

**Hi-Wear Laminate** is designed for applications requiring increased abrasion and scuff resistance. The product offers over five times the wear resistance of standard grade laminate. Due to its unique composition Pionite® Hi-Wear laminate will vary in color from corresponding colors of Standard Pionite®. Sample evaluation is recommended.

### Product Composition

Hi-Wear 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 (6895 kPa) and temperatures approaching 300 °F (150 °C). The panels are trimmed to size and the backs are sanded to facilitate bonding. The thickness of the laminate is determined by the number of kraft layers used. Increased wear resistance is achieved by the addition of aluminum oxide particles to the laminate surface. 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

#### Standard Nominal Sizes

Type	Thickness	Width	Length	Colors**
148 (in.) (mm)	0.048 1.2	36, 48, 60 914, 1219, 1524	96, 120, 144 2438, 3048, 3658	All solids, patterns & woodgrains
160 (in.) (mm)	0.060 1.5	36, 48, 60 914, 1219, 1524	96, 120, 144 2438, 3048, 3658	All solids, patterns & woodgrains

\*Thicker products conforming to NEMA Grade HDS, HDM, and HDH are available.

\*\*Due to its unique composition, Pionite Hi-Wear laminate will vary in color from corresponding colors of standard Pionite. This effect is more pronounced in darker colors and patterns. Sample evaluation prior to order placement is required.

Other 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.

### Typical Uses

Hi-Wear, is used in high pressure decorative laminate applications requiring increased wear resistance. This product is ideally suited for applications such as buffet counters, salad bars, checkout counters, kickboards, bartops, and restaurant counters.

### Fabrication Tips

When working with Hi-Wear, these techniques will produce a quality application.

1. Proper conditioning of the laminate, substrate, and backing sheet minimizes possible warping, shrinking, or expansion of assembled panels. Ideally, all components should be conditioned at 70 °F to 75 °F (21 °C to 25 °C) and 45 to 50 percent relative humidity for 48 hours prior to assembly.
2. Always bond laminate to a suitable substrate such as medium to high density fiberboard, particleboard, or metals. It should not be glued directly to plaster walls, gypsum wallboard, or concrete.
3. Recommended adhesives include solvent or water-based contact cement, white glue (PVA), epoxy, and hot melt glue. Consult your adhesive supplier for specific application requirements.
4. The use of a backing sheet is recommended to minimize warpage. The thickness of the backing sheet should be relatively equal to the thickness of the decorative laminate on the face of the assembly.
5. All saw blades and router bits used for cutting should be carbide tipped and very sharp. Feed rate should be slow and tool speed should be high.
6. Increased tool wear rate may be experienced when fabricating Hi-Wear as compared to standard laminate.
7. Inside corners of cutouts for electrical outlets, sinks, etc., should have a minimum radius of 1/8" (3 mm) and be filed smooth. This reduces the likelihood of stress cracks.

8. All edges of laminate should be filed smooth with file direction towards substrate to help prevent stress cracks and to minimize chipping.
9. When fasteners are required, it is advisable to first drill an oversized hole through the laminate. This reduces the likelihood of stress cracks.
10. Hi-Wear 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.

## Codes and Certifications

1. American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA) LD 3-2005, “High- Pressure Decorative Laminate”: for HDS, type I48 complies, for HDM, type I60 complies.
2. MIL-P-17171E(SH), “High Pressure Decorative Laminate.” Pionite I48 complies with Type I.
3. U.S. Federal Specification L-P-508H, “Plastic Sheet, Laminated, Decorative and Nondecorative.” Types I48 and I60 comply.

## Technical Information

### Physical Properties

TEST		NEMA LD 3-2005 TEST METHOD	TYPICAL PIONITE® VALUES I48	NEMA STD. HDS	TYPICAL PIONITE® VALUES I60	NEMA STD. HDM
Thickness	(in.)		0.048 ± 0.003	0.048 ± 0.005	0.060 ± 0.003	0.059 ± 0.005
	(mm)		1.2 ± 0.08	1.2 ± 0.12	1.5 ± 0.08	1.5 ± 0.12
Appearance		3.1	Complies		Complies	
Light Resistance		3.3	Slight effect	Slight effect	Slight effect	Slight effect
Cleanability		3.4	5	20 (max.)	5	20 (max.)
Stain 1 - 10			No effect	No effect	No effect	No effect
Stain 11 - 15			No effect	Moderate effect	No effect	Moderate effect
Boiling Water Resistance		3.5	No effect	No effect	No effect	No effect
High Temperature Resistance		3.6	No effect	Slight effect	No effect	Slight effect
Ball Impact Resistance	(in.)	3.8	55	50 (min.)	60	55 (min.)
	(mm)		1397	1250 (min.)	1524	1400 (min.)
Radiant Heat Resistance	(sec)	3.10	200	125 (min.)	300	150 (min.)
Dimensional Change						
Machine Direction	(%)	3.11	0.25	0.50 (max.)	0.25	0.50 (max.)
Cross Direction	(%)		0.70	0.90 (max.)	0.70	0.90 (max.)
Wear Resistance	(cycles)	3.13	3500	400 (min.)	3500	3000 (min.)

## Care and Maintenance

Pionite decorative 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.

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.

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.

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

### **Limited Warranty**

Subject to the limitations set forth below, 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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08/2018