

Product Environmental Profile

PrismaSet M Copper Busbar Floor Standing Switchboards upto 4000A





General information

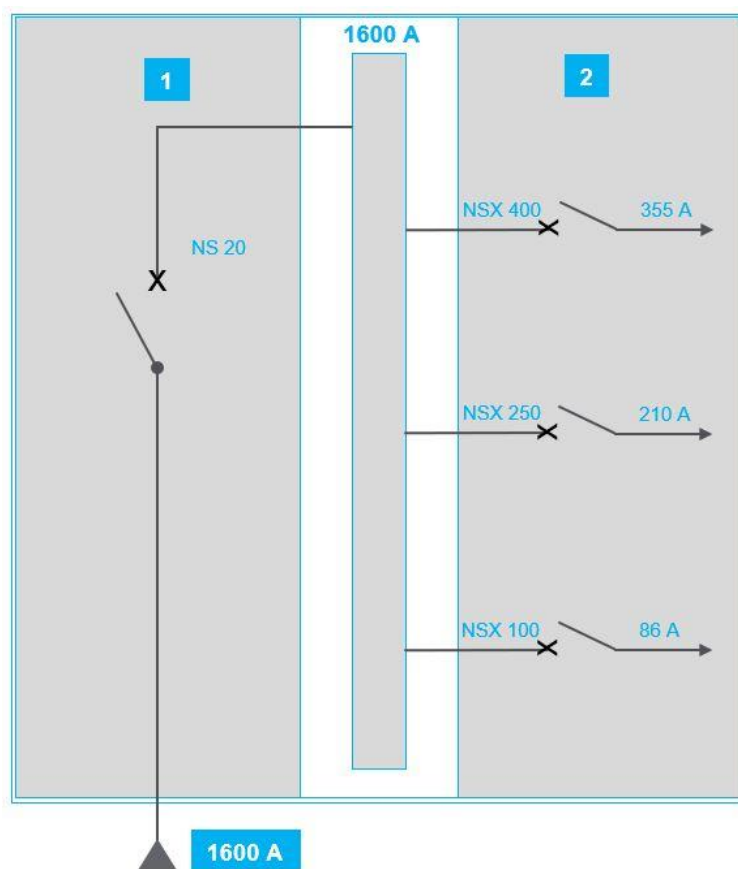
Representative product	PrismaSet M Copper Busbar Floor Standing Switchboards upto 4000A
Description of the product	The product used for the analysis is a PrismaSet M 1600A switchboard with components for the following functional units: • Incoming for: - 1600A fixed circuit breaker (typically Compact NS) • Outgoing for: - 400A horizontal circuit breakers (typically Compact NSX) - 250A horizontal circuit breakers (typically Compact NSX) - 100A vertical circuit breakers (typically 4 pieces Compact NSX) - Modular circuit breakers (typically 4 rows of Acti 9 devices). The main function of PrismaSet M Copper Busbar Floor standing switchboards upto 4000A is: • Installing electrical devices (mounting plates and front plates) • Distribution of current (distribution blocks, busbars, etc) • Connection of switchboards on site (connections, terminal blocks, cable tie supports, etc)
Functional unit	It is an assembled enclosures with busbars for a maximum current value of up to 4000A. It is to protect the people against direct contact with live parts and allow monitoring, control and protection devices in multiples enclosures by ensuring the installation of electrical devices, distribute current and connect switchboards for 20 years. Continuous current pass through the busbars for the devices to be connected. It can withstand mechanical impacts (IK10 - IEC62262) and the penetration of solid objects and liquids (up to IP54 - IEC 60529). Use of the components ensures the creation of switchboards complying with standards IEC 61439-1 and 2, as well as local versions with the following electrical characteristics: • Rated insulation level of main busbars: 1000 V • Rated peak withstand current I_{pk}: 220 kA • Rated short-time withstand current I_{cw}: 100 kA rms / 1 second • Frequency: 50/60 Hz.

Lists of functions included in the configuration:

The product used for the analysis is the typical PrismaSet M Copper Busbar Floor standing switchboards 1600A product, which is comprised of the following commercial references:

LSM53433A, LSM53436A, LSM53438A, LSM53444A, LSM57471A, LSM58089A, LSM58092A, LSM58494A, LSM58498A, LSM58853A, LSX58054A, LVS04239, LVS04243, LVS04255, LVS04506, LVS04751, LVS04753, LVS04767, LVS04772, PFCD3H2W2DX1P, PFCEP5MNX63XH, PFCEXHXNS16FA, PFCFXHX62D40A, PFCM3HXIN16FV, PFCMPHXNX25XH, PFCMPHXNX25XV, PFCMPHXNX63XH, PFCSVHXW2DX2A, PFXD6H2W3DX1P, PFXD6H2W6DX1T, PFXEXXXXXXXXS, PFXFXHXW3D40A, PFXFXHXW6D40A, PFXGXHX62D40A, PFXGXHXW3D40A, PFXGXHXW6D40A, PFXMX4MXXXXXD, PFXP5H2W6DX1R, PFXP5H2W8DX1R, PFXP6H2WXD41A, PFXPXH2W3DX1R, PFXSV6MWXD4XA, PXCE44MNX25XH, PXCEX4MXXXXXT, PXXEP5MNX25TV, PXXEX1MW5XXXP, PXXEX2MW5XXXP, PXXEX3MMDXXXA, PXXEX3MW5XXXP, PXXEX4MW5XXXP, PXXEX5MMDXXXA

Note: This product was analyzed without circuit breakers.

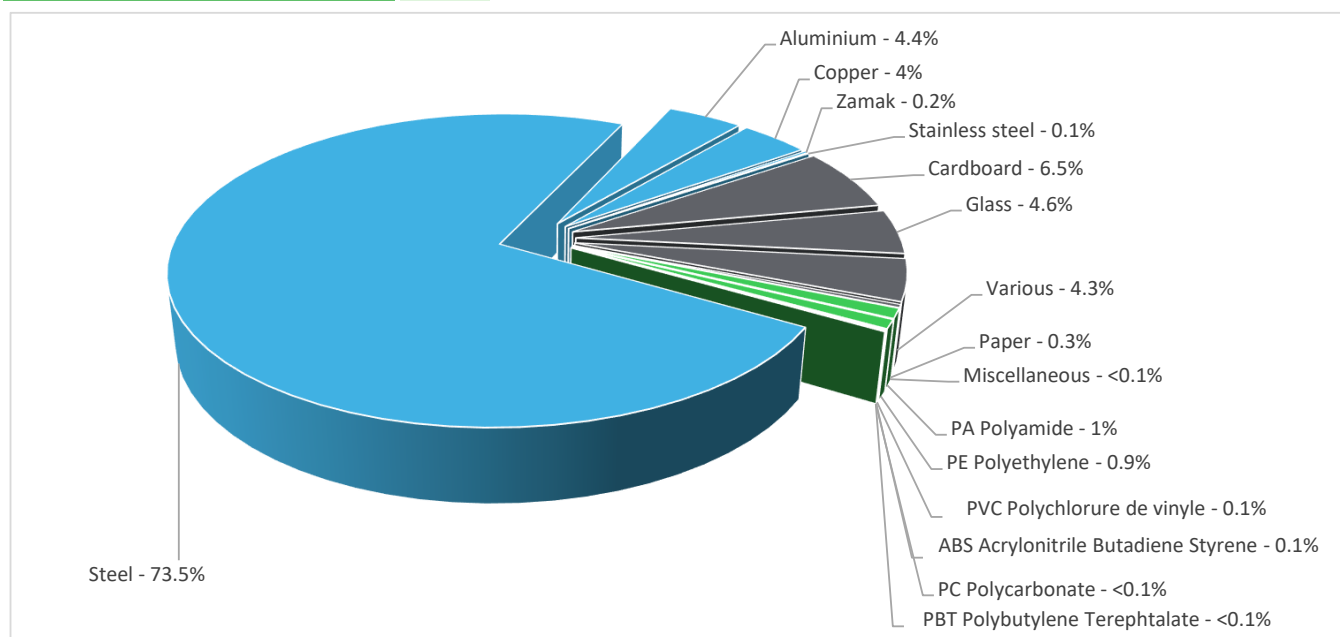


Constituent materials

Reference product mass

379872
g

including the product, its packaging and additional elements and accessories



Plastics	2.1%
Metals	82.2%
Others	15.7%



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, Diisobutyl phthalate - DIBP) as mentioned in the Directive.

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

The PrismaSet M Copper Busbar Floor Standing Switchboards upto 4000A presents the following relevant environmental aspects

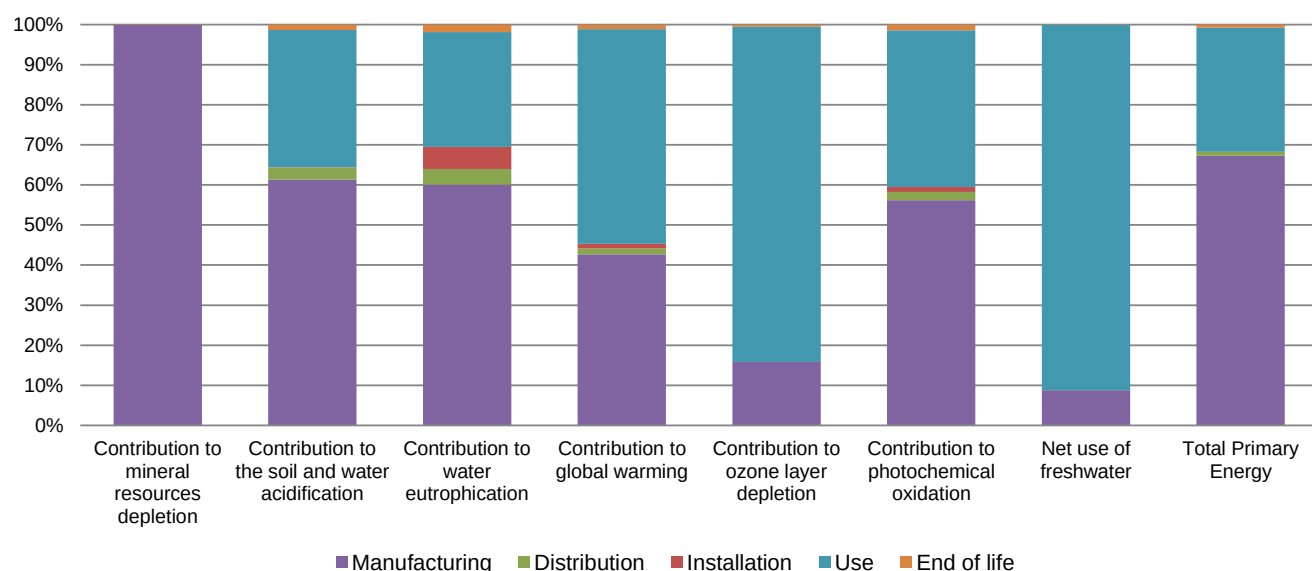
Manufacturing	Manufactured at a Schneider Electric production site ISO14001 certified
Distribution	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 28320.8 g, consisting of Cardboard (87.46%), PE film (8.95%), Paper (3.59%) Product distribution optimised by setting up local distribution centres
Installation	The product does not require special components included during installation operations.
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: 85% 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	20 years			
Product category	Other equipments - Passive product - continuous operation			
Installation elements	No special components needed			
Use scenario	load rate / rated current (In): 30 % of In percentage of utilization time: 100% Assumed service lifetime is 20 years and use scenario is : product dissipation is 15.8 W at 30% loading rate .			
Geographical representativeness	Europe, Singapore, Thailand, Vietnam, Indonesia, Australia, Egypt, Kenya			
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.			
Energy model used	Manufacturing	Installation	Use	End of life
	Energy model plant: China	Electricity mix; AC; consumption mix, at consumer; 127-230V; ID	Electricity mix; AC; consumption mix, at consumer; 127-230V; ID	Electricity mix; AC; consumption mix, at consumer; 127-230V; ID
		Electricity mix; AC; consumption mix, at consumer; 220V; EG	Electricity mix; AC; consumption mix, at consumer; 220V; EG	Electricity mix; AC; consumption mix, at consumer; 220V; EG
		Electricity mix; AC; consumption mix, at consumer; 240V; AU	Electricity mix; AC; consumption mix, at consumer; 240V; AU	Electricity mix; AC; consumption mix, at consumer; 240V; AU
		Electricity grid mix 1kV-60kV; AC; consumption mix, at consumer; 1kV - 60kV; EU-27	Electricity grid mix 1kV-60kV; AC; consumption mix, at consumer; 1kV - 60kV; EU-27	Electricity grid mix 1kV-60kV; AC; consumption mix, at consumer; 1kV - 60kV; EU-27

Compulsory indicators		PrismaSet M Copper Busbar Floor Standing Switchboards upto 4000A					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	3.34E-02	3.34E-02	0*	0*	4.01E-05	0*
Contribution to the soil and water acidification	kg SO ₂ eq	7.52E+00	4.61E+00	2.24E-01	7.93E-03	2.58E+00	1.02E-01
Contribution to water eutrophication	kg PO ₄ ³⁻ eq	1.33E+00	7.98E-01	5.15E-02	7.30E-02	3.81E-01	2.48E-02
Contribution to global warming	kg CO ₂ eq	3.24E+03	1.38E+03	4.90E+01	3.80E+01	1.73E+03	3.70E+01
Contribution to ozone layer depletion	kg CFC11 eq	4.10E-04	6.49E-05	9.93E-08	9.90E-08	3.43E-04	2.16E-06
Contribution to photochemical oxidation	kg C ₂ H ₄ eq	7.59E-01	4.26E-01	1.60E-02	9.20E-03	2.97E-01	1.10E-02
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	1.43E+03	1.25E+02	0*	0*	1.31E+03	0*
Total Primary Energy	MJ	6.60E+04	4.44E+04	6.93E+02	2.64E+01	2.04E+04	5.11E+02



Optional indicators		PrismaSet M Copper Busbar Floor Standing Switchboards upto 4000A					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	2.90E+04	1.21E+04	6.89E+02	2.41E+01	1.58E+04	4.10E+02
Contribution to air pollution	m³	3.77E+05	2.61E+05	2.08E+03	2.01E+02	1.10E+05	3.62E+03
Contribution to water pollution	m³	2.00E+05	8.59E+04	8.06E+03	2.18E+03	1.00E+05	3.96E+03
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	1.20E+02	1.20E+02	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	2.57E+03	5.98E+02	9.24E-01	0*	1.97E+03	5.72E-01
Total use of non-renewable primary energy resources	MJ	6.34E+04	4.38E+04	6.92E+02	2.63E+01	1.84E+04	5.10E+02
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	2.06E+03	8.95E+01	9.24E-01	0*	1.97E+03	5.72E-01
Use of renewable primary energy resources used as raw material	MJ	5.09E+02	5.09E+02	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	6.25E+04	4.29E+04	6.92E+02	2.63E+01	1.84E+04	5.10E+02
Use of non renewable primary energy resources used as raw material	MJ	8.76E+02	8.76E+02	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	3.17E+03	2.74E+03	0*	0*	1.65E+01	4.07E+02
Non hazardous waste disposed	kg	4.39E+03	2.94E+03	1.74E+00	2.86E+01	1.42E+03	1.57E+00
Radioactive waste disposed	kg	1.44E+00	4.47E-01	1.24E-03	1.49E-04	9.88E-01	2.43E-03
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	3.31E+02	3.36E+01	0*	0*	0*	2.97E+02
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	1.39E+00	0*	0*	0*	0*	1.39E+00
Exported Energy	MJ	8.15E-02	7.66E-03	0*	7.39E-02	0*	0*

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

Life cycle assessment performed with EIME version EIME v5.9.3, database version 2020-12 in compliance with ISO14044.

The manufacturing phase and some of the indicators on use phase is the life cycle phase which has the greatest impact on the majority of environmental indicators (based on compulsory 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.

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		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 »			





Schneider Electric Industries SAS
Country Customer Care Center
<http://www.se.com/contact>
35, rue Joseph Monier
CS 30323
F- 92506 Rueil Malmaison Cedex
RCS Nanterre 954 503 439
Capital social 896 313 776 €

www.se.com

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