

No.:

सेन्द्रल इंस्टिट्यूट ऑफ पेट्रोरसायन इंजीनियरिंग एण्ड टेक्नोलॉजी

(रसायन एवं पेट्रोरसायन विभाग, रसायन एवं उर्वरक मंत्रालय, भारत सरकार) एच.सी.एल. पोस्ट, आई.डी.ए., फेस - २, चेरलापल्ली, हैदराबाद -५०० ०५१.

CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY

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Plastics Testing Centre

Test Certificate



Page 1 of 5

Date: 20.07.2021

REPORT NO:2004056/2

Issued to:

0131979

MIPA Industries,

3,5 No.36/3/2,,

Dagade farm Road Pisoli,

Pune - 411 060

Ref

Your Letter No.Nil Dated: 13.04.2021

TEST REPORT AS PER:- IS 7903:2017 with latest amend.
PART A: PARTICULARS OF SAMPLE SUBMITTED

HDPE Tarpaulin (Woven Fabrics) as stated by party

a) Name of the Sample

b) Grade/Variety/Type/Size/Class : Type -II

c) Declared values, if any

Nil

d) Code No.

Nil

e) Batch No. and Date of Manufacture

Nil

f) Quantity

HDPE Tape -2 BOBBINS, Unlaminated fabrics 1m x 1.85 m, LD Film-1m x1m, Laminated HDPE Tarpaulin(with seam join)-2m x 1.85m, Eyelets 10 Nos, Chord Beading 2 Mtr. as stated by pary

g) Mode of Packing

: PE Cover

h) Seal

probe perform | Nittice Plastics

i) Any other information

Samples received on 21.04.2021

i) Date of initiation of Testing

10.06.2021

k) Date of completion of Testing

20.07.2021

PART B: SUPPLEMENTARY INFORMATION

a) Reference to sampling Procedure :

b) Supporting documents for the :

Nil

measurement taken and result derived
c) Deviation from the test method as prescribed:

Nil

Nil

in relevant work instructions, if any
d) Statement of conformity as per the test

As per Part-C

result obtained

e) Decision Rule applicable or not

Nil



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चेरलापल्ली, हैदराबाद - ५०० ०५१.

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REPORT No.: 2004056/2

PART - C

No.:

TEST RESULTS

Continuation Sheet

Section Content Cont	S.No	Clause	(As per IS: 7 Name of the test	Test	Specified requirement	Results
1) Carbon Black Content (%)	1	3.1	שת אידי שתרדעד	Method		Obtained
3.2 Fabric IS-7903-2017 Shall be maurifactured from HDDE fabric Confirm Confirm HDDE fabric Confirm LDDE fabric Confirm LDDE fabric LDDE fabri			1) Carbon Black Content (%)	TS: 2530	2 € (min)	
3.3 Eyelets Size IS: 4084 Shall be 28 or 30 28	2.	3.2				
Dimensions of Eyelets 18: 4084 Shall be 28 or 30 28		Assess T		## 55-00-BOT	The state of the s	
Dimensions of Byelets 15. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10	3.	3.3	Eyelets Size	TS- 4094		Confirmed
1) Starting thickness of metal			Dimensions of Eyelets	10. 7001	Shall be 28 or 30	28
Aluminium (min) (mm)	- 1	100	i) Starting thickness of metal			
3.4 Line/cord Beading (mm) 15-7903-2017 18-238 mm ± 0.1 23.81 mm ± 0.1 1.46 mm 1.4	1		Aluminium (min) (mm)		0.71 mm (Min)	0.73
iii) Flange formed height 'B' (mm) 1.4±0.1 1.46 11.9±0.1 11.93 11.93 11.94 11.		ARTER	ii) Outside dia of flange 'A' (mm)			
19 Pierced dia 'C' (mm) 11.9± 0.1 12.82	CUA-		iii) Flange formed height 'B' (mm)	A STATE OF THE STA		
v) Overall length 'D' (mm) 7.9 ± 0.1	-	STATE OF THE PARTY OF	iv) Pierced dia 'C' (mm)			
vi) Internal dis of Barrel when closed 'E' min (mm) vii) Thickness of compressed material between eyelet and washer F' max (mm) viii) Outside diameter of barrel under the flange 'G' (mm) Dimensions of furnover washer i) Starting thickness of metal Aluminum (min) (mm) ii) Overall diameter of formed washers 'A' (mm) viii) Pierced dia 'B' (mm) to pimension 'D' (mm) viii) Pierced dia 'B' (mm) to pimension 'D' (mm) to pimensio			v) Overall length 'D' (mm)	A		
closed 'E' min (mm) vii) Thickness of compressed material between eyelet and washer F' max (mm) viii) Outside diameter of barrel under the flange 'G' (mm) Dimensions of turnover washer i) Starting thickness of metal Aluminum (min) (mm) ii) Overall diameter of formed washers 'A' (mm) iii) Pierced dia 'B' (mm) iii) Pierced dia 'B' (mm) v) Dimension 'D' (mm) 4. 3.4 Line/cord Beading (mm) S. 1.1 Laminating film Visual Observation IS-7903-2017 The fabric shall be laminated on both sides with low density polyethylene or suitable combination of LDPE/LLDPE melt of coating grade on each side 25 µm (min) S. 1.1 Carbon Black Content (%) Sandwich Laminated thickness (µm) Sandwich Laminated thickness (µm) Sandwich Laminated thickness (µm) Sandwich Laminated thickness (µm) 12.4 (Min) 17.3 ± 0.1 4.0 (Max) 4.0 (Max) 3.90 4.0 (Max) 3.90 17.3 ± 0.1 17.3 ± 0.			uj) Internal dia of Rarral when		7.9 ± 0.1	7.96
material between eyelet and washer if max (mm) viii) Outside diameter of harrel under the flange is (mm) Dimensions of turnover washer is Overall diameter of formed washers in iii) Overall diameter of formed washers iii) Overall diameter of formed washers iv) Height of formed washer iv) Height of formed washer iv) Dimension iv) Height of formed washer iv) Dimension iv) Itine/cord Beading (mm) 1S-7903-2017 IS-7903-2017 IS-7903-2017 The fabric shall be laminated on both sides with low density polyethylene or suitable combination of LDPE/LLDPE melt of coating grade on each side 25 µm (min) Coating thickness (µm) Sandwich Laminated thickness (µm) Sandwich Laminated thickness (µm) IS-7903-2011 Is 2530 Sall contain minimum 2.5% Carbon Black Centent (%) Sandwich Laminated thickness (µm)			closed 'E' min (mm)		12.7 (Min)	12.82
Under the flange 'G' (mm) Dimensions of turnover washer i) Starting thickness of metal Aluminum (min) (mm) ii) Overall diameter of formed washers 'A' (mm) iv) Height of formed washer 'C' (mm) v) Dimension 'D' (mm) 4. 3.4 Line/cord Beading (mm) IS-7903-2017 IS-7903-2017 IS-7903-2017 The fabric shall be laminated on both sides with low density polysthylene or suitable combination of LDPE/LLDPE melt of coating grade on each side 25 µm (min) Satisfactory Satisfactory Satisfactory IS-7903-2017 In case of two or more layers of HDPE fabrics are used to maintacture Tarpaulin they will be joined by sandwich lamination. Sandwich Laminated thickness (µm) Satisfactory IS-7903-2011 In case of two or more layers of HDPE fabrics are used to maintacture Tarpaulin they will be joined by sandwich lamination.			material between eyelet and washer F' max (mm)		4.0 (Max.)	3.90
i) Starting thickness of metal Aluminum (min) (mm) ii) Overall diameter of formed washer's "A" (mm) iii) Pierced dia "B" (mm) iii) Pierced dia "B" (mm) iv) Height of formed washer "C" (mm) v) Dimension "D" (mm) 4. 3.4 Line/cord Beading (mm) IS-7903-2017 IS-7903-2017 IS-7903-2017 IS-7903-2017 IS-7903-2017 IS-7903-2017 IS-7903-2017 The fabric shall be provided along the length and width of the tarpaulin. 5. 1 Laminating film Visual Observation IS-7903-2017 IS-7903-2017 The fabric shall be laminated on both sides with low density polyethylene or suitable combination of LDPE/LLDI grade on each side 25 µm (min) Satisfactory Costing thickness (µm) IS-7903-2011 In carbon Black Content (%) IS-2530 Shall contain minimum 2.5% Carbon Black by mass Carbon Black by mass In case of two or more layers of HDPE fabrics are used to manufacture Tarpaulin they will be joined by sandwich lamination. Sandwich Laminated thickness (µm) Sandwich Laminated thickness (µm)			under the flange 'G' (mm)		17.3 ± 0.1	17.35
Aluminum (min) (mm) ii) Overall diameter of formed washers 'A' (mm) iii) Pierced dia 'B' (mm) iv) Height of formed washer 'C' (mm) v) Dimension 'D' (mm) 4. 3.4 Line/cord Beading (mm) IS-7903-2017 The fabric shall be laminated on both sides with low density polyethylene or suitable combination of LDPE/LLDPE melt of costing grade on each side 25 µm (min) Satisfactory Satisfactory Satisfactory IS-7903-2011 IS-7903-2017 IS		1				
ii) Overall diameter of formed washer's "A" (mm) iii) Pierced dia "B" (mm) iv) Height of formed washer "C" (mm) v) Dimension "D" (mm) 4. 3.4 Line/ccrd Beading (mm) IS-7903-2017 IS-7903-2017 IS-7903-2017 IS-7903-2017 IS-7903-2017 IS-7903-2017 The fabric shall be laminated on both sides with low density polyethylene or suitable combination of LDPE/LLDPE melt of coating grade on each side. S.1.1 Carbon Black Content (%) IS-7903-2017 IS-2530 Shall contain minimum 2.5% Carbon Black by mass IS-7903-2011 In case of two or more layers of HDPE fabrics are used to manufacture Tarpaulin they will be joined by sandwich lamination.		1	i) Starting thickness of metal	The second second		
ii) Overall diameter of formed washer's 'A' (mm) iii) Pierced dia 'B' (mm) iv) Height of formed washer 'C' (mm) v) Dimension 'D' (mm) 4. 3.4 Line/cord Beading (mm) IS-7903-2017 IS-7903-2017 S. 5.1 Laminating film Visual Observation IS-7903-2017 IS-7903-2017 IS-7903-2017 The fabric shall be laminated on both sides with low density polyethylene or suitable combination of LDPE/LDPE melt of coating grade on each side S. 5.1.1 Carbon Black Content (%) IS-2530 Shall contain minimum 2.5% Carbon Black by mass Is-7903-2017 In case of two or more layers of HDPE fabrics are used to manufacture Tarpaulin they will be joined by sandwich lamination. Sandwich Laminated thickness (um) Sandwich Laminated thickness (um) Sandwich Laminated thickness (um) Sandwich Laminated thickness (um) 23.82 14.7±0.1 14.7±0.1 14.7±0.1 14.7±0.1 14.7±0.1 14.7±0.1 15.7903-2017 The fabric shall be laminated on both sides with low density polyethylene or suitable combination of LDPE/LDPE melt of coating grade on each side 25 µm (min) 28.0 Shall contain minimum 2.5% Carbon Black by mass In case of two or more layers of HDPE fabrics are used to manufacture Tarpaulin they will be joined by sandwich lamination.	10 100	ALC: NO	Aluminum (min) (mm)	A comment of	0.45 mm (Min)	0.48
iii) Pierced dia 'B' (mm) iv) Height of formed washer 'C' (mm) v) Dimension 'D' (mm) 4. 3.4 Line/cord Beading (mm) IS-7903-2017 IS-7903-201		710	ii) Overall diameter of formed washers 'A' (mm)		23.8±0.1	
iv) Height of formed washer 'C' (mm) 2.4 mm Min 2.46 2.0 6±0.1 2.0 66 2.0 6±0.1 2.0 66 2.0 6±0.1 2.0 66 2.0 6±0.1 2.0 66 2.0 6±0.1 2.0 66 2.0 6±0.1 2.0 66 2.0 65 2.0			iii) Pierced dia 'B' (mm)			
4. 3.4 Line/cord Beading (mm) IS-7903-2017			iv) Height of formed washer 'C' (mm)			
4. 3.4 Line/cord Beading (mm) IS-7903-2017 Line/cord Beading min. 2.5mm diameter shall be provided along the length and width of the tarpaulin. 5.0 Manufacture 5.1 Laminating film Visual Observation IS-7903-2017 The fabric shall be laminated on both sides with low density polyethylene or suitable combination of LDPE/LLDI Satisfactory and the sides with low density polyethylene or suitable combination of LDPE/LLDI Satisfactory and Satisfac			v) Dimension 'D' (mm)			
IS-7903-2017 IS-7903-2018 IS-7903-2018 IS-7903-2018 IS-7903-2018 IS-7903-2019 IS	4.	3.4	Line/cord Beading (mm)			20.66
the length and width of the confirmed tarpaulin. 5.				10,7003,2017	diameter shall be provided along	3.6
5. Laminating film IS-7903-2017 The fabric shall be laminated on both sides with low density polysthylene or suitable combination of LDPE/LLDI sthylene or suitable combination of LDPE/LLDI grade on each side. Solid Carbon Black Content (%) IS: 2530 Shall contain minimum 2.5% 2.58			CIPET	13-1903-2011	the length and width of the	Confirmed
Visual Observation The fabric shall be laminated on both sides with low density polyethylene or suitable combination of LDPE/LLDPE melt of coating grade on each side 25 \mum (min) 28.0	-			100		
Costing thickness (µm) Costing thickness (µm) Satisfactory of LDPE/LLDPE melt of costing grade on each side. 25 µm (min) 28.0 Shall contain minimum 2.5% Carbon Black Content (%) IS: 2530 Shall contain minimum 2.5% Carbon Black by mass Carbon Black by mass Is-7903-2011 In case of two or more layers of hore than two manufacture Tarpaulin they will be joined by sandwich lamination. Sandwich Laminated thickness (µm)	5.		Laminating film Visual Observation	IS-7903-2017	The fabric shall be laminated on	Combination
Coating thickness (µm) Coating thickness (µm) Solution Coating thickness (µm) Coating thickness (µm) Coating thickness (µm) Solution Coating thickness (µm) Coating th				A J	obth sides with low density poly-	
5.1.1 Carbon Black Content (%) 5.1.2 No. of layers of fabric IS-7903-2011 In case of two or more layers of layers of manufacture Tarpaulin they will be joined by sandwich lamination.		7		A more laterally	of I DDR/I I DDR melt of coating	Satisfactory
5.1.1 Carbon Black Content (%) IS: 2530 Shall contain minimum 2.5% 2.58 Carbon Black by mass 6. 5.1.2 No. of layers of fabric IS-7903-2011 In case of two or more layers of HDPE fabrics are used to manufacture Tarpaulin they will be joined by sandwich lamination. Sandwich Laminated thickness (μm)			Costing thickness (µm)		grade on each side	
6. 5.1.2 No. of layers of fabric IS-7903-2011 In case of two or more layers of layers of hDPE fabrics are used to manufacture Tarpaulin they will be joined by sandwich lamination.		233			25 µm (min)	28.0
IS-7903-2011 In case of two or more layers of HDPE fabrics are used to manufacture Tarpaulin they will be joined by sandwich lamination. Sandwich Laminated thickness (um)				IS: 2530	Shall contain minimum 2.5%	
HDPE fabrics are used to layers manufacture Tarpaulin they will be joined by sandwich lamination.	6.	5.1.2	No. of layers of fabric	TS-7903-2011	Carbon Black by mass	
Sandwich Laminated thickness (um) manufacture Tarpaulin they will be joined by sandwich lamination				And the second s	In case of two or more layers of	
Sandwich Laminated thickness (um)			The state of the s	The same of the sa	FIDPE ISONICS are used to	layers
Sandwich Laminated thickness (um)					manufacture Tarpaulin they will	
Sandwich Laminated thickness (um)				AT I SEE SEE	be joined by sandwich	
		19	Sandwich Laminated thickness (um)			



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REPORT No. 2004056/2 PART - C

TEST RESULTS
(As ner IS 7903:2017 with latest Amend.

S.No			per IS 7903:2017 with latest Amend.) Test Specified requirement Method		Test value Obtained	
7.	5.2 5.2.1	Construction i) Panel (Length*width)	IS-7903- 2011	The tarpaulins shall be constructed by heat sealing laminated pieces of woven fabric for obtaining the desired dimension. The panels shall be flat (lap) joined. The ends and sides of the tarpaulins shall be hemmed by heat sealing or double stitching.	Confirmed By heat sealing	
		ii) Width of the hem (mm)		Shall be 40 (min)	48	
		iii) Cross joint		Cross joint may be used at the rate of one in every third panel, and no piece less than 900mm in length shall be used for making the panel, the cross joint shall be made by lap joint method with a minimum 40 mm overlap. A combination of panel width not less than 1800 mm may be used to obtain the desired width of tarpaulin. Narrow width panels, not less than 250mm may be used at the rate of one per tarpaulin to obtain the required width. In all cases, the end panels shall be of full width except where the width of the tarpaulin is less than 2m, in which case one of the end panels may be less than the full width, the alternate short panels for cross joint shall be in the opposite ends.	Confirmed Panel width- 1850 mm	
8.	5.3	Joints/Seams (cm)	IS-7903- 2011	Minimum 3.5	4.42	
9.	5.4	(overlap distance) Fixing of Eyelets	IS-7903- 2011	The eyelets shall be provided with the reinforcement pieces for type I tarpaulins only. For tarpaulins of Type Type II to Type VII, reinforcement pieces shall be provided at four corners only. However, if required by the buyer, eyelets shall be provided with the reinforcement pieces for Type II to Type VII tarpaulins also. The outer edge of the eyelet shall be as close as possible to the line/cord beading.	Type II Reinforceme piece provided. Confirmed	
10.	6.2	Dimension Length (mm) Width (mm) Tolerance on (i) Length (%) (ii) Width (%)	IS-7903- 2011	7315.2 (Declared by party) (24ft) 5486 4 (Declared by party) (18ft)	7370.0 5515.0 +0.74 +0.52	



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REPORT No. 2004056/2 PART - C

TEST RESULTS

(As per IS 7903:2017 with latest Amend.)

S.No	Clause	Name of the test	Test Method	Specified requirement	Test value Obtained
11	6.1, Table 1				
-	Si No (i)	No. of HDPE fabric layers	IS-7903- 2017	2 layer	2
	Si No (ii)	No. of lamination layers	IS-7903 - 2017	3 layers	3
	Sl No (iii)	Total number of layers in the finished tarpaulin	IS-7903- 2017	5 layers	5
			IS 7903		
1016	Si No (iv)	Mass of finished tarpaulin, (g/m²)	Annex B	Min. 250	260
	SI No (a)	Mass of laminated fabric (g/m²)	IS 7903 Annex C	Min.230	235
	20 31 - Ger)		Pinter -		
	SI No (vi)	Breaking Strength	IS- 1969		
1	- 1	Before U.V. Exposure	(Pt.1)	1100 (min)	1300
1		c) Warp (N)	4	900 (min)	1100
		d) Weft (N)	IS- 1969	you (many	
	Sl No (vii)	Elongation at Break	(Pt.1)	15 to 25	17
		c) Warp (%)	(PLI)	15 to 25	16
1		d) West (%)		13 10 23	100
	Si No (viii)	Retention of Breaking Strength After U.V. Exposure of 144 hrs			
	-		IS13162		1150
		c) Warp (N)	Pt.2 &	85 % of original	(88.4%
		The state of the s	IS:1969	value(fabric),that is	-
		d) Weft (N)	(pt.1)	Sl.No(vi) of Table 1	960.0 (87.2%
	Cl Ma fin)	Welded Seam Strength (N)	IS1969	65 % of original	770.0
	Sl No (ix)	Before UV Exposure (weft), Min.	(pt.1)	value(fabric), that is Sl.No (vi) of Table 1	(70%)
	Si No (x)	Retention of Welded Seam Strength (N) (Weft), Min. After UV Exposure of 144 hrs	IS13162 Pt.2& IS:1969	85 % of original value(fabric), that is Sl.No(ix) of Table 1	686.0 (89%)
			(pt.1)	130 (min)	148
	Sl No (xi)	Tarpozoid Tear Strength (N)	IS 14293	130 (min)	
	Sl No (xii)	Puncture resistance (N)	IS 7903 Annex D	350 (min)	362
	Sl No (xiii)	Impact failure load, at 1524mm drop, min, gram force at 50% failure (gf)	IS 7903 Annex E	800 (min)	1050
	Sl No (xiv)	Ash content (%)	IS 7903 Annex F	Max.3	1.6



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TEST RESULTS

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S.No	Clause	Name of the test	Test Method	Specified requirement	Test value Obtained
12	6.3	Water Proofiness			
	6.3.1	Water proofness Before Ageing	IS-7940	There should be no leakage through Tarpaulin	Confirmed
	6.3.1	Water Repellency Before Ageing	IS:7941	There should be no leakage through Tarpaulin	Confirmed
	6.3.2	Water proofness After Ageing at 70°C for 168 hrs.	IS-7016 (pt.8)	There should be no leakage through Tarpaulin	Confirmed
	6.3.2	Water Repellency After Ageing @ 70° C for 168 Hours	IS:7941	There should be no leakage through Tarpaulin	Confirmed

PART D: REMARKS

1. This Test Report/Certificate is issued only for the samples submitted to CIPET.

2. The results stated above related only to the items tested

The report shall not be reproduced in full/part without written approval of the laboratory.
 The quality of the subsequent production lot has to be ensured by the purchaser.

5. Any anomaly/discrepancy in this report should be brought to be the notice of CIPET within 30 days from the date of issue

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