PIONITE SURFACE SYSTEMS

ThruColor™

HIGH PRESSURE LAMINATES

Technical Bulletin

Pionite® ThruColor™ high pressure laminate (HPL) may be used in any application where a solid color edge is desired. ThruColor™ HPL is intended for use in applications where the edge of the laminate contributes to the aesthetics of the final product. Pionite's manufacturing process provides a second generation color-through laminate that is more flexible and much less likely to chip than other color-through laminate.

Multi-toned edges or sandwich colors provide interesting design options. Grooves, bands, patterns, or lettering may be fashioned with the use of routers, engravers, or sandblasting equipment. Solid color ThruColor™ laminate is also ideal for high-wear applications since gouges and cuts will not readily show.

Due to its unique composition, ThruColor™ HPL will vary in color from corresponding colors of Standard Pionite® HPL. Sample evaluation is recommended.

Product Composition

ThruColor™ HPL is manufactured in a flat press by combining decorative papers saturated in melamine resin with multiple layers of pigmented core paper impregnated in a flexible thermoset resin at pressures exceeding 1000 psi (6.9 MPa) 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 pigmented core layers used. The laminating process combines the durability of melamine resins with the aesthetics of decorative papers creating a more flexible color-through surfacing material than has been previously possible.

Product Description

	Standard Nominal Sizes			
Type	**Thickness***	**Width****	**Length**	**Colors*****
M01/M02 (in)	0.028	36, 48, 60	96, 120, 144	Most Solids, Patterns and Woodgrains
(mm)	0.711	914, 1219, 1524	2438, 3048, 3658	
M55/M56 (in)	0.050	36, 48, 60	96, 120, 144	Most Solids, Patterns Woodgrains
(mm)	1.3	914, 1219, 1524	2438, 3048, 3658	

*Other thicknesses up to 1" (25 mm) are available.

**Other widths are available upon request.

***Due to its unique composition ThruColor™ HPL will vary in color from corresponding colors of Standard Pionite. Sample evaluation is recommended.

Finish Options

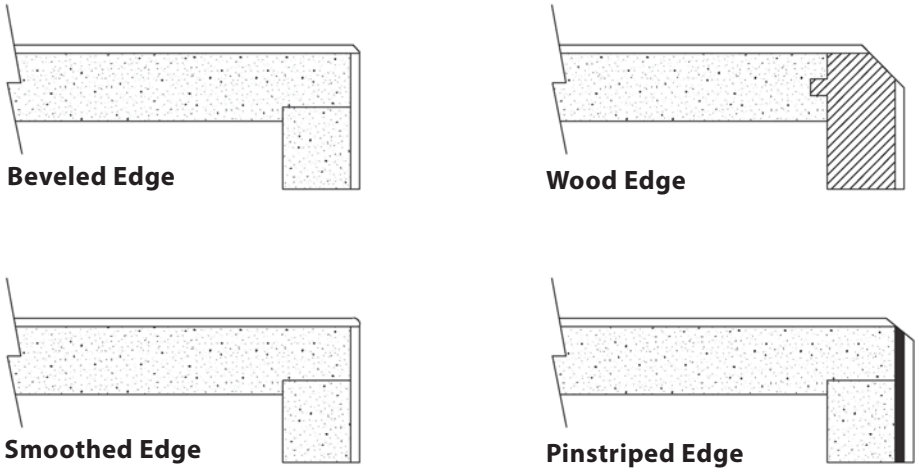
Code	Finish	Description
BB	Barnboard	A linear woodgrain with a slight satin sheen.
C	Soft Leather	A finely grained leather finish, 14 ± 3 gloss units. Available in widths of 48" and 60" only.
G	Gloss	A high gloss, smooth finish, 100 ± 10 gloss units.
H	Hi-Brite	Smoothly textured furniture finish, 30 ± 5 gloss units.
I	Wood Essence	Natural-appearing. Linear woodgrain finish.
J	Crystal	Fine pebble grained finish with a medium gloss, 15 ± 3 gloss units.
L	Embossed Leather	Deeply embossed leather finish, 5 ± 1 gloss units. Manufactured in Limited Sizes.
N	Suede	Low gloss, textured finish, 12± 3 gloss units.
R	Granite	Polished textured finish.
U	Medium Gloss	Medium gloss, smooth finish, 35 ±5 gloss units.
V	StoneX	Combined natural and polished surface.
VP	Velvet	A smooth, finely grained finish.
W	Embossed Slate	Deeply embossed slate finish, 7 ± 1 gloss units. Manufactured in Limited Sizes.
Z	Ashwood	A fine wood finish with a cathedral grain, 18 ± 3 gloss units.
OL	Linen	Embossed, cloth-like finish.
OZ	LineZ	Deeply embossed linear woodgrain finish.

NOTE: Gloss units measured with a 60 degree gloss meter.

Typical Uses

ThruColor™ HPL is used in high-end furniture and casework applications where a solid color edge can be incorporated into the total design concept.

Example of Fabricated ThruColor™ HPL Edges



Fabrication Tips

When working with ThruColor™ HPL, 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. For virtually invisible seams with ThruColor™ HPL, use a clear drying adhesive such as white glue (PVA) or clear epoxy.
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. Feed rate should be slow and tool speed should be high.
6. 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.
7. All edges of laminate should be filed smooth with file direction towards substrate to help prevent stress cracks and to minimize chipping.
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. Two-inch edging strips can be wrapped around a 6" radius without heat. A radius of 3" can be achieved by heating the edging strip to 325 ˚F (165 ˚C).
10. All 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.
11. Although ThruColor™ HPL is more flexible than other color-through laminates offered in the market, it is not as flexible as standard decorative laminate. Care should be used when rolling or flexing ThruColor™ laminate.

Technical Information

Physical Properties

TEST		NEMA LD 3-2005 Test Method	Typical ThruColor™ HPL Values M55/M56	NEMA STD. HGS
Thickness	(in.)		0.050 ± 0.005	0.048 ± 0.005
	(mm)		1.27 ± 0.08	1.2 ± 0.12
Appearance		3.1	Complies	
Light Resistance		3.3	Slight effect	Slight effect
Cleanability		3.4	10	20 (max)
Stain 1-10			No effect	No effect
Stain 11-15			No effect	Moderate effect
Boiling Water Resistance		3.5	No effect	No effect
High Temperature Resistance		3.6	No effect	Slight effect
Ball Impact Resistance	(in.)	3.8	55	50 (min.)
	(mm)		1397	1250 (min.)
Radiant Heat Resistance	(sec)	3.10	200	125 (min.)
Dimensional Change		3.11		
Machine Direction	(%)		0.25	0.5 (max.)
Cross Direction	(%)		0.70	0.9 (max.)
Wear Resistance	(cycles)	3.13		
Solids			3500	400 (min.)
Patterns and Woodgrains			700	400 (min.)

*ThruColor™ HPL is not covered by ANSI/NEMA LD3 specifications; however, the physical properties are similar to the HGS grade.

Codes and Certifications

1. The City of New York, Department of Building, Materials, and Equipment Acceptance Division Approval MEA 204-93-M for M55/M56.
2. ThruColor™ HPL can only be used for Class III or C fire-rated applications.
3. International Organization for Standardization, ISO-4586, "Decorative High Pressure Laminates (HPL)."
4. ThruColor™ HPL complies with NSF-International Standard 35.

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, especially if it has a gloss finish.

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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panolam SURFACE SYSTEMS

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