

## 7. Plastic sheet / tarpaulin 4mx6m or rolls 4m x 60m

### 7.1. Plast Sheet: 4mx6m Tarpaulins

finishing: finish size 4mx6m, reinforced bands along edges, punched at 0.1m intervals. details below. note in laboratory testing this system has proven to be stronger than when exlets are used.

Item code:	t.b.c.
Unit weight:	4.488kg-5.544kg
Unit volume	0.00864m <sup>3</sup>

### 7.2. Plastic sheet: Rolls 4mx60m

finishing: finish size 4mx60m, reinforced bands along edges. details below.

Item code:	t.b.c.
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### 7.3. Plastic sheeting specifications

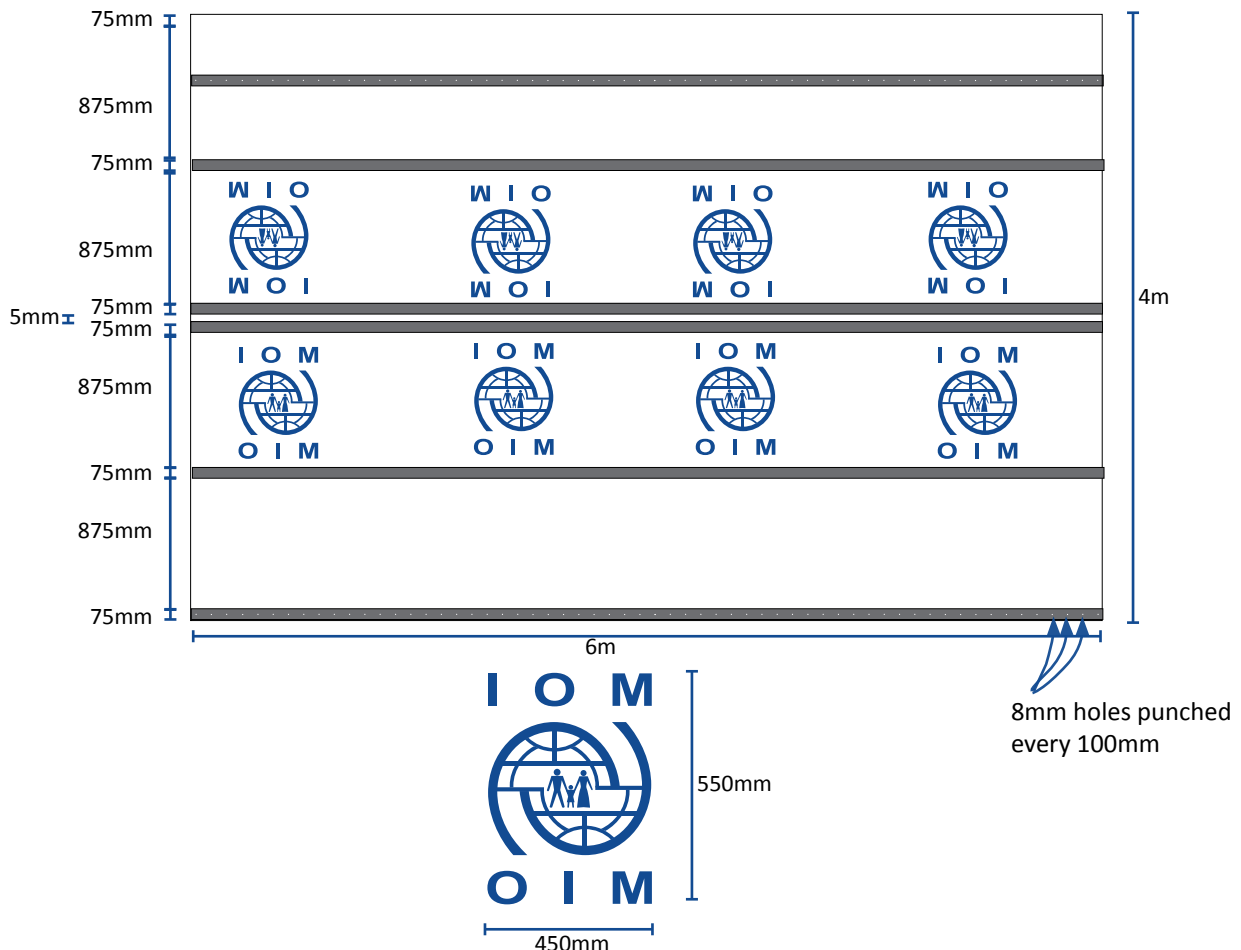
#### Notes:

IOM have moved its standard specification to either rolls or 4mx6m sheets with reinforcement bands and punched holes rather than eyelets. This specification is in line with IFRC / ICRC and is based on over fifteen years of laboratory testing and proven field experience.

For further information please visit [plastic-sheeting.org](http://plastic-sheeting.org) or contact [sheltersupport@iom.int](mailto:sheltersupport@iom.int). This is teh current ICRC/IFRC standard specification below in line with: [procurement.ifrc.org/catalogue](http://procurement.ifrc.org/catalogue)

#### IOM logo size and placement

Colour: C100 M82 Y10 K2



<b>Summary of material requirements</b>	
Material for the plain sheet	Woven high-density polyethylene (HDPE) black fibers fabric laminated on both sides with white low density poly ethylene (LDPE) coating.
Material for the reinforced attachment points (sheets)	6 bands of 7.5cm width made of woven black HDPE fibers fabric and coated with grey LDPE on the outside.  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.
Tear strength in plain sheet at state of origin	Minimum 100N under ISO 4674-1 2003, strip of 200x200mm, in plain sheet
Tensile strength in plain sheet at state of origin	Minimum 500N and 15% to 25% elongation in warp and weft in plain sheet under ISO 1421-1.
UV resistance of the plain sheet, measured as remaining tensile strength after UV exposure	The tarpaulin 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, AND not less than 475N.  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 reinforcement bands measured as remaining tensile strength after UV exposure	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, AND not less than 665N.  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, AND not less than 400N.  Size, weight, colour, fire resistance
Width	4 m ± 1% net width
Length	6m ± 1% 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/m <sup>2</sup> minimum and 231g/m <sup>2</sup> maximum  Specific weight of the bands from 150g/ m <sup>2</sup> minimum and 200g/m <sup>2</sup> maximum
Flame retardant	Not mandatory for the time being.

## 7. Plastic Sheet / Tarpaulin

Colour	<p>White sun reflective on both sides of the sheet. Grey coating on the outside of the bands. Inner black fibers to ensure opacity.</p> <p>White Coating colour definition:</p> <p>L.a.b Coordinates under ISO 105J01</p> <p>Minimum L : 82</p> <p>“a” value between -1.7 and +1.5</p> <p>“b” value between -4.5 and 0</p>
Opacity	<p>Minimum reflection and absorption percentage, measured under ISO 13468-1, in the range of visible light and near infrareds (respectively from 350 to 750nm, and from 750 to 2500nm wavelength).</p> <p>Minimum total reflection in visible light + infrared: 35% Minimum total absorption in visible light + infrared: 60%</p> <p>All percent above 35% in reflection can be deducted from the 60% absorption in the limit of 15% to reach a maximum of 50% reflection.</p> <p>Marking, packing, and accessories</p>
Printing	<p>Continuous indelible printing in white colour of the manufacturer name, the month and year of production (Letters of 2.5cm high +/-10%). Length indicator marks every meter. IOM logo.</p>
Bale dimensions	<p>Length: 600mm; Width: 400mm; Height: 180mm (+/-20%) There must be 5 tarpaulins per bale</p>
Bale marking	<p>As per indicated in contract.</p>
Bale protection	<p>The bale must be wrapped with a piece of similar material as the one of the tarpaulins.</p> <p>The wrapping must be properly folded, closely tight to the bale content, making a well-shaped cubic bale.</p> <p>Inside the bales the tarpaulins are not individually wrapped.</p>
Bales strapping	<p>The bale must be strapped with 2 heat-sealed plastic straps for the length and 2 for the cross.</p>

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