

Antivirus &  
antibacterial  
laminates



**Greenlam**  
LAMINATES

# Technical Datasheet

Greenlam HD Gloss Laminate 0.70 - 0.80 mm



# TECHNICAL DATASHEET

**GREENLAM HD GLOSS LAMINATE, HGS**  
**THICKNESS: 0.70 and 0.80MM**

Sr. No.	PROPERTIES	Unit	TEST METHOD AS PER EN 438 Part 2 & 3: 2016	SPECIFIED VALUES	TYPICAL GREENLAM
<b>GENERAL</b>					
1	Classification		EN 438-3 Table- 3	HGS	HGS*
2	Nominal Thickness	mm			<b>0.70 and 0.80 MM</b>
<b>DIMENSIONAL PROPERTIES</b>					
3	Thickness maximum variation	mm	EN 438-2- 5	± 0.10	Complies
4	Surface Quality	mm <sup>2</sup> /M <sup>2</sup>	EN 438-3-6.3, 5.2.4	1.0 (max)	Complies
5	Fibers, Hairs & Scratches	mm/M <sup>2</sup>		10.0 (max)	Complies
6	Length & Width	mm	EN 438-2- 6	+10mm /-0mm	+5mm /-0mm
7	Flatness	mm/M	EN 438-2- 9	60.0 (max)	≤ 50
8	Edges Straightness	mm/M	EN 438-2- 7	1.5 (max)	≤ 1
9	Edges Squareness	mm/M	EN 438-2- 8	1.5 (max)	Complies
<b>SURFACE PROPERTIES</b>					
10	Resistance to Dry Heat at 160° C	Rating (min.)	EN 438-2 - 16	3	Complies
11	Resistance to Surface Wear	Revolutions	EN 438-2 - 10	150 (min.) IP	300
12	Resistance to Stains	Group 1 & 2 Rating (min.)	EN 438-2 - 26	5	5
		Group 3 Appearance		4	≥ 4
13	Resistance to Wet Heat at 100° C	Rating (min.)	EN 438-2 - 18	3	Complies
14	Resistance to Scratching	Rating	EN 438-2 - 25	3	Complies
15	Resistance to Micro scratches	Rating	EN 438-2 - 30	No requirement	4 to 5
16	Resistance to Water Vapor, Appearance	Rating	EN 438-2 - 14	3	Complies
17	Light Fastness (Xenon-Arc Light)	Contrast	EN 438-2 - 27	4 to 5	4
<b>PHYSICAL PROPERTIES</b>					
18	Resistance to Impact by Large Diameter Ball		EN 438-2 - 21		
	Drop Height	mm		800 (min.)	1000
	Diameter of Indentation	mm		10 (max)	7
19	Resistance to Impact by Small Diameter Ball	N	EN 438-2 - 20	20 (min)	Complies
20	Resistance to Immersion in Boiling Water	Rating	EN 438-2 - 12	3	Complies
21	Dimensional stability at Elevated temperatures		EN 438-2 - 17		
	Longitudinal	%		0.55 (max.)	Complies
	Transverse	%		1.05 (max.)	Complies
22	Resistance to cracking	Rating	EN 438-2 - 23	4 (min)	5
23	Density	g/cm <sup>3</sup>	EN ISO 1183 -1 :2019	1.35 (min.)	1.38
<b>ENVIRONMENTAL &amp; OTHER PROPERTIES</b>					
24	Formaldehyde Release	ppm	EN 16516:2017	0.1	0.02
		Certificate	UL-2818:2022	Greenguard Gold	Complies
25	Reaction to Fire (Tested according to EN 13823:2010 & EN 11925-2:2010)*	Euro class	EN 13501-1: 2007+ A1:2009	See foot note on Fire Performance**	
26	Emissions with respect to Indoor Air Quality:	mg/M <sup>3</sup>	UL-2818:2022	0.22	Conforms
	TVOC	ppb <sup>3</sup>		7.3	Conforms
	Formaldehyde (CAS 50-00-0 9)	ppm	Greenguard Gold standards	0.043	Conforms
	Total Aldehydes 4-Phenylcyclohexene (CAS 4994-16-5)	µg/M <sup>3</sup>		6.5	Conforms
	Particle Matter less than 10 µm	µg/M <sup>3</sup>		20	Conforms
	1-Methyl-2-pyrrolidinone (CAS 872-50-4)	µg/M <sup>3</sup>		160	Conforms
	Individual VOCs	--		1/2 CREL1/100th TLV	Conforms
27	Transfer of constituents to Food during contact	Migration of 10 mg/dm <sup>2</sup>	EN 1186-1:2002 EN 1186-3:2022	3% Acetic Acid 95% Ethanol Iso-Octane	Pass
28	Antibacterial Efficacy & Activity	JIS 2801-2012	% Reduction in 24 hrs. Activity after 24 hours	95.0 2.0(Min)	99.99 Exceeds
29	Antifungal Efficacy	ASTM G-21- 2015	Growth after 28 days	Rating 1	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.



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