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# सेन्द्रल इंस्टिट्यूट ऑफ पेट्रोसायन इंजीनियरिंग एण्ड टेक्नोलॉजी

(रसायन एवं पेट्रोसायन विभाग, रसायन एवं उर्वरक मंत्रालय, भारत सरकार)  
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## CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY

(Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt. of India)

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### Plastics Testing Centre

### Test Certificate



No.: 0133298

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Date: 11.04.2022

Issued to: M/s. Lamifab Industries,  
Plot No.4702,4703,4704, 4705 & 4604/05,  
GIDC, (Plastic Zone),  
Sarigam, Taluka Umargaon,  
Dist. Valsad, Gujarat - 396155

Ref: Your Letter No. Lami/21-22/159& Date.02.02.2022

TEST REPORT AS PER: IS :15351:2015 with all latest Amend. REPORT NO:2205444

#### PART A: PARTICULARS OF SAMPLE SUBMITTED

- a) Nature of Sample : Laminated HDPE woven geomembrane for water proof lining, Colour- Black
- b) Grade/Variety/ Type/Size/Class etc : 420 GSM (0.50MM), Type II, Size-(LxW)-5450mm x 5450mm
- c) Declared values, if any : Nil
- d) Code No. : Nil
- e) Batch No. and Date of Manufacture : LFPL/3C/2021-22 and 25.01.2022
- f) Quantity : 1 no., (with 100 mtrs tape & laminated fabric with different layer separated supplied extra.)
- g) Mode of Packing : Individual packs
- h) BIS Seal : Nil
- i) Any other information : Samples received on 18.02.2022
- j) Date of initiation of testing : 18.02.2022
- k) Date of completion of testing : 11.04.2022

#### PART B : SUPPLEMENTARY INFORMATION

- a) Reference to sampling Procedure : Nil
- b) Supporting documents for the measurement taken and result derived : Nil
- c) Deviation from the test method as prescribed: Nil  
in relevant work instructions, if any
- d) Statement of conformity as per the test result obtained : As per Part-C
- e) Decision Rule applicable or not : Nil

### Test Certificate



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Continuation Sheet

REPORT No. 2205444  
PART - C

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TEST RESULTS  
(As per : IS :15351:2015)

S.NO.	Clause No.	TEST	SPECIFIED REQUIREMENT	RESULT OBTAINED
	3	Materials		
1.	3.1	HDPE Tape	Tape shall be manufactured from HDPE Grades which shall be UV Stabilized	High Density Polyethylene (HDPE) Confirmed
		Carbon Black Content (%)	2.5 ± 0.5	2.52
		Carbon Black Dispersion	Shall be satisfactory	Satisfactory
		Width of tape (mm)	Min. 1.20	2.50
		Linear Density of Tape (Denier)	Min.800	1080
2.	3.2	HDPE Fabric		
		Fabric Tape (Warp & Weft) (Tapes/dm)	Min.40	Warp- 58 Weft-51
3.	5.1.1	i) Lamination	The lamination of the fabric shall be done on both sides with LDPE film or combination of LDPE and LLDPE	Combination of LDPE & LLDPE Confirmed
		ii) Coating Thickness (μ)	Min. 25	52
		iii) CBC of coating (%)	2.5 ± 0.5	2.54
		iv) Carbon Black Dispersion	Shall be satisfactory	Satisfactory
3.	5.1.2	HDPE Fabric	Shall be two or more layers of fabric	2 Layers Confirmed
		Sandwich Lamination coating thickness (micron)	Min.35.0	65
	5.2	Panel width	The minimum width of the laminated fabric panel to manufacture geomembrane shall be 1800mm. A combination of panel width may be used to obtain desired width of geomembrane. Narrow width panels not less than 900 mm in width may also be used but such pieces shall not exceed 1piece per roll of finished material of specified width.	1845 mm No narrow width panel used.
	5.3	Joint/Seams (cm)	Min. 2.5	3.6 (by heat sealing)
4.	6.1	Workmanship	The geomembrane shall be uniform in colour, texture and finish. It shall be free from pin holes, undispersed raw material, particles of foreign matter etc. and the laminated film shall not peel off from the fabric	Satisfactory



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Test Certificate

No.:

REPORT No. 2205444

Continuation Sheet

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PART - C

TEST RESULTS  
(As per : IS :15351:2015)

S.NO.	Clause No.	TEST	SPECIFIED REQUIREMENT	RESULT OBTAINED
5.	6.2 Table 1	(i) Thickness (mm)	Min. 0.50	0.59
6.		(ii) Mass (g/m <sup>2</sup> )	Min. 420	430.4
7.		(iii) Dimensions (a) Length (mm) (b) Width (mm)	As declared +1% with no negative tolerance 5450 5450	5470.0 (0.36) 5460.0 (0.18)
8.		(iv) Carbon Black Content (%)	2.5 ± 0.5	2.64
9.		(v) Breaking load before UV Exposure (N) a) Warpway b) Weftway	Min. 6600 N Min. 6000 N	6910 6420
10.		(vi) Strain at max. load (%)	20 ± 5	19.4
11.		(vii) Breaking load after UV Exposure (N) a) Warpway b) Weftway	After 1000 hrs UV exposure - Minimum 80% of actual original value	6010 (86.97%) 5650 (88%)
12.		(viii) Impact failure load at 1524 mm drop, min. gram force at 50% failure	Shall be no sign of failure at Min. 1840 gf	2050 gf Confirmed
13.		(ix) Tear Resistance (N)	Min. 250	310
14.		(x) Puncture Resistance (N)	Min. 500	570
15.		(xi) Bursting Strength (Ball burst) (N/cm <sup>2</sup> )	Min. 110	124
16.		(xii) Seam Strength before UV Exposure (N/mm)	Min. 30	36.2
17.		(xiii) Seam Strength after UV Exposure (N/mm)	After 1000 hrs UV exposure - Minimum 80% of actual original value	32.3 (89.22%) Confirmed
18.		(xiv) Hydrostatic Resistance	Shall be no leakage at 15.0 kg/cm <sup>2</sup>	Confirmed
19.		(xv) Hydrostatic Resistance after UV exposure of 1000 h	Shall be 80% of actual original value	Confirmed
20.		(xvi) Ash Content (%)	Max. 1.0	0.70

PART D : REMARKS : Nil

- NB: 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  
3. The report shall not be reproduced in full/part without written approval of the laboratory.  
4. 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

AUTHORISED SIGNATORY