NGO

Solar Lamp Type B

Overview

Item	Solar Lamp Type - B
Item Code	4500000047

Description

Specifications for Solar Lamp - Type B	
Solar Panel Power	Rechargeable by solar panel and 220V (cable and charge must be provided with the lamp, charger can be integrated or separate)
Full Battery Charge	Twelve (12) hours sunlight. Rechargeable Lithium-ion batteries only. Lithium-ion requires declaration for transport of dangerous goods, under UN3481
Connectors	Female USB outlet, to charge a mobile phone Female Micro-USB inlet for connecting the solar panel or the charger
Features	Two (2) positions only, high beam and low beam. Battery charging indicator light.
Charge Cycles	Low Self Discharge, 500+ charges

Specifications for Solar Lamp - Type B	
Material	Casing made of shockproof plastic
Battery Protection	Automatic protection against deep battery discharge and overcharge
Light Output Angle	360 degrees, omni-directional
Charging Outlet (USB-A) Performance	Outlet minimum voltage with no load: 5V Outlet minimum current with load: 0.4A at 4.5V Outlet minimum available energy: 3-5Wh Outlet minimum available energy after 4 hours charge starting from 100% discharged battery: 1Wh
Fixation System	Foldable handle, hook, strap or other mechanism to suspend the lamp e.g. from tent pole or branch
Packaging	Wrapped in soft cardboard for protection (no 2 plastic bags), packed in an individual strong cardboard box, IATA packaging compliant with lithium-ion batteries regulation
Marking	Recommendation to recycle batteries

All Non-Food Items (NFIs) have been designed, manufactured, and packaged for distribution ensuring minimal impacts on the environment. Through rigorous Quality Assurance processes along with risk and life cycle assessments, NFIs are evaluated holistically throughout their entire life cycle on their impact on the environment and for improved durability to enable reaching beyond their intended service life, hence reducing the need for

frequent replacements. NFIs can be recycled and further re-purposed or upcycled to suit multiple uses such as converting to different usage like handbags, car covers, recycled wastewater collection etc.

All unnecessary sub-packaging made of single-use plastics are avoided. When sub-packaging is exceedingly necessary, prefers 100% compostable bio-plastic packaging made from biomass or unbleached, natural-coloured, recycled paper or using paper with FSC forest management certification.

Reference Drawing

PACKAGING LAYOUT

Key Considerations

Acceptable Quality Limits (AQL)

AQL Definitions, penalties, Corrective Action Plan and Quality Control rules.	QC-AQLS00V8 Ver8.0 04.02.2022

Nonconformities classification: Critical: C; Major: M; Minor: m

Definitions:

Critical nonconformity : Any discrepancy which might harm an user or makes it impossible to use the product properly is considered to be critical. Lots with Critical discrepancy are subject to refusal.

Major nonconformity : Any discrepancy which makes the use of the product less efficient than expected is considered to be major. Lots with Major discrepancies can be accepted.

Minor nonconformity : Any discrepancy which does not have an influence on the performance of the product is considered to be minor. Lots with Minor discrepancies can be accepted.

Non-Conformities classification and related penalties:

Corrective action plan must be implemented by the vendor on its processes, addressing root causes of occurrence (production) and of non-detection of the nonconformity (QC).

Critical: (AQL 0)

Nonconforming characteristic (number of nonconforming items ≥ Rejection number. ISO-2859-1) implies a penalty of 10% of the value of the total PO per each critical non-conformity to be charged to the supplier. Determination of lot acceptability is to be decided

Major: (AQL 4.0)

Nonconforming characteristic (number of nonconforming items ≥ Rejection number. ISO-2859-1) implies 0.5% penalty of the value of the total PO per each major non-conformity to be charged to the supplier. Determination of lot acceptability is to be decided

Minor: (AQL 6.5)

Nonconforming characteristic (number of nonconforming items ≥ Rejection number. ISO-2859-1) implies implies 0.25% penalty of the value of the total PO per each minor non-conformity to be charged to the supplier. Determination of lot acceptability is to be decided

Quality Control and Acceptance Quality Level

- The AQLs herein are after IFRC/ICRC with additional parameters on markings and required packaging.

- The Method of testing is drawn from ISO-2859-1 International Standards (table1: Sample size code letters, and table 2-A: Single sampling plans for normal inspection). The samples will be taken randomly by the buyer from the delivered items and then inspected.

- The buyer can decide either to inspect the lot at QC laboratory or to use an inspection company for analysis, or both. Transport to laboratory and analysis cost for lab testing are at expense

- The vendor can contest the results of the Quality Control done at warehouses by requesting a lab testing. In this case transport to laboratory and analysis cost for lab testing are at expense of the seller.

- **Nonconformity**: non-fulfilment of a specified characteristic requirement.

- **Nonconforming item**: item with one or more nonconformities.

- **Lot**: definite amount of some product, material or service, collected together.

- **Sample**: set of one or more items taken from a lot and intended to provide information on the lot.

	AQL for Solar Lamps, for family Specifications and Quality Control	)MQC-AQLS00V8 Ver8.0 04.02.2022

Nonconformities classification: Critical: **C**; Major: **M**; Minor: **m**

Items	Characteristics	Nonconformities classification	QC type	AQL	QC Inspection a l warehouses and lab testing
Boxes	Marking on the primary packaging (individual carton box	m	Ok/Nok	6.5	Marking and language to be validated by th l for each Purchase order. Standard marking expected: recommendation to recycle batteries + coloured picture of the lamp + instruction on lamp usage.
	Packaging of the primary packaging (individual carton box)	m	Ok/Nok	6.5	Packed in an individual strong cardboard box (no plastic bags).IATA packaging compliant with lithium-ion batteries regulation.
	Marking on secondary packaging (marking on the carton box)	m	Ok/Nok	6.5	Marking and language to be validated by th for each Purchase order.Standard marking clearly marked on 2 sides of the carto l; Solar lamps; Total weight: ; Purchase order Number:Label must remain readable after minimum 10 handlings. No supplier logo allowed
	Secondary packaging, box sealing	m	Ok/Nok	6.5	Box is well sealed with large adhesive tape (50 mm Minimum), secured with 2 traps.
	Secondary packaging, box general quality	m	Ok/Nok	6.5	Wrapped in soft cardboard for protection (no plastic bags). Export-quality 5 ply cardboard strong enough to withstand multiple handling and stacking up to 6 m. No holes, no tears.
	Secondary packaging, quantity per parcel	m	Ok/Nok	6.5	As per purchasing contract. Standard 10 lamps per parcel.
Solar lamps	Rechargeable	C	Ok/Nok	0	Rechargeable by solar panel and 220 V (cable and charger must be provided with the lamp; charger can be integrated or separate)
	Battery type	C	Ok/Nok	0	Rechargeable lithium-ion batteries only.
	General quality	M	Ok/Nok	4	Up to the highest industry standards
	Connectors	C	Ok/Nok	0	Female Micro-USB inlet for connecting the solar panel or the charger
	Features	M	Ok/Nok	4	2 positions only, high beam and low beam
	Material	M	Ok/Nok	4	Casing made of shockproof plastic
	Waterproof	M	Ok/Nok	4	Rain resistant
	Charge cycles	M	Ok/Nok	4	Low Self Discharge, 500+ charges
	Battery protection	C	Ok/Nok	0	Automatic protection against deep battery discharge and overcharged
	Light output	C	Ok/Nok	0	360 degrees, omnidirectional
	Total Lux	M	Measurable	4	See table below
	Solar panel	C	Ok/Nok	0	Separate (with a 3m cord with male Micro-USB connector to connect to the Micro-USB inlet of the lamp or to charge a mobile phone).
	Time to fully charge	M	Measurable	4	12h maximum bright sun light.
	Charging outlet (USB-A) performances	M	Measurable	4	Outlet minimum voltage with no load: 5V Outlet minimum current with load: 0.4A at 4.5V Outlet minimum available energy: 3.5Wh Outlet minimum available energy after 4 hours charge starting from 100% discharged battery: 1Wh
	Suspension system	C	Ok/Nok	0	Foldable handle, hook, strap or other mechanism to suspend the lamp e.g. from tent pole or branch

Brightness Test

High brightness (duration test:3 hours) Charging time: 12 hours. Unit: Lux	
Minimum average brightness at full light at beginning	28
Minimum average brightness at full light after 2h:	17
Minimum average brightness at full light after 3h:	9
Low brightness (duration test: 6 hours) Charging Time:12 hours. Unit: Lux	
Minimum average brightness at low light after 4h	5
Minimum average brightness at low light after 6h	2

REFERENCE DRAWING

PACKAGING LAYOUT

Key Points

- AQL is considered a "live" document. staff users of this AQL document must check SharePoint that they have the latest version.

References and Tools

- Solar Lamp AQL

Other Entries in this Topic

- Logistics Emergency Catalogue

Document date

Document last updated: Jan 2023