



**Greenlam**  
LAMINATES

**Technical Data Sheet**

# TECHNICAL SPECIFICATIONS



S. NO.	PROPERTIES	Unit	TEST METHOD AS PER EN 438 Part 2 : 2016	SPECIFIED VALUES	TYPICAL GREENLAM	
<b>GENERAL</b>						
1	Classification		EN 438-3 Table- 3	HGS	HGS*	
<b>DIMENSIONAL PROPERTIES</b>						
2	Surface Quality	mm <sup>2</sup> /M <sup>2</sup>	EN 438-3-6.3, 5.2.4	1.0 (max)	Complies	
3	Fibers, Hairs & Scratches	mm/M <sup>2</sup>		10.0 (max)	Complies	
4	Thickness & Maximum variation	mm	EN 438-2 – 5	0.70 ± 0.10 0.80 ± 0.10	0.70 ± 0.06 0.80 ± 0.06	
5	Length & Width	mm	EN 438-2 – 6	+10mm /-0mm	+5mm /-0mm	
6	Flatness	mm/M	EN 438-2 – 9	60.0 (max)	≤ 50	
7	Edges Straightness	mm/M	EN 438-2 – 7	1.5 (max)	≤ 1	
8	Edges Squareness	mm/M	EN 438-2 – 8	1.5 (max)	Complies	
<b>SURFACE PROPERTIES</b>						
9	Resistance to Dry Heat at 160° C	Rating (min.)	EN 438-2 -16	Gloss finish - 3	Complies	
10	Resistance to Surface Wear	Revolutions	EN 438-2 - 10	150 (min.) IP	300	
11	Resistance to Stains	Group 1 & 2 Group 3	Rating (min.) Appearance	EN 438-2 - 26	5 4	5 ≥ 4
12	Resistance to Wet Heat at 100°C	Rating (min.)	EN 438-2 - 18	Gloss finish - 3	Complies	
13	Resistance to Scratching	Rating	EN 438-2 - 25	5	5	
14	Resistance to Microscratches (Surface visual assessment)	Class	EN 438-2 -30	No requirement	5	
15	Resistance to Water Vapor, Appearance	Rating	EN 438-2 -14	Gloss finish - 3	Complies	
16	Light Fastness (Xenon-Arc Light)	Contrast	EN 438-2 -27	4 to 5	4	
<b>PHYSICAL PROPERTIES</b>						
17	Resistance to Impact by Large Diameter Ball		EN 438-2 – 21			
	a) Drop Height	mm		800 (min.)	1000	
	b) Diameter of Indentation	mm		10 (max)	7	
18	Resistance to Impact by Small Diameter Ball	Rating	EN 438-2 - 20	20 (min)	Complies	
19	Resistance to Immersion in Boiling Water	Rating	EN 438-2 - 12	Gloss finish - 3	Complies	
20	Dimensional stability at Elevated temperatures		EN 438-2 - 17			
	Longitudinal	%		0.55 (max.)	Complies	
	Transverse	%		1.05 (max.)	Complies	
21	Resistance to cracking	Rating	EN 438-2 - 23	4 (min)	5	
22	Density	g/cm <sup>3</sup>	EN ISO 1183 -1 :2004	1.35 (min.)	1.40	
23	Electrostatic Dissipation Property	Ω	EN 61340-4-1	No requirement	1 x 10 <sup>10</sup> to 10 <sup>11</sup>	
<b>FIRE PERFORMANCE</b>						
24	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**		
<b>HEALTH AND ENVIRONMENTAL PROPERTIES</b>						
25	Formaldehyde Release	ppm Certificate	EN 16516:2017 UL-2818:2013	0.1 Greenguard Gold	0.02 Complies	
26	Emissions with respect to Indoor Air Quality:	mg/M <sup>3</sup>	UL-2818:2013	0.22	Conforms	
	TVOC	ppb <sup>3</sup>	Greenguard Gold standards	7.3	Conforms	
	Formaldehyde (CAS 50-00-0 9)	ppm		0.043	Conforms	
	Total Aldehydes	µg/M <sup>3</sup>		6.5	Conforms	
	4-Phenylcyclohexene (CAS 4994-16-5)	µg/M <sup>3</sup>		20	Conforms	
	Particle Matter less than 10 µm	µg/M <sup>3</sup>		160	Conforms	
	1-Methyl-2-pyrrolidinone (CAS 872-50-4)	--		1/2 CREL1/100th TLV	Conforms	
27	Product sanitization/hygiene		NSF/ANSI 35	NEMA Assessment	Conforms	
28	Transfer of constituents to Food during contact	Migration of 10 mg/dm <sup>2</sup>	EN 1186-1:2002 EN 1186-3:2002 EN 1186-14:2002	3% Acetic Acid 95% Ethanol Iso-Octane	1.0 1.1 Less than 0.1	
29	Antiviral Efficacy & Activity	ISO 21702-2019	% Reduction in 2 hrs. % Reduction in 24 hrs. Activity after 24 hours	No Requirement 95.0 (Min.) 2.0 (Min.)	90% (Min.) 99.9% (Min.) Exceeds	
30	Antibacterial Efficacy & Activity	JIS 2801-2012	% Reduction in 24 hrs. Activity after 24 hours	95.0 2.0(Min)	99.99 Exceeds	
31	Antifungal Efficacy	ASTM G-21-2015	Growth after 28 days	Rating 1	Rating 0 (No Growth)	

\*HGS – Horizontal General Purpose Standard

**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.Pseudomonas. 2. Entrococcus Faecalis, 3.Candida Albicans 4.Pseudonomas Aeruginosa 5. Escherichia Coli 6. Klebsiella 7. MRSA (Methicillin Resistant Staphylococcus Aureus) 8. Salmonella Enterica

**Fungus tested:** 1.Aspergillus niger 2. Penicillium funicollosum 3. Gliocladium virens 4. Chaetobium globosum 5. Aurobasidium pullulans

**Note:** Greenlam products are manufactured thoroughly to standards. The values given above are to the best of knowledge but without liability/warranty, expressed or implied









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