A Flat, Durable, and Moisture Resistant Class A Fire-Rated Sign Panel

Nudo Poly-Metal™ Technical Data

Nudo Poly-Metal™ sign panels are comprised of a recycled thermoplastic core sandwiched between two sheets of finished aluminum on one or two sides. The recycled thermoplastic core lends itself to resisting moisture. Poly-Metal™ panels also feature the ability to digitally print direct to the panel, thereby allowing for complete design flexibility. Poly-Metal™ is Class A fire rated and UL Tested for sign components and accessories.

Physical Properties: Table 1

Property	Typical Value		Test Method
Surface Burn Test	≤ 0 Class A	N/A	ASTM E84
Smoke Development	≤ 0	N/A	ASTM E84
Flexural Strength	10,208	psi	ASTM D790
Flexural Modulus	1,414,164	psi	ASTM D790
Flexural Load	41.8	lbf	ASTM D790
Tensile Strength	4,084	psi	ASTM D638
Tensile Modulus	500,353	psi	ASTM D638
Elongation	22.8	%	ASTM D638
Specific Gravity	1.17	50% Humidity Temp -23° C	ASTM D792
Izod Impact	5.7512	Ft-lbs/in.	ASTM D256
Water Absorption	0.019%	24 hrs. @ 23° C	ASTM D570
Coefficient of Linear Thermal Expansion	4.31×10^{-5}	50% Humidity Temp -23° C	ASTM D696-03

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Physical Properties: Table 2						
Part Number Identifier	Color	Nominal Skin Thickness	Nominal Panel Thickness	Nominal Panel Weight	Size	Finished Sides
PM1-120BC-[SIZE]-PF2-	White	.008"	.118" (3mm)	1.0# psf	4'X8', 10' 5'X10'	Double
PM1-120BC-[SIZE]-PF2-	Brushed Silver	.008"	.118" (3mm)	1.0# psf	4'X8', 10'	Double
PM1-120BC-[SIZE]-PF1-	White Silver Mirror	.008"	.118" (3mm)	1.0# psf	4'X8'	Single
PM1-120BC-[SIZE]-PF2-	Black Almond Blue Red Green Copper Brushed Bronze Brushed Gold	.008"	.118" (3mm)	1.0# psf	4'X8'	Double
PM1-240BC-[SIZE]-PF2-	White	.008"	.236" (6mm)	1.6# psf	4'X8', 10'	Double
PM1-240BC-[SIZE]-PF2-	Black	.008"	.236" (6mm)	1.6# psf	4'X8'	Double

Composition: Double sided aluminum overlay panel with solid HDPE core available with polyester paint finish on one or both sides.

Preconditioning: Prior to installing Poly-Metal™ laminated panel, remove the packaging materials and allow the panels to acclimate to room temperature and humidity for at least 48 hours. Ideally, the room temperature and humidity during acclimation and installation should be the same as the final operational conditions. DO NOT REMOVE PROTECTIVE FILM FROM PANEL SURFACE UNTIL AFTER INSTALLATION AND AT OPERATIONAL TEMPERATURE CONDITIONS.

Product Limitations: Poly-Metal™ sign panels are comprised of a recycled thermoplastic core sandwiched between two sheets of finished aluminum on one or two sides. The recycled thermoplastic core lends itself to resisting moisture. Poly-Metal™ panels also feature the ability to digitally print direct to the panel, thereby allowing for complete design flexibility. Prior to printing Poly-Metal™ surface tension test should be performed to measure surface energy. Non-compliance with product limitations may affect future performance and voids warranty.

Finished Panel Quality, Fabrication & Handling

- The front side shall be smooth. Colors shall be throughout the panel and manufactured as specified.
- The backside shall be smooth. Backside imperfections which do not affect functional properties are not cause for rejection.
- Physical properties shall be set forth in Table 1.
- Product quality standards and tolerance for panel weight and thickness shall be set for in Nudo Product, Inc. Quality Control Procedures/Standards which are available upon request.
- Panel dimensional tolerances will be:
    o Width: +0" – 1/8" (4mm)
    o Length: ± 1/8" (4mm)
    o Squareness: 1/8" (4mm) in 48" (1.2m).
- Variation in panel integrity will be due to the substrate, not the laminate or adhesive bond.
- Please refer to NUDO Poly-Metal™ Installation Guidelines for cleaning instructions.
- Panels can be installed and fabricated with the same tools and techniques as ordinary sign panels. Carbide-tipped tools are recommended, as well as safety equipment. Eye protection and filtered mask should be worn during cutting and trimming operations.
- Panels shall be installed in accordance with the manufacturer's guidelines as set forth in the installation guide.

Storage: Poly-Metal™ laminated panels should be stored horizontally indoors on a contiguous flat surface, in a dry location. Panels should never be stored on the floor or an outside wall. Exposure to humid or wet conditions prior to installation may cause moisture damage. Standing water on surface of panels prior to installation may cause color distortion. Optimum storage conditions are 60°F (16°C) to 75°F (24°C) and 35% to 55% relative humidity.

Flame Spread and Smoke Development Ratings: The numerical flame spread, and smoke development ratings are not intended to reflect hazards presented by Nudo Product, Inc. products or any other material under actual fire conditions. These rating are determined by small-scale tests conducted by Underwriters Laboratories and other independent testing facilities using the American Society for Testing and Materials E-84 test standards (commonly referred to as the "Tunnel-Test"). NUDO PRODUCTS, INC PROVIDES THESE RATING FOR MATERIAL COMPARISION PURPOSES ONLY. Like other organic building materials, (e.g. wood), panels made up of composite material will burn. When ignited, it may produce dense smoke very rapidly. All smoke is toxic. Fire safety requires proper design of facilities and fire suppression systems, as well as precautions during construction and occupancy. Local codes, insurance requirements and any special needs of the product user will determine the correct fire-rated interior finish and fire suppression system necessary for a specific installation.

Disclaimer: We believe all information given is accurate. It is offered in good faith, but without guarantee. Since conditions of use are beyond our control, the user assumes all risks. Nothing herein shall be construed as a recommendation for use that infringes on valid patent or as extending a license under valid permit. Nothing herein shall be construed as a recommendation for use or as extending a license under valid patent.