50, avenue du Nouveau Monde
74300 Cluses
Tél. 04 50 96 83 79

Product Environmental Profile
TLW 25 RTS Battery

Reference product

> Reference product

TLW 25 RTS

Ref 1003293A

> Aditionnal product

Battery pack Ref 9021217

Charger Ref 9021027 Ref 9027545
Ref 9021028 Ref 9027597
Ref 9025166 Ref 9026942
Ref 9025165

> Functional unit

Ensure the closing and opening action by performing 10 000 operating cycles, over a service life of 15 years, with a torque of 0.8 Nm, on a run of 2 meters, corresponding to 26 windings turns per half-cycle, with a tube diameter of 25 mm.

> Reference covered

TILT & LIFT RTS CENTRAL UNIT 1003293A

Materials and substances

All useful measures have been adopted to ensure that the materials used in the composition of the product do not contain any substances banned by the legislation in force at the time of marketing.

Plastics			Metals			Other		
	g	%		g	%		g	%
PC	57	9.1	**Steel**	59.2	9.2	**Polyurethane Glue**	30	4.2
ABS	26.6	4.2	**Copper**	45.7	7.1	**Lithium iron phosphate**	28.5	4.1
PET	22.3	3.2	**Aluminium**	31	4.9	**Raw material**	17.2	2.7
polybuthylene terephtahalate	19.0	3.0	**Zamak**	12.5	2.0	**Glass fiber**	11.7	1.9
PA 6.6	18.0	2.9	**Bronze**	12.0	1.9	**Graphite**	10.0	1.6
POM	9.0	1.4	**Aluminium alloy**	6.1	1.0	**Quartz sand**	6.8	1.1
Epoxy resin	7.8	1.2	**Nickel**	4.0	0.6	**Alumine**	2.4	0.4
PVC	5.2	0.8	**Tin**	2.0	0.3	**Carbon black**	1.6	0.3
Epoxy resin liquid	3.7	0.6	**Iron pellet**	1.5	0.2	**Lubricant**	1.4	0.2
PTFE	3.2	0.5	**Stainless steel**	1.1	0.2	**Tetrabromobis-phenol A**	1.1	0.2
PELD	2.2	0.3	**Zinc**	0.7	0.1	**Other**	0.5	0.1
PP	2.2	0.3	**Other**	1.2	0.2	**Total**	111.2	16.8
Silicon	1.3	0.2	**Total**	177.0	27.7	**Packaging**		
Other	1.2	0.2				**Paper**	119	18.5
Total	178.7	27.9				**Cardboard**	60	9.1
						Total	179	27.6
Total mass of reference flow: 646g								
Estimated recycled content : 31.9%								

> CHEMICAL SUBSTANCES

The product covered by this PEP comply with REACH regulation and RoHS directive 2011/65/EU, 2015/863 et 201/2102.

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Manufacturing

The devices covered in this PEP are manufactured in a production that has adopted an environmental management approach.

> Energy model
Electricity mix AC; China, CN

Distribution

> Packaging is continuously improved by reducing the amount and using a maximum of recycled materials. This scenario is considered for all the shipping of Act for Green product made around the world.
> The unit pack has been modeled here. It is made up of :
- 100% recycled fiber paper instructions
- cardboard with a minimum of 50% recycled fibers

Installation

> Installation elements
There is no element included in this phase.

> Installation processes
There is no installation process.

> Energy model
Not applicable

Use

For the considered scenario, one full charge battery can stand 9 months and need to be charged for 5h, during that time 35Wh are consummed from the charger linked to the mural plug. 19 operation are needed over the 15 years, which represent 665Wh.

> Energy model of the use phase: Electricity mix AC; China, CN

Two batteries are required in order to meet the need of the product, one is delivered with the product, the other need to be buy after. The end of life treatment of the first batterie is counted here, the second one will be in the End of life phase.

> Consummables and maintenance : 2 Iron phosphate li-ion (LFP) battery (one battery is delivered with the product, not the other one)

End of life

> Typical transport conditions

Considering the complexity of the electric and electronic recycling channel and our lack of knowledge about the end of life processes implemented all around the world, we considered:

- 1000 km of transport
- A waste pretreatment of electrical and electronic equipment, including dismantling and material separation.
- A waste incineration of electrical and electronic equipment

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Environmental impacts

Evaluation of the environmental impact covers the following life cycle stages: manufacturing, distribution, installation, use and end of life.
All calculations are done with EIME software version EIME© v5.9.1 and CODDE 2020-12

	Unit	Sum	Manufacturing	Distribution	Installation	Use	End of life
Acidification potential of soil and water	(kg SO2 eq.)	8.79E-02	4.71E-02	5.51E-03	7.67E-05	3.49E-02	2.85E-04
Abiotic depletion (elements. ultimate reserves)	(kg antimony eq.)	8.00E-04	6.93E-04	7.04E-09	9.38E-10	1.07E-04	2.40E-09
Abiotic depletion (fossil fuels)	(MJ)	1.43E+02	1.04E+02	2.47E+00	1.62E-01	3.63E+01	5.61E-01
Air pollution	(m^3)	1.84E+03	1.24E+03	2.66E+01	3.08E+00	5.59E+02	8.42E+00
Eutrophication	(kg PO4--- eq.)	3.00E-02	1.72E-02	5.43E-04	1.90E-04	1.17E-02	3.32E-04
Global Warming	(kg CO2 eq.)	1.63E+01	1.01E+01	1.94E-01	1.58E-01	4.88E+00	9.68E-01
Ozone layer depletion	(kg CFC-11 eq.)	1.24E-05	6.46E-06	3.33E-10	4.78E-10	5.92E-06	2.67E-09
Photochemical oxidation	(kg ethylene eq.)	3.25E-03	2.12E-03	2.73E-04	3.68E-05	8.07E-04	1.78E-05
Water pollution	(m^3)	1.54E+03	1.06E+03	2.89E+01	4.66E+00	4.18E+02	2.93E+01
Total Primary Energy	MJ	1.94E+02	1.43E+02	2.49E+00	1.80E-01	4.78E+01	6.95E-01
Total use of renewable primary energy resources	MJ	9.76E+00	7.94E+00	3.17E-03	3.66E-03	1.80E+00	4.66E-03
Total use of non-renewable primary energy resources	MJ	1.84E+02	1.35E+02	2.48E+00	1.76E-01	4.60E+01	6.90E-01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	9.58E+00	7.76E+00	3.17E-03	3.66E-03	1.80E+00	4.66E-03
Use of renewable primary energy resources used as raw material	MJ	1.80E-01	1.80E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1.77E+02	1.29E+02	2.48E+00	1.76E-01	4.52E+01	6.90E-01
Use of non renewable primary energy resources used as raw material	MJ	6.76E+00	5.96E+00	0.00E+00	0.00E+00	7.98E-01	0.00E+00
Use of non renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of secondary material	kg	2.13E-01	2.13E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of freshwater	m3	2.01E-01	1.33E-01	1.50E-05	3.41E-05	6.75E-02	3.62E-04
Hazardous waste disposed	kg	1.17E+02	6.45E+01	0.00E+00	1.00E-04	5.18E+01	6.11E-01
Non hazardous waste disposed	kg	9.19E+00	5.33E+00	5.99E-03	1.63E-01	3.48E+00	2.13E-01
Radioactive waste disposed	kg	5.56E-03	3.05E-03	4.16E-06	4.33E-06	2.50E-03	7.07E-06
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	0.00E+00	0.00E+00	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	7.26E-02	9.55E-03	0.00E+00	6.30E-02	0.00E+00	0.00E+00

> Extrapolation rule:

Impacts for the charger are included in the calculation and are valid for every reference of charger on page 1.

Registration number : **SOMF-00067-V01.01-EN**	Drafting Rules: PCR-ed3-EN-2015 04 02 Supplemented by PSR-0006-ed1.1-FR-2015 10 16
Accreditation number: VH18	Programme information: **www.pep-ecopassport.org**
Date of issue: 12-2021	Validity period: 5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2010 Internal ❒ External ☒ Bureau Veritas LCIE	
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 programme.	
Document in compliance with ISO 14025: 2010 "Environmental labels and declarations. Type III environmental declarations	
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