

Moisture and Impact
Resistant Wall and
Ceiling Panels



Nudo FiberLite[®] FRP Technical Data

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Nudo FiberLite® FRP Technical Data Class C

Nudo FiberLite® FRP Class C panels are solid sheets, composed of fiberglass and calcium carbonate-filled polyester resin and comply with the ASTM D5319 Standard for Glass-Fiber Reinforced Polyester Wall and Ceiling Panels. This embossed or smooth panel is designed for interior wall finishes where; washable, durable panels are needed. NUDO FiberLite FRP FRP is a durable, flexible building wall material that is resistant to mold, mildew and corrosion and meets the USDA guidelines. The panel has a Class C rating for flame spread and smoke development when tested per ASTM E-84 standards.

Physical Properties: Table 1

Typical Value			
Property	.090"	Measure	Test Method
Surface Burn Test	Class C	N/A	ASTM E84
Smoke Development	≤450	N/A	ASTM E84
Flame Spread Index	≤ 200	N/A	ASTM E84
Self Ignition Temperature	430°	Fahrenheit	ASTM D1929
Flash Ignition Temperature	450°	Fahrenheit	ASTM D1929
Flexural Strength	17,000	psi	ASTM D790
Flexural Modulus	6.0 X 10 ⁵	psi	ASTM D790
Tensile Strength	8,000	psi	ASTM D638
Tensile Modulus	9.43 X 10 ⁵	psi	ASTM D638
Elongation	1.20	%	ASTM D638
Water Absorption	0.17	72hrs. @21° C	ASTM D570
Izod Impact	7	FT-lbs/in.	ASTM D256
Coefficient of Linear Thermal Expansion	2.22X10 ⁻⁵	50% Humidity Temp -23°C	ASTM D696
Barcol Hardness	30	Average	ASTM D2583
Specific Gravity	1.6138	N/A	ASTM D792
Abrasive Resistance	0.293	% Weight Loss	Taber



Physical Properties: Table 2

Part Number Identifier	Nominal Panel Thickness	Nominal Panel Weight	Color		Size
LP-F9 (Embossed)	.090"	0.65# psf	Almond Beige Black Blue Bourdeaux Brown Ivory Silver	Khaki Pearl Red White Med. Gray Dark Gray Pineapple	4'X8', 10' Non-Standard sizes available made-to-order
LP-S9 (Smooth)	.090"	0.65# psf	Almond Pearl	White Black	4'X8', 10'
LP-F5 (Embossed)	.050"	0.30# psf	White		4'X8', 10'
LP-F9-CT (Embossed) LP-S9-CT (Smooth)*	.090"	0.65# psf	White*	White Black	2'X2'
LP-F10-CT-FR (Embossed) LP-S10-CT (Smooth)	.100"	0.67# psf	White		2'X2', 4'

COMPOSITION:

- Fiberglass and calcium carbonate-filled polyester resin.

FINISHED PANEL QUALITY:

- The front side shall be embossed with a pebble type finish (embossed finished) or the panels shall have a wear side with a smooth finish (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.
- Dimensions shall be specified on purchased order, subject to the following tolerances: Width: $\pm 1/8"$ (3.2mm) Length: $\pm 1/8"$ (3.2 mm) Squareness: not more than $1/8"$ (3.2 mm) out of square.
- Panels shall be installed in accordance with the manufacturer's guidelines as set forth in the installation guide.



CERTIFICATION: Meets the minimum requirements of the major model building codes for Class C interior wall and ceiling finishes. Flame spread of less than 200, smoke development less than 450 per ASTM E-84.

FABRICATING RECOMMENDATIONS: Protect your eyes with goggles; cover your nose and mouth with a filter mask when cutting FiberLite FRP panels. When cutting FiberLite FRP, position the panel so that the saw blade enters the decorative side first, to avoid chipping and damage.

Hand Fabricating:

- Drilling – high speed drill bit (60° cutting angle, with 12° - 15° clearance) or hole saw.
- Cutting: 72-tooth circular saw with reinforced carborundum or carbide-tipped blade.

STORAGE: FiberLite FRP should be stored horizontally indoors on a contiguous flat surface. Protective film should remain on the panel until installation. Panels should never be stored on the floor or an outside wall. Optimum storage conditions are 60°F (16°C) to 75°F (24°C) and 35% to 55% relative humidity.

PRECONDITIONING: Prior to installing FiberLite FRP, 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 operation conditions.

PRODUCT LIMITATIONS: FiberLite FRP is designed as an indoor decorative panel. It should never be exposed to extremely high or extremely low moisture conditions. FiberLite FRP is designed to be installed over a solid wall surface and should never be directly installed over studs, concrete, concrete block, or non-insulated exterior walls. FiberLite FRP should be installed between 60°F (16°C) to 75°F (24°C) and 35% to 55% relative humidity. Non-compliance with product limitations may affect future performance and voids warranty.

CLEANING INSTRUCTIONS: FiberLite FRP is easy to clean. In most cases, use a clean, damp, nonabrasive cotton cloth and a mild liquid detergent or household cleaner. Always rinse with clean water and a clean, non-abrasive cotton cloth. Dry the panels with a soft, clean, non-abrasive cotton cloth.

DO NOT USE: abrasive cleaners with bleach, cleaners with acid, alkali or sodium hypochlorite. They will damage and permanently discolor the surface. Be sure that bottles, rags, or other materials with these cleaners never come in contact with the surface.

Examples of harsh cleaners to avoid, include but are not limited to:

- Bleach
- Drain Cleaners
- Metal Cleaners
- Oven Cleaners
- Rust Removers
- Tub and Tile Cleaners
- Lime Scale Remover



REMOVAL OF STAINS: To remove stains, use full strength Fantastik, All Purpose Cleaner, Formula 409, Pine-Sol, or other mild household cleaners. Blot with clean, damp, non-abrasive cotton cloth, and rinse with cleaner water. When recommended cleaner changes its formulation, the change may be harmful to the surface. Nudo Products, Inc. cannot be held responsible for these changes. Follow all directions and warnings on the cleaner label because many are extremely flammable.

Dyes and pharmaceutical products will permanently stain the panels. These include hair dyes and rinses, silver nitrate, laundry bluing, tannic acid, povidone-iodine, dermatological tar compounds, and peroxide. To reduce these stains, apply a paste of baking soda and water on the area to pull out the stain. Do not rub, as the paste will be slightly abrasive. Wipe up the past with a clean, damp, nonabrasive cotton cloth, and rinse with clean water.

Stains that are stubborn or even permanent and may not disappear include: wood stains, cash register inks, newsprint, marking pen inks, indelible ink, food pricing ink, and label inks.

Stubborn stains that may disappear on their own after a short time or after repeated cleaning include food stains, glass rings, water marks, coffee, and tea stains.

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.

RESPONSIVENESS

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Nudo FiberLite[®] FRP Technical Data Class A

Nudo FiberLite FRP[™] Class A panels are solid sheets, composed of fiberglass and calcium carbonate-filled polyester resin and comply with the ASTM D5319 Standard for Glass-Fiber Reinforced Polyester Wall and Ceiling Panels. This embossed or smooth panel is designed for interior wall finishes where; washable, durable panels are needed. NUDO FiberLite FRP is a durable, flexible building wall material that is resistant to mold, mildew and corrosion and meets the USDA guidelines. The panel has a Class A rating for flame spread and smoke development when tested per ASTM E-84 standards.

Physical Properties: Table 1

Typical Value			
Property	.090"	Measure	Test Method
Surface Burn Test	Class A	N/A	ASTM E84
Smoke Development	<450	N/A	ASTM E84
Flame Spread Index	≤ 25	N/A	ASTM E84
Self Ignition Temperature	430°	Fahrenheit	ASTM D1929
Flash Ignition Temperature	400°	Fahrenheit	ASTM D1929
Flexural Strength	10,000	psi	ASTM D790
Flexural Modulus	3.1 X 10 ⁵	psi	ASTM D790
Tensile Strength	7,000	psi	ASTM D638
Tensile Modulus	3.1 X 10 ⁵	psi	ASTM D638
Elongation	1.80	%	ASTM D638
Water Absorption	0.72	72hrs. @21° C	ASTM D570
Izod Impact	7.16	FT-lbs/in.	ASTM D256
Coefficient of Linear Thermal Expansion	2.93X10 ⁻⁵	50% Humidity Temp -23°C	ASTM D696
Barcol Hardness	35	Average	ASTM D2583
Specific Gravity	1.5743	N/A	ASTM D792
Abrasive Resistance	0.391	% Weight Loss	Taber



Physical Properties: Table 2

Part Number Identifier	Nominal Panel Thickness	Nominal Panel Weight	Color	Size
LP-F9-FR (Embossed)	.090"	0.65# psf	Almond Beige Ivory Pearl White Silver	4'X8', 10' Non-Standard sizes available made-to-order
LP-F9-CT-FR (Embossed)	.090"	0.65# psf	Almond Beige Ivory Pearl White Silver	2'X2'
LP-S9-FR (Smooth)	.090"	0.65# psf	White	4'X8', 10'
LP-S9-CT-FR (Smooth)	.090"	0.65# psf	White	2'X2'
LP-F10-CT-FR (Embossed)	.100"	0.67# psf	White	2'X4'
LP-S10-CT-FR (Embossed)	.100"	0.67# psf	White	2'X4'

COMPOSITION:

- Fiberglass and calcium carbonate-filled polyester resin.



FINISHED PANEL QUALITY:

- The front side shall be embossed with a pebble type finish (embossed finished) or the panels shall have a wear side with a smooth finish (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.
- Dimensions shall be specified on purchased order, subject to the following tolerances: Width: $\pm 1/8"$ (3.2mm) Length: $\pm 1/8"$ (3.2 mm) Squareness: not more than $1/8"$ (3.2 mm) out of square.
- Panels shall be installed in accordance with the manufacturer's guidelines as set forth in the installation guide.

CERTIFICATION: Meets the minimum requirements of the major model building codes for Class C interior wall and ceiling finishes. Flame spread of less than 25, smoke development less than 450 per ASTM E-84.

FABRICATING RECOMMENDATIONS: Protect your eyes with goggles; cover your nose and mouth with a filter mask when cutting FiberLite FRP panels. When cutting FiberLite FRP, position the panel so that the saw blade enters the decorative side first, to avoid chipping and damage.

Hand Fabricating:

- Drilling – high speed drill bit (60° cutting angle, with 12° - 15° clearance) or hole saw.
- Cutting: 72-tooth circular saw with reinforced carborundum or carbide-tipped blade.

STORAGE: FiberLite FRP should be stored horizontally indoors on a contiguous flat surface. Protective film should remain on the panel until installation. Panels should never be stored on the floor or an outside wall. Optimum storage conditions are 60°F (16°C) to 75°F (24°C) and 35% to 55% relative humidity.

PRECONDITIONING: Prior to installing FiberLite FRP, 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 operation conditions.

PRODUCT LIMITATIONS: FiberLite FRP is designed as an indoor decorative panel. It should never be exposed to extremely high or extremely low moisture conditions. FiberLite FRP is designed to be installed over a solid wall surface and should never be directly installed over studs, concrete, concrete block, or non-insulated exterior walls. FiberLite FRP should be installed between 60°F (16°C) to 75°F (24°C) and 35% to 55% relative humidity. Non-compliance with product limitations may affect future performance and voids warranty.

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CLEANING INSTRUCTIONS: FiberLite FRP is easy to clean. In most cases, use a clean, damp, nonabrasive cotton cloth and a mild liquid detergent or household cleaner. Always rinse with clean water and a clean, non-abrasive cotton cloth. Dry the panels with a soft, clean, non-abrasive cotton cloth.

DO NOT USE: abrasive cleaners with bleach, cleaners with acid, alkali or sodium hypochlorite. They will damage and permanently discolor the surface. Be sure that bottles, rags, or other materials with these cleaners never come in contact with the surface.

Examples of harsh cleaners to avoid, include but are not limited to:

- Bleach
- Drain Cleaners
- Metal Cleaners
- Oven Cleaners
- Rust Removers
- Tub and Tile Cleaners
- Lime Scale Remover

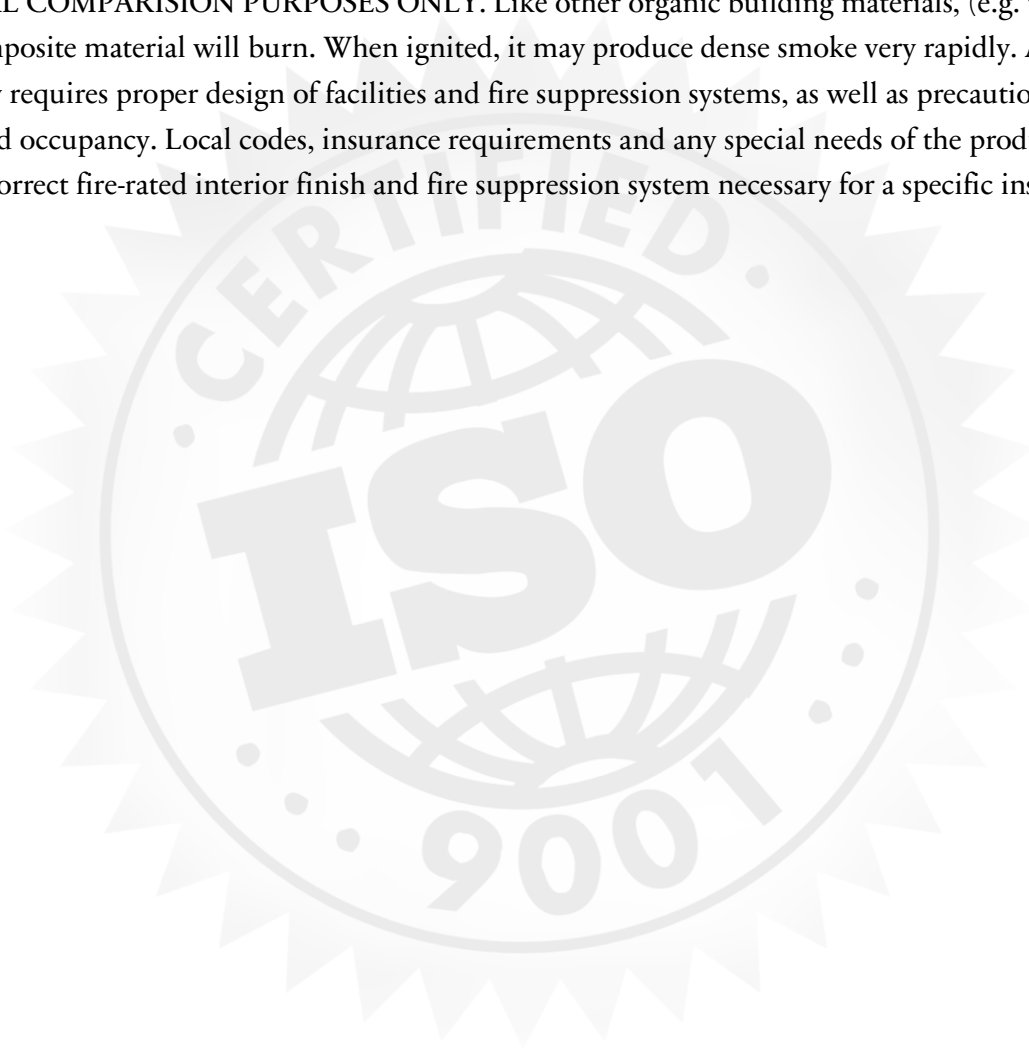
REMOVAL OF STAINS: To remove stains, use full strength Fantastik, All Purpose Cleaner, Formula 409, Pine-Sol, or other mild household cleaners. Blot with clean, damp, non-abrasive cotton cloth, and rinse with cleaner water. When recommended cleaner changes its formulation, the change may be harmful to the surface. Nudo Products, Inc. cannot be held responsible for these changes. Follow all directions and warnings on the cleaner label because many are extremely flammable.

Dyes and pharmaceutical products will permanently stain the panels. These include hair dyes and rinses, silver nitrate, laundry bluing, tannic acid, povidone-iodine, dermatological tar compounds, and peroxide. To reduce these stains, apply a paste of baking soda and water on the area to pull out the stain. Do not rub, as the paste will be slightly abrasive. Wipe up the past with a clean, damp, nonabrasive cotton cloth, and rinse with clean water.

Stains that are stubborn or even permanent and may not disappear include: wood stains, cash register inks, newsprint, marking pen inks, indelible ink, food pricing ink, and label inks.


Stubborn stains that may disappear on their own after a short time or after repeated cleaning include food stains, glass rings, water marks, coffee, and tea stains.

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.



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 A Verzatec Company	<h1>Technical Data</h1>	Code:	LPF9FRFM
		Revision:	01
	FIBERLITE-FM Panels - FM Approved Wall Panel - Class A – Embossed and Smooth	Effective since:	6-JUNE-2024
		Page:	1 of 2

1. Product description.

FM Approved FiberLite-FM Fiberglass Reinforced Polyester (FRP) Wall Panels, are available in textured and smooth surfaces, provide ultimate durability, satisfying the most demanding applications. FiberLite-FM panels will not mold, mildew, rot or corrode. FiberLite-FM panels are engineered to provide durability, easy cleaning and maintenance.

2. Purpose.


FiberLite-FM FRP panels are designed for indoors wall finishes that require a FM Approved fire rating product under the Approval Standard 4880. FiberLite-FM FRP panels applications range from restaurants and supermarkets to restrooms and storage areas.

3. Physical Properties - Typical Values

0.090in Nominal Thickness		
Property	Value	Test Method
Flexural Strength	10,000 psi	ASTM D790
Flexural Modulus	3.1 x 10 ⁵ psi	ASTM D790
Tensile Strength	7,000 psi	ASTM D638
Tensile Modulus	3.1 x 10 ⁵ psi	ASTM D638
% Elongation	1.80 %	ASTM D638
Izod Impact	7.16 ft-lb/in	ASTM D256
Coefficient of Linear Thermal Expansion	2.39 x 10 ⁻⁵ in/in/°F	ASTM D696
Barcol Hardness	35	ASTM D2583
Abrasion Resistance	0.391 % Wt. Loss	Taber Test
Water Absorption	0.72% - 72 hr @ 77°F	ASTM D570
Specific Gravity	1.5743	ASTM D792
Flame Spread	≤ 25	ASTM E84
Smoke Density	≤ 450	ASTM E84

4. Selections

Nominal Thickness	Finish	Color	Sizes
0.090 in	Embossed	Bright White Almond Ivory Beige Light Gray Silver	4 ft x 8 ft 4 ft x 9 ft 4 ft x 10 ft 4 ft x 12 ft
	Smooth	Bright White	

 A Verzatec Company	<h1>Technical Data</h1>	Code: LPF9FRFM
		Revision: 01
	FIBERLITE-FM Panels - FM Approved Wall Panel - Class A – Embossed and Smooth	Effective since: 6-JUNE-2024
		Page: 2 of 2

Nominal Thickness	Finish	Color	Sizes
0.075 in	Embossed / Smooth	Bright White	4 ft x 8 ft 4 ft x 9 ft 4 ft x 10 ft 4 ft x 12 ft

5. Standard Specifications

- a) FiberLite FM FRP panels conform to the specification set on ASTM D5319:
 - Flammability Classification: Class A - Flame spread index 0 to 25, smoke development index of 450 or less.
 - Thickness classifications:
 - Grade 5—0.067 to 0.083 in. (1.70 to 2.11 mm); 0.075 in. nominal (1.91 mm).
 - Grade 6—0.081 to 0.099 in. (2.06 to 2.51 mm); 0.090 in. nominal (2.29 mm).
 - Size (Length and Width): Specified length and width $\pm 1/8$ in.
 - Squareness: $\pm 1/8$ in.
 - Thickness: Specified thickness ± 10 %.
- b) Color: Panel color shall be per specification. Within 1 dE of the specified color using the CIELab scale.
- c) Panels shall have a pebble texture or smooth texture front side. Panel backside is smooth and may possess slight imperfections that do not adversely affect performance or physical properties and are not cause for rejection.
- d) Panels shall be installed in strict accordance with FiberLite FM FRP panel Installation Instructions (D-SA-01).

6. Approvals and Certifications

- a) Manufactured on an ISO 9001 Certified plant (TÜV Rheinland of North America, Inc.; Certificate Registration No. 74 300 3629).
- b) Approved Product under FM Approval Standard 4880 - Class 1 Fire Rating of Building Panels or Interior Finish Materials
- c) Meets minimum requirements of major model building codes for Class A interior wall and ceiling finishes of flame spread ≤ 25 , smoke developed index 450 or less (per ASTM E84).

7. Storage Recommendations

- a) Store panels indoors in a cool, dry, well-ventilated area.
- b) Panels should be stacked on skids not more than 5 skids high.
- c) Do not allow moisture to collect on or in-between panels.

8. Installation Overview

- a) Safety: Use eye protection. Wear filter mask to cover nose and mouth, especially when cutting panels.
- b) Tools Required: Power saw (carbide tip), saber saw (metal cutting blade), caulking gun, tape measurer, ceiling clips, drill, file, hammer, level, saw horses and supports.
- c) Preparation: It is important to store FiberLite FM FRP flat, on a clean, dry surface for 24 hours before installation. It is preferable to store them inside the actual area of installation or, at least, under similar climate conditions. Walls must be clean and free of all substances. Level any high or low spots on walls. Concrete block walls may require a leveling coat of plaster or other similar material.
- d) Inspection: Carefully inspect all panels prior to installation. If any portion of material does not provide an acceptable appearance, NUDO Products, Inc should be notified immediately. Upon verification of unacceptability, that portion of material will be replaced by NUDO Products Inc. NUDO Products, Inc's responsibility is for the replacement of defective materials but not for labor or other handling or installation expenses.
- e) Limitations: FiberLite FM FRP panels shall maintain its performance characteristics and physical properties in temperatures ranging from -40°F to 130°F . FiberLite FM FRP panels may discolor near heat sources such as: ovens, fryers, heat lamps and toasters, where temperatures exceed 130°F . Use additional supports when installing 2'X4" and 4'x4' ceilings panels.



DISCLAIMER: NUDO Products, Inc., provides these results data for material comparison purposes only. The information offered herein is offered without charge and is accepted at recipient's sole risk. The results expressed of this document pertain only to the specific sample(s) evaluated. NUDO Products, Inc. Testing Laboratory is not a certified testing lab, however all equipment used is calibrated using traceable standards. Because conditions of use vary and are beyond our knowledge and control, NUDO Products, Inc. makes no representation about and is not responsible for the accuracy of data, nor with toxicological effect or industrial hygiene requirements associated with particular uses of any product or process described herein. NUDO Products, Inc. requests that customers test and inspect our products before use and satisfy themselves as to contents and suitability. Nothing herein shall constitute a warranty, express or implied, including any warranty or merchantability or fitness, nor is protection from any law or patent inferred. All patent rights are reserved. The exclusive remedy for all proven claims is replacement of NUDO Products, Inc. materials only. FLAME SPREAD AND SMOKE DEVELOPMENT RATINGS: the numerical flame spread and smoke development ratings are not intended to reflect alleged hazards presented by NUDO Products, Inc., products under actual fire conditions and this product has not been tested by NUDO Products, Inc., except as set forth below. These ratings are determined by small-scale tests conducted by independent testing facilities using the ASTM E84 test standard. Like other organic building materials (e.g. wood), panels made of fiberglass reinforced plastic resins will burn. When ignited, FRP 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.