International Organization for Migration (IOM) The UN Migration Agency	**AQL** **Definitions, penalties, Corrective Action Plan and Quality Control rules.**	IOMQC-AQLS00V8 Ver8.0 Rev 1 24.10.2022

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 by IOM.

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 by IOM.

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 by IOM.

Quality Control and Acceptance Quality Level

- The AQLs herein are after IFRC/ICRC with additional parameters on IOM 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 IOM QC laboratory or to use an inspection company for analysis, or both. Transport to laboratory and analysis cost for lab testing are at expense of IOM.
- The vendor can contest the results of the Quality Control done at IOM 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.

Penalty rules for specific nonconformities:

Tear strength in plain sheet at state of origin (AQL 4.0)
Discrepancy between requirement and the average result of nonconforming tarpaulins: 100N>result≥90N: 2% of the value of the PO 90N>result≥75N: 5% of the value of the PO 75N>result: 10% of the value of the lot and subject to lot refusal
Tensile strength in plain sheet at state of origin (AQL 4.0)
Discrepancy between requirement and the average result of nonconforming tarpaulins: 500N>result≥450N: 2% of the value of the PO 450N>result≥375N: 5% of the value of the PO 375N>result: 10% of the value of the lot and subject to lot refusal

Tarpaulins	**Elongation in warp and weft in plain sheet at state of origin** (AQL 4.0)
	Discrepancy between requirement and the average result of nonconforming tarpaulins: 10% ≤ elongation ≤ 14% or 26% ≤ elongation ≤ 30%: 2% of the value of the PO < 10% or > 30%: 5% of the value of the PO and subject to lot refusal
	Tensile strength in reinforcement bands at state of origin (AQL 4.0)
	Discrepancy between requirement and the average result of nonconforming tarpaulins: 700N>result≥630N: 2% of the value of the PO 630N>result≥500N: 5% of the value of the PO 500N>result: 10% of the value of the PO and subject to lot refusal
	Plain sheet, remaining tensile strength after UV exposure: **Out of the two penalty rules, only the applicable rule will apply: Above 475 N remaining strength first rule applies. below 475N second rule applies.**
	Discrepancy between requirement and the average result of nonconforming tarpaulins: 80%>results≥70% : 2% of the value of the PO 70%>results≥60% 5% of the value of the PO 60%>results: 10% of the value of the PO and subject to lot refusal
	2- Remaining tensile strength after UV exposure (475 N minimum) (AQL 4.0)
	Discrepancy between requirement and the average result of nonconforming tarpaulins: 475N>result≥425N: 2% of the value of the PO 425N>result≥350N: 5% of the value of the PO 350N>result: 10% of the value of the lot and subject to lot refusal
	Reinforcement bands, remaining tensile strength after UV exposure:
	Discrepancy between requirement and the average result of nonconforming tarpaulins: 80%>results≥70% : 2% of the value of the PO 70%>results≥60% 5% of the value of the PO 60%>results: 10% of the value of the PO and subject to lot refusal
	2- Remaining tensile strength after UV exposure (665 N minimum) (AQL 4.0)
	Discrepancy between requirement and the average result of nonconforming tarpaulins: 665N>result≥600N: 2% of the value of the PO 600N>result≥500N: 5% of the value of the PO 500N>result: 10% of the value of the lot and subject to lot refusal
	Welding strength at state of origin: **Out of the two penalty rules, only the applicable rule will apply: Above 400 N remaining strength first rule applies. below 400N second rule applies.**
	1- Welding strength at state of origin: minimum 50% of the original value (AQL 4.0)
	Discrepancy between requirement and the average result of nonconforming tarpaulins: 50%>results≥45% : 2% of the value of the PO 45%>results≥35% 5% of the value of the PO 35%>results: 10% of the value of the PO and subject to lot refusal
	2- Welding strength at state of origin: 400 N minimum (AQL 4.0)
	Discrepancy between requirement and the average result of nonconforming tarpaulins: 400N>result≥360N: 2% of the value of the PO 360N>result≥300N: 5% of the value of the PO 300N>result: 10% of the value of the lot and subject to lot refusal
	Length and width (AQL 6.5)
	Penalties are double of all missing material quantity cost.
	Out of the two characteristics, Coating colour- L.a.b. coordinates, and opacity-reflexion, only the most unfavourable of the two applies in terms of penalties.
	L.a.b. coordinates: make the total figure of points outside of the specification for the 3 characteristics (L, a and b), and apply 0.5% penalties for each point on the value of the PO. Subject to lot refusal
	Opacity (AQL 4.0)
	Opacity-reflexion: apply 0.5% penalties on the value of the PO for each 1% out of requirements. Subject to lot refusal. Opacity-absorption: apply 0.5% penalties on the value of the PO for each 1% out of requirements. Subject to lot refusal.
	Tear test in the bands (hook test). (AQL 4.0)
	Discrepancy between requirement and the average result of nonconforming tarpaulins: 70kg>result>63kg: 2% of the value of the PO 63kg>result>50kg: 5% of the value of the PO 50kg>result: 10% of the value of the PO and subject to lot refusal.
	Tear test in the plain tarpaulin (two legs test). (AQL 4.0)
	Discrepancy between requirement and the average result of nonconforming tarpaulins: 10kg>result>9kg: 2% of the value of the PO 9kg>result>7.5kg: 5% of the value of the PO 7.5kg>result: 10% of the value of the lot and subject to lot refusal.

International Organization for Migration (IOM)
The UN Migration Agency

AQL for IOM Tarpaulins

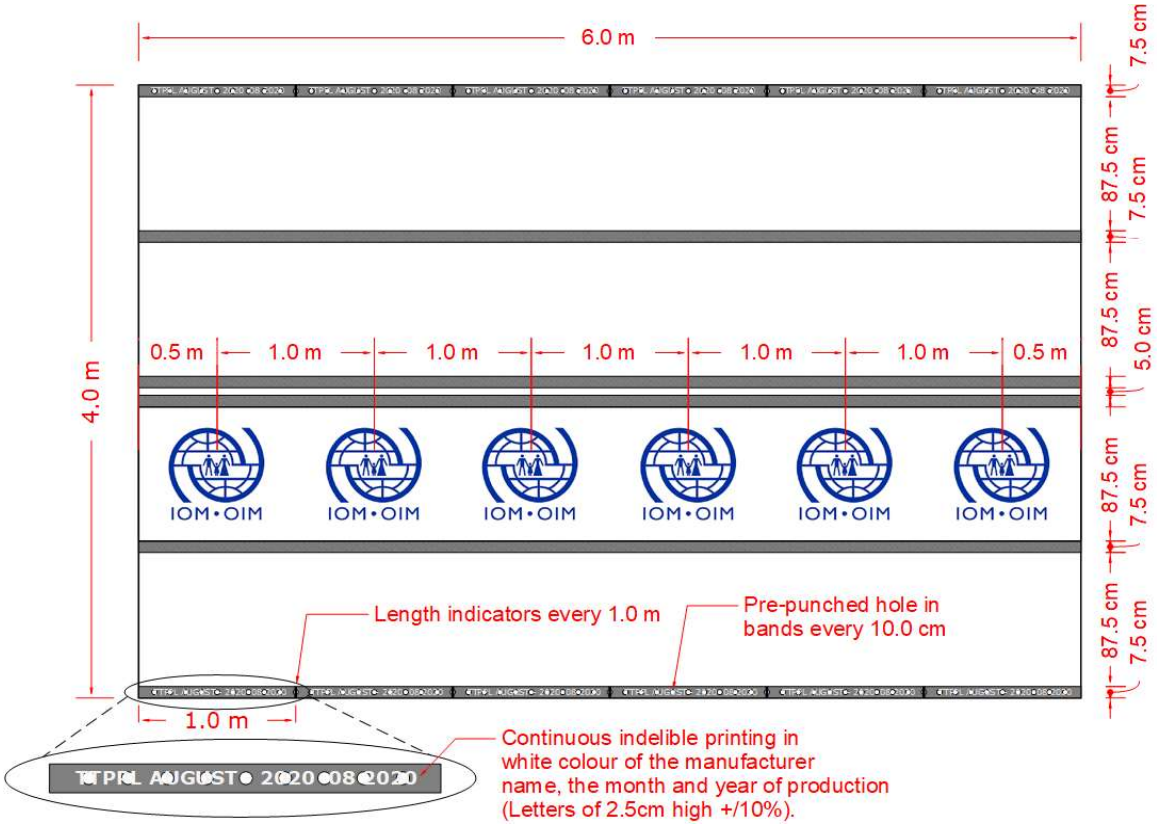
IOMQC-AQLS00V8
Ver8.0 Rev 1
24.10.2022

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

Items	Characteristics	Nonconformities classification	QC type	AQL	QC Inspection at IOM warehouses and lab testing
Bales	Bales length	**m**	Measurement	6.5	600mm +/-20%(Minimum 480mm; Maximum 720mm)
	Bales width	**m**	Measurement	6.5	400mm +/-20%(Minimum 320mm; Maximum 480mm)
	Bales height	**m**	Measurement	6.5	180mm +/-20%(Minimum 144mm; Maximum 216mm)
	Marking on the bales	**m**	Ok/Nok	6.5	Marking expected: IOM Logo + Item name and material code, IOM Plastic Sheets 3500000046 + PO number and Quantity + Batch number and Manufacturing date + Packing units: (i.e 1/20, 2/20...)+ Indicate gross weight and dimensions. No logo of the supplier allowed. Marking must be readable and strong enough to resist to several handlings. Country of origin upon request.
	Bales strapping	**m**	Ok/Nok	6.5	The bale must be strapped with 2 heat-sealed plastic straps for the length and 2 for the cross (strong enough to resist to several handlings) and well sealed with large adhesive tape (50 mm mini).
	Bales quality	**m**	Ok/Nok	6.5	The bale must be wrapped with a piece of similar material as the one of the tarpaulins. The wrapping must be properly folded, closely tight to the bale content, making a well-shaped cubic bale. Inside the bales the tarpaulins are not individually wrapped.
	Content	**m**	Ok/Nok	6.5	There must be 1 tarpaulin per bale.
	Packaging	**m**	Ok/Nok	6.5	The items to be packed in Wooden EURO pallet (EUR 1) and fumigated as per ISPM 15 standard. Items must be shrink-wrapped, securely strapped and sealed. The packaged goods must not exceed the length and width of the pallet and clearly marked with IOM standard markings (packing details above) in both front and back.
Tarpaulins	Material for the plain sheet	**C**	Ok/Nok	0	Woven high-density polyethylene (HDPE) black fibbers fabric laminated on both sides with white low density polyethylene (LDPE) coating.
	Material for the reinforcement bands	**C**	Ok/Nok	0	Woven black HDPE fibers fabric and coated with grey LDPE on the outside.
	Reinforced attachment points	**M**	Ok/Nok	4.0	6 bands of 75mm +/-3%. Pre-punched 8mm diameter holes on the 2 side bands at 0.1m +/-10 % intervals, positioned in the centre of the bands (only the reinforcement bands are pre-punched, not the tarpaulin itself). Position of the 6 bands and pre-punched holes as per drawing below. Side bands can be positioned at maximum 10mm from the edge. Interval tolerance between bands: +/-10mm
	Tear strength in plain sheet at state of origin	**Specific**	Measurement	4.0	Minimum 100N under ISO 4674-1B 2003, with a test piece of 200x200mm as described in ISO 4674 annex B , in plain sheet.
	Tensile strength in plain sheet at state of origin	**Specific**	Measurement	4.0	Minimum 500N and 15% to 25% elongation in warp and weft in plain sheet under ISO 1421-1.
	UV resistance of the plain sheet, measured as remaining tensile strength after UV exposure	**Specific**	Measurement	4.0	The tarpaulin tensile strength under ISO 1421-1 after 1500 hours UV under ASTM G53/94 (UVB 313 nm peak) must be: Minimum 80% of the original value of the actual product, AND not less than 475N. To be tested in the plain sheet.
	Tensile strength in the reinforcement bands at state of origin	**Specific**	Measurement	4.0	Minimum 700N inside the reinforcement bands as per ISO 1421-1, pulling lengthwise in a pre-punched hole of 8mm with a hook of 8mm wire diameter. To test in 2 holes in each side bands.
	UV resistance of the reinforcement bands measured as remaining tensile strength after UV exposure	**Specific**	Measurement	4.0	The reinforcement bands tensile strength under ISO 1421-1 after 1500 hours UV under ASTM G53/94 (UVB 313 nm peak) must be: Minimum 80% of the original value of the actual product, AND not less than 665N. To be tested inside the reinforcement bands as described above.
	Welding number and strength at state of origin	**Specific**	Measurement	4.0	Only one welding allowed, in the middle of the sheet, length wise. The tarpaulin tensile strength crossways at the place of the welding under ISO 1421-1 must be: Minimum 50% of the original value of the actual product, AND not less than 400N.
	Width	**Specific**	Measurement	6.5	4000 mm ± 1% net width (Minimum 3960mm. Maximum 4040mm). If edges are not straight, measurement is done on the shortest side.
	Length	**Specific**	Measurement	6.5	Minimum 6000mm. If edges are not straight, measurement is done on the shortest side.
	Weight, plain sheet only, excluding the bands weight	**M**	Measurement	4.0	190g/m² ± 20g under ISO 3801 (equivalent to 170g/m² minimum to 210g/m² maximum).

	Weight, complete sheet including bands weight	**M**	Measurement	4.0	Plain sheet specific weight plus 10% additional weight for the reinforcement bands under ISO 3801. Total weight from 187g/m² minimum and 231g/m² maximum.
	Flame retardant EN13823+A1	**C**	Ok/Nok	0.0	Minimum class D, s2, d2. Minimum time to reach large wing external edge: 4minutes (LFS)
	Coating colour	**Specific**	Measurement	4.0	White sun reflective on both sides of the sheet without fluctuation in colour. Grey coating on the outside of the bands. White Coating colour definition: L.a.b Coordinates under ISO 105J01 Minimum L : 82; "a" value between -1.7 and +1.5; "b" value between -4.5 and 0.
	Yarn colour (plain sheet and bands)	**M**	Measurement	4.0	Test protocol: removing the coating with a cutter, the yarns of the base fabric must be black in both the warp and the weft directions. Light grey is not acceptable.
Tarpaulins	Opacity measured as minimum reflection and maximum transmission, in the range of visible light and near infrareds	**Specific**	Measurement	4.0	Measured under ISO 13468-1. Values should be measured respectively from 350 to 750nm, and from 750 to 2500nm wavelength. The final result is the average of the averages in each range. Minimum total reflection: 35% Maximum total reflexion: 50%. Maximum total transmission : 5%
	Printing of IOM Logo	**m**	Measurement	6.5	A line of six (6) IOM logos must be printed on one side of the sheet, across the six meter side, placed one meter from the bottom edge of the six-meter side. IOM logo printing details, see the Logo placement guideline where size of logo is 60 cm wide and 60 cm height. The color should Logo printed in PANTONE BLUE or CMYK. C = 100%, M = 82%, Y = 10%, K = 2%
	Printing	**m**	Ok/Nok	6.5	Continuous indelible printing in white colour of the manufacturer name, the month and year of production (Letters of 2.5cm high +/10%). Length indicator marks every meter. Customer logo on request.
	Edges	**m**	Ok/Nok	6.5	Edges are straight and neat cut, and square.
	General quality	**M**	Ok/Nok	4.0	Tarpaulin not torn, does not have any hole and must be clean.
	Missing yarns	**M**	Ok/Nok	4.0	There must not be space between yarns > 5mm.
	Peeling of the coating	**M**	Ok/Nok	4.0	Test protocol: try to pull the white coating from the base fabric. It should be impossible to pull pieces bigger than 1cm².
	Reinforcement bands welding	**M**	Measurement	4.0	The bands must be well sealed to the tarpaulin: Minimum 30 N, maximum 120 N resistance to pull the bands off according to ISO2411:2000 with following adjustments: - Only 5 test specimens in the longitudinal direction are tested per tarpaulin (each test is performed on a different band). - Width of the test specimens: width of the bands. - Test result is the arithmetic mean of the five tests.
	Central welding	**M**	Measurement	4.0	The two pieces making the tarpaulins must be well sealed together. Nevertheless, it must be possible to pull the seal off without tearing neither part of the tarpaulin: Minimum 30 N, maximum 120 N resistance to pull the seal off according to ISO2411:2000 with following adjustments: - Only 5 test specimens in the longitudinal direction are tested per tarpaulin. - Width of the test specimens: width of the welding. - Test result is the arithmetic mean of the five tests.
	Tear test in the plain tarpaulin (two legs test)	**Specific**	Measurement	4.0	Test protocol: Cut 4 pieces measuring 6cm x 20cm (2 lengthwise & 2 crosswise, outside the reinforcement bands). Make a very net cut of 8cm long with a scissor in the test pieces, making two equal legs. Clamp one leg of the test piece with the vice. Clamp the second leg with a clamp. Add weights so that the weight total is 10 Kg. Let it hang for 30 seconds. Tested pieces should not brake. If one piece of a tarpaulin breaks when applying 10 kg (or less) the tarpaulin is nonconforming.
	Tear test in the bands (hook test)	**Specific**	Measurement	4.0	Test protocol: Cut 4 pieces of approximately 20cm x 60cm in the bands, 2 in plain bands and 2 in pre-punched bands. Punch a hole of 8mm diameter through the bands, through the pre-punched hole if there is. The hole should be located at minimum 10cm from the end of the sample. Place the hook of 8mm diameter in the hole and add weights so that the weight total is 70kg weight. Let it hang for 30 seconds. Tested pieces should not brake. If one band of a tarpaulin breaks when applying 70 kg (or less) the tarpaulin is nonconforming.

REFERENCE DRAWING



PLACEMENT AND SIZE OF LOGO

COLOUR : PANTONE BLUE or CMYK.
C = 100%, M = 82%,
Y = 10%, K = 2%