LIGHT TECHNICAL GUIDELINES FOR STANDARD FAMILY TENT

Introduction

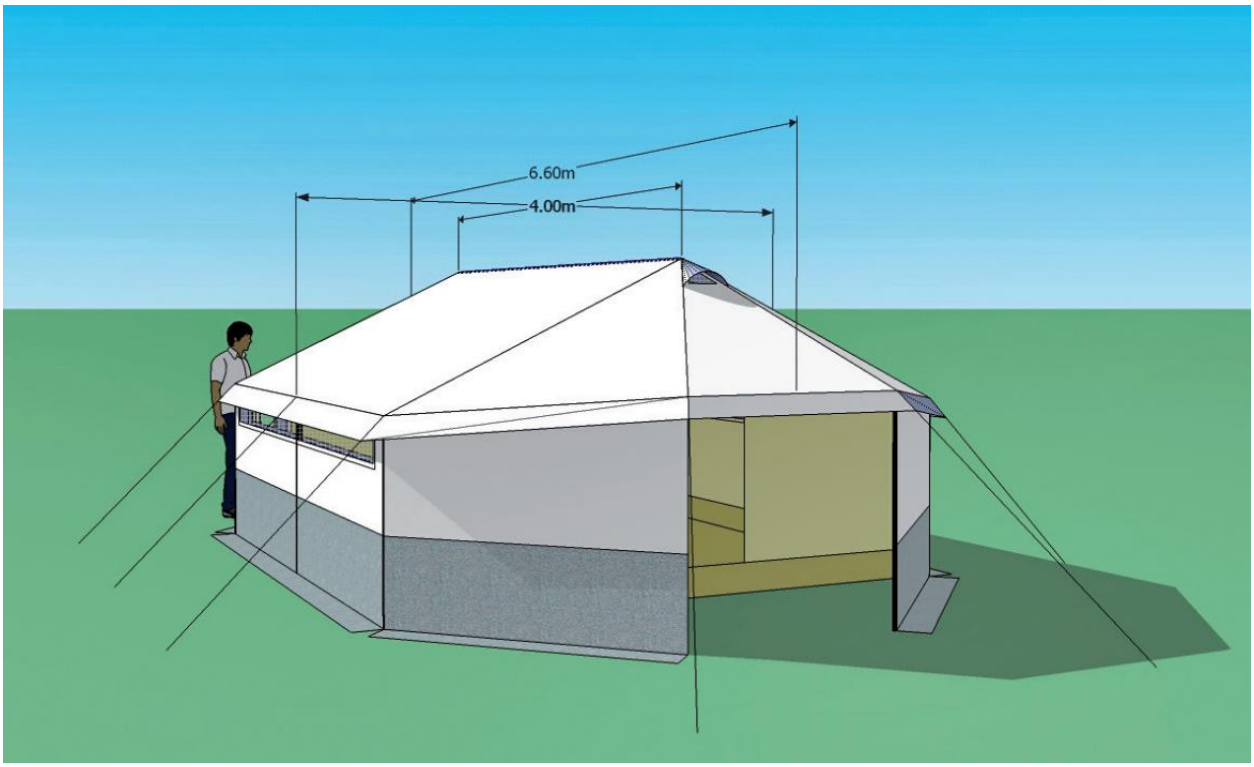
The Standard Family Tent has 16 m2 main floor area, plus two 3.5 m2 vestibules, for a total area of 23 m2 double-fold with ground sheet. It is the standard tent used by partners and suitable for a family of 5 people, following the recommended minimum living area in hot and temperate climates (3.5 m2 per person), and providing additional space for cold climates. They are designed as a short-term shelter solution, particularly in support to emergency situations and is not a substitute for a more permanent shelter.

Dimensions: The outside dimension of the tent is 4m wide, 6.6m long including vestibules and has a center height of 2.2m. The tent, including assembled guy ropes, has a footprint of around 61m2.

Packaging: Assembly instructions, drawings, and all accessories (including poles, pegs and hammer) are included inside each package.

Interior: One inner partition is supplied with the inner liner, made with the same fire-retardant canvas as the inner liner.

Attachment system (guy lines): The outer tent is anchored to the ground using 10 guy lines which are attached to 10 metal pegs.



Recommendations and guiding principles during installation.

Q1. How do I select a site to pitch tents? Tents must be carefully sited considering the topography, wind direction, site conditions , flooding etc.

- ✓ Tented settlement should be avoided where possible with priority being the setup of tents within the individual plot, where the house was destroyed (*contingent on the availability of space, minimal risk of injury from the debris*). This option aims to reduce the development of tented camps and further, minimizes households being exposed to open spaces, as the existing damaged compound walls, can act as wind barrier.
- ✓ Further, proximity to the shelter, enables a more rapid response for debris removal, supports salvaging , harvesting, and recycling of materials from damaged structures and allows the family to rapidly initiate reconstruction work of their homes, destroyed by the earthquake.
- ✓ In some villages where, the level of destruction is minimal, the compound walls can act as a wind barrier. In many villages, where this is not possible, site selection should consider wind direction, and the doors should not face the most common wind direction.
- ✓ Good planning of site can reduce specific risks such as fire. It is much harder to move people, re allocate the tents once they are settled.
- ✓ Tents should not be pitched in long rows. Pitch tents in clusters that align to organic arrangement of the villages as people used to live, prior to the earthquake. Care should be taken to ensure privacy, access to water and sanitation facilities.

Q2. How many tents can I pitch: Sphere indicators and guidelines recommend:

- ✓ Aim to provide at least 45 m2 per person for the whole site, including facilities such as water taps and roads.
- ✓ Aim to provide 3.5 m2 covered space per person or 4.5 m2 per person in cold climates. Note that by these indicators, a standard 16 m2 family tent should only hold four people.

Q3. Selecting teams to put up tents?

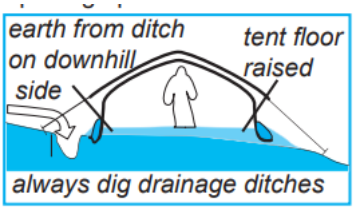
- ✓ Consider forming a team managed by community members to erect some sample tents with drainage ditches. This will help to ensure that tents are correctly erected, and communities participate in putting them up. In some circumstances, teams of people may put up all the tents ready for families.

Q4. What minimum tools do I need to pitch? Tent packaging should come with tools to help you erect them i.e.

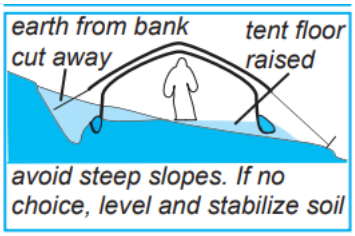
- ✓ One strong mallet per tent
- ✓ One spade or shovel per 20 tents (more if soil is hard and time limited)
- ✓ One pickaxe per 20 tents (more if soil is hard and time limited)
- ✓ Spare tents in case of more needs on site.
- ✓ In addition, the shelter cluster recommends to all partners to distribute to each family a repair toolkit to enable them to undertake regular repair.

Q5. How do I pitch in slopes:

Shallow slopes: Do not put tents on land prone to flooding. Sphere guidelines suggest a slope of between 1 and 6 per cent. With shallow slopes, the land may not drain.



Pitching steep slopes: If it is necessary to put tents on a steep slope, be aware of the risks of landslides. Digging will also be required to create level land for the tent.



Ditches: Always support people to dig drainage ditches around tents to prevent the tents from flooding with the rain. Connect drainage ditches from each tent to a site drainage solution. The depth of the drainage ditches depends upon:

- ✓ Expected quantity of rain – Weather forecast on rain, wind in Herat. Link HERE
- ✓ Type of soil and its infiltration capacity
- ✓ Slope of the site.

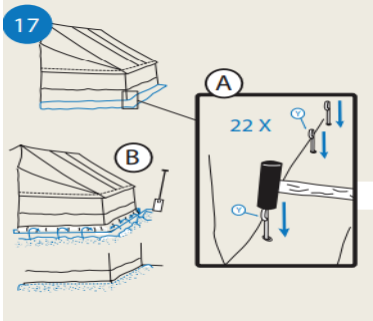
In extreme circumstances, ditches need to be as much as 50 cm deep. Such deep ditches may be unstable and need to be filled with stones to prevent collapse or injury or filling.

Q6. How do I prevent risk of fire: Tents should be a minimum of 2½ times their height apart. There should be regular firebreaks between blocks of tents. Note that guy ropes can take up a significant amount of space.

Q7. How do I minimize impact of windstorms:

- ✓ Prioritize technical support and onsite demonstrations, working with community members, on how to correctly pitch and maintain the tent.
- ✓ Facilitate labor and casuals support for persons with specific needs including women.
- ✓ Orientation: Choose sites for tents carefully considering the topography, wind direction, wind funneled through gaps in mountains. In windy places, orient doors away from the prevailing wind.
- ✓ Prioritize set up of tents within the individual plot, where the house was destroyed (contingent on the availability of space, minimal risk of injury from the debris). This option reduces families being exposed out in open spaces, as the existing damaged shelters and compound walls may act as a wind breaker /barrier.
- ✓ Consider construction a L-wall next to the tent to act as wind breaker.
- ✓ Distribute Cluster repair tool kit to all families during tent installation constituting of PVC foil, Woven Materials (Rope), Shovel (with handle), Hammer, Nails, Pickaxe (Without handle), Pliers, with wire cutters, thick work gloves, Hand-held Saw , Plastering Trowel, and Water Level Tool to support their daily maintenance.
- ✓ Equally, elaborate on the content of the toolkit and why its need for regular maintenance.

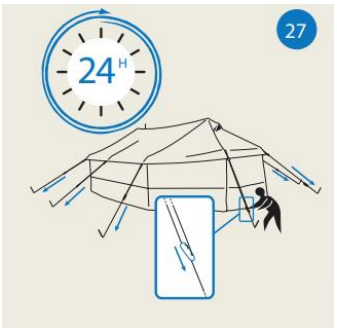
- ✓ Ensure to fix the bottom of the walls to the ground, with 22 pegs from outside.



- ✓ Minimize air flows to the tent. Ensure to make a trench to tightly bury the outer tent mud flap into the ground, stabilizing the walls and reducing the height of the tent.

- ✓ Consider placing 1-2 layer of load -either sack bags or rice bags of 5-10kgs, filled with sand, debris, or safe waste material directly on the frame bars inside the tent (preferably on the 2x upright and 6x side galvanized steel pipes/ poles – keeping the floor above ground, the fabric tight, thereby anchoring the frame, and slightly reducing the height of the tent.

- ✓ Inform affected families to regularly check the tensioning of the guy ropes and adjust if needed. *The outer tent is anchored to the ground using 10 guy lines which are attached to 10 metal pegs i.e 3 guy ropes on each side and 2 guy ropes at each end.* The grain of the wood runners should run lengthwise on the runner as per below:



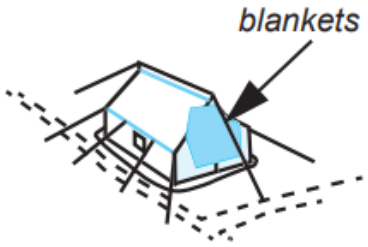
- ✓ Tents should not be pitched under dead trees, as there is a danger of falling branches or coconuts hurting people. However, pitching tents near healthy trees can protect tents from the sun and the wind.

Q8. How do I winterize the tents:

Winterized tents should not be used in locations where the prevailing external temperature falls below -5 degrees C or where extreme wind will increase the impact of minus temperatures. The use of winterized tents in locations where winter external temperatures are maintained above -5 degrees C should only be considered in situations of acute need.

Where the use of tents is considered unavoidable to preserve life and due to limited availability of other options, the following additional measures are required.

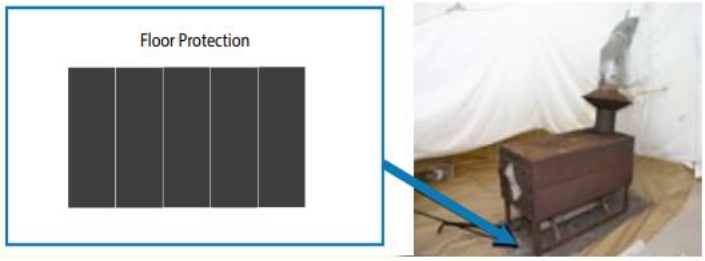
- ✓ *Wind Loading* – Stringent monitoring of tent set-up is required to ensure that all mud flaps are adequately buried or weighted with sandbags and all guy ropes are correctly positioned and tensioned. Regular additional monitoring is required to ensure that guy ropes are re-tensioned as required.
- ✓ *Surface Water* – Raise the ground area by a minimum of 120mm with either gravel sub-base or a concrete plinth. This will help to prevent the ingress of surface water and provide a dry surface onto which additional floor insulation may be added. Digging of drainage channels around tent to divert surface water will be necessary.
- ✓ *Snow & Rain* – The addition of a standard plastic sheet to cover the tent, fixed to the existing guy lines will provide further protection from possible water ingress through the roof caused by heavy and persistent rain or melting snow on the roof of a heated unit. Regular clearing of snow from tent roofs and surrounding areas will be essential to maintaining the structure.
- ✓ *Blocking draughts:* (reducing infiltration heat losses) is the key to keeping tents warm. Draughts cause warm air to be removed from close to the body, and lead to increased evaporation and wind chill. They can be blocked by digging tents into the ground, building walls, and blocking gaps. However, care needs to be taken so that people do not get suffocated or poisoned by stoves. In cold climates, draughts can be blocked using blankets or available material. These can be put at the doors where most cold air leaks in. Note that some ventilation must be maintained – especially when stoves or fires are being used.



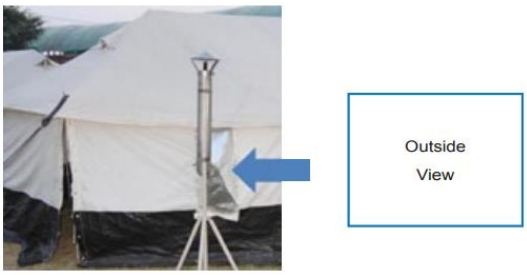
- ✓ *Adequate personal insulation:* Prioritize distribution of heating/fuel, blankets, and winter clothing. In cold climates, with temperatures below freezing, people will die within one day without adequate protection from the elements. In addition, rain and wind increase heat transfer away from the body. Therefore, survival is often dependent upon prioritizing the distribution of NFIs to best provide thermal comfort. *(Selecting NFIs for Shelter, IASC, Emergency Shelter Cluster, 2008)*

- ✓ *Provide a tent winterization kit*: The tent winterization kit for family tent, contains essential items to improve insulation against the cold including protection to install a stove inside the tent. It includes the following items:
  a) 1 x heat resistant chimney sleeve.
  b) 4 x floor protection boards heat resistant 25 x 50 cm.
  c) 5 x insulating floor 90 x 180 cm mat (aluminized fabric and medium thermal fleece blanket)
  d) 1 x inner liner for family tent,
  e) 1 x inner partition for family tent

- ✓ When fuel is burnt indoors, tents should be provided with a stove and a chimney, to reduce fuel consumption, local environmental damage from fuel collection, as well as time and effort spent collecting it, reduce health risks from indoor wood smoke and serve for cooking as well as heating needs.



- ✓ The stove must be located away from the tent wall and chimneys must have caps to prevent sparks from falling back into the tent. Chimneys should pass through the heat resistant fabric (non-perforated)

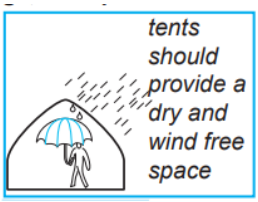


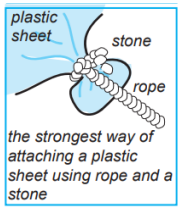
- ✓ Some ventilation must be maintained, especially when stoves or fires are used. When cooking or heating takes place in a tent, health risks include tent fires, respiratory disease, and eye infection from smoke. In many cases efficient stoves with flue pipes that burn appropriate fuel are essential.
- ✓ The kit should be provided together with other seasonal assistance including heating /fuel, winter clothing and blankets.

NB. Please note that the cluster does not retain stocks of tent winterisation kits, but UN agencies have global frame agreement with suppliers. The earliest notification of any demand for these items is required to mobilise in any quantity.

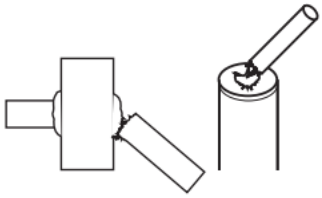
Frequently Asked Questions (FAQ)

a) ***Water leaks into tent?*** If tents are leaking, plastic sheeting and rope can be distributed to cover the outside of the tent. Try to make a ventilated space between the plastic sheet and the tent. The strongest way to attach a plastic sheet is by wrapping a small stone in the sheet and tying the rope around the other side.





b) ***Poles snap?*** Tent poles most frequently fail where they are weakest - at joints and at spikes. Consider temporarily repairing broken spikes with round tent pegs, metal bars or rope. In some case, where they may need to be replaced.



poles break at joints

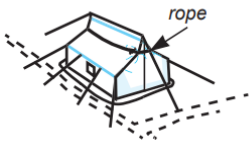
c) ***In case of fabric tears and damage?*** Consider either replacing replace broken sections and patch tears to prevent them from spreading, prevent the tent from flapping in the wind by putting up the tent correctly and regularly adjusting the guy ropes and erect tents properly keeping the fabric tight. Be careful not to overtighten the guy ropes. Note that damp ropes and canvas will shrink when they dry.

d) ***Pegs do not hold?*** Pegs may not hold in soft or sandy ground or may bend because the ground is very hard. Try digging the pegs into the ground before burying them or covering them with stones.

e) ***Tent rips where the guy ropes attach?*** The tent may need to be reinforced (using a needle and strong thread or string) where the guy ropes are attached.

f) ***Doors fail?*** Doors on tents often tear. Usually this is due to zips failing, clogged or eyelets breaking. When rope is used in snow or wet freezing conditions, the doors can freeze shut. Lacing or toggles with overlapping canvas is the best way of closing tent doors.

g) ***What is fabric flapping?*** Sometimes people fix rope around the outside of the tent to stop the tent flapping. This should be avoided as it reduces head height and puts strain on the canvas. Instead, people should be encouraged to erect tents properly. Tents should also be oriented with doors away from the prevailing wind.



Reading Materials

A guide to the use and logistics of family tents in humanitarian relief - Here
Installation video for SFT, here a video
Family tent instructions here
Winterized Shelter Solutions Research & Development - Here