

Pionite®

MelCor II® Technical Bulletin

Product Identification

MelCor II laminate may be used in any application where a solid color edge is desired. MelCor II is intended for use in applications where the edge of the laminate contributes to the aesthetics of the final product. Pionite's patented 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 MelCor II is also ideal for high-wear applications since gouges and cuts will not readily show.

Due to its unique composition MelCor II laminate will vary in color from corresponding colors of Standard Pionite. Sample evaluation is recommended.

Product Composition

MelCor II laminate 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 (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 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**
M55/M56 (in)	0.050	30, 36, 48, 60	96, 120, 144	Most Solids, Patterns and Woodgrains
(mm)	1.3	762, 914, 1219, 1524	2438, 3048, 3658	

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

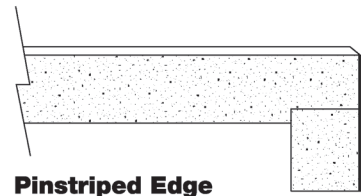
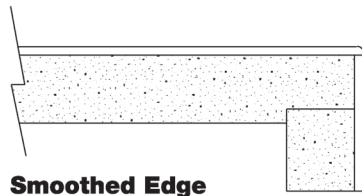
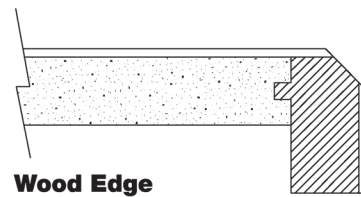
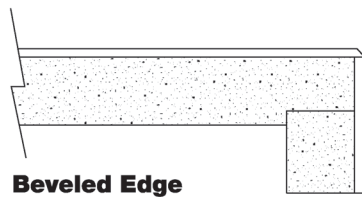
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Finish Options

Code	Finish	Description
N	Suede	Low gloss, textured finish, 12 ± 3 gloss units.
G	Gloss	A high gloss, smooth finish, 100 ± 10 gloss units.
J	Crystal	Fine pebble grained finish with a medium gloss, 15 ± 3 gloss units.
H	Hi-Brite	Smoothly textured furniture finish, 25 ± 5 gloss units.
C	Soft Leather	A finely grained leather finish, 14 ± 3 gloss units. Available in widths of 48" and 60" only.
L	Embossed Leather	Deeply embossed leather finish, 5 ± 1 gloss units. Manufactured in Limited Sizes.
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.

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

Example of Fabricated MelCor II Edges



Typical Uses

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

Fabrication Tips

When working with MelCor II, 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 MelCor II, use a clear drying adhesive such as white glue (PVA) or clear epoxy, spread thinly.
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. To minimize the development of surface scratches caused by router bits, lubricating the laminate edge with a wax stick is recommended prior to tooling.
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 nails or screws must be used, 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 MelCor II 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 MelCor II.

Technical Information

Physical Properties

TEST		NEMA LD 3-1995 Test Method	TYPICAL MELCOR II VALUES M55/M56	NEMA STD. HGS
Thickness	(in.) (mm)		0.050 ± 0.003 <i>1.27 ± 0.08</i>	0.048 ± 0.005 <i>1.2 ± 0.12</i>
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.) (mm)	3.8	55 <i>1397</i>	50 (min.) <i>1270 (min.)</i>
Radiant Heat Resistance	(sec)	3.10	200	125 (min.)
Dimensional Change		3.11		
Machine Direction	(%)		0.25	0.50 (max.)
Cross Direction	(%)		0.70	0.90 (max.)
Wear Resistance	(cycles)	3.13		
Solids			3,500	400 (min.)
Patterns and Woodgrains			700	400 (min.)

*MelCor II 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. MelCor II 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. NSF-International Standard 35, M55/M56 complies.

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®, FANTASTIK®, 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 labelled CAUTION or WARNING. Any questions or concerns should be referred to the product's manufacturer or call 1-800-PIONITE. 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

Formula 409 is a registered trademark for The Clorox Company of Oakland, CA 94612; Glass Plus and Fantastick are registered trademarks 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

Manufacturing Headquarters

Pionite® Decorative Surfaces
One Pionite Rd.
P.O. Box 1014
Auburn, ME 04211-1014
(207) 784-9111
800-PIONITE (746-6483)
www.pionite.com

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Limited Warranty

Subject to the limitations set forth below, Pionite® Decorative Surfaces 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 Pionite® Decorative Surfaces, 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 other warranties, express 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 Pionite® Decorative Surfaces 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.

The buyer's sole and exclusive remedy for any noncompliance with the express warranty set forth above shall be limited to repair or replacement of the defective product, or, in the event that repair or replacement is not feasible, return of the product and refund of the purchase price.

Under no circumstances shall the manufacturer be liable in excess of the purchase price of this product, in either tort or contract or otherwise, for any loss, damage or injury in connection with or arising from the purchase, use, or inability to use this product, or for any special, indirect, collateral, incidental, consequential or exemplary damages such as, but not limited to, loss of anticipated profits or other economic loss. Because some states do not allow the exclusion or imitation of incidental or consequential damages, this limitation may not apply to you.

Retaining all documentation after purchasing laminate will significantly expedite claim resolution.