Specifications part 1: Materials

All canvas materials for the tent must meet the specifications below and ISO 10966.

Information for testing:
Two complete tents would be required to perform all the laboratory tests. The test pieces would be cut from one complete tent. The second complete tent would be used for the rain test. A product is deemed acceptable only if the same sample passes all criteria.

1.1 Specifications for the outer-tent canvas

<table>
<thead>
<tr>
<th>Type and norms</th>
<th>Required minimum values</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Composition ISO 1833</td>
<td>Polyester and cotton blended fibres yarns. cotton: 40% (±10), polyester: 60% (±10) i.e., 50 to 70% polyester, with balance in cotton</td>
</tr>
<tr>
<td>2. Specific weight (g/m²) ISO 3801</td>
<td>350g/m² (±15%) in finished state.</td>
</tr>
<tr>
<td>3. Colour</td>
<td>Natural white, not dyed</td>
</tr>
<tr>
<td>4. Water-vapour permeability ISO 17229</td>
<td>Minimum 2000g/m²/24h</td>
</tr>
<tr>
<td>5. Tensile strength (N)</td>
<td>Warp and weft 850N minimum. For plain canvas test: 5 test pieces in warp direction, 5 test pieces in weft.</td>
</tr>
<tr>
<td>Apply ISO 13934-1 to 10 test pieces of plain canvas. Apply ISO 13935-1 on 5 test pieces with seams, cut from the tent perpendicular to the seam, in the roof.</td>
<td>On seams, the test is applied to 50mm width on the sample, as described in ISO 13935-1 page 7.</td>
</tr>
<tr>
<td>6. Tear resistance, started (N) –ISO 9073-4</td>
<td>Warp and weft 60N minimum.</td>
</tr>
<tr>
<td>7. Water-penetration resistance ISO 811</td>
<td>30hPa minimum, increasing speed at 100mm per minute.</td>
</tr>
<tr>
<td>Test pieces of plain canvas.</td>
<td></td>
</tr>
<tr>
<td>8. Rain-penetration resistance ISO 5912:2003</td>
<td>Apply procedure as per point 4.2.11 in ISO 5912:2003 in point 5.6 plus following: A visual control from the inside of the tent, while the artificial rain is on, must be done after 2h and 5h, with the complete tent. The test operator should ensure that the set up of the test will not create condensation inside the tent that could be interpreted as leakages.</td>
</tr>
<tr>
<td>The test piece is the complete tent. (attention: ISO 5912:2011 does not apply) Outer tent: There should be not more than 10 drops of water in maximum 2 places, penetrating inside the outer tent, including through wick effect. Inner tent: There should be not water penetrating inside the inner tent, or wetting the inner tent canvas.</td>
<td></td>
</tr>
<tr>
<td>9. Dimensional variation when soaked in water ISO 7771</td>
<td>Maximum 3%</td>
</tr>
</tbody>
</table>
10. Tensile strength resistance after exposure to micro-organisms under ISO 13934-1 and ISO 13935-1 after completing BS 6085 (soil burial - 28 days).

Apply on 10 test pieces of plain canvas and 5 test pieces with seams.

- 30% maximum strength-loss on minimum required value and 50% maximum strength-loss on original value of the same product.

- For plain canvas test: 5 test pieces in warp direction, 5 test pieces in weft.

- On seams, the test is applied to 50mm width on the sample, as described in ISO 13935-1 page 7.

11. Efficiency of water-repellent treatments after soaking in water.

Same test as point 7, on samples soaked in water under ISO7771 without wetting agent.

- 30hPa minimum, increasing speed at 100mm per minute.

12. Efficiency of fungicides product after soaking in water.

Same test as point 10, on samples soaked in water under ISO7771 without wetting agent.

- 10% maximum additional loss as compared to the results from point 10.

13. Tensile strength after exposure to UV and moisturizing (climatic simulation).

Exposure in a climatic chamber under ISO 4892-2, type A, 360 hours, followed by tensile test under ISO13934-1.

- 30% maximum strength-loss on minimum required value and 50% maximum strength-loss on original value of the same product.

- Number of test pieces: 3 test pieces in warp direction, and 3 test pieces in weft.

### 1.2 Specifications for the inner tent canvas

<table>
<thead>
<tr>
<th>Type and norms</th>
<th>Required minimum values</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Composition ISO 1833</td>
<td>Polyester and cotton blended fibres yarns cotton: 40%±10, polyester: 60%±10 i.e., 50 to 70% polyester with balance in cotton or cotton 100%.</td>
</tr>
<tr>
<td>2. Specific weight (g/m²) ISO 3801</td>
<td>130 g/m² ±10% in finished state.</td>
</tr>
<tr>
<td>3. Colour</td>
<td>Dyed sand or cream colour.</td>
</tr>
<tr>
<td>4. Water-vapour permeability ISO 17229</td>
<td>Minimum 2000g/m²/24h.</td>
</tr>
<tr>
<td>5. Tensile strength (N) ISO 13934-1</td>
<td>Warp and weft 300N minimum.</td>
</tr>
<tr>
<td>6. Tear resistance, started (N) ISO 9073-4</td>
<td>Warp and weft 20N minimum.</td>
</tr>
<tr>
<td>7. Tensile strength resistance after exposure to micro-organisms under ISO 13934-1 after BS 6085 (soil burial - 14 days).</td>
<td>30% maximum strength-loss on minimum required value and 50% maximum strength-loss on original value of the same product. 5 test pieces in warp direction, 5 test pieces in weft.</td>
</tr>
</tbody>
</table>
### 1.3 Specifications for mud flap PE fabric and the tent packing

Specifications for standard IFRC/ICRC plastic sheeting can also apply. In this case the original lab report from the PE factory will be accepted if still valid.

<table>
<thead>
<tr>
<th>Type and norms</th>
<th>Required minimum values</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Composition</td>
<td>Woven, high-density polyethylene black fibres, fabric laminated on both sides with low-density polyethylene coating.</td>
</tr>
<tr>
<td>2. Specific weight (g/m²) ISO 3801</td>
<td>180gr/m² (±5%)</td>
</tr>
<tr>
<td>3. Tensile strength (N)</td>
<td>Warp and weft 650N minimum. Elongation 15% to 25%. For plain PE fabric test: 5 test pieces in warp direction, 5 test pieces in weft. On seams, the test is applied to 50mm width on the sample, as described in ISO 13935-1 page 7.</td>
</tr>
<tr>
<td>4. Tear resistance (N) ISO 4674-1 (method B)</td>
<td>Warp 100N minimum, weft 100N minimum.</td>
</tr>
<tr>
<td>5. Resistance to micro-organisms</td>
<td>Insensitive to micro-organisms. Not to be tested.</td>
</tr>
<tr>
<td>6. UV resistance as percentage of tensile strength-loss under ISO 1421, after 1500 hours UV under ASTM G53/94 (UVB 313nm peak)</td>
<td>30% maximum strength-loss on minimum required value and 50% maximum strength-loss on original value of the same product 5 test pieces in weft direction, 5 test pieces in warp.</td>
</tr>
<tr>
<td>7. Colour</td>
<td>White if made with IFRC/ICRC standard plastic sheeting or any other colour except military green, green, brown or various kaki colours.</td>
</tr>
</tbody>
</table>

### 1.4 Specifications for the groundsheet PE fabric

Specifications of standard IFRC/ICRC plastic sheeting can also apply. In this case the original lab report from the PE factory will be accepted if still valid. The same type of PE as per the one used for the mud flaps can be used for the ground sheet. In this case the criteria below do not apply.
<table>
<thead>
<tr>
<th><strong>Type and norms</strong></th>
<th><strong>Required minimum values</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Composition</td>
<td>Woven polyethylene fabric, coated on both sides with low-density polyethylene.</td>
</tr>
<tr>
<td>2. Specific weight (g/m²) ISO 3801</td>
<td>180g/m² (± 5%)</td>
</tr>
<tr>
<td>3. Tensile strength (N) ISO 1421</td>
<td>Warp 300N minimum, weft 300N minimum.</td>
</tr>
<tr>
<td>4. Tear resistance (N) ISO 4674-1 (method B)</td>
<td>Warp 60N minimum, weft 60N minimum.</td>
</tr>
<tr>
<td>5. Resistance to micro-organisms</td>
<td>Insensitive to micro-organisms. Not to be tested.</td>
</tr>
<tr>
<td>6. UV resistance as percentage of tensile strength-loss under ISO 1421 after 300 hours UV under ASTM G53/94 (UVB 313nm peak)</td>
<td>30% maximum strength-loss on minimum required value and 50% maximum strength-loss on original value of the same product. 5 test pieces in weft direction, 5 test pieces in warp</td>
</tr>
<tr>
<td>7. Colour</td>
<td>White if made with IFRC/ICRC standard plastic sheeting or any other colour except military-green, green, brown and various kaki colours.</td>
</tr>
</tbody>
</table>

### 1.5 Specifications for the mosquito net, inner-tent doors and windows Frame Tent

<table>
<thead>
<tr>
<th><strong>Type and norms</strong></th>
<th><strong>Required minimum values</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Material ISO 1833, colour</td>
<td>Polyester 100%, or PE 100%, white</td>
</tr>
<tr>
<td>2. Fabrication ISO 8388</td>
<td>Warp knitted</td>
</tr>
<tr>
<td>3. Denier</td>
<td>75/100 for the polyester 100 to 150 for the PE</td>
</tr>
<tr>
<td>4. Filament</td>
<td>Multi-filament 36 or higher for the polyester Monofilament for the PE</td>
</tr>
<tr>
<td>5. Mesh size</td>
<td>25 holes/cm² (156 holes/inch²)</td>
</tr>
<tr>
<td>6. Weight ISO 3801</td>
<td>Minimum 40 g/m² for polyester Minimum 47 g/m² for PE</td>
</tr>
<tr>
<td>7. Shrinkage ISO 5077</td>
<td>5% maximum</td>
</tr>
<tr>
<td>8. Bursting strength ISO 13938</td>
<td>250 kPa minimum for polyester 320 kPa minimum for PE</td>
</tr>
<tr>
<td>9. Bursting strength after exposure to UV and</td>
<td>30% maximum strength-loss on minimum required value and 50% maximum strength-loss</td>
</tr>
</tbody>
</table>
moisturizing (climatic simulation).
Exposure in a climatic chamber under ISO 4892-2, type A, 180 hours, followed by bursting test under ISO 13938 loss on original value of the same product.
Number of test pieces: 3 test pieces

### 1.6 Specifications for the outer-tent guy points Frame Tent

<table>
<thead>
<tr>
<th>Type and norms</th>
<th>Required minimum values</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Material composition</td>
<td>Polyethylene, polypropylene or polyester ropes, Polyester straps, steel rings, elastic device.</td>
</tr>
<tr>
<td>2. Tensile strength (N) ISO 13934 on the samples with a complete guy point ensemble including all of the reinforcement pieces. Refer to note (below).</td>
<td>3000N minimum for the 6 side guy points (3 test pieces). 3000N minimum for the rear wall guy point (1 test piece). 1400N minimum for 2 other guy points (1 test piece). Elongation of the elastic device under 1000N: 50mm minimum, 100mm maximum.</td>
</tr>
<tr>
<td>3. UV resistance in percentage of tensile strength-loss after exposure in a climatic chamber under ISO 4892-2, type A, 360 hours.</td>
<td>30% maximum strength-loss on minimum, required value and 50% maximum strength-loss on original value of the same product 1 test piece at 1400N, 1 test piece at 3000N.</td>
</tr>
</tbody>
</table>

Notes for point n°2:
Sample size: width 300mm x length 500mm
Samples to be cut at the centre guy line for the 6 side points (500mm length sample).
Sample to be cut at the ridge back end for the back wall guy point (500mm length sample).
Sample to be cut on the top corner of the outer doors for the 2 other points.
Samples to be folded in order to fit in the traction apparatus so that the entire width of the canvas is submitted to the traction when clamped in the jaw of the apparatus. Samples must include: a canvas section from the tent roof, canvas reinforcements, strap, ring, elastic device, buckle, runner and a significant part of the guy rope (the ring and the runner do not need to be included in the UV test).
Traction must be applied between the tent’s roof canvas and the guy rope.

### 1.7 Specifications for hammer Frame Tent

| Type:                                              | Sledge hammer, 1kg head, with 30cm wooden handle. |
In accordance with ISO 15601 and the specification listed below.

<table>
<thead>
<tr>
<th>Handle:</th>
<th>No chips, rough surfaces, holes or knots. Smooth surface. Strong dry flexible wood. Handle adjusted to head in order to protrude on other side of the head, and be blocked with a metal wedge; or have a conical shape (like a hoe). Moisture minimum 10% and maximum 15%, under ISO 3130.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pull apart test:</td>
<td>Clamp head in a vice jaw after two series of 25 vigorous blows from varying delivery angles. Apply traction of 500N while trying to pull out the handle; there should be no damage to the hammer’s head or handle, and the handle should remain firmly attached to the head.</td>
</tr>
</tbody>
</table>
All metal rings are rustproof galvanized and closed by welding.

**Dimensional tolerance**

Unless otherwise specified, a tolerance of maximum +/- 3% is accepted on all dimensions.

**Long storage**

The tent is treated and packed in such a way that the tent can be stored up to minimum 5 years in proper storage conditions without any damage or performance reduction. Store elevated from the ground (on pallets and pallet racks) in a dry, clean and ventilated warehouse.

The tent must be manufactured and packed in clean and appropriate conditions to avoid contamination from soil dust and other contaminants.

We recommend using metal frame pallets. These pallets avoid multiple manual handling of the bags, easy and fast on and off loading of containers, trucks, etc. Assures ventilation between the tents while stored.

**Specifications part 3: Make up Outer tent**
### 3/1 General Description of Outer Tent

The outer tent is made of several cloth sections that form the general shape of the tent. The seams are running from the ridge down to the roof edges, perpendicular to the ridge line. The outer tent is supported by a metal frame with 2 up standing poles to support the ridge of the frame, 3 guy ropes on each side, 2 guy ropes at front end and 1 guy rope at the back. The attachment points of each guy rope are reinforced.

### 3/2 Dimensions / erecting system

Centre height: 2.4m  
Width: 4.15m  
Ridge length: 4m  
Side wall height: 1.50m  

Door height: 1.6m  
Centre base length: 5.2 m  

The outer tent is placed on the frame and maintained in position to the frame by using strings, Velcro straps and webbing bands with hooks (§ 3/8)

### 3/3 Reinforcements

The 9 roof guying points are made of 50mm wide polyester straps, sewn to the fabric in extension of the roof. On the 9 guying points an additional layer of PVC coated canvas is added on the inside
The entire length of the ridge is reinforced on the inside with a 150mm strap of same fabric as the roof.

**3/4 Attachment System (guy lines)**

The outer tent is anchored to the ground using 9 guy lines which are attached to 9 metal pegs. Each guying point on both sides presents a loop made of 50mm wide webbing. The length of the webbing allows, when folded double, the creation of a loop of minimum 30mm long, to be stitched to the tent with a strong Z sewing on minimum 50mm long. The webbing loops are placed perpendicularly to the tent edge on the sides, at 30° angle in the corners, and in the alignment of the vestibule roof shape. 9 metal rings are attached to the loops by the means of an elastic device. The ropes pass into the metal rings. When tensioning, the ropes are sliding in the metal rings.

At the other end, the ropes have a fixed knotted loop to place over the peg. The attachment points are made in such way they comply with resistance specified in chapter 1.7.

**3/5 windows**

The outer tent has 6 windows. 5 with mosquito netting and a rain flap running on both sides of the tent and one on the back side. 1 Small window with transparent PE fabric on the vestibule. The inside dimension of the large windows are 80cm wide and 45cm high and the top edge of the window is placed ± 30cm below the roof of the tent. The 5 window openings are reinforced either with strong reinforcement netting (large holes strong plastic net) or with standard netting and strips of 20mm polycotton webbing that reinforce the window horizontally (1 webbing) and vertically (1 webbing). These webbings are sewn to the edges of the tent opening and to the mosquito netting. The window flap is 90cm wide x 55cm high. The flap is held by 25mm Velcro webbing which is placed along the length of the vertical sides and bottom and at a 25mm distance from the window opening. Loops and plastic toggles or hooks are used to keep the flap open when rolled up.
3/6 Ventilation ½ cones on top of the vestibules.

The outer tent has 2 ventilation openings in front and back with reinforcement netting and a rain flap. Front vent is triangular and is placed on the top of the vestibule. The inside dimensions of the vent is 280mm wide and 250mm high. The vent flap is made in such a way that they are distanced from the ventilation opening when open, making a ½ cone shape of 250mm in its middle.

The flap can be closed with a 25mm Velcro attached to the full width.

The back ventilation opening is rectangular and placed on top of the wall, Size 300 x 300 mm

The vent openings are reinforced either with strong reinforcement netting (large holes strong plastic net), or with standard netting and with two strips of 20mm cotton or polyester webbing that bisects the vent horizontally and vertically. These webbings are sewn to the edges of the vent opening and to the netting.

3/7 Outer Tent Door

FRONT DOOR
Size: 1.5m width x 1.5m high
Door flaps are 1.5m width x 1.6m high:
- Upper part 1.5m width x 1.08m high is made of canvas.
- Lower part 1.5m width x 0.52m high is made of woven PE fabric.

**REAR DOOR**

Size: 1.0m width x 2.1m high
Door flaps are 1.0m width x 2.1m high:
- Upper part 1.0m width x 1.58m high is made of canvas.
- Lower part 1.0m width x 0.52m high is made of woven PE fabric.

The vestibule doors can be used as awnings. The rolled up door is hold up by 3 loops and 3 plastic toggles or hooks.
The doors can be closed by means of lacing/loop system. The loops are made of 4mm rope or canvas strips (7 loops and eyelets per door side). For each lace/loop system, a toggle or a hook is placed in order to attach the last loop.
The lacing/loop system is protected by a double 50mm flap to prevent rain and draughts.
Each door has one side closable from inside and the other side closable from outside.

**3/8 Side walls, vestibule walls, mud flaps**

Total height 1.80m corresponding to 1.50m vertical plus 0.3m on the ground.
The upper part (1 m) of the walls is made of Polyester Cotton fabric, lower part (0.7m) of PE fabric.
The mud flaps are equipped with 12 eyelets (2 on each side, 4 in front and 4 rear), placed on a line reinforced with a full length 50mm webbing sewn to the mud flap at floor level, on the inside. Alternatively plastic sheeting can be used and instead of webbing bands reinforcement bands are acceptable. Stitch length and thread to be appropriate for the materials to prevent tear off of the mud flap along the stitching.

The outer tent is attached to the frame and poles, with 8 velcro straps for the roof pipes.

The mudflaps are hooked with 25 mm large adjustable webbing band with hook to the base plates.
3/9 Chimney reinforcement

A chimney reinforcement with non perforated opening is placed at side wall, between the corner and the window. This is made of heat resistant fabric (minimum 900°C). The type of fabric that keeps the fibres not loose when cut.

The lower edge of the heat-resistant fabric must be 500mm above the ground, where the canvas joins the PE part (a band of canvas of 2 to 3cm is allowed between the PE and the fireproof material).

Inside dimensions: 250mm width x 600mm height.

The chimney flap outside is 350mm wide x 700mm high. The flap is stitched at the bottom 50mm under the lower edge of the chimney opening. The flap is held by 25mm Velcro webbing which is placed along the entire vertical sides and upper end at a 25mm distance from the chimney opening.

The tent fabric is cut away completely at the position of the chimney opening. The edges of the chimney opening are hemmed stitched to the inside.

3/10 Connexion flap

Made of same fabric as outer tent. Symetric flap system offer the possibility to connect 2 tents together lengthwise.

Specifications part 4: Make up Inner tent with ground sheet
4/1 General description

The inner tent is square in shape and is hanging inside the outer tent structure and is hooked to the frame. All dimensions are meant to allow a 10cm air gap between the outer tent and the inner tent.

At the ground sheet level it is hooked to the frame base plates with 6 elastic webbings and plastic hooks of 20mm width.

The inner tent has one chimney reinforcement, 5 windows, 2 doors and 2 vents. The bath tub ground sheet (floor) is made of woven PE fabric sewn to the inner tent and extends up the sides of the wall to assure the inside remains waterproof. No stitching is allowed at the lower part of the groundsheets to assure 100% waterproofing. The ridge of the inner tent has 3 equally divided holes reinforced with PVC fabric to allow protruding of the support poles to join the frame
4/2 Inner tent Dimensions

The inner tent, when hooked to the outer tent has a centre height of 2.3m, a width of 3.95m, a wall height of 1.45m and a base length of 3.80m.

4/3 Inner Doors

The door opening is 1m wide and at 1.70m high from the floor (1.50m measured from the upper edge of the ground sheet).
The door panel (1.0m wide) is placed in the centre of the front wall.
The doors are made of the same material as the inner tent and close with polyester n°10 coil zip fasteners at the 2 vertical sides. The zip fasteners can be opened from the inside and outside.
The doors have a 200mm PE flap at the bottom, made of same material as the ground sheet.
Black UV stabilized ropes or canvas laces with plastic toggles or hooks are used to keep the door opened when rolled up.
Mosquito nets (1.0m wide) are placed on the inside of the doors. The 2 vertical sides are closed with n°10 polyester coil zip fasteners. The bottom edge of the mosquito flap closes with one piece of 25mm Velcro along the entire width.

To facilitate the door closing:
- 2 webbing loops with eyelets are placed at the bottom of each door side aligned with the zips. They are used to attach the tent to the ground with pegs of 6mm x 270mm. The webbing loops are stitched into the seam where the PE join the fabric, and are 200mm long.
4/4 Inner Tent Suspension System

The inner tent is suspended from the frame with 24 metal galvanized 4mm wire hooks mounted on webbing loops of 50mm wide. The total length of the loops including the metal hook is 100mm.

The hooks are positioned as per below drawing: 6 at the ridge, 5 on each side wall pipe and 4 on each gable pipe.

The side walls of the inner tent are hooked with plastic hooks mounted on webbing loops to the corresponding rings of the base plates of the frame.

These elastic webbing bands are stitched to the tent in the seam where the PE and fabric are joined.

The inner tent has 26 loops of 20mm, made of canvas, for the attachment of the optional inner lining or the inner partition. The loops are placed in the inside of the inner tent at every place where the inner tent is attached to the frame, plus 2 loops at the bottom of the front door.
where the webbings for the ground attachment are placed (6 at the ridge, 5 at the top of each side wall, 3 at the bottom of each side wall, 2 at the base of the front door).

4/5 Inner Tent Ventilation System

The inner tent has 2 triangular vents at each gable top, made of mosquitonet and reinforced with 20mm webbings. The triangle is 900mm x 300mm (all space from the ridge to the top of each door). The ventilation system can be closed with a flap opening downwards, and sealed with 25mm Velcro on all sides.

4/6 Inner Tent windows

The inner tent has 2 doors, 5 windows, One on each side wall and one at the back wall and of same size and same reinforcement, corresponding to the outer tent windows. The flap made of same material as the inner tent is placed inside and opens downwards. It closes with 25mm Velcro on all sides, and hangs freely when open.

4/7 Accessories inside the inner tent

To hang light weight properties, 2 pouches hangs above 2 windows, webbing with hooks at the ridge.

4/8 Ground Sheet

The integrated ground sheet is made of PE woven fabric. The seam that attaches the ground sheet to the sides of the inner tent is 200mm above the floor. To avoid water infiltration no stitching seams are allowed in the groundsheet. All seams to be welded by heat sealing and have a 25mm overlap.

4/9 Chimney reinforcement

A chimney reinforcement with non-perforated opening is placed at the side wall corresponding the chimney reinforcement of the outer fold. This is made of heat resistant fabric (minimum 900°C).

Inside dimensions: 250mm width x 800height.

The lower edge of the opening is 300mm above the ground.

The tent fabric to be cut away completely at the position of the chimney opening. The edges of the opening are hemmed stitched.

4/10 inner partitions

One inner partition made of the same material as the inner tent. The partition runs from one side wall to the opposite side wall, in order to divide the inner tent in two equal parts. It is made with 2 pieces of semi-partition. These partitions are attached to the inner lining loops at roof and wall levels, and to the centre pole.
4/11 Optional winter inner liner

The inner liner is made with one fold of breathable, rotproof and fireproof canvas in order to hang inside the inner tent, to cover the roof and the 4 walls down to ground level. It has 24 pairs of strings made of canvas to attach to the loops of the inner tent. Both ends are made with curtain shape, open in the middle with 200mm overlap. It has a chimney reinforcement corresponding the chimney reinforcement of the inner tent.

To increase the resistance to snow loads the optional liner comes with an extra central support pole made of minimum 30 x1 mm painted or galvanised steel.

Specifications part 5: frame, poles and accessories
5/1 Frame and poles
Frame sections
- all frame parts are made of 25 x 1.2mm thick galvanised or painted steel pipe
- The male fittings of the cross pieces are to be minimum 8 cm long
- Each section should fit together with a male and female 80mm joint, made with a 160mm long inserted pipe point-welded or crimped into one of the pipes (not to be made with press-reduced pipe diameter).

Support poles
- 2 support central poles of 239cm each (size without U-bracket), with minimum outer diameter 25mm galvanised or painted steel pipe minimum 1.2 mm wall thickness, comes in two pieces. This pole comes with U-shape metal bracket of 30mm long.
- The base of each pole to have a metal or plastic base plate of 50mm diameter.
- The poles protrude the inner tent at PVC reinforced positions on the ridge.

5/2 Ropes/loops/ guy runners
- 6 ropes, black, UV treated, 3m long each, 8mm diameter, a min tensile strength of 300 kg.
- 2 vestibule ropes, black, UV treated, 3 m long each, 6 mm diameter, a min tensile strength of 140 kg.
- 1 back gable rope, black, UV treated, 5 m long, 8 mm diameter, a min tensile strength of 300kg.
- All ropes to be passed in the rings of the tent from factory.
- All ropes to have a securely knotted loop at one end, to place over the peg.
- Hard wood or strong UV proof plastic guy runners, red colour, already mounted on the ropes.
- The grain of the wood runners to run lengthwise of the runner.
- Size of the runners: 90 x 30 x 12mm, holes to be the same as the diameter of the rope.
- The ropes are passed in the runners in a way that makes the maximum blocking effect on the ropes.

5/3 Pegs and accessories

- 5 pegs of 350mm long, made of angled iron 25x25mm, 3mm thick, with a iron rod of 50mm long and 6mm diameter welded on the top. On one end, both wings of the angled iron are cut at a 45° angle to form a pointed end. On the other end, both wings of the angled iron are pressed together to touch each other, and the 6mm rod is welded on top of that end. The 6mm rod produces a 25mm prominence slightly bended downwards. These 5 pegs have 2 slots on each side, not opposite, to improve grip in soft ground. The width of the slots is approximately 3mm, the depth is maximum 3mm. Pegs are painted or galvanised.

- 6 pegs of 300mm long after bending, made of iron Re-bar 10mm diameter, with a hook bended on one end, “candy cane” shape, or a cross shape, painted or galvanised.

- 16 pegs of 270mm long, made of iron bar 6mm diameter, with a round or cross shaped head on one end, to avoid damaging the mud flap when pushed in the eyelets, painted or galvanised.

- 1 metal hammer of 1kg with 300mm wooden handle. (see specification part 1).

- 1 set up instruction sheet in English language plus step by step drawings or photos printed on durable fabric and stitched to the outside of the accessory bag or printed on pole bag. See high definition instruction on last pages of this document.

Specifications part 6: Packing

6/1 Standard package
One tent with all accessories is packed in one bundle. The inner tent and outer tent are folded in a way that assures that the ground sheet provides protection to the tent and accessories from dirt and moisture.

The bundle is made of woven PE fabric described in 1.3.

Total length is maximum 2250mm, approximate diameter is 300mm.

The metal poles and metal pegs are packed in 2 separate bags to avoid damaging other items inside the master bundle. Both of these bags are made of the same material as the master bundle. These bags have a closure system that assures that the accessories will not come out of the bag during transport and handling. Particular care is taken when packing the pegs to assure they will not pierce the bag.

The bundle is closed with 2 webbing straps, each strap with a self-locking buckle that will not slide during transport. Each strap has 2 handles, (PE or polyester). These straps are not sewn to the bundle.

The buyer’s markings are printed on the outside in indelible ink.

The international standard warning sign “protect from water” is printed on the outside of the package.

6/2 Palletizing

It is advisable to use stackable metal frame pallets. Such pallets avoid multiple manual handling of the bags and prevent the bags from being torn, easy and fast on and off loading of containers, trucks, etc. Assures ventilation between the tents while stored in hot and humid climates which is required for long duration storage.