## Plastic Tarpaulins 6x4m with pre-punched reinforcement bands

Material		
Material for the plain sheet	Woven high-density polyethylene (HDPE) black fibers fabric laminated on both sides with white low density polyethylene (LDPE) coating.	
Material for the reinforced attachment	6 bands of 75mm +/-3% width made of woven black HDPE fibers fabric and coated with grey LDPE on the outside.	
points	Pre-punched 8mm holes on the 2 side bands at $0.1m$ +/-10% intervals, positioned in the center of the bands (only the reinforcement bands are pre-punched, not the tarpaulin itself).	
	Position of the 6 bands and pre-punched holes as per drawing below. Side bands can be positioned at maximum 10mm from the edge.  Dimension tolerance on the distance between two bands: +/-10mm	
Strength at state of	origin and after UV exposure	
Tear strength in plain	Minimum 100N under ISO 4674-1B 2003, with a test piece of	
sheet at state of origin	200x200mm as described in ISO 4674 annex B, in plain sheet.	
Tensile strength in plain sheet at state of origin	Minimum 500N and 15% to 35% elongation in warp and weft in plain sheet under ISO 1421-1.	
UV resistance of the plain sheet, measured as	The tarpaulin tensile strength under ISO 1421-1 after 1500 hours UV under ASTM G53/94 (UVB 313 nm peak) must be:	
remaining tensile strength after UV	Minimum 80% of the original value of the actual product, <u>AND</u> not less than 475N.	
exposure	To be tested in the plain sheet.	
Tensile strength in the reinforcement bands at state of origin	Minimum 700N inside the reinforcement bands as per ISO 1421-1, pulling lengthwise in a pre-punched hole of 8mm with a hook of 8mm wire diameter. To test in 2 holes in each side bands	
UV resistance of the	The reinforcement bands tensile strength under ISO 1421-1 after 1500 hours UV under ASTM G53/94 (UVB 313 nm peak) must be:  Minimum 80% of the original value of the actual product, <u>AND</u> not less than 665N.	
UV exposure	To be tested inside the reinforcement bands as described above.	
Welding number and strength at state of origin	Only one welding allowed, in the middle of the sheet, length wise. The tarpaulin tensile strength crossways at the place of the welding under ISO 1421-1 must be:  Minimum 50% of the original value of the actual product, <u>AND</u> not less than 400N.	
Size, weight, colour,		
Width	4 m ± 1% net width	
Length	6m minimum net length	
Weight, plain sheet only, excluding the bands weight	190g/m <sup>2</sup> ± 20g under ISO 3801 (equivalent to 170g/m <sup>2</sup> minimum to 210g/m <sup>2</sup> maximum)	
Weight, complete sheet including bands weight.	Plain sheet specific weight plus 10% additional weight for the reinforcement bands under ISO 3801.	

	Total weight from 187g/m² minimum and 231g/m² maximum
	Specific weight of the bands from 150g/ m² minimum and 200g/m² maximum
Flame retardant (under study)	It is expected to achieve this feature in 2017. Not mandatory for the time being.
Colour	White sun reflective on both sides of the sheet. Grey coating on the outside of the bands. Inner black fibers to ensure opacity.  White Coating colour definition:
	L.a.b Coordinates under ISO 105J01  Minimum L: 82  "a" value between -1.7 and +1.5  "b" value between -4.5 and 0
Opacity 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: 50%  Maximum total transmission: 5%
Marking, packing, and accessories	
Printing	Continuous indelible printing in white colour on grey, or in black colour on white, of the manufacturer name, the month and year of production (Letters of 2.5cm high +/10%). Length indicator marks every meter. Customer logo on request.
Bale dimensions	Length: 600mm; Width: 400mm; Height: 180mm (all +/-20%) There must be 5 tarpaulins per bale
Bale marking	As per indicated in contract.
Bale protection	The bale must be wrapped with a piece of similar material as the one of the tarpaulins.  The wrapping must be properly folded, closely tight to the bale content, making a well-shaped cubic bale.  Inside the bales the tarpaulins are not individually wrapped.
Bales strapping	The bale must be strapped with 2 heat-sealed plastic straps for the length and 2 for the cross.



