



**PRODUCT MANUAL FOR  
SYNTHETIC TARPAULINS (HEAVY DUTY PROTECTIVE COVERS) MADE FROM COATED  
NYLON OR POLYESTER FABRICS  
ACCORDING TO IS 14597:1998**

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	<b>Product</b>	:	IS 14597:1998
	<b>Title</b>	:	Synthetic Tarpaulins(Heavy Duty Protective Covers) Made From Coated Nylon or Polyester Fabrics
	<b>No. of Amendments</b>	:	Nil
2.	<b>Sampling Guidelines:</b>		
a)	<b>Raw material</b>	:	Synthetic fabric and PVC coating compound shall meet the requirements of Cl. 4 of IS 14597:1998
b)	<b>Grouping guidelines</b>	:	Nil
c)	<b>Sample Size</b>	:	9Sqm + Eyelets if any + Kit if any
3.	<b>List of Test Equipment</b>	:	Please refer ANNEX –A
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer ANNEX –B
5.	<b>Possible tests in a day</b>	:	Please refer ANNEX-C
6.	<b>Scope of the Licence</b>		
	"Licence is granted to use Standard Mark as per IS 14597:1998 with the following scope:		
	<b>Name of the product</b>	:	Synthetic Tarpaulins(Heavy Duty Protective Covers) Made From Coated Nylon or Polyester Fabrics

**ANNEX A**  
**To Product Manual For**  
Synthetic Tarpaulins (Heavy Duty Protective Covers) Made From Coated Nylon or Polyester  
Fabrics  
**According IS 14597:1998**

**List of Test Equipment**

**Major test equipment required to test as per requirements of Indian Standard**

Sl. No.	Test Equipment	Tests used in with Clause Reference
1	Hot air oven	Coating (Cl 4.5.4)
2	Universal testing machine with attachments Hot air oven or oxygen pressure chamber	Accelerated ageing (Cl.5.2)
3	Water proofness Tester	Water Proofness Test (Cl. 5.3)
4	Flex Tester	Resistance to damage by Flexing (Cl. 5.4)
5	Deep Freezer, 6 mm dia steel mandrel	Resistance to cold (Cl. 5.5)
6	Weighing Balance	Total mass per unit area (Cl. 5.8 , Table-1)
7	Universal testing machine with attachments (Constant rate of extension type)	Shear Strength of Joints/Seams(5.6) Breaking Strength (Cl.5.8, Table 1) Tear Strength (Cl.5.8,Table1)
8	Tensile testing machine	Coating Adhesion (Cl.5.8,Table 1)
9	Hot air oven	Heat ageing mass loss of coating (Cl.5.8,Table1)
10	Hot air oven, Weight piece of 5 kg mass, glass plates (150mm x 150mm x 3 mm)	Blocking (Cl.5.8,Table1)
11	Scale	Dimensional Change (Cl.5.8,Table1)
12	Weather O meter (with standard reference colour) (Xenon arc lamp-light source, light filter, thin opaque material, geometric grey scale, heat filter, black panel thermometer)	Colour fastness to light (Cl. 5.9)
13	Colour fastness tester , grey scales, standard patterns	Colour fastness to rubbing (Cl. 5.9)
14	Scale, Measuring tape	Dimensions(Cl.6.1.4. 6.2, and 6.2.2)
15	Stand, Bunsen Burner, Clamps	Flame Resistance Test (Cl.5.10.1) - Optional
16	Acetone, 6mm Glass Rod	Fusion (Cl.5.10.2)-Optional
17	Test piece cutting and marking equipment, measuring scale, immersion	Miscellaneous equipment and reagents

	tanks/chamber, distilled or deionized water, wetting agent or surfactant	
18	Conditioning room/chamber equipped with temperature and humidity control	For conditioning of test pieces

- The list of the test equipment given above is only for reference and may not be treated as exhaustive
- The least count/range and other specifications of the test equipment, materials and reagents shall be as specified in the Indian Standard

**ANNEX B**  
**To Product Manual For**  
**Synthetic Tarpaulins (Heavy Duty Protective Covers) Made From Coated Nylon or**  
**Polyester Fabrics**  
**According IS 14597:1998**

**Scheme of Inspection And Testing**

**1. LABORATORY** - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipments.

**2. TEST RECORDS** – The manufacturer shall maintain test records for the tests carried out to establish conformity.

**3. LABELLING AND MARKING** – The Standard Mark, as given in the Schedule of the licence, shall be marked on each tarpaulin, provided always that the product thus marked conforms to every requirements of the specification.

3.1 Packing and marking on each tarpaulin shall be done as per the provision of the Indian Standard. In addition, the following details shall be marked on each container:-

a) BIS Licence No. CM/L-----.

b) BIS website details i.e. –“For details of BIS certification please visit [www.bis.gov.in](http://www.bis.gov.in)

**4. CONTROL UNIT** – For the purpose of this scheme, entire quantity of tarpaulins produced from the same coating formulation in a day production shall constitute a control unit.

**5. LEVELS OF CONTROL** - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

**6. REJECTIONS** – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016. A separate record shall be maintained giving information relating to the rejection of lots of trichloroethylene, technical which do not conform to the specification and the method of their disposal. Such lots, if packed in containers, shall in no case be stored together with those conforming to the specification and Standard Mark(if already applied) on the rejected lots shall be removed/defaced.

**Scheme of Inspection And Testing**  
**TABLE 1: LEVELS OF CONTROL**

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
4.1	Base Fabric	4.1	IS 14597:1998	S	One	Each consignment of base fabric	In case material is accompanied with supplier's test certificate indicating conformity, no testing required
4.2	Number of cuts on the roll	4.2	IS 14597:1998	R	Each roll	-	
4.3	Usable Width	4.3	IS 14597:1998	R	Each roll	-	
4.4	PVC coating compound	4.4	IS 14597:1998	S	One	Each consignment of PVC coating compound	In case material is accompanied with supplier's test certificate indicating conformity, no testing

							required
4.5.1 4.5.2 4.5.3	Coating	4.5.1 4.5.2 4.5.3	IS 14597:1998	R	One	Every control unit	
4.5.4	Coating	4.5.4	IS 14597:1998	R	One	Every 10 <sup>th</sup> control unit	
4.5.5	Surface finish	4.5.5	IS 14597:1998	R	One	Every 10 <sup>th</sup> control unit	
5.1	Workmanship	5.1	IS 14597:1998	R	One	Every control unit	
5.2	Accelerated ageing test		IS 7016(Part 8)	R	One	Once in two month	
5.3	Water proofness test		IS 7016(Part 7)	R	One	Every control unit	
5.4	Resistance to damage by flexing		IS 7016(Part 4)	R	One	Once in two month	
5.5	Resistance to cold	5.5	IS 14597:1998	R	One	Every 10 <sup>th</sup> control unit	
5.6	Shear strength of joints/seams		IS 7016(Part 2)	R	One	Every control unit	
5.7	Ease of in-situ Repair	Annex A	IS 14597:1998	R	One	Once in a month	
5.8 Table 1	Total mass per unit area, g/m <sup>2</sup> , Min		IS 7016(Part 1)	R	One	Every 10 <sup>th</sup> control unit	
5.8 Table 1	Breaking Strength Before Ageing		IS 7016(Part 2)	R	One	Every control unit	
5.8 Table 1	Breaking Strength After Ageing		IS 7016(Part 2)	R	One	Once in two month	

5.8 Table 1	Tear Strength Before Ageing		IS 7016(Part 3) Method A-2	R	One	Every control unit	
5.8 Table 1	Tear Strength After Ageing		IS 7016(Part 3) Method A-2	R	One	Once in two month	
5.8 Table 1	Coating adhesion		IS 7016(Part 5)	R	One	Every control unit	
5.8 Table 1	Heat Ageing mass loss of coating		IS 7016(Part 8)	R	One	Once in two month	
5.8 Table 1	Blocking		IS 7016(Part 9)	R	One	Every 10 <sup>th</sup> control unit	
5.8 Table 1	Dimensional change due to Shrinkage	Annex B	IS 14597:1998	R	One	Every 5 <sup>th</sup> control unit	
5.9 Table 2	Colour fastness to light		IS 2454:1985	S	One	Once in three months	
5.9 Table 2	Colour fastness to rubbing	Annex C	IS 14597:1998	R	One	Once in a month	
5.10.1	Flame Resistance Test (Optional requirement)	Annex D	IS 14597:1998	R	One	Once in a month	
5.10.2	Fusion (Optional test requirement)	Annex E	IS 14597:1998	R	One	Once in a month	
6	Construction of Heavy Duty Protective Covers	6.1.2,6.1.3, 6.1.4,6.2,6.2.2	IS 14597:1998	R	One	Every control unit	

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.

**ANNEX C**  
**To Product Manual For**  
**Synthetic Tarpaulins (Heavy Duty Protective Covers) Made From Coated Nylon or Polyester Fabrics**  
**According IS 14597:1998**

**POSSIBLE TESTS IN A DAY**

- (i) Total mass per unit area (Cl.5.8, Table-1)
- (ii) Breaking strength (Cl.5.8, Table-1)
- (iii) Tear Strength (Cl.5.8, Table-1)
- (iv) Coating Adhesion(Cl.5.8, Table-1)
- (v) Water Proofness Test(Cl.5.3)
- (vi) Shear Strength of Joints/Seams (Cl.5.6)
- (vii) Colour fastness rubbing (Cl.5.9, Table-2)