	Status	Validated	**Unified Technical Specifications: Winter Cover for the Geodesic Family Tent 18m²**
	Date	01/03/2025	
	Version	1.0	

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

Items	Characteristics	Non conformities classification	QC type and where	AQL	Requirements
Information for testing					All canvas materials for the winter cover must meet the specifications below and ISO 10966.
					One sample to send to the laboratory together with one complete tent.
					The winterised tent will first be used for the rain test.
					The test pieces will be cut from the winter cover after the rain test.
					The test pieces for FR and UV will be cut from places exposed to rain.
					All test pieces for tensile and tear tests should be cut parallel to the direction of the fibres, in warp and in weft. The fibres should run from one end to the other end of each test piece.
					Dimensional tolerance: Unless otherwise specified, a maximum tolerance of +/- 1% is accepted on all dimensions.
					The product is deemed acceptable only if the same sample passes all criteria.
1. Specifications: Materials					
1.1 Specifications for all winter cover components made of PE sheet (roof, walls, mudflaps, and all other PE sheet components)	Material for the base fabric	**C**	Ok/Nok Lab only	0	Woven high-density polyethylene (HDPE) black fibres
	Material for the coating	**C**	Ok/Nok Lab only	0	White low density polyethylene (LDPE) coating on both sides
	Use of recycled material	**n/a**			It is encouraged to use material from recycled origin. As described by the Circular Plastic Alliance of the EU commission in EN 45557 and the US Federal Trade Commission Green Guides in accordance with ISO14021 principles, recycled plastic includes post-industrial and post-consumer recycled waste, it excludes reworked material. In this last case, even though using waste from tarpaulins production is accepted, it does not count as material from recycled origin.
	Tear strength at state of origin	**M**	Measure Lab only	4,0	Under ISO4674-1B 2003, with a test piece of 200x200mm as described in ISO 4674 annex B. Minimum 150N
	Tensile strength at state of origin	**M**	Measure Lab only	4,0	Under ISO1421-1_1998. Minimum 750N and 15% to 35% elongation in warp and weft
	UV resistance measured as remaining tensile strength after UV exposure.	**M**	Measure Lab only	4,0	Tested with ISO1421-1 after 1500 hours UV under ASTM G194/23 (UVB 313 nm peak). Maximum 5% loss of strength compared to the original tensile strength of the actual product.
	Weight	**M**	Measure Lab/In-house	4,0	Under ISO3801. 170g/m² ± 10g net weight
	Flame retardant	**C**	Ok/Nok Lab only	0	EN13823+A1. Minimum class D, s2, d2. Minimum time to reach large wing external edge: 4minutes (LFS) Presence of FR additives (bromine, antimony) is not permitted
	L.a.b Coordinates	**M**	Measure Lab only	4,0	Under ISO105J01 for the white coating colour. Minimum L : 82 "a" value between -1.7 and +1.5 "b" value between -4.5 and 0
	Opacity	**M**	Measure Lab only	4,0	Measured as minimum reflection and maximum transmission, in the range of visible light and near infrareds. Measured under ISO 13468-1. Values should be measured respectively from 350 to 750nm, and from 750 to 2500nm wavelength. The final result is the average of the averages in each range. Minimum total reflection: 35% Maximum total reflexion: 55% Maximum total transmission : 5%

1.2 Specifications for the seams, the waterproofing and the snowload of the wnter cover	Water-penetration resistance	**C**	Measure Lab only	0	Under ISO811 The test pieces include seams. Seams tapes are positioned on the inner face of the tent (opposite to the water). 30hPa minimum, increasing speed at 100mm per minute.
	Efficiency of waterproofing tape after UV and moisturizing.	**C**	Measure Lab only	0	Exposure in a climatic chamber under ISO4892-2, type A, 360 hours. Expose the outer side of the tent to the UV. The test pieces include seams. Seams tapes are positioned on the inner face of the tent (opposite to the UV and to the water). 30hPa minimum, increasing speed at 100mm per minute.
	Strength and UV resistance of the seams.	**M**	Measure Lab only	4,0	Tensile strength at state of origin under ISO1421-2 (grab test)_1998. UV resistance measured as remaining tensile strength after UV exposure. Tested with ISO1421-1 after exposure in a climatic chamber under ISO4892-2, type A, 360 hours. Expose the outer side of the tent to the UV. The same test pieces from point 2 can be used here. The test pieces are cut with the seams to be in the centre of the pulling area, in a perpendicular position with the pulling forces. At state of origin: 500N on fringed samples of 100mm width using clamping jaws of 50mm width. After UV exposure: Maximum 5% loss of strength compared to the original tensile strength of the actual product.
	Rain-penetration resistance	**C**	Ok/Nok Lab only	0	Under ISO5912:2003. The test piece is the complete tent with the shade-fly in place. (attention: ISO5912:2011 does not apply). There should be no water penetrating inside the tent, including through capillarity action. Apply procedure as per point 4.2.11 in ISO5912:2003 and 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.
	5. Snow load resistance ISO 8937 (snow load for all season awnings type R, residential)	**C**	Measure Lab only	0	Minimum 300N/m² without any damage and remain securely attached to the ground.
1.3 Specifications for the winter cover guy points	Material composition	**C**	Ok/Nok Lab only	0	Polyethylene, polypropylene or polyester ropes, Polyester straps, steel rings, elastic device.
	Tensile strength ISO13934 on the 6 main guy point upper parts. Includes: A portion of PE canvas, stitched strap loop, strap buckle, elastic device, metallic ring, one rope section of 8mm, guy runner.	**M**	Measure Lab only	4,0	The test pieces should be submitted to 2 blank extensions to 3000N before doing the measurement test itself. 3000N minimum resistance for the complete guy point. Sliding of the guy-runner not permitted. Number of test pieces: 2 Extension of the elastic to the maximum of the limiter should be reached under a traction force between 700N and 1000N
	UV resistance of the guy point in percentage of tensile strength-loss. ISO13934 after exposure in a climatic chamber under ISO4892-2, type A, 360hours. Includes: Same as above.	**M**	Measure Lab only	4,0	The stitched strap loop, the strap buckle, the elastic device, and the rope section of 8mm should be exposed to the UV. 30% maximum strength-loss on original value of the actual product Number of test pieces: 1 Extension of the elastic to the maximum of the limiter should be reached under a traction force between 500N and 1000N
	Tensile strength ISO13934 on the 10 other winter cover guy points.	**M**	Measure Lab only	4,0	Includes: A portion of PE canvas, The entire PVC reinforcement, strap, buckle, guy runner, one rope section of 6mm. 1400N minimum Number of test pieces: 3
	Colour	**M**	Ok/Nok Lab/In-house	4,0	Black ropes and straps, galvanized steel, red metallic tensioning runners, or hard wood runners.
1.4 Specifications for the frame components	1. Type of steel:	**M**	Ok/Nok Lab only	4,0	Type E24.2 (A37) (1.0037) zinc coated construction steel
	2. Tensile strength:	**M**	Measure Lab only	4,0	Minimum 300N/mm²
	3. Pipe dimensions:	**M**	Measure Lab/In-house	4,0	Outer diameter: 30mm +/-0.5mm
					Thickness: 1.5mm (+/-5%)
					The pipe connections are pressed into an oval section shape for the ridge line.
					Male oval draw: 24mm x 32mm. Female oval draw: 20mm x 28mm
	4. Connections:	**M**	Measure Lab/In-house	4,0	Crimped inserted connector sockets for all connections except ridge line. Narrowed pressed pipes only for the ridge line.
					Insert connector diameter: 26mm +/-0.5mm
					Thickness: 1.5mm (+/-5%)
					Length of inserts: 200mm total length
					All connections include a lock with push button

1.5 Specifications for hammer	1. Type:	**M**	Ok/Nok	4,0	Sledge hammer, 1kg head, 30cm total length, wooden handle.
			Lab/In-house		In accordance with ISO 15601 and the specification listed below.
	2. Handle:	**M**	Ok/Nok Lab/In-house	4,0	No chips, rough surfaces, holes or knots. Smooth surface. Strong dry flexible wood. Handle to have a counter-conical shape (like a hoe) that retains the handle without added parts
					Moisture minimum 10% and maximum 15%, under ISO 3130.
	3. Pull apart test:	**M**	Ok/Nok Lab/In-house	4,0	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.
1.6 Specifications for other accessories	1. Zip fasteners	**M**	Measure Lab only	4,0	Minimum 700N lateral traction under ISO 5912
	2. T pegs	**M**	Ok/Nok Lab/In-house	4,0	The peg being clamped vertically in its middle in a vice jaw, it must resist 25 vigorous hammer blows delivered straight vertically on its top, without breaking or bending.
2. Specifications: General points for finished product					
Performances		**C**	Measure Lab only	0	The final product must be able to withstand a 100km/h wind and a snow load of minimum 300N/m² under ISO 8937 (snow load for all season awnings type R, residential) without any damage and remain securely attached to the ground.
					When closed, the winter cover must provide good protection against dust, wind, rain, snow, insects and small crawling fauna.
Seams and stitching		**M**	Ok/Nok Lab/In-house	4,0	All seams that are subject to possible tension must be double lock stitched and waterproofed.
					The stitches can be waterproofed with tape on the inner side where required.
					Stitching produces strong, long-lasting, neat and professional looking seams.
					The stitch count as well as UV and rot-proof sewing threads must be appropriate and suited to the material. Stitching must provide strong, waterproof seams with at least the same lifespan as the winter cover.
					The seams must be oriented to facilitate the unimpeded runoff of rain: avoid creating water lines or water pockets.
					Wherever possible, the colour of the sewing thread should be compatible with the fabric colour.
Ropes, webbing bands, toggles, loops, reinforcement nettings and all other accessories		**M**	Ok/Nok Lab/In-house	4,0	All ropes and webbing bands must be heat cut. All ropes are knotted to the winter cover at the factory. All of the above-mentioned items must be rot-proof and UV-proof (to the same degree as the winter cover canvas to which they are sewn). To avoid water penetration through capillarity action, no webbing or rope can be inserted throughout a seam from the outside to the inside of the winter cover; alternatively, they must be made of waterproof materials.
					Laces and loops of the winter cover can be made of the same PE material of the winter cover.
Eyelets		**M**	Ok/Nok Lab/In-house	4,0	All metal eyelets must be rustproof and correctly placed, reinforced with a fabric patch and have a minimum inner diameter of 10mm.
Metal rings		**M**	Ok/Nok Lab/In-house	4,0	All metal rings must be rustproof, galvanized and welded closed.
3. Specifications: Characteristics of the winter cover pictures 1 to 4					
General description of the winter cover		**M**	Ok/Nok Lab/In-house	4,0	The winter cover must be comprised of several PE sheet sections, forming the general shape of the winter cover. The seams must run from the top center down to the floor level, avoiding horizontal lines when possible.
					The winter cover is supported by the original tent frame plus an extra frame that comes on top of the existing tent. This includes one ridge pipe, 3 extra poles supporting the ridge and 2 arches forming the 2 vestibules and the 2 doors. It is secured with 10 guying pegs at the ground connected to twenty reinforced attachment points. It uses the 6 main pegs of the tent without moving them, plus 4 extra pegs supplied with the winter cover. Four pegs are also available for the door frame foot plates.
Dimensions		**M**	Measure Lab/In-house	4,0	Centre height: 2.50m
					Width: 5.70m
					Length: 7.55m
					Door height: 1.70m

Erecting system		**M**	Ok/Nok Lab/In-house	4,0	The original shade-fly of the basic tent is removed before placing the winter cover. The winter cover is placed over the tent and maintained in position by 12 Velcro sleeves and 10 tensioning belts.
					The winter cover is attached to its frame with 6 Velcro at each door frame, and with 10 tensioning belt, 4 at the bottom of each door poles and 6 on each foot plates of the tent. Pictures 5 to 7
Mud flaps		**M**	Ok/Nok Lab/In-house	4,0	All around the winter cover except before the doors, the bottom of the wall is extended with a mudflap lying horizontally on the ground with 250mm horizontal part. On the horizontal part of the mud flap, there is a continuous pocket of 150mm width, made with the same PE material stitched on top of the flap. There are holes of 20mm every 0.5m at the pleat to allow water to run off from these pockets. The pocket's sides are stitched every 0.5m.
Anchoring system	outer guy lines on crossed arches	**M**	Ok/Nok Lab/In-house	4,0	Tolerance for guy points position: +/-5%, the dimensions are measured from the ground level to the centre of the guy point component.
					Ten guy lines attached to 6 metal pegs, including: - Six main guy lines positioned in the six corners of the tent cover. They split each into two attachment points to the tent, 4 on the corners are located at 1.4m and at 0.6m from the pipe ends; and 2 on the sides are located at 0.85m and 1.55m from the pipe end. - Four secondary guy lines attached to the sloped pipes located at 1.4m from the pipe ends. These 10 guy lines are attached to the tent with sixteen 40mm webbing, forming the 16 guy points.
	vestibule doors	**M**	Ok/Nok Lab/In-house	4,0	Two guy lines attached to 2 metal pegs, for each door.
					These four guy lines are attached to the winter cover with a 50mm webbing stitched to the canvas. Picture 8
	Guy points reinforcements	**M**	Ok/Nok Lab/In-house	4,0	The 10 guy points must be reinforced in such way to pass the tensile test (see part 1). This includes elastic shock absorbers, with extension limiters and galvanized steel ring with smooth surface to pass the rope.
					The elastic shock absobers are located at the upper end of the guy ropes. They are attached to the tent with PVC reinforcements. Picture 9 to 11
Windows		**M**	Ok/Nok Lab/In-house	4,0	The winter cover has four windows located one on either side of winter cover. The inside dimensions of the windows must be 700mm wide by 700mm high. The lower end of the windows must be located 500mm above the ground.
					The window openings must be reinforced with large holes UV-proof netting.
					These windows are protected outside with rectangular shutters rolling upwards. The window shutters must be 900mm wide by 850mm high, made of similar material to the winter cover material. Loops and plastic toggles or hooks are provided to keep the shutters open when rolled up and closed.
					The winter cover has two windows located one on either doors. The inside dimensions of the windows must be 750mm wide by 700mm high. The lower edge of the windows must be located 650mm above the ground.
					The windows are made with a fixed clear translucent UV proof plastic film. These windows are fixed (cannot open).
					These windows are provided with an inner shutter opening downwards. The window shutters are made of PE sheet similar to the tent material. Velcro strips are provided to keep the shutter closed.
Ventilation		**M**	Ok/Nok Lab/In-house	4,0	Ventilation of the winter cover includes the windows and one vent opening in each vestibule roof.
Doors		**M**	Ok/Nok Lab/In-house	4,0	The doors are located one on each winter cover end.
					Door size: 1.60m width x 1.70m high
					Door flaps 1.60m width x 1.90m high
					The doors close with 2 zippers, one on each vertical side.
					Loops and toggles are provided to keep the door flaps rolled up.
Chimney protection		**M**	Ok/Nok Lab/In-house	4,0	One chimney pipe protection is provided at one end of the winter cover, located on one vestibule wall, matching with the chimney patch of the geodesic tent.
					It must be made of heat-resistant fabric (minimum 900°C). The type of fabric in which the fibres do not loosen and do not tear when cut.
					The lower edge of the heat-resistant fabric must be 500mm above the ground.
					Net dimensions of the fireproof patch: 250mm width x 650mm height.
					A flue-pipe sleeve is provided on top of the fireproof patch, made of the same fireproof canvas. The sleeve base is attached to the tent, outside, on top of the fireproof patch.
					The fireproof sleeve has a pyramid shape, with a base of 350mm x 700mm. The height of the pyramid part is 400mm, with a hole of 150mm diameter at the top.
					The top of the pyramid has a tubular extension of 200mm long. At the end of the tubular extension, there is a fireproof lace to attach around the pipe.

Plastic pouch for document		**M**	Ok/Nok Lab/In-house	4,0	On either ends of the tent, on the left side panel next to each door, there must be a document pocket of 200mm high x 300mm long make a clear UV proof plastic. Picture 12
Manufacturer identification		**m**	Ok/Nok Lab/In-house	6,5	Made with one piece of durable material of 10x20cm with durable print, and stitched inside the winter cover, in the vertical seam of one winter cover corner.
					The tag should include the manufacturer's name and the batch number.
Safety information tag		**M**	Ok/Nok Lab/In-house	4,0	Same safety information as for the geodesic basic tent must be available inside the winter cover is the form of a durable print on one piece of durable material stitched inside the winter cover. This should be located inside the vestibule next to the chimney patch.
Recycling information signs and do not burn sign.		**m**	Ok/Nok Lab/In-house	6,5	The recycling signs for HDPE, LDPE, FE and the do not burn logo are printed on the same piece of material with the manufacturer identification.
					Hight of the signs: 50mm to 70mm
					Designs: Pictures 13 to 16
4. Specifications: Poles and accessories, Picture 17					
Poles	Center pole	**M**	Ok/Nok Lab/In-house	4,0	One upright center pole, of adjustable length of 1.9m to 2.5m in two sliding pieces with a blocking system. The top end of the pole has a sleeve connector to fit to the center pipe of the tent ridge. Pictures 18-19
	Other poles	**M**	Ok/Nok Lab/In-house	4,0	Two upright poles, of adjustable length of 1.9m to 2.5m each in two sliding pieces with a blocking system. The top ends of the poles have a bent rod to fit on to the pipes of the tent. Pictures 20 to 22
	Poles base plates	**M**	Ok/Nok Lab/In-house	4,0	The base of the poles must have a soft flexible plastic or rubber base plate 50mm in diameter that will not damage the tent ground sheet. Picture 23
	Door frames	**M**	Ok/Nok Lab/In-house	4,0	Two door frames for 1.70m height doors in 6 pieces each frame. The top part of each door frame must have a connector to fit the ridge pipe.
					All connectors are crimped sleeves, no narrowed diameter. Pictures 24 to 27
					Door pole base plates are made from a rectangular piece of steel, with 4 corners folded grips pointing downwards.
					The door poles base plates include the fixation for tensioning belts. Picture 28
Ropes/loops/ guy runners		**M**	Ok/Nok Lab/In-house	4,0	Ten guy ropes, black, UV treated, each 3m long, 8mm diameter, with a minimum tensile strength of 300kg. These ten ropes are connected to the tent via the elastic shock absorbers on the upper end. Picture 30
					All ropes must be attached to the winter cover at the factory.
					All ropes must have a securely knotted loop at one end, to place over the peg.
					All ropes are tensioned by sliding on the winter cover side, not on the peg side.
					All ropes must have one anti-slippery metal guy runner.
					Size of the runners: adapted to the good running and blocking of the ropes. Picture 29
Pegs		**M**	Ok/Nok Lab/In-house	4,0	Four 400mm-pegs, made of T-shaped iron 25 x 25mm and 3mm thick, similar to the main pegs of the geodesic basic tent.
					Four candy-cane pegs 300mm x 10mm diameter.
Accessories		**M**	Ok/Nok Lab/In-house	4,0	One 1kg metal hammer with 300mm wooden handle. (see specifications in part 1).
Set-up instruction		**M**	Ok/Nok Lab/In-house	4,0	One set-up instruction sheet in English, showing step by step set-up information drawings and item content list and information, printed on durable laminated paper or durable fabric.
					These instructions should be accessible immediately after opening the tent package.

5. Specifications: Packing				
Primary pack	**M**	Ok/Nok Lab/In-house	4,0	One winter cover with all its accessories must come packed in one bundle only.
				The bag is made of the same PE material as the one used for the winter cover. The bag is round with one end opening. It is closed by stitching at factory for transport and has two laces for closing back after opening.
				Packed weight of the winterisation cover ensemble: 55kg maximum
				Total length must not exceed 1.2m.
				The package must be secured with 2 webbing straps on the outside; each strap must have a strong self-locking buckle that will not slide during transport. Each self-locking buckle can be made either with two rectangular buckles of 4mm wire, welded-closed, or with one rectangular buckle and one sliding middle bar, of 4mm steel rod, welded-closed, or ladder-lock metallic buckle
				The straps are not sewn to the bag. Each strap is secured with 2 loops sawn to the bag to avoid losing the straps.
				Each strap is forming one handle on each side of the bag.
				The poles and the pegs must be packed in 2 separate bags to avoid damaging other items inside the bundle. Both bags must be made of the same material as the outer bag. The bags must have a closure system that ensures the accessories remain in their bags during transport and handling. Particular care must be taken when packing the pegs to ensure they will not pierce the bag.
				The buyer's markings must be printed on the outside bag in indelible ink.
Long-term storage	**M**	Ok/Nok Lab/In-house	4,0	The tent cover must be treated and packed in such a way that it can be stored for a 5-year minimum under proper storage conditions without any damage or reduction in performance, including in tropical countries with high level of moisture.
				The tent cover must be manufactured and packed in clean and appropriate conditions to avoid contamination from soil, dust and other contaminants.
Secondary pack	**m**	Ok/Nok Lab/In-house	6,5	The bags are packed in stackable metallic pallets.

Picture 1

Picture 2

Picture 3

Picture 4

Picture 5

Picture 6

Picture 7

Picture 8

Picture 9

Picture 10

Picture 11

Picture 12

Picture 13

Picture 14

Picture 15

Picture 16

Picture 17

Joint R1	Length: 1120mm
Diameter: 30mm	Thickness: 1.50mm
Male end	Female end
Oval size exterior : 20mm x 28mm	Oval size exterior : 24mm x 32mm
Thickness: 1.50mm	Thickness: 1.50mm

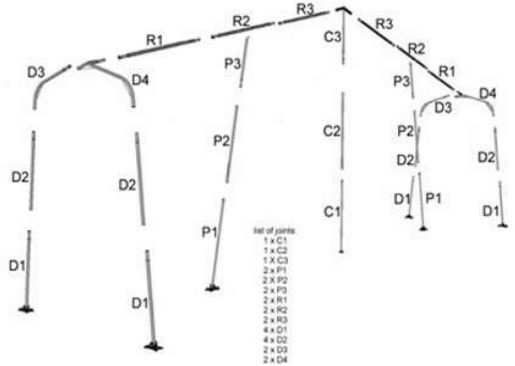
Joint R2	Length: 1120mm
Diameter: 30mm	Thickness: 1.50mm
Male end	Female end
Oval size exterior : 20mm x 28mm	Oval size exterior : 24mm x 32mm
Thickness: 1.50mm	Thickness: 1.50mm
Sleeve	Diameter exterior: 32mm

Joint R3	Length: 1120mm
Diameter: 30mm	Thickness: 1.50mm
Male end	Female end
Oval size exterior : 20mm x 28mm	Oval size exterior : 24mm x 32mm
Thickness: 1.50mm	Thickness: 1.50mm

Joint D1 + D2	
Diameter: 30mm	Foot plate
Thickness: 1.50mm	Thickness : 3mm
Male end for both	
Diameter: 26mm	
Thickness: 1.50mm	

Joint D3	
Diameter: 30mm	Thickness: 1.50mm
Male end	
Diameter: 26mm	
Thickness: 1.50mm	

Joint D4	
Diameter: 30mm	Thickness: 1.50mm
Male end	
Oval size exterior : 20mm x 28mm	
Thickness: 1.50mm	



Joint C1	Length: 1025mm
Diameter: 26mm	Thickness: 1.50mm

Joint C2	Length: 1025mm
Diameter: 30mm	Thickness: 1.50mm

Joint C3	Length: 680mm
Diameter: 30mm	Thickness: 1.50mm
End male	Female end x2
Diameter exterior : 26mm	Oval size exterior : 24mm x 32mm
Thickness: 1.50mm	Thickness: 1.50mm

Joint P1	
Diameter: 25mm	Thickness: 1.5mm
Foot plate	
Thickness: 3mm	

Joint P2 + P3	
Diameter: 30mm	Thickness: 1.50mm
Male end P3	Hook end P3
Diameter: 26mm	Hook diametre : 10mm
Thickness: 1.50mm	

Picture 18

Picture 19

Picture 20

Picture 21

Picture 22

Picture 23

Picture 24

Picture 25

Picture 26

Picture 27

Picture 28

Picture 29