

## ThickLam HIGH PRESSURE LAMINATES



**Pionite® ThickLam** thick phenolic is designed for applications where the decorative surface must contribute to the structural stability of the finished assembly. ThickLam panels are available in the following configurations: decorative on both sides or decorative one side.

### Product Composition

ThickLam laminate is manufactured in a flat press by combining decorative papers saturated in melamine resin with phenolic-impregnated kraft layers at pressures exceeding 1000 psi (6.9MPa) and temperatures approaching 300 °F (150 °C). The thickness of the laminate is determined by the number of kraft layers used. The laminating process combines the durability of melamine resins with the aesthetics of decorative papers creating a surfacing material that has been the standard for many years.

### Product Description

ThickLam laminate can be manufactured using any Pionite® solid color or pattern, and is available with either brown or black phenolic core. Laminate edges can be polished for a finished appearance.

Optimal flatness is obtained by specifying the same color on both sides of thick phenolic core laminates.

ThickLam panels are available in thicknesses up to 1 inch (25 mm) and offer the same chemical resistance properties as standard Pionite® laminate. ThickLam panels can be manufactured with enhanced chemical resistance; for details, please see our ChemGuard Technical Bulletin. Thicker grades of ThickLam panels can be very heavy. Because of this increased weight, manual handling may be difficult. Please consult the chart below for approximate sheet weight and thickness.

### Product Types

Thickness	D20	D44	D56	D68	D74
(in.)	0.12	0.25	0.50	0.75	1.00
(mm)	3	6	13	19	25
(lb/ft <sup>2</sup> )	0.84	1.78	3.68	5.43	7.44
(g/m <sup>2</sup> )	4.1	8.7	18.0	26.6	36.5

ThickLam laminate is available in the following sizes:

Nominal widths; 36" (915mm), 48" (1220mm) and 60" (1525mm).  
Nominal lengths; 96" (2440mm), 120" (3050mm) and 144" (3660mm).

Additional widths and thicknesses are available upon request.

### Finish Options

Please refer to HPL Finishes Chart on the web site to confirm available finishes for this product.

### Fabrication Tips

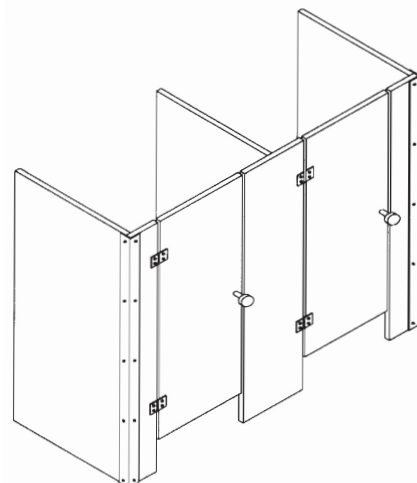
When working with ThickLam laminate, the following techniques will produce a quality application.

1. To minimize the potential of warpage, laminate should be stored horizontally at an approximate temperature of 70 °F to 75 °F (21 °C to 24 °C) and 45% to 50% relative humidity. Good air and humidity circulation on all sides of the panel is important to maintain flatness. Exposure to extreme temperature and humidity can cause warpage.
2. ThickLam panels can be sawed, drilled, routed and tapped. Tool bits should be carbide tipped and run at high speeds to minimize chipping.
3. Although stress cracks are unlikely, cutouts for electrical outlets, sinks, etc., should be oversized and inside corners should have a minimum radius of 1/8" (3 mm) and be filed smooth.

### Typical Uses

ThickLam laminate is ideally suited for toilet and dressing room privacy partitions. Other uses include tabletops, doors, workstations, wall panels, and desktops.

#### Dressing Room Made Of ThickLam Laminate



4. Self-tapping screws can be used in pre-drilled holes.
5. Metal brackets or clips can be used to join laminate panels. In some cases, it may be necessary to use shims to level out the joint.
6. Do not screw into the edges of ThickLam panels.
7. Do not use splines in the edge of ThickLam laminate.
8. When fasteners are required, it is advisable to first drill an oversized hole through the laminate. This reduces the likelihood of stress cracks.
9. Avoid drilling holes close to the edge. A minimum distance of 1-1/2 times the hole diameter from the edge is recommended.
10. Revealed edges of thicker panels may be shaped and/or finished using standard woodworking practices. The edges can then be polished with a light oil resulting in an attractive finish that accents the decorative surface.
11. Mitered edges should be avoided.
12. ThickLam laminate is intended for interior use only, and should not be exposed to extreme humidity, continuous sunlight, or temperatures above 275 °F (135 °C) for extended periods of time. ThickLam laminates are not recommended for adherence directly to plaster, gypsum board, or concrete. ThickLam panels thicker than 1/4" can be applied as wall panels using appropriate mechanical fasteners.
13. Epoxy adhesive is recommended for bonding ThickLam panels. Light sanding of the surface with 100 grit sandpaper will improve bond strength.
14. Fabricated assemblies should meet DLPA (Decorative Laminate Products Association) and ANSI A-161.2-1979 specifications where applicable.

## Technical Information

### Typical Test Results for ThickLam Laminate

		NEMA LD3-2005 Test Method	D20	D44	D56	D68	D74
Thickness	(in) (mm)		0.12 ± .01 3	0.25 ± .01 6	0.50 ± .02 13	0.75 ± .02 19	1.0 ± .02 25
Appearance		3.1	Complies	Complies	Complies	Complies	Complies
Light Resistance		3.3	Slight Effect	Slight Effect	Slight Effect	Slight Effect	Slight Effect
Cleanability		3.4	10 (max.)	10 (max.)	10 (max.)	10 (max.)	10 (max.)
Stain 1-10			No Effect	No Effect	No Effect	No Effect	No Effect
Stain 11-15			Moderate	Moderate	Moderate	Moderate	Moderate
Boiling Water Resistance		3.5	No Effect	No Effect	No Effect	No Effect	No Effect
High Temperature Resistance		3.6	No Effect	No Effect	No Effect	No Effect	No Effect
Ball Impact Resistance	(in) (mm)	3.8	80 2030	96+ 2440+	96+ 2440+	96+ 2440+	96+ 2440+
Dimensional Change							
Machine Direction (%)		3.11	0.20	0.20	0.20	0.20	0.20
Cross Machine Direction (%)			0.40	0.40	0.40	0.40	0.40
Wear Resistance	(cycles)	3.13	700	700	700	700	700

#### Flexural strength

Testing performed in accordance to ASTM D-790. Machine direction = 22,000 psi (152 MPa). Cross direction = 15,000 psi (103 MPa)

## Deflection

The following table is intended to be used as a guideline when considering appropriate applications for ThickLam laminate. Specific installations of this laminate type should be developed by experienced architects. This table is useful to determine the approximate weight that will cause a 1/4" deflection when evenly distributed over a 12" deep span of ThickLam laminate that is simply supported on each end.

### Span Length\*

Product Type	Thickness	18 in	24 in	30 in
		450 mm	600 mm	750 mm
D56	0.50 in	306 lb	130 lb	67 lb
	13 mm	140 kg	59 kg	30 kg
D68	0.75 in	1041 lb	439 lb	225 lb
	19 mm	470 kg	200 kg	102 kg
D74	1.0 in	2468 lb	1041 lb	533 lb
	25 mm	1119 kg	470 kg	242 kg

\*The following formula was used to calculate the values in the above table:

$$\text{Load per Lineal Inch of Span} = \frac{(D)(E)(W)(T)^3}{0.1563(S)^4}$$

Where: D = Deflection (in.)  
 E = Modulus of Elasticity (750,000 psi)  
 W = Width of panel (in.)  
 T = Thickness (in.)  
 S = Span (in.)

This table is only intended for use as a guideline. It does not constitute a warranty. End users must be responsible for the final design of any application, ensuring that it meets all engineering requirements of the installation.

## Fire Test Data

High pressure laminate is frequently used in installations governed by local fire codes. Burning characteristics of laminate are greatly influenced by the adhesive and substrate used. Listed below are typical flame spread index and smoke developed values for ThickLam panels. ThickLam laminate can be manufactured to provide Class A fire test performance. For details, call Customer Service at 1-877-726-6526.

### ASTM E-84/UL723

"Standard Test Method for Surface Burning Characteristics of Building Materials"

Type	Sample Configuration	Flame Spread Index	Smoke Developed Values
D56	Unbonded	30	190
D68		30	190
D74		30	190

### ASTM E-162

"Surface Flammability of Material Using a Radiant Heat Energy Source"

Type	Sample Configuration	Flame Spread Index
D44	Unbonded	25
D56		17

ThickLam laminate can also be manufactured to provide improved fire resistant characteristics. Please see the Fire Rated Laminate Technical Bulletin for more information.

### ASTM E-662

"Specific Optical Smoke Density"

Type	D <sub>s</sub> @ 1.5	D <sub>s</sub> @ 4.0
D44	1.0	10.2
D56	0.9	5.6

## Care and Maintenance

ThickLam laminate provides a durable surface that is easy to maintain using ordinary care.

To maintain the laminate's lasting beauty, cleaning with a solution of warm water and liquid dishwashing detergent is all that should be required in most cases.

Stains may be removed with most non-abrasive household cleaners such as FORMULA 409®, GLASS PLUS® or WINDEX® with AMMONIA D®. Light scrubbing with a soft bristled brush may be necessary to remove stains from the depth of the structure on some textured surfaces.

If the stain persists, use a paste of baking soda and water and apply with a soft bristled brush. Light scrubbing for 10-20 strokes should remove most stains. Although baking soda is a low abrasive, excessive scrubbing or exerting too much force may damage the decorative surface, especially if it has a gloss finish.

Formula 409 is a registered trademark for The Clorox Company of Oakland, CA 94612; Glass Plus is a registered trademark for The Dow Chemical Company of Indianapolis, IN 46268-0511; Windex is a registered trademark for S.C. Johnson & Sons INC. of Racine, WI 53403-5011.

Stubborn stains that resist any of the above cleaning methods may require the use of undiluted household bleach. Apply the bleach to the stain and let stand no longer than 1-1/2 minutes. Rinse thoroughly with warm water and wipe dry. This step may be repeated if the stain appears to be going away and the color of the laminate has not been affected. **WARNING:** Prolonged exposure of the laminate surface to bleach will cause discoloration.

Many commercially available products contain substances that may damage or discolor a laminate surface. **ABRASIVE CLEANERS SHOULD NOT BE USED.** Particular care should be used with any products labeled **CAUTION** or **WARNING**. Any questions or concerns should be referred to the product's manufacturer or call 1-877-726-6526. Do not allow harsh materials to remain in contact with the laminate surface. Examples of these are as follows:

- Toilet bowl cleaners
- Chlorine bleach
- Hydrogen Peroxide
- Coffee pot cleaners
- Oven cleaners
- Hard water stain removers
- Drain cleaners
- Fruit and berry juice
- Metal cleaners and polishes
- Tub and tile cleaners

### Limited Warranty

Subject to the limitations set forth below, Panolam Industries International Inc. (Panolam) expressly warrants that our products are reasonably free of defects in material and workmanship, and when properly handled and fabricated will conform, within accepted tolerances, to applicable manufacturing specifications as set forth in our technical brochure. This warranty shall extend to the original buyer for a period of twelve (12) months from the date of shipment of this product by Panolam, and shall not be assignable by the original buyer. This warranty does not cover damage resulting from accident, misuse, alteration, abuse or lack of reasonable care.

Due to the variety of uses and applications to which this product may be put, and because the manufacturer has no control over the end products fabricated, the warranty set forth above is exclusive and in lieu of all warranties, expressed or implied, in fact or by operation of law or otherwise, or arising by course of dealing or performance,

custom or usage in the trade, including, without limitation, the implied warranties of fitness for a particular purpose and merchantability, and Panolam shall have no obligation or liability to any person or entity in connection with or arising from the furnishing, sale, installation or repair, use or subsequent sale of any product supplied by it.

Our maximum liability arising out of the sale of the products or their use, whether based upon warranty, contract, tort or otherwise, shall not exceed the actual payments received by us in connection therewith.

In no event shall we be liable for special, incidental or consequential damages, including, but not limited to, arising hereunder or from the loss of profits, or loss of use damages, sales of the products.

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