

1. PRODUCT NAME

NUDO CeramicSteel a3 Panels

2. MANUFACTURER

NUDO, 1500 Taylor Ave, Springfield, IL 62703

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3. PRODUCT DESCRIPTION

NUDO's mission is to be a solution provider that offers our customers the most cost effective, quality laminated panel products with on-time delivery.

Basic Use

NUDO CeramicSteel panels combine porcelain enameled steel surface with composite substrate to meet your application requirements. NUDO CeramicSteel panels are offered in a selection of colors and finishes, with (3) substrates to choose from: High Density Fiberboard (HDF), Aluminum Composite (ACM) and Cement Board (CB). The panels are great for high traffic environments in both new construction and renovation projects:

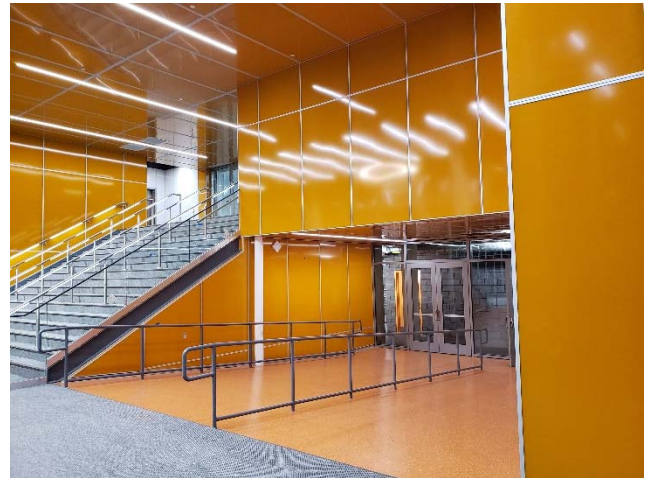
- Lobbies, Corridors
- Hospitals
- Hospitality
- Airports
- Sports Venues
- Convention Centers
- Escalator Cladding

Types

Option 1: NUDO CeramicSteel panel bonded to High Density Fiberboard (HDF) and aluminum backer

Option 2: NUDO CeramicSteel panel with Cement Board (CB) core and aluminum backer

Option 3: NUDO CeramicSteel panel with Aluminum Composite (ACM) core and aluminum backer



Sizes, Composition, Materials

See Table 1.

Colors

- Bone White (7563)
- White (6100L – WS)
- New White (PEI-N-52)
- Stone White (PEI-118)
- Ivory (PEI-14)
- Stone Gray (513)
- Powder Gray (PEI-22)
- Matte Black (TCM-14)
- Black Chalkboard (6501-C-WS)
- Glossy White (6100H-WS)
- Glossy Black (PEI-28-WS)
- Custom Colors and Graphics Available

Finish

NUDO CeramicSteel panels are available in matte or high gloss finish.

Benefits

- Nonporous surface protects against graffiti and staining
- Easily cleaned with water or solvent
- Colorfast
- Scratch resistant
- Impact strength
- Chemical resistant
- Bacteria resistant
- Fire resistant
- Long life cycle

Table 1: Size and Panel Composition

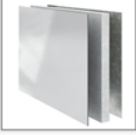
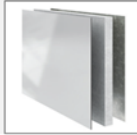
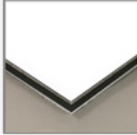
CeramicSteel						
Panel Substrate	High Density Fiberboard (HDF)		Cement Board		Aluminum Composite (ACM)	
Nominal Size	4'x8'	4'x10'	4'x8'	4'x10'	4'x8'	4'x10'
Actual Size	47 3/4" x 95 3/4"	47 3/4" x 119 3/4"	47 3/4" x 95 3/4"	47 3/4" x 119 3/4"	47 3/4" x 95 3/4"	47 3/4" x 119 3/4"
Nominal Thickness	1/4		1/4		1/4	
Approximate Weight (lbs)	2.5		2.6		2.6	
Fire Rating	Class A		Class A		Class A	
Image						

Table 2: Surface Technical Properties

Property	High Density Fiberboard (HDF)	Cement Board (CB)	Aluminum Composite (ACM)
Pencil Hardness D 3363	>9H	>9H	>9H
Wear Resistance C 501	Max 0.1g	Max 0.1g	Max 0.1g
Color Stability C 538	$\Delta F^{94} \leq 5(24h)$	$\Delta F^{94} \leq 5(24h)$	$\Delta F^{94} \leq 5(24h)$
Reflectance D 2244	Y-Value up to 93%	Y-Value up to 93%	Y-Value up to 93%
Scratch Resistance ISO 15695	Min 7N	Min 7N	Min 7N
Graffiti Resistance ISO 28722	No Color or gloss change after cleaning	No Color or gloss change after cleaning	No Color or gloss change after cleaning
UV Resistance ISO 4892	$\Delta F^{94} \leq 5(2000 h)$	$\Delta F^{94} \leq 5(2000 h)$	$\Delta F^{94} \leq 5(2000 h)$
Impact Resistance ISO 4532	No damage over 2mm after 24 h (20 N load)	No damage over 2mm after 24 h (20 N load)	No damage over 2mm after 24 h (20 N load)
Cold Acid Resistance ISO 28706-1	Min Class A	Min Class A	Min Class A
Boiling Acid ISO 28706-2	Max. 18.5 g/m ²	Max. 18.5 g/m ²	Max. 18.5 g/m ²
Orange Peel D 523	SW ≤ 55; LW ≤ 25 Distinctness of image ≥ 60	SW ≤ 55; LW ≤ 25 Distinctness of image ≥ 60	SW ≤ 55; LW ≤ 25 Distinctness of image ≥ 60
Flame Spread E84	A / 1	A / 1	A / 1



4. TECHNICAL DATA

Applicable Standards

ASTM International (ASTM)

ASTM C501 Standard Test Method for Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abraser

ASTM C538 Method for Color Retention of Red, Orange, and Yellow Porcelain Enamels

ASTM D2244 Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates

ASTM D3363 Standard Test Method for Film Hardness by Pencil Test

International Organization for Standardization

ISO 4532 Vitreous and porcelain enamels -- Determination of the resistance of enameled articles to impact -- Pistol test

ISO 4892 Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps

ISO 15695 Vitreous and porcelain enamels -- Determination of scratch resistance of enamel finishes

ISO 28706-2-10 Vitreous and porcelain enamels -- Determination of resistance to chemical corrosion by boiling acids, boiling neutral liquids and/or their vapors

Technical Properties

See Table 2.

5. INSTALLATION

Preparatory Work

Deliver product in original, unopened, and undamaged containers with identification labels intact. Store protected from exposure to harmful environmental conditions, above floor level, dry, frost-free and at temperature and humidity levels recommended by the manufacturer.

Precautions

Exercise care during off-loading and installation to avoid damage and marring of finishes. Refer to the handling instructions for details. Carefully inspect all Nudo CeramicSteel panels prior to installation. If panels are defective, notify Nudo Customer Service at 800.826.4132. Failure to do so shall be at the sole risk of the installer. Panel should be checked for excessive pitting, telegraphing core materials, and delamination. Due to materials and lamination process, if waterjet cut edges have not been requested prior to receipt of panels, the layup edge tolerance is $\pm 1/8$ ". The porcelain can hang off of the panel edge or be back from the panel edge $1/8$ ". Panels may also vary in color, consistency and tone. These variations are not to be considered defects. Make sure that all exposed edges and penetrations are sealed with silicone sealant.

Methods

NUDO CeramicSteel panels must be installed by an NUDO qualified installer who is trained and experienced in skills required with a minimum of 5 years experience. **Comply with NUDO installation instructions.** Set units plumb, level and true to line, without warp or rack of clips or panels. Provide proper support and anchor securely in place. Make field cuts as necessary for penetrations using a power panel saw or skill saw. Use metal cutting, high tooth-count, carbide tip blades liberally lubricated with blade wax. The use of a NIOSH approved respirator is recommended when saw cutting fiber-cement core panels. Seal penetrations with silicone sealant.

Building Codes

Ensure installation complies with the requirements of all applicable local, state and federal code jurisdictions.



6. AVAILABILITY AND COST

NUDO CeramicSteel panels are sold through authorized distributors throughout the U.S., Canada and Bahamas. Contact NUDO for availability and cost information within a specific region.

7. WARRANTY

Limited Surface Warranty

NUDO warrants all porcelain enameled CeramicSteel panels used for interior applications to be free from defects in materials and workmanship for the periods set forth herein. This limited warranty is valid from the date of shipment.

Surface: 10-year limited warranty

NUDO warrants that surfaces, under product limited atmospheric conditions and when sealed from moisture, will not fade, stain, discolor, craze, crack, flake, corrode or peel for a period of 10 years.

Panel Construction: 5-year limited warranty

NUDO warrants that panels, under product limited atmospheric conditions and when sealed from moisture, will not delaminate from the substrate or warp for a period of 5 years.

Warranty does not apply to product failure or loss resulting from:

- Failure to apply, install or maintain the product at all times in such a way that the back-panel substrate and all exposed edges and joints are protected from moisture exposure
- Failure to laminate to sufficiently rigid substrate
- Normal wear and tear
- Abuse, misuse, vandalism or accident
- Alteration or modification of the product
- Faults in underlying structure or panel attachment

Panel Construction: Warranty does not cover:

Materials and services supplied by purchaser or a third party in connection with the fabrication, installation, or maintenance of the product (including, but not limited to, adhesives, sealing agents, substrates, and lamination). Contact NUDO for details.

8. MAINTENANCE

No special maintenance is required. Panels can be cleaned with detergent or solvent. Refer to the manufacturer's Product Care and Cleaning Instructions for details.

9. TECHNICAL SERVICES

Technical assistance, including detailed information, product literature, test results, project lists and assistance in preparing project specifications is available from NUDO.

10. FILING SYSTEMS

Additional product information is available from NUDO upon request.

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.