



TENTS

WHY IS A COMBINATION OF COTTON & POLYESTER THE MOST WIDELY USED CANVAS FOR TENTS FOR HUMANITARIAN PURPOSES ?

Polyester/cotton remains the best-compromised choice of fabric in all climates. Cotton fibres offer excellent UV resistance and breathability; polyester ensures good mechanical strength and is not sensitive to fungi degradation. Alpinter tent models are either made from a cotton/polyester canvas (Or more recently from PE) and have a lifespan of at least 1 year in any climate. New tent designs have been added that allow the use of non-breathable fabrics (RED/BLEU/HUB models).

WHAT IS THE DIFFERENCE BETWEEN COTTON OR BLENDED FABRICS AND SYNTHETIC FABRICS?

Cotton or blended fabrics are made of natural fibres: they don't only have good absorption capacities but also have natural water repellent properties. Combined with chemical surface treatment, water is repelled while the tent maintains its breathable properties. Synthetic fabrics made of fibre or filament yarn do not repel water and require coating or lamination to ensure that they are waterproof.

PRO'S & CON'S OF SYNTHETIC FABRICS

Synthetic fabrics like PE are often lighter, more durable, less expensive and not sensitive to fungi degradation compared to natural or blended fabrics. If needed they can be disinfected without alteration of the treatment of the fabrics. To make them resistant to weathering they require chemicals additives. They are also not breathable which require design change in tent usage.

HOW CAN A NEW TENT MADE OF NATURAL OR BLENDED FABRICS LEAK ?

Brand new fabric tents made with natural fibres go through a process called weathering. When new fabric becomes wet, the weave or seam hasn't yet had the chance to absorb the water and swell, so it's possible that a few initial drops of water may pass through the canvas or seams.

HOW TO REPAIR WATERPROOF SEAMS

When seams start to leak they can easily be repaired with a sealant. Unfortunately, sealants are not always at hand. In that case, a seam can be repaired using a wax candle. By rubbing the wax onto the seams, the stitching holes will close and make your seam waterproof again.

WHAT CAUSES CONDENSATION AND HOW CAN WE REDUCE IT?

Condensation is caused by the accumulation of humidity and moisture inside a tent: a direct result of a temperature difference between the outside and inside.

What causes humidity and moisture?

1. WEATHER CONDITIONS: High humidity, low outside / high inside temperatures and rainy conditions create the most condensation.
2. OCCUPANTS: People produce between 50 centilitres and 1 litre of moisture per night through breathing and skin evaporation.
3. A WET ENVIRONMENT: Wet or moist ground and humid weather are inevitable.

Condensation in tents can never totally be avoided. Ventilation and dry heat are key to reducing it. Heating systems are not always available, however, so we are limited to ventilation. Cool, dry air must flow into your tent, allowing moist air to escape.



TENTS

Our tents guarantee good breathability and/or ventilation:

*Most of our tents use a breathable fabric for inner and outer fabric.

*Ventilation cones and large windows/doors with mosquito netting are available in all of our tents, ensuring better air circulation between the folds, while offering protection from insects.

HOW SHOULD THE TENTS BE STORED?

For long-term storage, tents should be kept in dry, clean, ventilated warehouses, out of direct sunlight (in bags) and elevated from the ground. All of our tents can be delivered on metal stackable pallets that not only facilitate loading and storage but also guarantee good ventilation between each pile when stored, as well as reduce warehouse surface. Our tents are guaranteed 5-year shelf life if correctly stored.

WHY AND HOW TO USE MUD FLAPS?

Mud flaps on a tent are often made of synthetic fabrics not sensitive to fungi. The horizontal part of the mud flap is on the ground and allows users to cover the mud flap with sand, soil, stones, mud, etc... It also offers better wind resistance, stability to the tent and avoids fraying of the flap by friction or flapping. It's possible to dig a trench around the perimeter of the tent and place the horizontal part in the trench, preventing water flow under the outer tent.

HOW TO CLEAN/DISINFECT TENTS?

Never use detergent, bleach or any other liquid with active ingredients when cleaning your tent made of cotton or blend fabrics. Tents made from natural or blended fibres are highly sensitive to such cleaning materials. In fact, they will remove the protective surface treatments for water repellence, fungi growth and UV resistance. We recommend dry brushing your tent fabric with a soft brush using clean, lukewarm water. Some may want to disinfect the tent area including the tent surfaces. This is done using a chlorine solution.

NEVER APPLY A DISINFECTANT SOLUTION TO COTTON OR BLENDED FABRICS.

HOW TO PREVENT MILDEW AND FUNGI GROWTH?

All of our fabrics are treated against fungi degradation and growth. Depending on the climate, fungi growth can't always be avoided. Again, ventilation is a key factor in reducing the risk of fungi and mildew growth and degradation. Note that when fungi growth is observed, it doesn't necessarily mean that the fabric has lost its mechanical strengths. So we make a clear distinction between fungi growth and fungi degradation.

WHAT'S THE BEST WAY TO ANCHOR YOUR TENT?

Some of our tent models are self-standing (frame tents and dome tents). Still, we recommend good anchoring at all times when possible. Winds can be very unpredictable. All of our guying point systems are tested to resist at least 3000 daN of load even after long time UV exposure and have a shock absorbing system that ensures continuous tension on the guying ropes. Pegs need to be placed in the same angle as the roof and inclined. Guying ropes need to be tensioned with the use of the guy runner. We recommend covering the mud flap with soil, bricks, stones, sand, mud, etc. It will offer more wind resistance and stability to the tent.

HOW TO CONTROL THE TEMPERATURE?

It is very difficult to achieve cooler temperatures inside a tent compared to the ambient outer shade temperatures. Due to heat accumulation, the temperature inside tents is often much higher. To achieve similar temperatures inside and out, remember to shut out as much infra red light as possible. Do so by creating shade for your tent and by ventilating: all our tents have large ventilation openings (cones, windows, doors, etc) equipped with mosquito netting and flaps that can be used to create shade. Having good opacity or reflective fabric will help too.

Shading nets on top of the outer roof have proven their efficiency and can reduce temperatures up to 10° C.



BLANKETS

HOW TO MEASURE BLANKET INSULATION CAPACITY?

The insulation capacity of a blanket depends on the TOG and the air permeability of the material. The TOG doesn't just depend on weight but also on fibre quality, the type of weaving or knitting and fibre raising. Scientific studies have shown that inside at 20°C, a person at rest requires a total insulation of TOG 1.5. Outdoors with no wind the value at 10°C is TOG 4 (high thermal blanket).

Bearing in mind that part of the insulation comes from clothing, the rest is due to the blanket. A blanket with 2.5 TOG (medium thermal) is the minimum for outdoor use. Blankets with 2.5 TOG are also appropriate for an indoor use without heater. Medium thermal blankets are recommended for refugee camp situations in hot or mild cold climates / temperatures. Even in hot countries, nights can be cold. Higher TOG values would be required for colder climates.

WHY IS AIR PERMEABILITY SO IMPORTANT?

The end user of an institutional type of blanket has special thermal requirements compared to regular other end users. These blankets are often used outdoors and wind is a factor that reduces the insulation capabilities of a product.

WHY TWO-FOLD BLANKETS?

Two-fold blankets **with same weight** as one-fold blankets offer better thermal insulation due to the fact that the air gets trapped between the folds.

PLASTIC SHEETING

WHAT IS PLASTIC SHEETING MADE OF?

Plastic sheeting for humanitarian use is made by laminating a black woven mesh of HDPE (high density polyethylene) between two layers of white LDPE (low density polyethylene).

WHAT IS DIFFERENCE BETWEEN CUT SIZE AND FINISHED SIZE TARPAULINS?

The difference between a cut size and finished size is the width of the hem and the width of the seam (or welding). The normal width of the hem and seam in tarpaulin finishing is about 5 cm.

CUT SIZE is the gross size before finishing.

FINISHED SIZE is the net size after finishing.

WHY IS PLASTIC SHEETING MADE OF BLACK YARNS WITH WHITE COATING?

When plastic sheeting (tarp) is used as a shelter with direct exposure to the UV, the black yarns (woven base material) will absorb the infrared light and reduce the green house effect, automatically reducing the heat inside the shelter. The white coating on both sides helps reflect UV and infrared light.

WHY USE REINFORCEMENT BANDS ON THE TARPS?

Six reinforcement bands are placed along the length of the tarp. They are stronger as compared to eyelets and offer much more flexibility for attaching the tarp to a structure without having pre-punched holes in the fabric.

WHAT IS THE DIFFERENCE BETWEEN TARP WEIGHT AND FABRIC WEIGHT?

There is a significant difference between fabric and tarp weight. Tarp weight includes all hems, seams, tolerances in sizes, inserted ropes, etc. The fabric weight is the weight of the pure fabric based on circular cut samples randomly taken from different areas of the tarp.



PLASTIC SHEETING

WHAT IS THE DIFFERENCE BETWEEN UV RESISTANCE AND UV PROTECTION?

UV exposure has a negative impact on the lifespan of polyethylene and polymers in general, reducing the chemical bonding of the polymer. This results in the loss of mechanical strength, colour fading, reduced elongation capacities, etc. UV blockers or UV stabilizers slow down the degradation process.

To lengthen the lifetime of the product, UV stabilizers are added to the yarns and coating / lamination. PE tarpaulins without UV stabilization can lose up to 95% of their mechanical strengths after 1500 hours of accelerated testing under UVB light. Our plastic sheeting only allows 5% of loss strength after 1500 hours of accelerated UVB exposure.

People tend to confuse UV protective with UV resistance. A polyethylene tarpaulin without UV stabilizers has capacities to protect the person underneath from harmful UV rays but the tarp itself is not UV resistant and will inevitably deteriorate.

JERRY CANS

WHY DO A DROP TEST ON COLLAPSIBLE JERRY CANS?

Jerry cans used in humanitarian situations are often subjected to rough conditions and risk being damaged. Our jerry cans must resist up to 10 drop tests from 2,5 metres high, filled with water to their maximum capacity.

SHELTER TOOL KITS

WHAT IS THE DIFFERENCE BETWEEN HOT DIP GALVANIZED AND ELECTRO-GALVANIZED NAILS?

Hot-dipped galvanised nails are recommended in humid regions where a maximum amount of protection is desired. To hot-dip galvanise steel fasteners, the steel is first cleaned, pickled, fluxed, and then dipped in a molten bath of zinc. The fasteners are allowed to cool prior to inspection and shipping. Hot-dipped fasteners are manufactured to ASTM 153 standards.

Electro-galvanised nails are used in mild-weather conditions and in areas with low humidity. Electro-galvanisation plates the nail in a zinc coating by using an electrical charge. The nails are submerged into an electrolytic solution and an electrical current coats them with a thin layer of zinc. However, after prolonged exposure to the elements, the thin layer of zinc oxidises, leaving the fastener subject to normal rusting and staining.

LOGISTICS

WHY DO WE USE METAL FRAME PALLETS?

The frame pallets we use for our tents and shelter tool kits have many advantages: logistics, rapid filling and emptying of containers, less staff to load and offload, reduced risk of damaging bundles, less storage surface required. Also, no rack systems are needed as pallets are stackable: this guarantees that tents are stored lifted from the floor which ensures ventilation.

WHY WE DISCOURAGE THE USE OF EURO SIZED PALLETS FOR LOADING IN CONTAINERS?

Modern warehouses often use pallet rack systems adapted to standard pallet sizes, like the euro sized 120x80 cm pallet. The average depth distance between beams is 100 cm. These pallets are not adapted to the container dimensions and much space is wasted. This not only has financial and efficiency implications, but has a serious environmental impact. A slight change in pallet size (to 115x75 cm) would significantly optimize the loading efficiency for containers (upto 30%) and still fit most of the existing warehouse rack systems. They also reduce the risk of damage of palletized cargo.