

TECHNICAL PROPOSAL Inflatable tent TYPE AZF42



Color: Camouflage



TENT TYPE AZF42 CAMOUFLAGE WITH INTEGRATED ENTRANCE MODULE - PRODUCT DESCRIPTION

Product configuration

The tent is made by two main subassemblies: pneumatic frame structure and covering fly sheet.

The pneumatic frame structure is inflated by mean of an electric inflator, for tent's rapid deployment.

The covering fly sheet is fitted with sleeves (through passages) for the electric wiring (front located) and air hose from the ECU air conditioning unit (side located).

The AZF42 tent can be deployed and made working by two operators in less than five minutes.

The AZ42 tent, in its basic configuration, is composed by:

- A covering sheet made of polyester fabric coated on both sides with PVC. All the textile parts are HF welded to achieve suitable water tightness properties. The tent skin is fixed to the frame by mean of screws and bolts, and can be changed when needed;
- A floor made of polyester fabric coated on both sides with PVC, high frequency welded to the cover.
- Load bearing frame structure inflated at 0.3 bar pressure. The frame is built into one section, with 4 separate air beams. Each air beam is equipped with two inflation/deflation valves as well as one over pressure valve;
- An electric inflator with 'self-erecting' inflation kit;
- A set of pegs to anchor the tents to the ground;
- A repair kit;
- A carrying bag for the tent (covering sheet, floor, pneumatic arches);
- A carrying bag for tent's accessories (pegs and hammer);
- A carrying bag for the electric inflator and the 'self-erecting' inflation kit.

The tent can be assembled and dismantled without the need of materials/tools that are not included in the standard equipment.

To assemble and dismantle the pneumatic structure the electric inflator is necessary. The electric inflator can also work as a deflator, by changing the air's outlet in use.

AZF 42 tent's main data

Tolerances up to +/- 5%	Shelter tent type AZF 42
Length	7,55 m
Width	5,60 m
Wall Height	2,15 m
Maximum Height	2,85 m
Entrance module length	1,20 m
Diameter of air beam	35 cm
Diameter of ridge purlin	35 cm
Operating Pressure	0,30 bar
Maximum Pressure (opening pressure of relief valve)	0,31 bar
Weight of tent approx.	180 kg
Weight of pegs approx.	44 kg
Weight of aluminium tubes + hammer approx.	11 kg



Standard Scope of Delivery

Each tent will be supplied complete with the following accessories, as baseline

Components	Shelter tent type AZF 42
Tent skin with integrated flooring & entrance module + inflatable air beam system	1
Telescopic aluminium tube for eaves purlins with 2 clip connectors	6
Bag for tent	1
Bag for aluminium tubes	1
Bag for accessories	2
Guy ropes 5m sides (+ 5m front + rear) with wooden spanner	8 (+ 4)
Ventilation flap support	6
Pegs 50cm T-Profile (for guy ropes)	12
Pegs 30cm T-Profile (for ground tie downs)	18
Hand pump	1
Tent hammer 1,5 kg	1
ARZ repair kit	1
Use and maintenance manual in English	1

AZF42 shelter tent, detailed description

Floor

The tent floor is made of polyester fabric sheets, coated on both sides with PVC, joined together by means of HFW. The floor covers completely the tent surface and it's joined to the cover and to the frontals by means of welding. In correspondence of the tent doors, the floor takes a shape as to create a barrier that can be laid down.

Plastic studs for tie down ropes, are welded along the floor perimeter, on the external part, in correspondence of the arch ends and at the door sides. Handles, made of a plait of synthetic material forming a ring, are inserted in said studs. The handles are used both to anchor the tent to the ground and to move the tent once inflated.

Canvas covering sheet

The tent canvas covering sheet consists of an upper sheet, a frontal panel and a rear panel. The canvas used is a polyester fabric coated on both sides with PVC.

The following components are applied to the external side of the upper sheet:

- Windows, each one located between 2 arches, on the covering sheet ;
- Ventilation openings over each windows as described in chart.
- Eight sleeves located on both sides, four in correspondence of the front sheet, four in correspondence of the rear sheet for the connection to heating or conditioning systems;
- Protective patches for the inflation/deflation and overpressure valves in correspondence of the pneumatic arches;
- Mushroom head buttons, for connection of the sun roof / awning kit.

The following accessories are fitted to the internal part of the upper covering sheet:

- Anchor points, consisting each of a double PVC stud, that, linked to the corresponding bosses located on the pneumatic arches, build up the anchoring system of the covering sheet to the supporting structure.

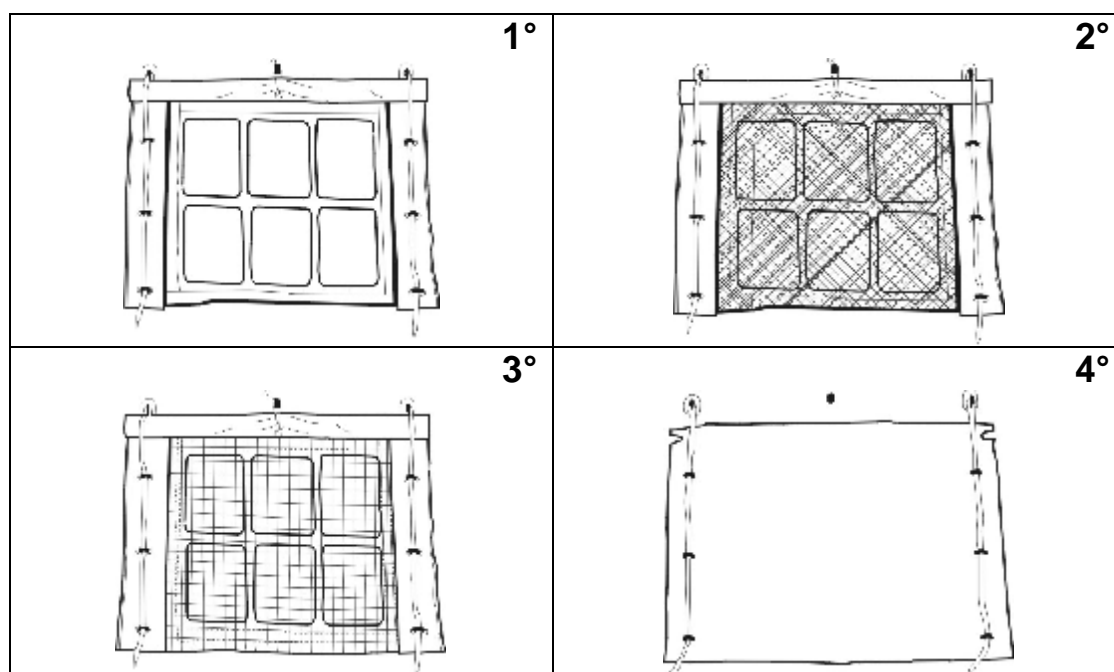
Windows

On the long sides, between one pneumatic arch and another there are windows and ventilation openings. (two windows and two aerators for each side)

The following components are fitted on the windows, starting from the inside and working outwards:

- 6-opening grid made in a single piece of the same fabric as the cover sheet. This grid is HF welded to the edges of the window opening and is shaped in order to form a drip moulding on the outside on the two vertical sides of the window.
- Fold-away mosquito net made in a single piece of suitable synthetic mesh – colour white or grey – with an along the internal and external edges with male Velcro on the inside and the female at the bottom.
- Transparent PVC panel with eyelets.
- Black-out panel (made of the same fabric as the tent), HF welded along the upper side to the outside of the tent. This can be closed using the eyelets and stays that are bound together by a plate.

The mosquito net, transparent panel and black-out panel can be opened out and secured in position using the Velcro strips and eyelets / stays on the window frame.



Natural ventilation openings

The ventilation openings are triangular and fitted one above each window. On both the inside and outside of these openings 2 panels made of the same fabric as the tent are HF welded to the cover sheet. The external panel, which is triangular, is kept up by an L-shaped stainless-steel rod inserted in the long side in a special sheath and supported on the short side by a PVC stud. The internal panel has a rhombus shape and can be closed using the Velcro strip.

Protective patches for inflation/deflation and overpressure valves

Holes with a diameter of 90 mm are fitted to the covering sheet, in correspondence of the valves located on the pneumatic arches. The valves themselves stick out of the holes. The holes are located at 130 mm from each other (distance measured from centre to centre). Their edges are reinforced with rings made of the same fabric as the covering sheet. Said valves are protected by a rectangular patch (225x325 mm) manufactured with the same fabric as the covering sheet, applied to it by means of HF welding along the short upper side – the other three sides can be closed by means of sewn Velcro.

Anchoring system of the covering sheet to the pneumatic structure

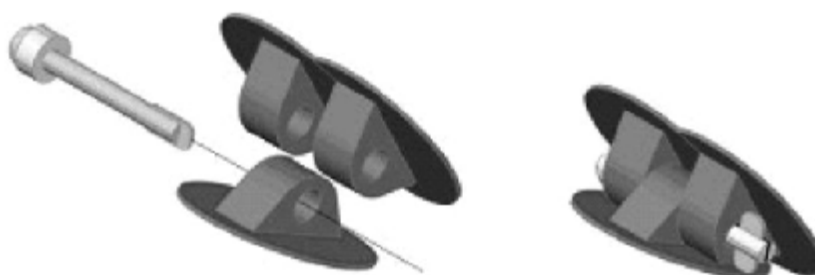
Anchoring points are fitted into the internal side of the covering sheet in

correspondence of the anchoring points placed on the arches, for the connection to the pneumatic structure.

Every anchoring point consists of a double PVC stud, welded by means of HFW.

The beam located studs are connected to those on the covering sheet through nylon bolts. This mechanical link is capable of supporting the loads for which the tents have been designed.

The drawing represents the anchoring system.



Frontal and rear panels of the cover sheet

The frontal/rear covering sheets are manufactured with the same fabric as the upper covering sheet. Their components are welded together by means of HFW, which is also used to join the frontal/rear covering sheets to the upper covering sheet.

The following accessories are welded to the frontal/rear sheets:

- A door;
- Two studs for wind-bracing tie-ropes.
- Three studs for the connection of the sun roof / awning kit.
- Ten anchoring points to connect the pneumatic arches.
- Two electric cable, through passages.

Door



Sliding door has two panels side-scrolling and its structure includes:

- a compartment itself, with the total size of about 160 cm in width and 190 cm in height. On the two vertical sides of the compartment are welded two sliding panels which, at the top, are engaged in a sheath that guides their course along the horizontal flap opening with plastic sliders.
- A protective patch above the sliding system to prevent any rainwater infiltration.
- Two door panels of sizes compatible with those of the compartment. Each of the two panels is provided in its upper part with three special plastic sliders that connected to sheath on the compartment. The free vertical edges of the closure panels are equipped with hinge; on right panel (looking from outside the door) is provided with a half zip and a firm with a slider and pull tab, while the left panel has a half zip and a

firm. The hinge is fitted with a deformable bellows which reduces the strain that the frontal covering downloads on it for the effect of mechanical stresses that the structure inevitably suffers during its use (wind, etc.). This system ensures greater functionality and durability of the hinge.

- The lower edge of the compartment is equipped with a folding system that creates, when raised, a bank of about 13 cm. When the bank is down it allows the transit through the port of equipment with weels while when it is raised inhibits water and insect's penetration; This system is provided with locking systems that allows the bank to stay in vertical position.
- Door panels are equipped with anchor systems that allows to maintain them in open position with Fastex type buckles PVC that make it easy and quick coupling.
- A special connection flap is HF-welded all around the door opening for the connection with other tents. The flap is manufactured with the same fabric as the covering sheet. A system of buttonholes and loops is welded on the flap and allows direct connection between tents or by means of corridor.

A system of buttonholes and loops is welded on the flap and allows the connection between tents.

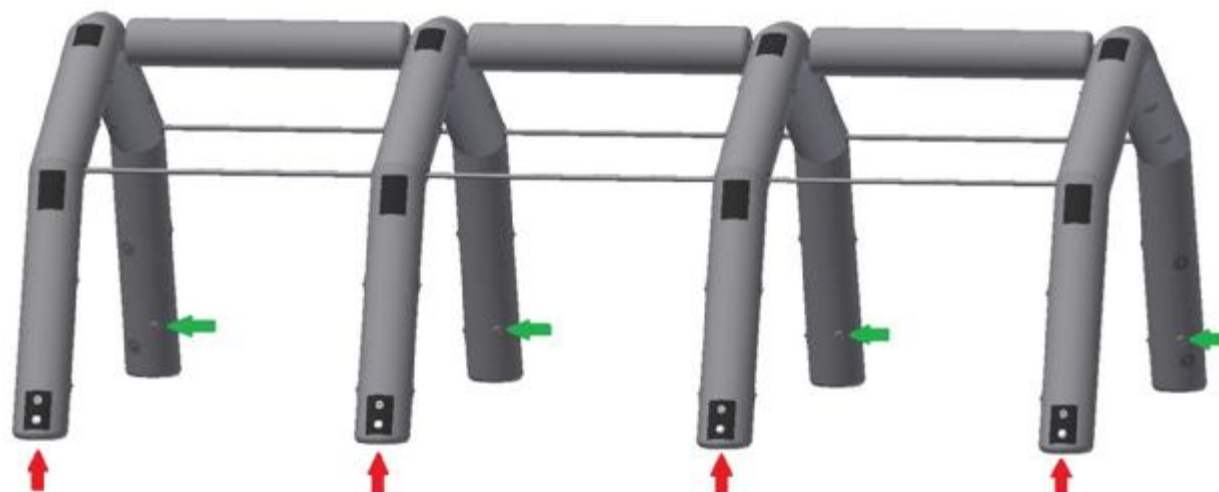
Wind-bracing tie down ropes

Plastic studs are HF welded on the external side of each front. They are located at the top, in a symmetrical position, and are to be used as fixing points for the wind-bracing tie-ropes.

Air beam frame structure

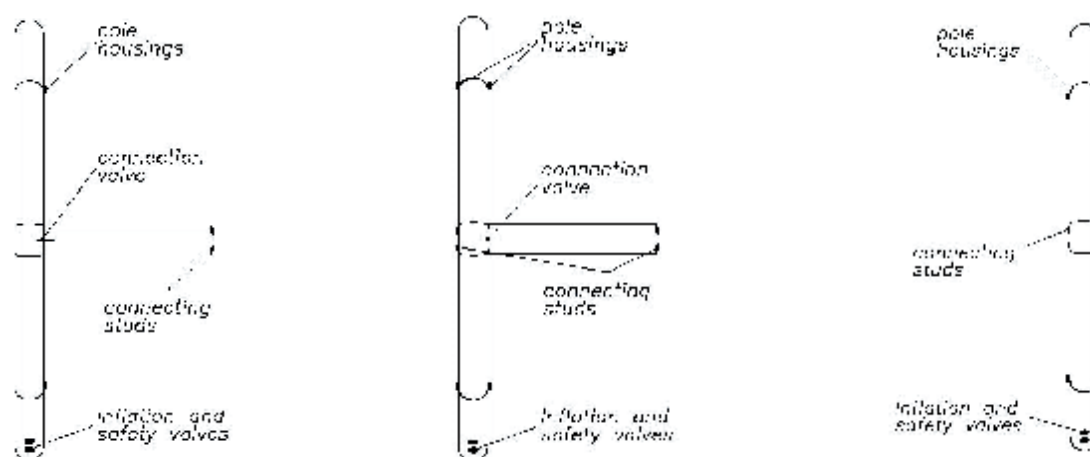
The pneumatic structure is manufactured with an air-tight PVC coated fabric. Its components are joined together by means of HFW.

The working pressure of the pneumatic structure is 0.3 bar that allows to the tent to resist to a wind load of 80 km/h and gusts up 100 km/h and a snow load of 15 kg/sqmt without damages.



The air beam frame structure consists of:

- One frontal arch in polyester fabric coated on both sides with PVC (5 sectors arches, diameter: 350 mm, working pressure: 0.3 bar) with pneumatic spacing tube;
- Two central arch in polyester fabric coated on both sides with PVC (5 sectors arches, diameter: 350 mm, working pressure: 0.3 bar) with pneumatic spacing tube;
- One rear arch in polyester fabric coated on both sides with PVC (5 sectors arches, diameter: 350 mm, working pressure: 0.3 bar);



Pneumatic spacing tubes have a double purpose: hold the arches in a fixed position and allow the whole pneumatic structure to self-erect.

This feature ensures that in case a pneumatic component breaks down, the other

arches remain still in service.

The front arch includes the pneumatic spacer for the apex (connected to the arch by studs and a connection valve) and 2 studs that take the poles.

The central arch also has a pneumatic spacer at the apex and 4 studs for the poles (2 on each side), and at the apex there are also studs for fixing the adjacent support.

The rear arch does not have a pneumatic spacer at the apex, but it does have 2 studs for the poles and at the apex there are also studs for fixing the adjacent support.

The mechanical link between the arches and the spacing tubes is created by means of 2 rigid PVC bosses that fit together and are connected together with a bolt. They give the pneumatic structure the needed stability and resistance.

Each arch is fitted with an inflation and overpressure valve. The latter allows the regulation of the pneumatic structure internal pressure. It is set at 0,3 bar, and relieves the excess air that creates excessive pressure.

Arches and spacing tubes are equipped with rigid PVC bosses that are used as interface for the connection and the application of the internal accessories as the insulation sheet, the partition sheets, the electric system. The bosses are HF-welded.

Each arch is fitted with two inflation/deflation valves and an overpressure valve.

Pneumatic structure is supported by spacing bars that must be placed in the number of two every two consecutive arches once the tent is erected. Their function is to give more stability and resistance to the structure besides being useful to support inner insulation sheet and electric system components.

Each distance bar is jointed in the middle to allow space saving during storage and to make easier the installation. Each joint is provided with an automatic stop device that maintain bars in extended position once installed.

The two edges of the distance bars must be fitted in the special housing welded on the arches.

Inflation/deflation valve

The inflation/deflation valve installed on the pneumatic components is composed by:

- A PVC ring nut;
- PVC valve body with shutter;

The inflation/deflation valve is blocked on the pneumatic component by means of the ring nut that is to be inserted on the valve body.

The valve fruit is so sized as to block the inflator hose coupling, both electric and manual.

The valve fruit has an external screw to allow to connect fittings as inflation hoses or adaptors for pressure maintenance system.

During use the inflation/deflation valve is closed by an air-proof cap.



Overpressure valve

The overpressure valve installed on the pneumatic components is set for closing at 0,3 bar.

The overpressure valve is blocked on the pneumatic component by means of the ring nut that is to be inserted on the valve body.



Inside view of an AZF42 tent

Accessories to assemble repair and maintain the tent

The accessories described below are supplied as baseline accessories, for a correct tent's deployment and use.

Wind-bracing tie-ropes

The wind-bracing tie-ropes keep the tent anchored to the ground in case of heavy wind loads. The tent tie-ropes are made of hollow plait in synthetic material (diameter: 14 mm, length: 4.500 mm). They are provided with wooden tensioners to keep them stretched.

Pegs

Each tent is fitted with a specific peg kit for compact grounds, in the same quantity as the anchoring points foreseen on the tent.

Pegs type as follows:

- tent perimeter: 30 cm long, "T" shaped pegs;
- guy ropes: 50 cm long, "T" shaped pegs.

Pegs are made of laminated steel.

Repair kit

Each tent is provided with a repair kit that allows durable and swift emergency repairs on the main structure components, directly on-site.

The kit is contained in a hard-plastic case

The repair kit contains:

- 2 pairs of scissors;
- 10 covering sheet fabric patches (100 x 100 mm);
- 10 pneumatic arches fabric patches (100 x 100 mm);
- 10 basin fabric patches (100 x 100 mm);
- 10 partition sheet fabric patches (100 x 100 mm)
- 2 caps for overpressure valves;
- 8 gaskets for overpressure valves;
- An inflation valve (complete);
- One inflation valve spanner;
- A 250 cc glue bottle with catalyst;
- An overpressure valve spanner
- A sewing kit



Fabric materials used, for tent's manufacture:

Please refer to the annexed data sheets, regarding the fabrics used.

Electric inflator with simultaneous inflation/deflation kit and electronic pressure

control system



The electric inflator supplied with the tent is fed with a monophasic 230V 50 Hz electric current.

The inflator case, composed by a base and a lid, is completely made of hard butyl rubber, to ensure excellent mechanical, chemical and electro technical features. The structure is completely insulated, self-extinguishing and resistant to the most common oils, acids and industrial salts.

This butyl rubber ensures maximum elasticity and resistance to accidental shocks, granting at the same time an excellent dimensional stability also in case of temperatures ranging from -40°C to $+130^{\circ}\text{C}$. It complies with the CEI 20-37 regulation and has a low emission of halogenidric gases and toxic smoke. In detail:

- CEI 20-37/2-1 (quantity of the emitted acid halogenidric gases);
- CEI 20-37/2-2 (emitted gases acidity/corrosivity rate);
- CEI 20-37/6 (emitted smoke opacity, max. optical thickness);
- CEI 20-37/7 (toxicity rate of the emitted gases).

The inflator is fitted with grids that allow the engine cooling.

The electric inflator has a tangential by-pass engine that uses a built-in fan to cool down the electric winding and an insulation class H for high temperature (180°C).

The inflator is provided with an electronic board with led display that allows to select the functioning mode and to read the information about it.

The inflator supply is fed by means of a HO7RN-F electric cable (section: 2x2.5 mm²) with a high resistance to abrasion, torsion, cut, pressure, tear. The cable is 7 m long; its free end is fitted with a SHUKO CEE 7/7 230V16A 2P+Grounding IP67 plug. The cable entrance is protected against tear and torsion by a screw cable press.

Inflation and deflation can be carried out by inserting the hose in the couplings located at the inflator sides, fitted with simple pressure joints.

The version of the inflator with automatic pressure control system has the following features.



In “AUTO” mode electronic board restores automatically the level of the operative pressure of the pneumatic arches in case of a pressure decreasing due to a big thermal excursion or a light damage on the supporting structure.

By means of a pressure level selector it is possible to choose the range of working pressure as shown in the following chart according to the kind of pneumatic structure to be controlled.

Selector position	Lower pressure value (bar)	Upper pressure value (bar)
1	0.19	0.22
2	0.19	0.27
3	0.38	0.43

When the pressure goes down to the lower value, the inflator starts automatically up to the pressure of the structure reach the upper value.

At every turn on, the electronic board performs a soft-start of the electric motor in order to prolong its life reducing peaks of current.

In order to prevent overheating of the inflator, the electronic control board ménages some pauses of the engine as following described:

In “ON” mode 10 minutes of pause after 15 minutes of continuous operation

In “AUTO” mode 5 minutes of pause after 10 minutes of continuous operation

By means of the “INFO” button is possible to obtain information about the number of the daily interventions I (in AUTO mode), the number of the pauses P (in AUTO mode), about the total amount of the working hours of the electrical engine and the instant pressure of the structure shown on the LED display H.

Electric engine is also protected against overheating by a built in thermostat set at 120°C

On the frontal side is mounted a quick coupling connector to connect a pressure feedback coming from the structure to control.

The inflator technical details are indicated in the following chart:

Electric power	900 W
Supply voltage	230V 50Hz
Protection degree	IP54
Insulation category	Double insulation
Capacity	1500 l/min
Head	0.45 bar max
Dimensions L x W x H	260 x 260 x 310 mm
Weight	12 kg

The product is CE marked.

Inflation and deflation can be carried out by inserting the simultaneous inflation kit in the couplings located at the inflator sides, fitted with simple pressure joints.

The simultaneous inflation system consists of four branches in polyurethane with an inner diameter of 20 mm connected to a quick connector for inserting into the inflator

vents. At the end of each branch is present a special adaptor provided of a tap to be connected to the valves mounted on the arches.

The quick connector has a cylindrical shape with a derivation for each branch; it's made of molded nylon reinforced with fiberglass and on the diameter has two o-ring for press-fit and perfect seal in the vent of the inflator.

At each end of the branches there is a 90° angled plug molded in plastic material complete with threaded ring to secure the air seal when inserted into the inflation valve; each plug is provided of a tap for closure of the airflow.



1. Optional accessories provided with the proposal

The following accessories are part of the proposal:

Inner insulation sheet

The insulation sheet shall consist of frontal, rear and central sections in the quantity indicated in the following table.

Type of tent	Frontal section	Central section	Rear section
AZF42	1	1	1

Sections are made of a cotton fabric which shall be joined together by means of Velcro tape. The sheet shall be provided with plastic material plugs, called frogs, which shall be positioned in correspondence to the studs on the covering sheet and on the pneumatic chambers. By fitting the frogs into the studs, the sheet shall be supported inside the tent. The insulation sheet shall be provided with sleeves for the heating/air-conditioning tubes in correspondence to similar sleeves welded on the tent outside sheet. On the longer sides of the insulation sheet there are as many windows as required by the tent. A transparent mosquito net and flap shall be fitted to each window. On its inside, the insulation sheet shall carry the fastenings to support the inner partition sheets (if any).



2. Lightening system for AZF42 tent

The offered tent will be fitted with an electric system that allows to light the inside of the tent and to distribute power inside of the tent, so to plug in small electrical appliances.

It will be composed by the following components:

- q.ty 6, Neon Lamps, 36W
- q.ty 1, Carrying bag for electrical kit

Technical description for the lamp is provided hereinafter.

Neon lamp 36 W

Main components for the lamp:

- Tubular shaped lamp body made of transparent, unbreakable polycarbonate with a diameter of 50 mm ca. and a thickness of 3 mm ca. Length: 800 mm ca.
- Caps at the ends, with water-proof IP67 cable press and O-rings with expansion seal system.
- Nr. 1 CEE P17 2P+T 220V-16A IP 67 protection plug with 1,5 m H07RN-F 3x2.5 mm² entry cable
- Nr.1 CEE P17 2P+T 220V-16A IP 67 protection socket with 1,5 m H07RN-F 3x2.5 mm² exit cable
- Nr. 2 Hanging hooks for fixing the lamps to side metal poles of the tent
- Anti radio-interferences electronic circuit, operation at very high frequency.
- A switch to turn ON/OFF the light positioned on the handle/grip.

Moreover, as extra security, if somebody accidentally tries to remove the handle, the light automatically turns off.

Total protection level of the lamp is IP67.



Carrying bag

Carrying bag sized to store the tent's electrical kit. Manufactured in PVC coated fabric. Colour light grey.



3. Product markings

All packages are marked with indelible ink prints applied directly on the material. They provide the users with immediate information regarding content and composition.

The labels contain the following information:

- Name of the user (organization);
- Content description;
- P/N (Part Number);
- Contract number and date;
- Manufacturing year;
- Name of manufacturer.

Both tent's front panels bear the same prints appearing on the case. They bear further prints next to the inflation and overpressure valves of a frontal arch. These prints indicate the inflation and use instructions.

The repair kit has also a print on a label, applied on the case, indicating the content type.

The ink used in the prints is a vinyl opaque, serigraphy ink, with an excellent abrasion resistance and high writing and images reproduction fidelity.

4. Packaging of goods and material delivery status

The materials building up the standard equipment and the tents themselves are packed inside carrying bags made of polyester fabric coated on both sides with PVC.



All the bags are designed to be easily transported and to safely contain the material. They are fitted with buckles, closing systems and suitable handles in HF weldable material, whose quantity is proportionated to the package weight. The handle quantity is determined in compliance with European safety measures, which establish a

maximum movable load of 30 Kg for a male adult and a load reduced to 25 Kg for a female adult.

Upon delivery to the customer the material is packed in its closed cardboard box fitted onto wooden pallets.

All packages can be stacked, in row 1+1



5. Package content list

Each AZF42 tent and its baseline accessories, ready for transportation, are contained in four different packages, whose content is described in the following chart:

<i>Pack type</i>	<i>Pack's Content</i>	<i>Q.ty</i>
Pack N° 1	Tent	1
Pack N° 2	Spacing bars	10
	Ventilator opening rods	8
Pack N° 3	Pegs & hammer	
	Pegs	28
	Hammer	1
Pack N° 4	Inflator and repair kit	
	Manual inflator	1
	Repair kit	1

11. SAFETY AND HAZARDS PREVENTION

The inflatable tents are manufactured using fire retardant materials meeting as a minimum the demands of UNI EN 9177 norm (ref. fabrics' technical data sheet here below).

All parts supplied along with the inflatable tents, including electrical equipment, are certified as conforming to EU applicable regulations, or German national standards.

12. LONG TERM STORAGE

The materials used for the tents are suitable for a long-term storage / shelf life, due to the following reasons:

- All material and equipment are properly stored in the logistic containers (if requested by the Customer);
- Textile items like tents make use of materials selected according to military standards regarding resistance to rooting, humidity etc.;

No time expiring parts are used.

13. WARRANTY

All materials and equipment supplied by ZMS are covered by 24 months warranty period, starting from the delivery made to the Customer, in accordance with European Union Directive 1999/44/CE dated 25 May 1999.

Terms and conditions from the above Directive, are also applicable.

14. ISO 9001 CERTIFICATION

QA system implemented by ZMS is approved by the TUV CERT Austria agency, under ISO 9001- 2015 provisions.

ANNEX - FABRICS' TECHNICAL SPECIFICATION

All used fabrics used for tent's manufacturing are PVC-coated polyester fabrics which have different characteristics according to their specific application.

The materials used to create the tent are sturdy and impervious to water and humidity. They are resistant to contact with oil and grease, and are flame retardant.

Due to their high temperature tolerance, they can be used in nearly every climate between – 30°C up to + 70 C.

The whole material is fungicidally treated.

UV-rays do not affect the fabric.

For the making of the AZF42 outer canvas, ZMS make use of "Blackout " PVC fabric. Blackout fabric consists of a laminate that sandwiches an opaque layer between two white exterior layers. Heating and lighting of a structure may be controlled because the fabric does not allow light to permeate the top or walls of the tent.

Canvas cover sheet –

	Detail	Test Method	Units	Requirements	Tolerances
Mechanical	Color			MILITARY CAMOUFLAGE	
	Raw material of base-cloth fabric	EN ISO 2076		100 % PES	
	Weave	UNI 8099		Plain	±5%
	Surface finishing			DF EMBOSSING or MATTE	
	Yarn count	EN ISO 2060	dtex	1100	
	Number of threads (warp/weft)	EN 1049 part 2	Yarns / cm	7,3 x 8,3	+/-0.25
	Characteristics of coating	UNI 4817		Coated on both sides with polymers mix and/or polyvinyl chloride mixture	
	Total fabric weight	EN ISO 2286-1	g/m ²	750	±5%

Tensile strength	EN ISO 1421	N/5 cm	warp 2500	
			weft 2300	
Tensile strength of welded strips by High Frequency	EN ISO 1421	N/5 cm	warp 2400	
			weft 2150	
Tear strength	EN 1875-3	N	Warp > 250	
			weft > 230	
Tear strength of welded strips by high frequency	EN 1875-3		warp > 250	
			weft > 230	
Resistance to cold	DIN 53361	C°	warp -25	
			weft - 25	
Resistance to hot	Complan	C°	+70	
Fire behaviour <i>(Combustible materials which can be hit by a flame on both surface – Reaction to fire by applying a small flame ; Reaction to fire of material can be hit by flame with radiant heating ; Reaction to fire - Preparation of materials for verifications of requirements ; Reaction to fire – Combustible material classification. – Reaction to fire Combustible materials which can be hit by flame on one surface..</i>	UNI 8456		FIREPROOF	
	UNI 8457			
	UNI 9174+A1 & UNI 9177			
	UNI 9176			
Resistance to perforation	UNI 5421:1983	N	750 (by means of a ball dia. 10 mm)	
Resistance to water penetration	UNI EN 1734:1998		No passage after 3 minutes., with P=1 bar	
Colour fastness to U.V. rays	EN ISO 105 B02:2004	Class	6	
Resistance to ageing	EN 12280-1		No alteration	
Determination of coating adhesion	EN ISO 2411	N/cm	20	
Determination of resistance to repeated flexures	DIN 53359 A	cycles	No cracks after 100.000	
Resistance to mould and fungus	ASTM G-21-96		No stain No growth	
Resistance to liquid	ASTM OIL 1 ISO 1817:1999		No viscosity ,No any deterioration	

	Luminous transmittance	UNI 8028:1979	%	Total ≤ 0.040 Diffused ≤ 0.040 Average values got by reading of each colour in field between 190 and 1.100 nm at steo of 5 nm and integration time of 0,5 seconds.	
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Air beam frame, arches and spacing tubes – ZMS P1100AT

Detail		Test Method	Units	Requirements	Tolerances
Mechanical	Color			Light grey	
	Raw material of support fabric	UNI ISO 2076		100% PES	
	Weave	UNI 8099		Plain	±5%
	Yarn count	EN ISO 2060	dtex	1100	
	Number of threads (warp/weft)	EN 1049 part 2	Yarns / cm	Warp 8,25 Weft 8,75	
	Characteristics of coated fabric	UNI 4817		Coated on both sides with polymers mix and/or polyvinyl chloride mixture	
	Total weight of fabric	EN ISO 2286-1	g/m ²	1100	±5%
	Tensile strength	EN ISO 1421	N/5 cm	Weft 2150 Warp 2740	
	Tensile strength of welded strips by High Frequency	EN ISO 1421	N/5 cm	Weft 2150 Warp 2150	
	Tear strength	UNI EN 1875-3	N	Weft 85 Warp 115	
	Tear strength of welded strips by high frequency	UNI EN 1875-3	N	Weft 85 Warp 115	
	Fire behaviour <i>(Combustible materials which can be hit by a flame on both surface – Reaction to fire by applying a small flame ; Reaction to fire of material can be hit by flame with radiant heating ; Reaction to fire -</i>	UNI 8456 UNI 8457	CLASS	1	

	Preparation of materials for verifications of requirements ; Reaction to fire – Combustible material classification. – Reaction to fire Combustible materials which can be hit by flame on one surface..	UNI 9174+A1 & UNI 9177			
		UNI 9176			
	Resistance to perforation	UNI 5421	N	785 (by means of a ball dia. 10 mm)	
	Permeabilità to Helium	AFNOR NF-G-37-114		≤ 2 litres m2 in 24hrs	
	Colour fastness to U.V. rays	ISO 105 B02	Class	≥ 6	
	Resistance to ageing	EN 12280-1		No alteration	
	Determination of coating adhesion	ISO 2411	N/cm	20	
	Determination of resistance to repeated flexures	ISO 7854:1999 met. C	cycles	No alteration after 30.000 – 2B	
	Low-temperature bend test	ISO 4675	C°	Warp resistant at -25	
				Weft resistant at -25	
Resistance to abrasion	ISO 5470-1Moe CS10 applying a 5N load		Durable. Loss of weight after 100 cycles ≤ 5mg		
Resistance to mould and fungus	ASTM G-21-96		No stain No growth		

Inner insulation sheet – ZMS C300

	Detail	Test Method	Units	Requirements	Tolerances
Mechanical	Color			LIGHT GREY	
	Raw material	EN ISO 2076		100% Cotton	
	Weight of dyed and finished fabric	EN 12127	Gr/sqm	300	±5%
	Weave	ISO 3572		Plain	
	Thread per Unit length	EN 1049 part 2	Yarns / cm	Warp 26/27	
				Weft 22/23	
Yarns count	EN ISO 2060	Tex	Warp 20x2		
			Weft 42		

Tensile strength on dyed and finished fabric	EN ISO 13934-1	N/5	Warp 800	
			Weft 800	
Tear resistance on dyed and finished fabric	EN ISO 13937-1	N	Warp 9	
			Weft 10	
Resistance to water Penetration on dyed and finished fabric	UNI 5123		10 cm H ₂ O for 24Hrs	
Resistance to microorganisms on dyed and finished fabric	EN ISO 11721-1		75 % residual resistance of the initial mechanical characteristics on specimens buried in ground for 24 days.	
Shortening on dyed and finished fabric <i>(Cold water immersion procedure)</i>	UNI 9294-5	%	4 (maximum)	
Shrinking on dyed and finished fabric <i>(Cold water immersion procedure)</i>	UNI 9294-5	%	1 (maximum)	
Fire behaviour on dyed and finished fabric <i>(Combustible materials which can be hit by a flame on both surface – Reaction to fire by applying a small flame ; Reaction to fire of material can be hit by flame with radiant heating ; Reaction to fire - Preparation of materials for verifications of requirements ; Reaction to fire – Combustible material classification.</i>	UNI 8456		Fireproof	
	UNI 8457			
	UNI 9174+A1			
	UNI 9176			

Tent floor – ZMS P550

Properties	Test Standards		Values	Units
Fibre Type of the Base Fabric Faserstoff des Trägergewebes Tissu Support	(DIN ISO 2076)		PES	
Titer of Yarn Garn Titer Titres du fil	(DIN EN ISO 2060)		1100	dtex
Weave Style Bindung Armure	(DIN ISO 9354)		L1/1	

Yarn Count Fadendichte Nombre de fil	(DIN EN 1049)	warp weft	8 8,5	yarn/cm
Base Coat Beschichtungsart Nature de l'Énduit			PVC acrylic lacquer	
Top Coat Schlusslack Équipement de Surface			Acrylic lacquer Acryllack	
Total Mass per Unit Area Flächenbezogene Gesamtmasse Masse Totale	(DIN EN ISO 2286-2)		750	g/m²
Width Breite Largeur	(DIN EN ISO 2286-1)		250	cm
Tensile Strength Höchstzugkraft Resistance à la Rupture en chaîne/en trame	(DIN EN ISO 1421)	warp weft	2800 2500	N/5cm
Tear Resistance Weitereißkraft Resistance à la Déchirure en chaîne/en trame	(DIN53363)	warp weft	300 300	N
Adhesion Haftung Adhérence	(EN ISO 2411)		100	N/5cm