



Product Name: TPU 2003

TPU both sides coated membrane, Nylon fabric.

End Use: Inflatable liferafts for manufacturing: Buoyancy tubes, inflatable supports for canopies and double/single bottom floors, Oil booms.

Compliance with: **MSC 70/23** Add.1 – IMO Resolution **MSC.81 (70)** Annex 6, Section: 5.17.13.2.2.1 ÷ 5.17.13.2.2.12 - LEV3 / MSEP(c) / LSA.INS. VOL2 / REV- A000 / Page 209 of 311 (Marine Safety Agency - Department of Transport).

Spec. Para.	Properties	Requirements	Results
7.	Base Fabric, Type	-	Nylon
7.1	Base Fabric, dtex	-	940 dtx
-	Total Weight	-	680 gr/m ²
21.1 (I)	Tensile Strength - Kgf / 50 mm width- Warp	230 min	275
	Tensile Strength - Kgf / 50 mm width- Weft	225 min	250
	Elongation at 225 - Kgf / 50 mm - % Warp	30 max	20
	Elongation at 225 - Kgf / 50 mm - % Weft	30 max	25
21.1 (II)	Tear Strength - Kgf - warp	105	120
	Tear Strength – Kgf - weft	105	110
21.1 (III)	Surface Receptiveness - Kgf / 50 mm	7.5 min.	20 / 20
	Coating Adhesion- Dry - 7.5 Kgf/50 mm- 5 min.	Max. 5 mm separation	Pass
	Wet - 5.0 Kgf/50 mm - 5 minutes (Wet- 24 hours in 3% Aqueous Sodium Chloride)	Max. 5 mm separation	Pass
21.1 (IV)	Effects of Ageing (i) in air at 70°C ± 2°C for 7 days (ii) suspended over water for 7 days at 70°C ± 2°C <ul style="list-style-type: none"> Folding test, after (i) & (ii) Tensile Str. - % of original, after (i) & (ii) 	No Cracks, separation 90 min	Complies Pass
21.1 (V)	Dimensional stability - %, after (i) & (ii)	2 max.	0.7 / 1.2
21.1 (VI)	Low Temperature - 50°C	No Cracks	Pass
21.1 (VII)	Flex Cracking – 200,000 cycles* (After soaking for 7 days in 2% solution of brine)	No Cracks or Delamination	Pass

Spec Para	Properties	Requirements	Results
21.1 (VIII)	Porosity at 4 psi	No leakage at 5 minutes	Pass
21.1 (IX)	Oil resistance- ASTM No. 1 (2 hours) ** 20 °C	No Smear, Separation, Tackiness	Pass
21.1 (X)	Weight variation - % of spec.	± 10 max.	± 8
21.1 (XI)	Weft Distortion - mm	100 max.	50
21.1 (XII)	Blocking - Lifting force - gmf	100 max.	Pass
21.1 (XIII)	Weld Strength - Kg per 25 mm width	18 min.	27
21.1 (XIV)	Hydrolysis Resist. - Coating Adhesion - Kg/50 mm	5.0 min.	16
	- Blocking - gmf	100 max.	Pass
	- Weld Strength - Kg / 25 mm	12.5 min	18
	- Folding Test (12 weeks over water in closed container at 93°C)	No Cracking, delamination	Pass
21.1 (XV)	Ozone Resistance**	No Cracks	Pass
	Abrasion Resistance (Taber H-22 Wheel 1 Kg load) ASTM D 3389	>10,000 cycles to expose the fabric	

Remarks: * Flex resistance preformed similar to DeMattia type of machine (200 Cycles per minutes).

** Oil & Ozone resistance - not relevant, but performed in 3rd party Laboratory.

*** Max. Service temperature (+70°C) in short cycles. Not more than 1hr cycles.