



Nevamar® Meluminum® Aluminum Core Laminate is a high pressure laminate designed for interior surfaces requiring high strength, low surface flammability and smoke generation. Nevamar® Aluminum Core Laminate meets the applicable requirements set forth in NFPA 130, and the Code of Federal Regulations. It also provides excellent resistance to abrasion and stains, with ease of maintenance and design flexibility. Nevamar Aluminum Core Laminate is ideal for use as walls, ceiling and door panels in mass transit applications when bonded to an appropriate substrate.

Product Description

Meluminum® Laminate is not a structural material and is not recommended for exterior use. The laminate should not be bonded to plaster board, gypsum board, plaster, concrete blocks or similar materials. Because the surface is composed of thermosetting resins and paper and the core is aluminum, the aluminum core laminate has a tendency for face warpage before fabrication.

Meluminum® Laminate is manufactured in various thicknesses. It consists of a surface sheet of alpha cellulose paper impregnated with a melamine resin and a special binder sheet, both thermofused to an aluminum metal core. Standard Alloys and hardness used for Nevamar's Aluminum Laminates are 5052 and 3003, depending on aluminum thickness and specification.

Standard Nominal Sizes

	Width*	Length	Colors
inches	36, 48, 60	96, 120, 144	All Solids,
(mm)	914, 1219, 1524	2438, 3048, 3658	Patterns and Woodgrains

Thicknesses:

Standard Aluminum core: 0.025", 0.050", 0.063", 0.081" and 0.100"
Decorative surface: 0.015"

These are nominal thicknesses. Non-standard aluminum thicknesses, alloys and hardness are available on special order, subject to approval by Nevamar.

Finish Options

Code	Finish	Description
E	Textured (no ARP)	Low gloss, textured finish, 12± 3 gloss units.
N	High Luster	A finely textured, highly reflective finish, 35± 5 gloss units.
T	Textured with ARP	Fine graining; low gloss, textured finish. 12± 3 gloss units.

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

Typical Uses

Nevamar® Meluminum® Laminate is ideal for use as walls, ceiling and door panels in mass transit applications when bonded to an appropriate substrate.

Fabrication Tips

1. Nevamar Meluminum® Laminates should be bonded to an approved substrate. Substrates satisfactory for use with Meluminum® Laminates are plywood, particleboard, fiberboard, composition board, Nomex or aluminum honeycomb.
2. Recommended adhesives are PVA, epoxy and contact cement. Laminates and substrates should always be acclimated prior to use.
3. Recommended acclimation conditions are 72 °F (25 C) and a relative humidity of 50%.
4. Fabrication can be done generally with conventional woodworking or metalworking equipment using carbide tipped tooling. Sawing, drilling, edge filing, sanding and routing should be done with the decorative side up to prevent cracking or chipping of the laminate surface.
5. Meluminum® Laminate should be drilled with a wood backing to prevent breakout of the drilled hole.
6. To minimize stress concentration, all inside corners should have a minimum radius of 1/8".

TABLE 1 - PHYSICAL PROPERTIES

Test	Typical Nevamar Values*	Test Method
Flexural Strength		
MD (psi)	26,500	ASTM D790
CD (psi)	25,300	
Flexural Modulus		
MD (psi)	2.8 x 10 ⁶	ASTM D790
CD (psi)	3.1 x 10 ⁶	
Tensile Strength		
MD (psi)	22,300	ASTM D638
CD (psi)	20,300	
Internal Bond Strength (psi)	2,600	ASTM D952

*exceeds minimum values recognized and required by transit industry

TABLE 2 PERFORMANCE PROPERTIES PER NEMA STANDARDS (LD3-2005)

Test	Typical Nevamar Values*	NEMA Test Method
Wear Resistance:		
Wear Value (cycles)	480	3.13
Ball Impact Resistance:		
mm Drop	1250	3.8
(Inches Drop)	(50)	
Dimensional Change:		
Length (MD)	0.11%	3.11
Width (CD)	0.25%	3.11
Resistance to Boiling Water	No Effect	3.5
Resistance to High Temperature	No Effect	3.1
Radiant Heat Resistance	600 seconds	3.1
Stain Resistance:		
Reagents 1-10	No Effect	3.4
Reagents 11-15	No Effect	3.4
Light Resistance	No Effect	3.4

*NEMA LD3-2005 does not contain a performance specification for Aluminum Laminates.

TABLE 3 AND Table 4 FIRE PERFORMANCE PROPERTIES**TABLE 3 - SURFACE FLAMMABILITY PERFORMANCE PROPERTIES per ASTM E-162**

TEST	TYPICAL NEVAMAR VALUES
Surface Flammability	$I_s < 10$
I_s - Spread Flame Index	

TABLE 4 - SMOKE GENERATION PERFORMANCE PROPERTIES per ASTM E-662

TEST	Smoldering		Flaming	
	D _s 90 sec.	D _s 4 min.	D _s 90 sec.	D _s 4 min.
Smoke Generation	< 0.33	< 16	< 11	< 58
D _s - Specific Optical Density				

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.

Codes and Certifications

1. Low Flame Spread and Smoke Generation set forth in NFPA 130 Fixed Guideway Transit Systems
2. Low Flame and Spread and Smoke Generation set forth by the Department of Transportation Federal Railroad Administration Code of Federal Regulations Title 49 Part 238.103.

Care and Maintenance

Nevamar® 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.

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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