E+02
Contribution to climate change-biogenic	kg CO2 eq	8.61E+02	0*	0*	2.23E+01	8.58E+02	4.28E-01	8.19E+00
Contribution to climate change-land use and land use change	kg CO2 eq	2.05E-04	1.96E-04	0*	7.06E-08	0*	9.58E-06	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	1.10E-03	9.04E-04	3.17E-05	1.49E-07	1.66E-04	1.13E-06	-2.24E-05
Contribution to acidification	mol H+ eq	2.09E+02	5.58E+00	1.58E-01	3.23E-02	2.03E+02	1.80E-01	-1.13E+00
Contribution to eutrophication, freshwater	kg P eq	9.73E-02	3.61E-03	0*	2.02E-04	9.30E-02	5.00E-04	-5.53E-04
Contribution to eutrophication, marine	kg N eq	2.46E+01	6.72E-01	7.26E-02	1.24E-02	2.38E+01	4.67E-02	-9.19E-02
Contribution to eutrophication, terrestrial	mol N eq	3.90E+02	7.49E+00	7.87E-01	1.03E-01	3.81E+02	5.00E-01	-9.97E-01
Contribution to photochemical ozone formation - human health	kg COVNM eq	7.82E+01	2.31E+00	2.57E-01	2.54E-02	7.54E+01	1.32E-01	-3.45E-01
Contribution to resource use, minerals and metals	kg Sb eq	7.75E-01	7.62E-01	0*	0*	1.26E-02	0*	-1.57E-02
Contribution to resource use, fossils	MJ	9.46E+05	1.37E+04	4.47E+02	1.01E+02	9.31E+05	4.63E+02	-2.40E+03
Contribution to water use	m3 eq	-3.61E+02	-3.31E+03	0*	0*	0*	0*	-5.11E+01

Inventory flows Indicators		Power Module, 50 kW at 400/480V, 25 kW at 208V, for Galaxy V Ranges - GVPM50KD						
Inventory flows	Unit	Total (without Module D)	[A1 - A3] - Manufacturing	[A4] - Distribution	[A5] - Installation	[B1 - B7] - Use	[C1 - C4] - End of life	[D] - Benefits and loads
Contribution to renewable primary energy used as energy	MJ	2.19E+05	8.62E+02	0*	5.06E+01	2.18E+05	2.33E+01	-5.11E+01
Contribution to renewable primary energy used as raw material	MJ	2.24E+02	2.24E+02	0*	0*	0*	0*	-1.46E+02
Contribution to total renewable primary energy	MJ	2.19E+05	1.09E+03	0*	5.06E+01	2.18E+05	2.33E+01	-1.97E+02
Contribution to non renewable primary energy used as energy	MJ	9.46E+05	1.35E+04	4.47E+02	1.01E+02	9.31E+05	4.63E+02	-2.39E+03
Contribution to non renewable primary energy used as raw material	MJ	2.78E+02	2.78E+02	0*	0*	0*	0*	-6.97E+00
Contribution to total non renewable primary energy	MJ	9.46E+05	1.37E+04	4.47E+02	1.01E+02	9.31E+05	4.63E+02	-2.40E+03
Contribution to use of secondary material	kg	5.06E+00	5.06E+00	0*	0*	0*	0*	0.00E+00
Contribution to use of renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to use of non renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to net use of fresh water	m^3	-8.10E+00	-7.72E+01	0*	0*	0*	0*	-1.19E+00
Contribution to hazardous waste disposed	kg	4.25E+03	3.15E+03	0*	1.40E+00	1.07E+03	1.82E+01	-1.23E+03
Contribution to non hazardous waste disposed	kg	6.31E+03	4.27E+02	0*	7.15E+00	5.85E+03	1.98E+01	-1.95E+02
Contribution to radioactive waste disposed	kg	1.69E+00	3.02E-01	7.15E-03	6.74E-04	1.38E+00	1.28E-03	-1.42E-01
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	3.23E+01	4.22E+00	0*	8.21E+00	0*	1.99E+01	0.00E+00
Contribution to materials for energy recovery	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to exported energy	MJ	4.17E+00	8.28E-01	0*	3.14E+00	0*	1.97E-01	0.00E+00

* represents less than 0.01% of the total life cycle of the reference flow

Contribution to biogenic carbon content of the product	kg of C	0.00E+00
Contribution to biogenic carbon content of the associated packaging	kg of C	5.21E+00

** The calculation of the biogenic carbon is based on the Ademe for the Cardboard (28%), EN16485 for Wood (39,52%), and APESA/RECORD for Paper (37,8%)*

Mandatory Indicators		Power Module, 50 kW at 400/480V, 25 kW at 208V, for Galaxy V Ranges - GVPM50KD							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	3.88E+04	0*	0*	0*	0*	0*	3.88E+04	0*
Contribution to climate change-fossil	kg CO2 eq	3.80E+04	0*	0*	0*	0*	0*	3.80E+04	0*
Contribution to climate change-biogenic	kg CO2 eq	8.58E+02	0*	0*	0*	0*	0*	8.58E+02	0*
Contribution to climate change-land use and land use change	kg CO2 eq	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to ozone depletion	kg CFC-11 eq	1.66E-04	0*	0*	0*	0*	0*	1.66E-04	0*
Contribution to acidification	mol H+ eq	2.03E+02	0*	0*	0*	0*	0*	2.03E+02	0*
Contribution to eutrophication, freshwater	kg P eq	9.30E-02	0*	0*	0*	0*	0*	9.30E-02	0*
Contribution to eutrophication marine	kg N eq	2.38E+01	0*	0*	0*	0*	0*	2.38E+01	0*
Contribution to eutrophication, terrestrial	mol N eq	3.81E+02	0*	0*	0*	0*	0*	3.81E+02	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	7.54E+01	0*	0*	0*	0*	0*	7.54E+01	0*
Contribution to resource use, minerals and metals	kg Sb eq	1.26E-02	0*	0*	0*	0*	0*	1.26E-02	0*
Contribution to resource use, fossils	MJ	9.31E+05	0*	0*	0*	0*	0*	9.31E+05	0*
Contribution to water use	m3 eq	0*	0*	0*	0*	0*	0*	0*	0*

Inventory flows Indicators		Power Module, 50 kW at 400/480V, 25 kW at 208V, for Galaxy V Ranges - GVPM50KD							
Inventory flows	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	2.18E+05	0*	0*	0*	0*	0*	2.18E+05	0*
Contribution to use of renewable primary energy resources used as raw material	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to total use of renewable primary energy resources	MJ	2.18E+05	0*	0*	0*	0*	0*	2.18E+05	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	9.31E+05	0*	0*	0*	0*	0*	9.31E+05	0*
Contribution to use of non renewable primary energy resources used as raw material	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to total use of non-renewable primary energy resources	MJ	9.31E+05	0*	0*	0*	0*	0*	9.31E+05	0*
Contribution to use of secondary material	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to use of renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to use of non renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to net use of freshwater	m^3	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to hazardous waste disposed	kg	1.07E+03	0*	0*	0*	0*	0*	1.07E+03	0*
Contribution to non hazardous waste disposed	kg	5.85E+03	0*	0*	0*	0*	0*	5.85E+03	0*
Contribution to radioactive waste disposed	kg	1.38E+00	0*	0*	0*	0*	0*	1.38E+00	0*
Contribution to components for reuse	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to materials for recycling	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to materials for energy recovery	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to exported energy	MJ	0*	0*	0*	0*	0*	0*	0*	0*

** represents less than 0.01% of the total life cycle of the reference flow*

Functional Unit Result

Mandatory Indicators		Power Module, 50 kW at 400/480V, 25 kW at 208V, for Galaxy V Ranges - GVPM50KD						
Impact indicators	Unit	Total (without Module D)	[A1 - A3] - Manufacturing	[A4] - Distribution	[A5] - Installation	[B1 - B7] - Use	[C1 - C4] - End of life	[D] - Benefits and loads
Contribution to climate change	kg CO_2 eq	5.31E+00	1.10E-01	4.78E-03	5.05E-03	5.18E+00	1.13E-02	-1.84E-02
Contribution to climate change-fossil	kg CO_2 eq	5.19E+00	1.13E-01	4.78E-03	2.07E-03	5.06E+00	1.13E-02	-1.95E-02
Contribution to climate change-biogenic	kg CO_2 eq	1.17E-01	0*	0*	2.97E-03	1.14E-01	5.71E-05	1.09E-03
Contribution to climate change-land use and land use change	kg CO_2 eq	2.74E-08	2.61E-08	0*	9.41E-12	0*	1.28E-09	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	1.47E-07	1.21E-07	4.23E-09	1.99E-11	2.22E-08	1.51E-10	-2.99E-09
Contribution to acidification	mol H^+ eq	2.79E-02	7.44E-04	2.10E-05	4.31E-06	2.71E-02	2.40E-05	-1.51E-04
Contribution to eutrophication, freshwater	kg P eq	1.30E-05	4.81E-07	0*	2.70E-08	1.24E-05	6.67E-08	-7.37E-08
Contribution to eutrophication, marine	kg N eq	3.28E-03	8.96E-05	9.69E-06	1.65E-06	3.17E-03	6.22E-06	-1.22E-05
Contribution to eutrophication, terrestrial	mol N eq	5.20E-02	9.99E-04	1.05E-04	1.37E-05	5.09E-02	6.67E-05	-1.33E-04
Contribution to photochemical ozone formation - human health	kg COVNM eq	1.04E-02	3.08E-04	3.43E-05	3.38E-06	1.01E-02	1.76E-05	-4.60E-05
Contribution to resource use, minerals and metals	kg Sb eq	1.03E-04	1.02E-04	0*	0*	1.68E-06	0*	-2.09E-06
Contribution to resource use, fossils	MJ	1.26E+02	1.83E+00	5.96E-02	1.35E-02	1.24E+02	6.18E-02	-3.20E-01
Contribution to water use	m^3 eq	-4.42E-01	-4.42E-01	0*	0*	0*	0*	-6.82E-03

Inventory flows Indicators		Power Module, 50 kW at 400/480V, 25 kW at 208V, for Galaxy V Ranges - GVPM50KD						
Inventory flows	Unit	Total (without Module D)	[A1 - A3] - Manufacturing	[A4] - Distribution	[A5] - Installation	[B1 - B7] - Use	[C1 - C4] - End of life	[D] - Benefits and loads
Contribution to renewable primary energy used as energy	MJ	2.92E+01	1.15E-01	0*	6.74E-03	2.91E+01	3.10E-03	-6.81E-03
Contribution to renewable primary energy used as raw material	MJ	2.99E-02	2.99E-02	0*	0*	0*	0*	-1.94E-02
Contribution to total renewable primary energy	MJ	2.92E+01	1.45E-01	0*	6.74E-03	2.91E+01	3.10E-03	-2.62E-02
Contribution to non renewable primary energy used as energy	MJ	1.26E+02	1.79E+00	5.96E-02	1.35E-02	1.24E+02	6.18E-02	-3.19E-01
Contribution to non renewable primary energy used as raw material	MJ	3.71E-02	3.71E-02	0*	0*	0*	0*	-9.29E-04
Contribution to total non renewable primary energy	MJ	1.26E+02	1.83E+00	5.96E-02	1.35E-02	1.24E+02	6.18E-02	-3.20E-01
Contribution to use of secondary material	kg	6.75E-04	6.75E-04	0*	0*	0*	0*	0.00E+00
Contribution to use of renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to use of non renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to net use of fresh water	m^3	-1.03E-02	-1.03E-02	0*	0*	0*	0*	-1.59E-04
Contribution to hazardous waste disposed	kg	5.66E-01	4.20E-01	0*	1.87E-04	1.43E-01	2.42E-03	-1.64E-01
Contribution to non hazardous waste disposed	kg	8.41E-01	5.70E-02	0*	9.54E-04	7.81E-01	2.65E-03	-2.60E-02
Contribution to radioactive waste disposed	kg	2.25E-04	4.03E-05	9.53E-07	8.99E-08	1.84E-04	1.71E-07	-1.89E-05
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	4.31E-03	5.62E-04	0*	1.09E-03	0*	2.65E-03	0.00E+00
Contribution to materials for energy recovery	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to exported energy	MJ	5.56E-04	1.10E-04	0*	4.19E-04	0*	2.63E-05	0.00E+00

** represents less than 0.01% of the total life cycle of the reference flow*

Contribution to biogenic carbon content of the product	kg of C	0.00E+00
Contribution to biogenic carbon content of the associated packaging	kg of C	6.94E-04

** The calculation of the biogenic carbon is based on the Ademe for the Cardboard (28%), EN16485 for Wood (39,52%), and APESA/RECORD for Paper (37,8%)*

Extrapolated Data

		Referent product	
Product information	Power Module for Galaxy V Ranges	GVPM50KD	GVPM20KD
	Weight with Packaging (kg)	**51.00**	38.00
Compulsory environmental indicators	Contribution to climate change (kg CO_2 eq)	**3.98E+04**	2.03E+04
	Contribution to Ozone depletion (kg CFC11 eq)	**1.10E-03**	7.44E-04
	Contribution to Acidification (mol H^+ eq)	**2.09E+02**	1.07E+02
	Contribution to eutrophication, freshwater (kg PO_4^{3-} eq)	**9.73E-02**	5.01E-02
	Contribution to eutrophication marine (kg N eq)	**2.46E+01**	1.26E+01
	Contribution to eutrophication, terrestrial (mol N eq)	**3.90E+02**	1.99E+02
	Contribution to photochemical ozone formation - human health (kg COVNM eq)	**7.82E+01**	4.01E+01
	Contribution to resource use, minerals and metals (kgSbeq)	**7.75E-01**	5.43E-01
	Contribution to resource use, fossils (MJ)	**9.46E+05**	4.82E+05
	Contribution to water use (m^3 eq)	**-3.61E+02**	-8.36E+02

**The extrapolated data is calculated based on the environmental impact data of the declared unit.*
***All products are calculated based on the Europe electricity origin during the general use stage in this report. If more accurate data is required for product sales in other regions, please contact Schneider Electric.*

Life cycle assessment performed with EIME version v6.2.4, database version 2025/04 in compliance with ISO14044, EF3.1 method is applied, for biogenic carbon storage, assessment methodology -1/1 is used

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range, ratios to apply can be provided upon request

Please note that the values given above are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an installation.

Registration number :	ENVPEP2510032_V1	*Drafting rules*	PEP-PCR-ed4-2021 09 06
		Supplemented by	PSR-0010-ed2-EN-2023 12 08
Date of issue	2026/3/20	*Information and reference documents*	www.pep-ecopassport.org
		Validity period	5 years

Independent verification of the declaration and data, in compliance with ISO 14021 : 2016

Internal X External

The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)

PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 or NF E38-500 :2022

The components of the present PEP may not be compared with components from any other program.

Document complies with ISO 14021:2016 "Environmental labels and declarations. Type II environmental declarations"

Schneider Electric Industries SAS

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