

Antivirus &
antibacterial
laminates



Greenlam
LAMINATES

Technical Data Sheet

Greenlam Laminate 1.20 - 1.50 mm

TECHNICAL SPECIFICATIONS

GREENLAM LAMINATE, HGS THICKNESS: 1.20 and 1.50mm

Sr. No.	PROPERTIES	Unit	TEST METHOD AS PER EN 438 Part 2 & 3: 2016	SPECIFIED VALUES	GREENLAM TYPICAL VAULES		
GENERAL							
1	Classification		EN 438-3 Table- 3	HGS	HGS (Standard) and HGF (Fire Retardant)		
2	Nominal Thickness				1.20mm and 1.50mm		
DIMENSIONAL PROPERTIES							
3	Thickness maximum variation	mm	EN 438-2- 5	± 0.15	Complies	Complies	
4	Surface Quality	mm ² /M ²	EN 438-3-6.3, 5.2.4	1.0 (max)	Complies	Complies	
5	Fibers, Hairs & Scratches	mm/M ²		10.0 (max)	Complies	Complies	
6	Length & Width	mm	EN 438-2- 6	+10mm /-0mm	+5mm /-0mm	+5mm /-0mm	
7	Flatness	mm/M	EN 438-2 - 9	60.0 (max)	≤ 50	≤ 50	
8	Edge Damage	mm	EN 438-2 – CL. 6.2.5.3	20.0 (max)	Complies	Complies	
9	Edges Straightness	mm/M	EN 438-2 - 7	1.5 (max)	≤ 1	≤ 1	
10	Edges Squareness	mm/M	EN 438-2 - 8	1.5 (max)	Complies	Complies	
SURFACE PROPERTIES							
11	Resistance to Dry Heat at 160° C	Rating (min.)	EN 438-2 -16	4	Complies	Complies	
12	Resistance to Surface Wear	Revolutions	EN 438-2 - 10	150 (min.) IP	Complies	Complies	
13	Resistance to Stains	Group 1 & 2	Rating (min.)	EN 438-2 - 26	5	5	
		Group 3	Appearance		4	≥ 4	≥ 4
14	Resistance to Wet Heat at 100 ° C	Rating (min.)	EN 438-2 - 18	4	Complies	Complies	
15	Resistance to Scratching	Rating	EN 438-2 - 25	3	Complies	Complies	
16	Resistance to Water Vapor, Appearance	Rating	EN 438-2 -14	4	Complies	Complies	
17	Light Fastness (Xenon-Arc Light)	Contrast	EN 438-2 - 27	4 to 5	4	4	
18	Resistance to cigarette burn	Rating	EN 438-2: 2005 Part- 30	4	Complies	Complies	
PHYSICAL PROPERTIES							
19	Resistance to Impact by Large Diameter Ball	Drop Height	mm	EN 438-2 - 21	800 (min.)	1300	
		Diameter of Indentation	mm		10 (max)	7	7
20	Resistance to Impact by Small Diameter Ball	N	EN 438-2 - 20	20 (min)	Complies	Complies	
21	Resistance to Immersion in Boiling Water	Rating	EN 438-2 - 12	4	Complies	Complies	
22	Dimensional stability at Elevated temperatures	Longitudinal	%		0.55 (max.)	≤ 0.30	≤ 0.30
		Transverse	%		1.05 (max.)	≤ 0.55	≤ 0.55
23	Resistance to cracking	Rating	EN 438-2 - 23	4 (min)	5	5	
24	Density	g/cm3	EN ISO 1183 -1 :2019	1.35 (min.)	Complies	Complies	
25	Reaction to Fire	Class	EN 13501-1	*See the foot note for fire performance.			
26	Thermal Conductivity	W/m °K	EN 12524	--	0.24	0.24	
HEALTH AND ENVIRONMENTAL PROPERTIES							
27	Formaldehyde Release	Ppm	EN 16516:2017	0.1	0.2	0.2	
		Certificate	UL-2818:2013	Greenguard Gold	Complies	Complies	
28	Food safe	mg/dm ²	EN 1186-1:2002 EN 1186-3:2022	Migration of 10	Pass	Pass	
29	Anti-bacterial Efficacy	Reduction	JIS Z 2801: 2012	2.0 (min) 99.5% (min)	Complies	Complies	
30	Anti-Viral Efficacy	Reduction	ISO 21702:2019	95.0% (min)	99.9	99.9	
31	Anti-fungal Efficacy	Growth after 28 days	ASTM G-21-2015	Rating 1	Rating 0 (No Growth)	Rating 0 (No Growth)	

HGS = Horizontal General Purpose Standard
 HGP = Horizontal General Purpose Post Forming Grade
 HGF (FR) = Horizontal General Purpose FIRE RETARDANT
 **Fire test performance will depend on laminate thickness and construction, substrate type and thickness, and adhesive used. It is advised to contact the laminate manufacturer for details of test reports and certifications held. Greenlam can supply type S and F HPLs.
 Class (Rating) – 1= Surface damage, 2= Severe appearance alteration, 3= Moderate change, 4= Slight change visible at certain angle, 5= No change

Virus tested: MS2 Bacteriophage
 Bacteria tested – 1. Staphylococcus aureus. 2. Escherichia coli, 3. Klebsiella pneumoniae
 4. Meticillin Resistant Staphylococcus aureus (MRSA) S- 129 5. Pseudomonas aeruginosa
 6. Salmonella typhimurium 7. Streptococcus faecalis 8. Enterococcus faecalis 9. Candida albicans
 Fungus tested: 1. Aspergillus niger 2. Penicillium funiculosum 3. Gliocladium virens 4. Chaetobium globosum 5. Aurobasidium pullulans
 As per the test report 99.99% of bacteria and virus gets retarded within 24 hours of contact.

LIMITED WARRANTY

Greenlam Industries Limited (GREENLAM®) warrants to the original Buyer that GREENLAM® HPL will be free of defects, under normal, proper and intended usage within acceptable manufacturing specifications for a period of one (1) year from date of sale to the original Buyer.
 Buyer's remedy in case of claims, as a result of defective HPL, shall be limited to only the replacement of HPL by GREENLAM®.

TRADEMARKS

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CHANGE OF SPECIFICATION

The company reserves the right to change specifications at any time without prior notice. It is recommended that you request actual samples prior to specification.

GLOBAL HEADQUARTERS:

2nd Floor, West Wing, Worldmark 1,
Aerocity IGI Airport Hospitality District,
New Delhi, India - 110037

T +91-11-4279-1399

E info@greenlam.com

W www.greenlam.com



Greenlam
Industries Limited