

Pionite[®] Fire Rated laminate is designed for interior horizontal and vertical applications where a decorative surface must resist combustion and inhibit smoke production. Fire Rated laminate, Type K, retains the durability, ease of cleaning and appearance (including color) of standard Pionite[®] laminate. Pionite[®] Fire Rated laminate is classified in the U.S. and Canada by Underwriters Laboratory, Inc. under File R6581.

Product Composition

Pionite[®] Fire Rated 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 (6.9 MPa) and temperatures approaching 300 °F (150 °C). Special additives are incorporated into the laminate to impart fire-retardant properties. 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. 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 Typical Uses

Fire Rated laminate is suited for hospitals, schools, airports, hotels, and any other public building where strict fire codes apply.

Type	Standard Nominal Sizes				Colors
	Thickness	Width	Length		
K61	(in.) (mm)	0.056 1.5	36, 48, 60 914, 1219, 1524	96, 120, 144 2438, 3048, 3658	All Solids, Patterns and Woodgrains
K51	(in.) (mm)	0.049 1.2	36, 48, 60 914, 1219, 1524	96, 120, 144 2438, 3048, 3658	All Colors & Patterns and Woodgrains
K32	(in.) (mm)	0.031 0.8762	36, 48, 60 914, 1219, 1524	96, 120, 144 2438, 3048, 3658	All Solids, Patterns and Woodgrains
KD	(in.) (mm)	0.125-1.0 3.175-25.40	36, 48, 60 914, 1219, 1524	96, 120, 144 2438, 3048, 3658	All Solids, Patterns and Woodgrains
KB8	(in.) (mm)	0.049 1.2	36, 48, 60 914, 1219, 1524	96, 120, 144 2438, 3048, 3658	Brown Backer
KBo	(in.) (mm)	0.031 0.8762	36, 48, 60 914, 1219, 1524	96, 120, 144 2438, 3048, 3658	Brown Backer

Pionite[®] Fire Rated laminate is offered standard in brown core (black core is available with specific minimum quantities).

Other widths and thicknesses of Fire Rated Laminate are available upon request.

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.
F	Super Matte	Smooth, non-reflective finish.
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.
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.

Fabrication Tips

When working with Pionite® Fire Rated laminate, 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 inorganic cement board, UL listed fire retardant particleboard, UL listed fire retardant MDF, or metals. It should not be glued directly to plaster walls, gypsum wallboard, or concrete.
3. Maximum performance is gained by using a fire-rated adhesive.
4. The use of Fire Rated backing sheets 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. All edges of laminate should be filed smooth with file direction towards substrate to help prevent stress cracks and to minimize chipping.
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. When fasteners must be used, it is advisable to first drill an oversized hole through the laminate. This reduces the likelihood of stress cracks.
9. All work must be designed, assembled, and installed in compliance with pertinent local fire codes.
10. Fire Rated laminate is not offered in postforming grades.
11. 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.

Technical Information

Physical Properties

		NEMA LD 3-2005 TEST Method	TYPICAL PIONITE® VALUES K61	NEMA STD. SGF	TYPICAL PIONITE® VALUES K51	NEMA STD. HGF	TYPICAL PIONITE® VALUES K32	NEMA STD. VGF
Thickness	(in.)		0.059 ± 0.005	0.059 ± 0.005	0.048 ± 0.005	0.048 ± 0.005	0.032 ± 0.005	0.032 ± 0.005
	(mm)		1.5 ± 0.12	1.5 ± 0.12	1.2 ± 0.12	1.2 ± 0.12	0.8 ± 0.12	0.8 ± 0.12
Appearance		3.1	Complies		Complies		Complies	
Light Resistance		3.3	Slight effect	Slight effect	Slight effect	Slight effect	Slight effect	Slight effect
Cleanability		3.4	10	20 (max)	10	20 (max)	10	20 (max)
Stain 1-10			No effect	No effect	No effect	No effect	No effect	No effect
Stain 11-15			No effect	Moderate effect	No effect	Moderate effect	No effect	Moderate effect
Boiling Water Resistance		3.5	No effect	No effect	No effect	No effect	No effect	No effect
High Temperature Resistance		3.6	No effect	Slight effect	No effect	Slight effect	No effect	Slight effect
Ball Impact Resistance	(in.)	3.8	60	55 (min.)	50	45 (min.)	25	20 (min.)
	(mm)		1524	1400 (min.)	1270	1150 (min.)	635	508 (min.)
Dimensional Change		3.11						
	Machine Direction (%)		0.25	0.50 (max.)	0.25	0.50 (max.)	0.40	0.70 (max.)
	Cross Direction (%)		0.70	0.90 (max.)	0.70	0.90 (max.)	0.80	1.20 (max.)
Wear Resistance	(cycles)	3.13	700	400 (min.)	700	400 (min.)	700	400 (min.)

Fire Test Data

High pressure decorative laminate is frequently used in installations governed by local fire codes. Burning characteristics of laminate are greatly influenced by the adhesive and substrate utilized. Listed below are typical flame spread index and smoke developed values for Pionite® Fire Rated laminate.

Flame spread index and smoke developed values were determined by ASTM E-84, “Standard Test Method for Surface Burning Characteristics of Building Materials.” This method is also designated by other agencies as follows:

UL723	Underwriters Laboratories Inc.
ANSI 2.5	American National Standards Institute
NFPA 255	National Fire Protection Association
UBC 42-1	Uniform Building Code
CAN/ULC S102-M	Surface Burning Characteristics

ASTM E-84/UL723

Standard Test Method for Surface Burning Characteristics of Building Materials

Type	Sample Configuration	Flame Spread Index	Smoke Developed Values
K61	Unbonded	55-70	95-130
K51	Unbonded	25	95-120
K32	Unbonded	24-40	100-170
KD	Unbonded	10	95
KB0	Unbonded	25-40	100-170
KB8	Unbonded	25	95-120
K61	Bonded* to Inorganic	20	5
K51	Reinforced	5	5
K32	Cement Board	5	5
KB0		5	5
KB8		5	5
K61	Bonded* to 1/2” Fire Rated Plywood	50	35-85
K61	Bonded* to 3/8”	15	55
K51	Fire Rated	15	60
K32	Particleboard	25	90-160
KB0		25	90-160
KB8		15	60

*Bonded with Cascophen G1131/Cascoset G1131B 2 part Resorcinol glue. All work should be designed, assembled, and installed in compliance with pertinent local fire codes.

CAN/ULC-S102-M

Laminated Plastic Surface Burning Characteristics

Type	Sample Configuration	Flame Spread Index	Smoke Developed Values
K61	Unbonded	75	130
K51	Unbonded	25	120
K32	Unbonded	45	170
KD	Unbonded	30	90
KB0	Unbonded	45	170
KB8	Unbonded	25	120
K61	Bonded* to Inorganic	20	5
K51	Reinforced	5	5
K32	Cement Board	5	5
KB0		5	5
KB8		5	5
K61	Bonded* to 1/2” Fire Rated Plywood”	55	85
K61	Bonded* to 3/8”	15	55
K51	Fire Rated	15	60
K32	Particleboard	25	160
KB0		25	160
KB8		15	60

*Bonded with Cascophen G1131/Cascoset G1131B 2 part Resorcinol glue. All work should be designed, assembled, and installed in compliance with pertinent local fire codes. Cascophen G1131/Cascoset G1131B are products of Momenite, Columbus, Ohio.

Codes and Certifications

- Classified by Underwriters Laboratories, Inc., under File R6581, Pionite® Type K32, KI3, K51, KI5, K61, KI6, KB0, KB8.
- Classified in accordance with Standard CAN/ULC-S102-M by Underwriters Laboratories Inc., under file R6581, Pionite® Types K32, KI3, K51, KI5, K61, KI6, KB0, KB8.
- Classified in accordance with Standard ANSI/UL723 by Underwriters Laboratories, Inc., and Standard CAN/ULC-S102-M under File R21850 Building Units. Pionite® types KD.
- United States Coast Guard / IMO FTP Code:

Type	Approval No.
K32/KI3	164.112/78/0
K51/KI5	164.112/92/0
K61/KI6	164.112/93/0
- The City of New York, Dept. of Buildings, Materials and Equipment Acceptance Division approval code is as follows: K32, K51, and K61: MEA 345-92-M
- MIL-STD-1623D (SH), “Fire Performance Requirements and Approved Specifications for Interior Finish Materials and Furnishings (Naval Shipboard Use).” Pionite® K61 complies with this standard.
- MIL-P-17171E (SH), “High Pressure Decorative Laminate.” Pionite® K51 and K61 comply with Type IV.
- American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA), LD 3-2005, “High- Pressure Decorative Laminate.” Pionite® Type K32, K51, and K61 comply. K32 complies with VGF, K51 complies with HGF and K61 complies with SGF.

9. Federal Aviation Administration for Transport Category Airplanes Part 25.853 (a). Pionite® K32 and K51 comply.
10. UL GREENGUARD
11. UL GREENGUARD Gold

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 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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