Product Environmental Profile

SureSeT™ Medium Voltage Switchgear Main with EvoPacT Breaker

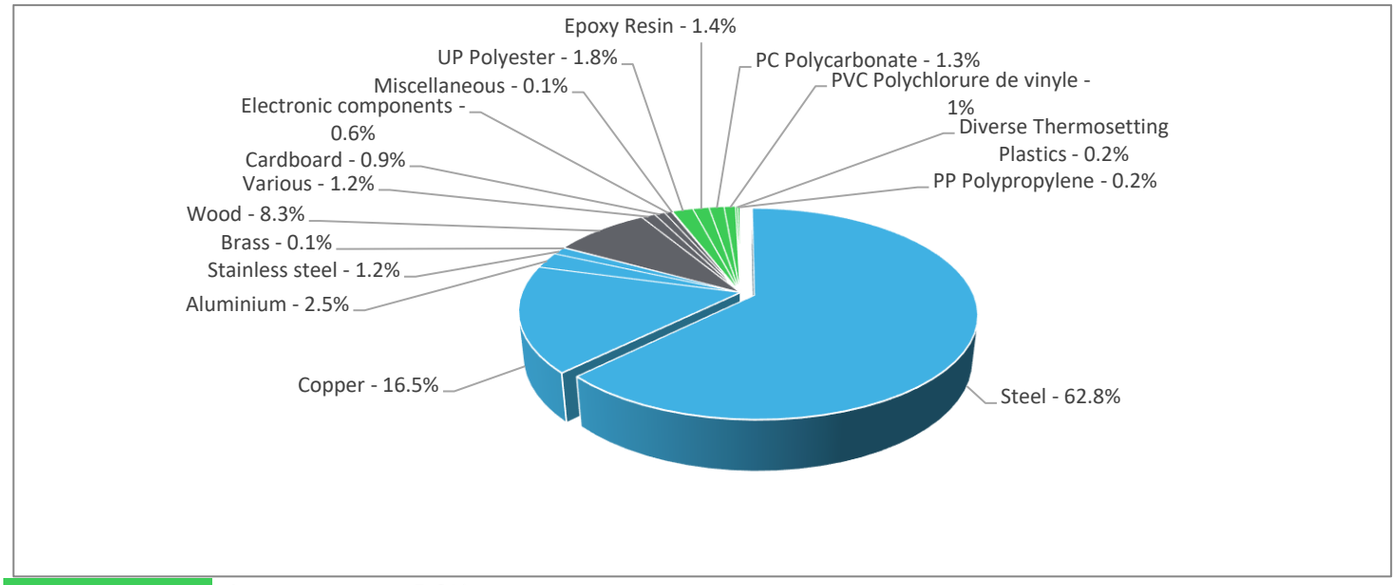
General information

Representative product	The SureSeT™ Medium Voltage Switchgear Main with EvoPacT Breaker presents the following relevent environmental aspects
Description of the product	ANSI/IEEE,cULus Listed metal-clad, Two-high, 4.76–15 kV drawout switchgear SureSET™ brand SQUARE D by Schneider Electric™ provides medium voltage electrical distribution power.
Functional unit	MV Switchgear designed to protect during *20 years the installation against overloads and short-circuits in circuit. This protection is ensured in accordance with the following parameters: U = Rated voltage (V) = 15 KV In = Rated current in continuous operation (A) = 2000A Np = Number of poles = 3 Icn = Rated breaking capacity (A) = 40 kA Cd = Tripping curve = instantaneous and time based trip settings. It is designed for use with the Type EvoPacT™ drawout circuit breaker, which employs vacuum technology. Type VR circuit breakers: • 1200 A and 2000 A, 40 kA. **Withdrawble medium voltage Auxiliary drawer (VT); **Withdrawble medium voltage Auxiliary drawer (CPT);

*The product can last for 40 years. But, As per Product Specific Rules (PSR) requirement we used 20 years of Reference Life Time in PEP.

Constituent materials

Reference product mass	1444000 g including the product, its packaging and additional elements and accessories



	Plastics	5.9%
	Metals	83.1%
	Others	11.1%

**Note: The environmental impacts have been calculated for SureSET Main switchgear with one EvoPacT Breaker, Devices as CPT, VT, and mini circuit breakers not included in this calculation. The CPT, VT and mini circuit breaker devices relates to separate PEP reports, related compulsory indicators should be added in case of usage of these devices in this product. The picture above showed represent a standard product, the calculation made is representing the standard offer only with not electronic user interface devices, or customized devices on it.

Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 2 January 2013, amended in March 2015, 2015/863/EU and in November 2017, 2017/2102/EU) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium or flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers – PBDE), Bis (2-ethylhexyl)phthalate - DEHP, Benzyl butyl phthalate– BBP, Dibutyl phthalate - DBP,

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website

http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page

Additional environmental information

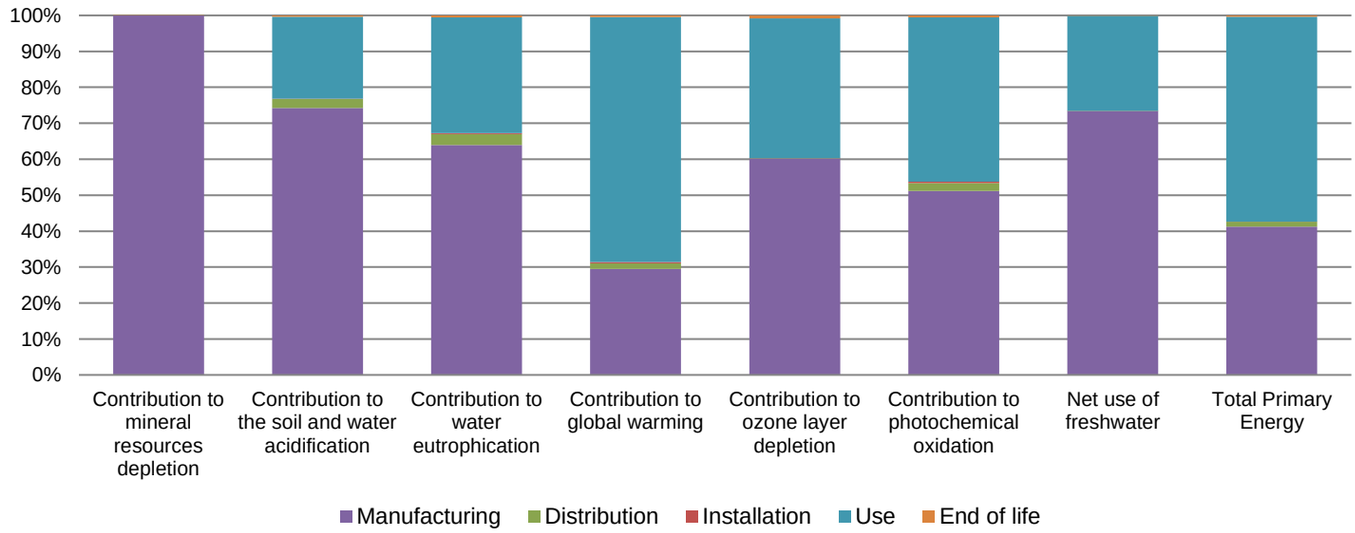
SureSeT™ Medium Voltage Switchgear Main with EvoPacT Breaker - SURESETMAIN	
Design	Reduced footprint area by 26% in comparsion to Masterclad product (Less material used), Durability increased from 20 years, now 40 years. Upgreadability ready on LV panels and Breaker digital ready.
Manufacturing	Manufactured at a Schneider Electric production site ISO14001 certified
Distribution	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 163918.6 g, consisting of Wood (72.2%) ,Steel (19.9%) and Cardoard (7.9%)
Installation	The product does not require special installation procedure and requires little to no energy to install. The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal).
Use	The product does not require special maintenance operations.
End of life	End of life optimized to decrease the amount of waste and allow recovery of the product components and materials No special end-of-life treatment required. According to countries' practices this product can enter the usual end-of-life treatment process. Recyclability potential: **84%** Based on "ECO'DEEE recyclability and recoverability calculation method" (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME).

Environmental impacts

Reference life time	The product can last for 40 years. But, As per Product Specific Rules (PSR) requirement we used 20 years of Reference Life Time in PEP.			
Product category	Other equipments - Passive product - continuous operation			
Installation elements	The product does not require special installation procedure and requires no energy to install.			
Use scenario	The product is in active mode 100% of the time with a power use of 87.92 W at 30% load rate/rated current (In) for 20* years.			
Geographical representativeness	United States of America			
Technological representativeness	The Modules of Technologies such as material production, manufacturing process and transport technology used in this PEP analysis (LCA-EIME in this case) are similar and representative of the actual type of technologies used to make the product in production.			
Energy model used	**Manufacturing**	**Installation**	**Use**	**End of life**
	Manufacturing Plant: Mexico	Electricity mix; AC; consumption mix, at consumer; 120V; US	Electricity mix; AC; consumption mix, at consumer; 120V; US	Electricity mix; AC; consumption mix, at consumer; 120V; US

*The product can last for 40 years. But, As per Product Specific Rules (PSR) requirement we used 20 years of Reference Life Time in PEP.

Compulsory indicators (For 20 years)		**SureSeT™ Medium Voltage Switchgear Main with EvoPacT Breaker - SURESETMAIN**					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	4.99E-01	4.99E-01	0*	0*	1.05E-04	0*
Contribution to the soil and water acidification	kg SO_2 eq	4.49E+01	3.33E+01	1.10E+00	3.79E-02	1.02E+01	1.86E-01
Contribution to water eutrophication	kg PO_4^{3-} eq	8.35E+00	5.34E+00	2.54E-01	2.12E-02	2.69E+00	4.57E-02
Contribution to global warming	kg CO_2 eq	1.57E+04	4.61E+03	2.44E+02	6.42E+01	1.07E+04	7.02E+01
Contribution to ozone layer depletion	kg CFC11 eq	4.97E-04	2.99E-04	4.94E-07	1.37E-07	1.93E-04	4.04E-06
Contribution to photochemical oxidation	kg C_2H_4 eq	3.58E+00	1.83E+00	7.85E-02	1.49E-02	1.64E+00	2.00E-02
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	7.12E+01	5.23E+01	2.18E-02	1.70E-02	1.89E+01	7.82E-02
Total Primary Energy	MJ	2.52E+05	1.04E+05	3.45E+03	8.43E+01	1.44E+05	9.37E+02



Optional indicators		SureSeT™ Medium Voltage Switchgear Main with EvoPacT Breaker - SURESETMAIN					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	1.86E+05	5.16E+04	3.43E+03	7.80E+01	1.30E+05	7.48E+02
Contribution to air pollution	m³	2.33E+06	1.41E+06	1.02E+04	1.54E+03	9.06E+05	6.62E+03
Contribution to water pollution	m³	9.07E+05	3.29E+05	4.01E+04	8.65E+02	5.26E+05	1.12E+04
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	1.11E+02	1.11E+02	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	1.12E+04	2.59E+03	4.60E+00	1.46E+00	8.62E+03	0*
Total use of non-renewable primary energy resources	MJ	2.41E+05	1.01E+05	3.45E+03	8.28E+01	1.35E+05	9.36E+02
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	9.97E+03	1.34E+03	4.60E+00	1.46E+00	8.62E+03	1.04E+00
Use of renewable primary energy resources used as raw material	MJ	1.24E+03	1.24E+03	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2.39E+05	9.98E+04	3.45E+03	8.28E+01	1.35E+05	9.36E+02
Use of non renewable primary energy resources used as raw material	MJ	1.52E+03	1.52E+03	0*	0*	0*	0*
Use of non renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*
Use of renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*
Waste categories	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Hazardous waste disposed	kg	4.10E+04	3.99E+04	0*	0*	2.85E+02	7.40E+02
Non hazardous waste disposed	kg	3.12E+03	1.42E+03	8.67E+00	5.80E+01	1.63E+03	2.88E+00
Radioactive waste disposed	kg	9.52E-01	7.72E-01	6.18E-03	1.71E-03	1.68E-01	4.46E-03
Other environmental information	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	6.31E+02	6.62E+01	0*	2.91E+01	0*	5.36E+02
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	2.51E+00	0*	0*	0*	0*	2.51E+00
Exported Energy	MJ	4.06E+01	3.82E+00	0*	3.68E+01	0*	0*

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

Life cycle assessment performed with EIME version EIME v5.9.4, database version 2020-12 in compliance with ISO14044.

The Manufacturing phase is impacting on Indicator of Abiotic depletion (elements, ultimate ultimate reserves) (ADPe for EN15804),Acidification potential of soil and water (total average for Europe) (A for PEP) & Net use of freshwater. The Use phase is impacting on Indicator Global warming (GWP100) (GWP for EN15804); The Manufactuing phase & Use phase is impacting equally on rest of environmental indicators.

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 :	SCHN-00807-V01.01-EN	*Drafting rules*	PCR-ed3-EN-2015 04 02
Verifier accreditation N°	VH 32	*Supplemented by*	PSR-0005-ed2-EN-2016 03 29
Date of issue	12/2022	*Information and reference documents*	www.pep-ecopassport.org
		Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2010			
Internal	External X		

The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)

PEP are compliant with XP C08-100-1 :2016

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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