



**Greenlam**  
LAMINATES

# Technical Data Sheet

# TECHNICAL SPECIFICATIONS



Conforms to EN 438-3:2016 Standards

Characteristics	Test Standard	Units	Specified Value	HGS & HGF (FR)		HGP (Postforming)
				Greenlam HPL Values		Greenlam HPL
<b>Physical &amp; Dimensional Properties:</b>						
<b>Values</b>						
Nominal Thickness		mm	As claimed by supplier	0.8		0.8
Thickness tolerance	EN 438-2-5	mm	± 0.10	0.73 to 0.80		0.71 to 0.78
Density	EN ISO 1183-1	gms/cm <sup>3</sup>	1.35 Min	1.38 to 1.40		1.38 to 1.40
Length & Width tolerance	EN 438-2-6	mm	0	0		0
Straightness of edges	EN 438-2-7	mm/m	≤ 1.5 deviation	≤ 1.5		≤ 1.5
Squareness of edges	EN 438-2-8	mm/m	≤ 1.5 deviation	≤ 1.5		≤ 1.5
Flatness	EN 438-2-9	mm/m	≤ 60 deviation	≤ 50		≤ 50
Dimensional Stability at High temperature	Longitudinal	EN 438-2-17	%	≤ 0.55 Max	≤ 0.35	≤ 0.45
	Transverse			≤ 1.05 Max	≤ 0.55	≤ 0.65
Resistance to Boiling water	EN 438-2-12	Rating	4 Min	4		4
<b>Mechanical Properties</b>						
Resistance to Cracking	EN 438-2-23	Rating	4 Min	4		4
Impact Resistance	Small Diameter Ball	EN 438-2-20	N	20 Min	25	25
	Large Diameter Ball (drop height for ≤10mm imprint)	EN 438-2-21	mm	≥ 800	1000	1000
Minimum Bending Radius (Convex & Concave)		cm	20	20		
<b>Surface Properties</b>						
Surface Defects						
Spot defects	EN 438-2-4	mm <sup>2</sup> /m <sup>2</sup>	≤ 1	Conforms		Conforms
Linear defects		mm/m <sup>2</sup>	≤ 10	≤ 10		
Resistance to surface wear (initial point)	EN 438-2-10	No. of resolutions	150 Min	200		200
Resistance to Steam	EN 438-2-14	Rating	4 Min	5		4
Dry heat resistance (160 Degree C)	EN 438-2-16	Rating	4 Min	5		4
Scratch Resistant	EN 438-2-25	N	2.0 Min	3		3
Stain Resistant	Group - 1 & 2	EN 438-2-26	Rating	5 Min	5	5
	Group - 3			4 Min	5	4
Light fastness under artificial light, Grey Scale	EN 438-2-27	Rating	4 to 5	4 to 5		4 to 5
<b>Postforming Properties (Postforming HPL only)</b>						
Minimum post forming radius	EN 438-2-31 or 32	mm	7	NA		Thk 0.7mm ≥ 6 mm
Blistering Resistance	EN 438-2-32 or 33	seconds	10	NA		≥ 15
<b>Fire performance</b>						
Reaction to Fire	EN 13501-1	Class	-	Bs1 d0 for FR & Cs1 d0 for GS		Cs1 d0
Thermal Conductivity	EN 12524	W/m °K		0.24		0.24
<b>Health and Environmental Characteristics</b>						
Food safe	EN 13130-1			YES		YES
Formaldehyde emission (release)	EN 717-1/ UL 2818	Class	-	E 1 / 7.3 ppb		E 1 / 7.3 ppb
Volatile Organic Compounds (VOC) Emission	ISO 16000-9	Class	-	A		A
<b>Anti-Viral Efficacy &amp; Activity</b>						
Antibacterial Efficacy & Activity	Reduction in 24 hours	ISO 21702-2019	%	95.0 (Min)	upto 99.99	upto 99.99
	Activity after 24 hours		Log Reduction	2.0 (Min)	Exceeds	Exceeds
Antifungal Efficacy & Activity	Reduction in 24 hours	JIS 2801-2012	%	95.0 (Min)	upto 99.99	upto 99.99
	Activity after 24 hours		Log Reduction	2.0 (Min)	Exceeds	Exceeds
<b>Antifungus Efficacy &amp; Activity</b>						
Growth after 28 days	ASTM G-21-2015		Rating	1	0 (No Growth)	0 (No Growth)

Above test results are applicable to all Greenlam laminates except metal or foil laminates

HGS = Horizontal General Purpose Standard

HGP = Horizontal General Purpose Post forming Grade

HGF (FR) = Horizontal General Purpose FIRE RETARDANT

CLASS: 1 = Surface Damage 2 = Severe appearance alteration 3 = Moderate Change

4 = Slight change visible from certain angle 5 = No Change

Virus Tested= MS2 Bacteriophage

Bacteria Tested= 1. Pseudomonas Aeruginosa, 2. Enterococcus Faecalis, 3. Candida Albicans, 4. Pseudomonas Aeruginosa, 5. Escherichia Coli, 6. Klebsiella Pneumoniae, 7. MRSA (Methicillin Resistant Staphylococcus Aureus), 8. Salmonella Enterica  
Fungus Tested= 1. Aspergillus niger, 2. Penicillium funiculosum, 3. Gliocladium virens, 4. Chaetobium globosum 5. Aureobasidium pullulans  
Laminates featured in this catalogue are available in size 1220mm x 2440mm x 0.8mm unless otherwise stated.

**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, buyer's remedy in a case of claims, as a result of defective HPL, shall be limited to only the replacement of HPL by (GREENLAM®)





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