



# ગુજરાત પરીક્ષણ શાલા

## GUJARAT TEST HOUSE

Plot No. 292, Road No. 4, G.I.D.C. Kathwada, Ahmedabad-382 430. (Gujarat) INDIA  
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Format No.:GTH/QR/24/1

### TEST REPORT

To,  
GREENLAM INDUSTRIES LTD.  
Vill:Paterh Bhonku,PO:Panjehra,  
Teh:Nalagarh,Distt:Solan,PINCODE-174101 (Himachal Pradesh).

TEST REPORT AS PER IS : 2046-1995 [WITH AMENDMENT NO(S) ]

Page : 1 of 3

Your Ref.: Letter Report No.: 13/20/PLY/GTH/GIL-P Dt.of Receipt: 17.06.2020  
Ref.Dt. : - Report Dt.: 10.07.2020 Dt.of Test Start: 18.06.2020  
Dt.of Test End: 09.07.2020

#### PART-A : PARTICULARS OF SAMPLE SUBMITTED:

- a) Nature of Sample : Decorative Thermosetting Synthetic Resin Bonded Laminated Sheet.  
b) Grade/Variety/Type/Class : CGS -S-  
c) Brand Name,if any : 'Greenlam Safeguard plus'  
d) Declared Value,if any : 1830 X 1830 X 12.00mm.  
e) Code No. : Decor No. 113 - Suede  
f) Batch No.& Date of Mfg. : 4137 : 17.03.2020  
g) Quantity : 1  
h) Mode of Packing : Packed with kraft paper  
i) Manner of Seal : -  
j) Manner of Signature : -  
k) Any other information : -

#### PART-B: SUPPLEMENTARY INFORMATIONS:

- A)Reference to the sampling procedure,wherever applicable :N-A-  
B) Supporting to the documents for the measurement taken and result derived like graph,tables,sketches,and/or photographs as appropriate to test report,if any [To be attached] : N-A-  
C)Deviation from the test methods as prescribed in relevant ISS/work instruction,if any : N-A-

#### PART C. TEST RESULTS

Sr..	Test	Cl.No.	Test Method	Required Value	Result															
	<b>REQUIREMENTS:</b>	5		---	- - - - -															
01	Colour & pattern	5.1	IS:2046	As per Standard shade card submitted by Customer/Party	Satisfactory															
02	Surface finish	5.2	IS:2046	At different viewing angle there shall be no significant difference between sample and standard shade card submitted by Customer/Party.	Satisfactory															
03	Reverse side/Bonding	5.2.2	IS:2046	The reverse side of sheets having only one decorative surface shall be suitable for adhesive bonding if so required.	N-A-															
04	Nominal Thickness	5.3	IS:2046	See Table No.5	11.63															
05	Surface defects	5.4.1.1	IS:2046	When surface viewing at a distance of 1.5 mtr. the surface defect may contamination area equivalent to 1.0 mm <sup>2</sup> /m <sup>2</sup>	Satisfactory															
	Fiber hair scratches	5.4.1.2	IS:2046	The length of defects shall not more than 10mm/m <sup>2</sup>	Satisfactory															
	Accumulated (combinations) of surface defect	5.4.1.3	IS:2046	Two type of defect shall not exceed half of the level prescribed in 5.4.1.1 & 5.4.1.2	Satisfactory															
06	Edge defect	5.4.2	IS:2046	Visual defects may be present on all four edges provided that the defect free length & view are not more than 20 mm shorter than the nominal length & width	Satisfactory															
07	Broken comers	5.4.3	IS:2046	One broken corner ≤ 30mm Two broken corner ≤ 15 mm are allowed	Satisfactory															
08	Sanding defect	5.4.4	IS:2046	Slight chatter marks are allowed	Satisfactory															
09	Warping(flatness)	5.4.5	IS:2046	<table border="1"><thead><tr><th>Composition</th><th>Thickness,t</th><th>Maximum Warp</th></tr></thead><tbody><tr><td>Single-Faced</td><td>t &lt; 2.0</td><td>120mm</td></tr><tr><td>Laminate</td><td>2.0 ≤ t &lt; 5.0</td><td>50mm</td></tr><tr><td>Double-faced</td><td>2.0 ≤ t &lt; 5.0</td><td>10mm</td></tr><tr><td>Laminate</td><td>5.0 ≤ t</td><td>5mm</td></tr></tbody></table>	Composition	Thickness,t	Maximum Warp	Single-Faced	t < 2.0	120mm	Laminate	2.0 ≤ t < 5.0	50mm	Double-faced	2.0 ≤ t < 5.0	10mm	Laminate	5.0 ≤ t	5mm	0.2
Composition	Thickness,t	Maximum Warp																		
Single-Faced	t < 2.0	120mm																		
Laminate	2.0 ≤ t < 5.0	50mm																		
Double-faced	2.0 ≤ t < 5.0	10mm																		
Laminate	5.0 ≤ t	5mm																		
10	Length	5.4.6	IS:2046	(+) 10, (-) 0 mm	1833															
11	Width	5.4.6	IS:2046	(+) 10, (-) 0 mm	1837															
12	Straightness of Edge	5.4.7	IS:2046	1.5 mm per metre.	0.15															
13	Squareness of Laminates	5.4.8	IS:2046	1.5 mm per metre.	0.20															

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Sr..	Tests	Cl No	Test Method	Report No.: 13/20/PLY/GTH/GIL-P (IS:2046-95)	Page: 2 of 3	Required Value	Result
	<b>OTHER PROPERTIES:</b>	<b>5.5</b>					
14	Resistance to surface	Table.7 Sr.No. (i)	IS:2046 Anex:C			See Table No. 1 & 2	
15	Resistance to Immersion in boiling water:	Table.7 Sr.No. (ii)	IS:2046 Anex:D			A) Mass Increase (%) Max : (See Curve 1 Annex A) B) Thickness increase(%)Max : (See Curve 2 Annex A) C) Appearance : Grade 4 for : HDS,HDF,HGS&CGS,VGS,VGF,CGF,&CGS. Grade 3 for : HGP,VGP&VLS. NB: Grade 3 means moderate change in gloss &/ colour. Grade 4 means slight change of gloss &/colour, only visible at certain viewing angles.	Index : 3 0.13 0.14 Degree: 4
16	Resistance to dry heat at 180° c	Table.7 Sr.No.(iii)	IS:2046 Anex:E			Grade 3 for gloss & Grade 4 for others NB.: i) Grade/ degree 4 means slight change of gloss & / colour, any visible at certain viewing angle ii) Grade/ degree 3 means moderate change of gloss &/ colour. (Not applicable for VGS,VGP,VGF&VLS)	Degree:4
17	Dimensional stability at deviated temperature	Table.7 Sr.No. (iv)	IS:2046 Anex:F			a) Machine direction (L) % b) Cross Machine direction (T) % (See Curve 3 Annex 'A')	0.11 0.12
18	Resistance to impact by small diameter ball	Table.7 Sr.No.(vi)	IS:2046 Anex:H			See Table 1 & 3 Applies only to materials less than 2mm thick. (Not applicable for CGS & CGF)	N-A
19	Resistance to impact by large diameter ball.	Table.7 Sr.No (vii)	IS:2046 Anex: J			Diameter of indentation 10 mm-max.(For CGS & CGF) NB.: Applicable for CGS& CGF - thickness should be above 5.0 mm	2.00mm
20	Resistance to cracking	Table.7 Sr.No. (viii)	IS:2046 Anex:K			Grade 4 Grade 4 means hair line cracks only visible under 6 x magnification, irregularly distributed across the surface. o Not applicable for CGS & CGF. o Applies only to materials less than 2mm thick.	N-A
21	Resistance to scratching	Table.7 Sr.No. (ix)	IS:2046 Anex:L			See Table 1 & 4	Index :3
22	Resistance to staining	Table.7 Sr.No. (x)	IS:2046 Anex:M			Grade 5 for group 1 Grade 5 for group 2 Grade 4 for group 3 Grade 4 for group 4 Grade 3 for group 3 & 4 (HGP & VGP)	Rating :5 Rating :5 Rating :5 Rating :5
23	Resistance to color change in xenon arc light	Table.7 Sr.No. (xi)	IS:2046 Anex:N			Wool std. 6 min.	Greater than Blue Wool Std.6
24	Resistance to cigarette burn	Table.7 Sr.No (xii)	IS:2046 Anex:P			Grade 3 Grade 3 means moderate change of gloss &/ moderate brown stain.- (Not applicable for VGS,VGP,VGF&VLS)	Rating:3
25	Formability	Table.7 Sr.No. (xiii)	IS:2046 Anex:R			Radius 15 mm for HGP Radius 10 mm for VGP	N-A-
26	Resistance to blistering	Table.7 Sr.No. (xiv)	IS:2046 Anex:S			15 S, min. for HGP 10 S, min. for VGP	N-A-
27	Resistance to steam	Table.7 Sr.No. (xv)	IS:2046 Anex:T			Grade 4 for HDS,HDF,HGS,VGS,VGF,CGS,&CGF. Grade 3 for HGP,VGP & VLS. Grade 4 means slight change of gloss&/colour any visible at certain viewing angle. Grade 3 means moderate change of gloss & colour	Rating:4
28	Resistance to crazing (Thick laminate)	Table.7 Sr.No (xvi)	IS:2046 Anex:W			Grade 4 (Applicable for CGS & CGF) Grade 4 means hair and crack irregularly distributed across the surface &/ edges on the surface only visible gloss by magnifying	Rating:4
29	Resistance to moisture (Double faced compact laminates )	Table.7 Sr.No.(xvii)	IS:2046 Anex:Y			Grade 4 for CGS Grade 3 for CGF Grade 4 means slight change of gloss &/colour and slight edge swell or hairline edge crack Grade 3 means moderate change & / moderate edge swell or slight edge crack	Degree:4
30	Flexural modulus	Table.7 SrNo (xviii)	IS:13411 Anex:F			CGS = 10,000 Mpa -Min. CGF = 9,000 Mpa -Min.	10070
31	Flexural strength	Table.7 SrNo(xviii)	IS:13411 Anex:F			CGS = 100 Mpa -Min. CGF = 80 Mpa -Min.	128
32	Tensile strength	Table.7 SrNo.(xx)	IS:8543 Pt-4,Sec1			CGS = 70 Mpa -Min. CGF = 60 Mpa -Min.	107

PART D : REMARK : N.B.

1. This test report, in full or in part, shall not be published, advertised, used for any legal action, unless prior permission has been secured.

2. This test report is ONLY FOR THE SAMPLE TESTED.

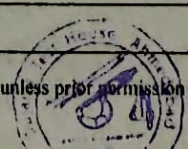
Note: N-A = Not Applicable to this Grade.

\*\* Standard shade card required for the test(s) of colour & pattern and surface finish.

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Authorised signatory

Name : A.N.Barua (CEO)