

S. NO.	PROPERTIES	UNIT	TEST METHOD AS PER EN 438 Part 2 & 4 : 2016	SPECIFIED VALUES	TYPICAL AIROLAM RESULTS	SPECIFIED VALUES	TYPICAL AIROLAM RESULTS
1	CLASSIFICATION		EN 438-4-4	COMPACT GENERAL PURPOSE STANDARD, CGS	COMPACT GENERAL PURPOSE FLAME-RETARDANT, CGF		
	Surface Coating		--	ELECTRON BEAM CURED CHEMICAL RESISTANT RESIN			
	Size Offered	mm	--	Available in black and brown colour cores. Unicore optional. 1525mm x 3660mm - Single size to suit multiple cut sizes			
2	Surface Quality	mm ² /M ²	EN 438-4, 6.2.4.2	1.0 (max.)	Complies	1.0 (max.)	Complies
3	Fibers, Hairs & Scratches	mm/M ²		10.0 (max.)	Complies	10.0 (max.)	Complies
4	Thickness & Maximum Variation	mm	EN 438-2-5	8.0 ± 0.50	8.0 ± 0.35	8.0 ± 0.50	8.0 ± 0.35
				13.0 to 16.0 ± 0.60	13.0 to 16.0 ± 0.40	13.0 to 16.0 ± 0.60	13.0 to 16.0 ± 0.40
5	Length & Width	mm	EN 438-2-6	+10mm /-0mm	+5mm /-0mm	+10mm /-0mm	+5mm /-0mm
6	Flatness	mm/M	EN 438-2-9	5.0 (max.)	Complies	5.0 (max.)	Complies
7	Edges Straightness	mm/M	EN 438-2-7	1.5 (max.)	≤ 1	1.5 (max.)	≤ 1
8	Edges Squareness	mm/M	EN 438-2-8	1.5 (max.)	Complies	1.5 (max.)	Complies
9	Resistance to Dry Heat at 160° C	Rating	EN 438-2-16	4 (min.)	5	4 (min.)	5
10	Resistance to Surface Wear, Initial point	Rev.	EN 438-2-10	150 (min.)	450 (min.)	150 (min.)	450 (min.)
11	Resistance to Water Vapour, Appearance	Rating	EN 438-2-14	4 (min.)	5	4 (min.)	5
12	Resistance to Immersion in Boiling Water (2 hours)		EN 438-2-12				
	a) Mass Increase	%		2.0 (max.)	0.62	3.0 (max.)	1.10
	b) Thickness	%		2.0 (max.)	0.92	6.0 (max.)	1.86
	c) Surface appearance	Rating		4 (min.)	5	4 (min.)	5
	d) Edge appearance			3 (min.)	4	3 (min.)	4
13	Dimensional Stability at Elevated Temperature		EN 438-2-17				
	a) Longitudinal	%		0.30(max.)	0.10	0.30 (max.)	0.18
	b) Transverse	%		0.60 (max)	0.21	0.60 (max)	0.38
14	Resistance to Impact by Large Diameter Ball		EN 438-2-21				
	a) Drop Height	mm		1800	2000	1800	2000
	b) Diameter of Indentation	mm		10 (max.)	7	10 (max.)	7
15	Resistance to Scratching, Force	Rating	EN 438-2-25	3 (min.)	4	3 (min.)	4
16	Resistance to Staining	Rating	EN 438-2-26	5	5	5	5
	Group 1 & 2	Rating		4	≥ 4	4	≥ 4
	Group 3	Rating					
	Chemical & Stain Resistance		SEFA 8.1-PL-2010	Not more than rating 3 against 4 chemicals	Complies	Not more than rating 3 against 4 chemicals	Complies
17	Resistance to Wet Heat (100°C), Appearance	Rating	EN 438-2-18	4 (min.)	5	4 (min.)	5
18	Resistance to Crazing, Appearance	Rating	EN 438-2-24	4 (min.)	5	4 (min.)	5
19	Resistance to Cigarette Burns	Rating	--	No requirement in the latest specification			
20	Flexural Modulus	Mpa	EN ISO 178:2003	9000 (min.)	11000	9000 (min.)	10700
21	Flexural Strength	Mpa	EN ISO 178:2003	80 (min.)	100	80 (min.)	100
22	Tensile Strength	Mpa	EN ISO 527-2:1996	No requirement in the latest specification			
23	Light Fastness (Xenon Arc), Grey Scale	Rating	EN 438-2 - 27	4 to 5	Complies	4 to 5	Complies
24	Density	g/cm ³	EN ISO 1183 -1 :2004	1.35	1.38	1.35	1.38
25	Resistance to fixing (Screw pull out strength) - 8.0mm thick board	N	ISO 13894 -1; 9	3000 (min.)	>3000	3000 (min.)	≥3000
	- 10.0mm thick board & above			4000 (min.)	>4000	4000 (min.)	>4000
26	Thermal Conductivity/ Resistance	W/m ² K	EN-12524:2000, EN-12664:2001		0.24		0.24
27	Formaldehyde Release, Greenguard Gold standards		UL-2818:2013		7.3 ppb		7.3 ppb
28	Reaction to Fire (Tested according to EN 13823:2010 & EN 11925 - 2 :2010)*	Euro class	EN 438-7 & EN 13501-1: 2007+ A1:2009	D-s2,d0 or better	C-S2, d0 Superior, better	B-s2,d0	B-S1, d0, Superior, better

BIO-CHEMICAL PROPERTY	STANDARD	UNIT	REQUIREMENT	TEST RESULT
Antiviral Efficacy & Activity	ISO 21702-2019	% Reduction in 10 minutes	No Requirement	90.0% (Min.)
		% Reduction in 30 minutes	No Requirement	99.0% (Min.)
Virus tested			SARS CoV-2	
Antibacterial Efficacy & Activity	ISO 21702-2019	% Reduction in 2 hours	No Requirement	90% (Min.)
		% Reduction in 24 hours	95.0 (Min.)	99.9% (Min.)
Virus tested			MS2 Bacteriophage	Exceeds
Antibacterial Efficacy & Activity	JIS 2801-2012	% Reduction in 24 hours	95.0 minimum	99.99
		Activity after 24 hours	2.0 (Min.)	Exceeds
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	
Antifungal Efficacy	ASTM G-21-2015	Growth after 28 days	Rating 1	Rating 0 (No Growth)
				1. Aspergillus niger, 2. Penicillium funicolosum, 3. Gliocladium virens, 4. Chaetobium globosum, 5. Aurobasidium pullulans

AIROLAM Lab Guardian's surface is best suitable for stains caused by:

General purpose chemicals	Biomedical reagents	Biological spills and wastes	Petrochemical products	Food items and edible oils	All beverages	Dairy products
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NOTE: Whereas the AIROLAM Laminates products are manufactured to thorough standards, the nature of the application procedure is beyond our control. The values given above are to the best of knowledge but without liability/warranty, expressed or implied.

AIROLAM LabGuardian Chemical Spot Test - Test Protocol: SEFA PL 2010-Clause 8.1

S. No.	CHEMICAL	TEST METHOD	RATINGS	TYPICAL VALUES-LABGUARDIAN
1	Acetate, Amyl	A	0-1	0
2	Acetate, Ethyl	A	0-2	0
3	Acetic Acid 98%	B	0-3	0
4	Acetone	A	0-1	0
5	Acid Dichromate 5%	B	0-1	0
6	Alcohol, Butyl	A	0-1	0
7	Alcohol, Ethyl	A	0	0
8	Alcohol, Methyl	A	0-1	0
9	Ammonium Hydroxide 28%	B	0	0
10	Benzene	A	0-2	0
11	Carbon Tetrachloride	A	0-1	0
12	Chloroform	A	0-2	0
13	Chromic Acid 60%	B	0-2	0
14	Cresol	A	0-2	0
15	Dichloroacetic Acid	A	0-3	0
16	Dimethylformamide	A	0-2	0
17	Dioxane	A	0-2	0
18	Ethyl Ether	A	0-1	0
19	Formaldehyde 37%	A	0-1	0
20	Formic Acid 90%	B	0-3	0
21	Furfural	A	0-3	0
22	Gasoline	A	0	0
23	Hydrofluoric Acid 37%	B	0-2	0
24	Hydrofluoric Acid 48%	B	0-3	0
25	Hydrogen Peroxide 30%	B	0-1	0
26	Iodine, Tincture of	B	0-2	2
27	Methyl Ethyl Ketone	A	0-2	0
28	Methylene Chloride	A	0-2	0
29	Monochlorobenzene	A	0-2	0
30	Naphthalene	A	0-1	0
31	Nitric Acid 20%	B	0-1	0
32	Nitric Acid 30%	B	0-1	0
33	Nitric Acid 70%	B	0-3	0
34	Phenol 90%	A	0-2	0
35	Phosphoric Acid 85%	B	0-1	0
36	Silver Nitrate, Saturated	B	0	0
37	Sodium Hydroxide 10%	B	0	0
38	Sodium Hydroxide 20%	B	0	0
39	Sodium Hydroxide 40%	B	0-1	0
40	Sodium Hydroxide, Flake	B	0	0
41	Sodium Sulfide, Saturated	B	0	0
42	Sulfuric Acid 33%	B	0	0
43	Sulfuric Acid 77%	B	0	0
44	Sulfuric Acid 96%	B	02-03	2
45	Sulfuric Acid 77%, and Nitric Acid 70%, equal parts	B	02-03	1
46	Toluene	A	0-1	0
47	Trichloroethylene	A	0-1	0
48	Xylene	A	0-1	0
49	Zinc Chloride, Saturated	B	0	0