

PoliLam Lab Grade

Chemical Resistant boards are a specialized material that enhances the chemical-resistant layer on the basis of compact laminate. It features excellent resistance to strong acids and alkalis on its surface, as well as impact resistance, water resistance, moisture resistance, heat resistance, and wear resistance.

It is commonly used in laboratories, schools, research institutions, and other testing environments that require contact with chemical reagents.

Key Features

Dimensions:

4x8ft (1220x2440mm), 4x10ft (1220x3050mm), 5x8ft (1525x2440mm), 5x12ft (1525x3660mm), 4-25mm(1/8in-1in)

Physical Properties:

Based on EN 438, NEMA LD3-2005, EN ISO requirements, ensuring the material meets high strength and durability standards.

Fire Resistance:

Based on the requirements of EN 13501-1: 2018, 'Classification of Burning Behavior for Building Materials and Products,' this product is rated B1 for fire performance. The results indicate that smoke toxicity complies with safety level ZA3 or higher.

Formaldehyde Emission:

Based on EN 717-1: 2004 formaldehyde emission requirements, complying with the air quality standard for formaldehyde release.

Eco-Certification:

Certified by GREENGUARD, Greenguard Gold, FSC Forest Certification, and Singapore Green Label certification.

Technical Specifications

Property	Standard&Clause	Standard Value
Thickness Tolerance	EN438-2-5/ NEMA LD03-2005	6mm±0.4mm, 8mm±0.5mm, 10mm±0.5mm, 12.7±0.6mm
Flatness Tolerance	EN438-2-9/ NEMA LD03-2005	6mm 5mm/m, 8mm 5mm/m, 10mm 3mm, 12.7 3mm/mm
Length Width Tolerance	EN438-2-6	+10mm/-0
Straightness of Edge Tolerance	EN438-2-7	1.5mm/m max deviation
Flexural Modulus	EN ISO 178	9000 MPa (min)
Flexural Strength	EN ISO 178	100 MPa (min)
Tensile Standard	EN ISO 572-2	92.7 MPa (min)
Density	EN ISO 1183	1.4g/cm ³
Dimensional Stability at Elevated Temperature	EN ISO 438-2-17	L 0.25% (max), L 0.35% (max)
Resistance to Artificial Weather	EN ISO 438-2-29	contrast min 3 after 650 MJ/m ² appearance min 4 after 650 MJ/m ²
Resistance to Climatic Shock	EN ISO 438-2-19	flexural strength index(Ds) 0.95 (min) flexural modulus index(Ds) 0.95 (min) appearance grade 4 (min)
Fire Test (SBI)	EN ISO 13501-1:2018	B-s1, d0(≥6mm)
Thermal Conductivity	EN ISO 12524	0.3 w/mk
Cleanability	ANSI NEMA LD 3-2005 Section 3.4	Score: 6
Stain Resistance	ANSI NEMA LD 3-2005 Section 3.4	No effect
Boiling Water Resistance	ANSI NEMA LD 3-2005 Section 3.5	No effect
High Temperature Resistance	ANSI NEMA LD 3-2005 Section 3.6 Hot wax method	No effect
Scratch Resistance	ANSI NEMA LD 3-2005 Section 3.7.3	Rating: 3
Ball Impact Resistance	ANSI NEMA LD 3-2005 Section 3.8	1100mm
Wear Resistance	ANSI NEMA LD 3-2005 Section 3.13	1200 cycles
Tensile Strength	ASTM D638-14	104MPa
Chemical Stain Resistance	SEFA 3-2020 Clause 2.1	Pass

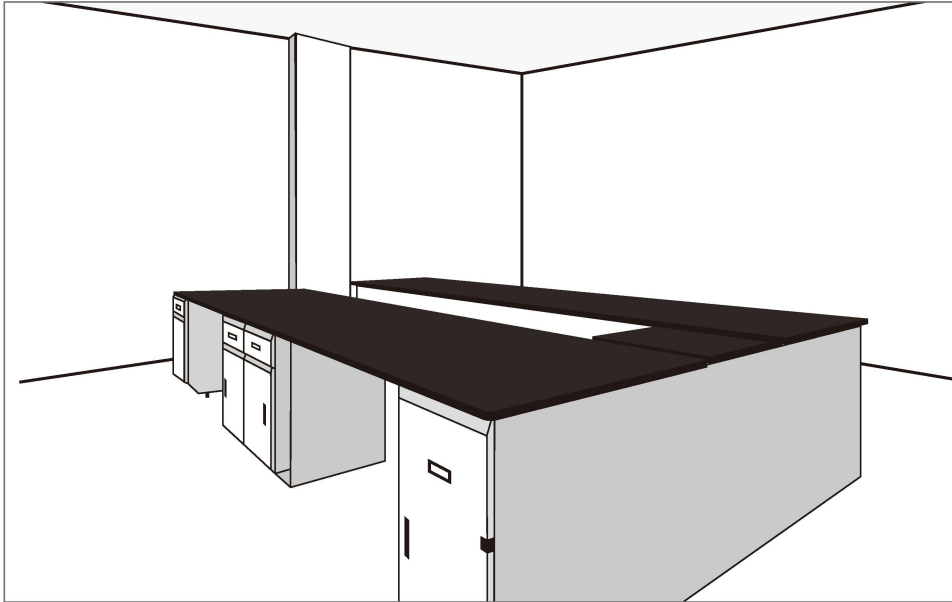
Technical Specifications

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

Note: All SEFA and EN438 testing were performed on Compact laminate with a black decorative surface

Applications

PoliLam Lab Grade are perfect for a variety of interior design applications including:



Installation and Maintenance

- **Bending and Tensile Strength:** A bending strength of 104 MPa and a tensile strength of 94.7 MPa provide reliable support for load-bearing applications.
- **Wear Resistance:** The wear index of Compact reaches 1200 cycles, ensuring durability and longevity of the panel.
- **Stain Resistance:** The stain resistance rating is the highest, Grade 5, aiding in easy daily cleaning and maintenance.

Mechanical and Environmental Performance

Installation:

Panels with a thickness of 0.16-0.25 inch are installed using a keel adhesive method, while panels with a thickness more than 0.312 inch are installed using a keel wall-hanging method.

Maintenance:

Lab Grade is easy to clean and maintain, with surface resistance to chemicals, moisture, and abrasion, making it an ideal choice for laboratory environments including research facilities, healthcare labs, and educational institutions.

Handling and Storage:

During transportation and storage, Lab Grade must be placed on a flat pallet, with the pallet size slightly larger than the panel size. Lab Grade should be carried by two or more people, lifted flat, and carried vertically to prevent breakage. The panels must be stored indoors at room temperature, avoiding rain, humidity, high temperatures, and direct sunlight. During storage, the bottom and top of the panels must be cushioned with similar or thick materials to prevent direct exposure to air, which can cause moisture absorption and deformation.