



UniGrid™

Product Data Sheet

FRP Panel Wall Systems

From new construction to retrofit applications, UniGrid™ fiberglass reinforced polymer (FRP) panel wall systems are a dependable and cost-effective way to bring glare-free natural light into any space. They're engineered and built to be long-lasting, lightweight, structurally strong and to provide great thermal performance.

UniGrid™ wall systems help eliminate UV damage to interiors, can assist in reducing HVAC loads, and provide energy savings by reducing the need for continuous electric lighting. UniGrid™ wall systems can also eliminate the need for costly interior or exterior shading devices as they diffuse direct sunlight throughout a space. They are designed for rapid and secure installation, with standard fastener covers for a clean look, and their combination of EPDM gasketing and integral guttering provide worry-free performance.

- Framing is designed for rapid and secure installation, keeping panels in place without visible fasteners
- Standard 2-3/4" panels available up to 5' x 20' (1" and 4" panels also available)
- A variety of grid sizes and patterns are available (see inside back cover for illustration), including Verti-Lite™ that has a similar look to channel glass
- Insulation and thermal breaks available
- Built-in moisture management
- Mixed glazed systems – combining FRP panels with operable or fixed windows
- Translucent Adapter Panel™ (TAP) converts 2.75" panels into standard 1" framing for retrofit and select new installation applications (Contact us for more information)
- Hurricane and blast protection configurations available

Product Specifications

Panel Thicknesses	4" (102mm) and 2-3/4" (70mm)
Standard Panel Module	4ft or 5ft wide and 8ft or 10ft long
Panel Weight	1.5 to 2lbs/ft²
Panel Assembly	Factory unitized fiberglass sandwich panel with interlocking aluminum I-beam Grid Core
Frame Depth:	4-3/4", and 3-1/2"
Exterior Skin	Material: 0.070" FRP Sheet with erosion and UV stabilizing veil Standard Colors: White, Crystal Non-Standard Colors: Ice Blue, Aqua, Tan, Desert Rose
Interior Skin	Material: 0.045" FRP Sheet meeting CDHP limits for low VOC Standard Colors: White, Crystal
Aluminum Finishes	Painted: AAMA 2605 - standard and custom colors (mica available) Anodized: AAMA 611 Class 1 - clear and color options
Material Content	Aluminum: Between 60 and 75% Recycled Content Glazing: All virgin material
Warranty	10 year leak, 20 year FRP color change, 25 year fiberbloom 1 to 20 year aluminum finish depending on selection
Material Source	Kingspan Light + Air N.A. products are manufactured in the USA and most are designed with consideration for Buy America (BAA) and Build America - Buy America (BABA) requirements. BABA Compliance is project-specific. Please contact us to verify the compliance of your configuration.



Photo by Jeremy Bittermann / JBSA



Photo by James Ewing / JBSA

Test Data

Performance Metric	Standard	2.75" System	4" System
Air Permeability	ASTM E 283	<0.01 CFM/sf @ 1.57psf & 6.24psf	<0.01 CFM/sf @ 1.57psf & 6.24psf
Water Permeability	ASTM E 331	Pass @ 6.24psf & 15psf	Pass @ 6.24psf & 15psf
Acoustic Insulation	ASTM E 90	STC: 30 - OITC: 21 or 22	STC: 34, 36, or 37 - OITC: 23 or 24
ICC Evaluation	N/A	ICC-ESR 2855	
Impact Strength	UL 972	Standard Exterior Sheet - 64 ft-lbs Standard Interior Sheet - 70 ft-lbs High-Impact Exterior Sheet - 360 ft-lbs High Impact Interior Sheet - 245 ft-lbs "Class A Roof" Exterior Sheet - 245 ft-lbs	
Adhesive Bond Strength	ASTM D 1002 Shear ASTM C 297 Tensile ASTM D 1037 Aging	Shear Unaged - lbf=Min 310, Avg 563, Max 837 Shear Aged - lbf=Min 836, Avg 1212, Max 1669 Tensile Unaged - Load=557.3 psi Tensile Aged - Load=913.6 psi	
Taber Abrasion Test	ASTM D 4060	1000 cycles @ 500 grams = 32.5mg wt. loss	
Color Difference	ASTM D 2244	$\Delta E = 2.86$ after 12 years	
Haze	ASTM D 1003	> 90%	
VOC Content	CDPH	Complies with Office and Classroom Limits	
Florida Product Approval (FPA)	TAS 201	Pass Small Missile Level A Pass Large Missile Level D	N/A
	TAS 202 + 203	Up to +65/-65PSF	
	N/A	FPA#: FL42303 Not HVHZ Approved	
TX Department of Insurance	TDI	Listed	N/A
Span Information	N/A	Please refer to ESR-2855 for span guidelines. Contact Kingspan Light + Air for additional information.	
Wildland Urban Interface / Wildfire Resistance	ASTM E 2707 and California Building Code Chapter 7A	Pass	N/A

Performance Metric	Standard	Interior Sheet	Exterior Sheet
Reaction to Fire (Note: All KLA FRP types have varying results - all meet or exceed these values)	ASTM D 1929	Complies with Ignition Temperature (912F Actual > 650F Min Required)	Complies with Ignition Temperature (860F Actual > 650F Min Required)
	ASTM E 84 / UL 723	Flame Spread Index: 15 Complies with Smoke Developed Index (350 Actual < 450 Max Required)	Flame Spread Index: 170 Complies with Smoke Developed Index (450 Actual < 450 Max Required)
	ASTM D 635	Combustibility Class 1 (CC1) (Zero Burn Rate Actual < 2-1/2" Required)	Combustibility Class 2 (CC2) (1.1" Burn Rate Actual < 2-1/2" Required)



Thermal Performance Data

System	NFRC CPD #	Exterior Glazing	Interior Glazing	Insert	U-factor	SHGC	VT	CR
Non Thermally Broken	KLA-M-6	Crystal	Crystal	-	0.52	0.45	0.45	25
		Crystal	White	-	0.52	0.33	0.25	25
		White	White	-	0.52	0.20	0.14	25
		Crystal	Crystal	Insul24	0.28	0.26	0.25	26
		Crystal	White	Insul24	0.28	0.21	0.19	26
		White	White	Insul24	0.28	0.15	0.13	26
		Crystal	Crystal	Insul15	0.25	0.24	0.19	27
		Crystal	White	Insul15	0.25	0.20	0.15	27
		White	White	Insul15	0.25	0.14	0.10	27
		Crystal	Crystal	IMG125	0.17	0.11	0.06	28
		Crystal	White	IMG125	0.17	0.11	0.06	28
		White	White	IMG125	0.17	0.08	0.04	28
		White	Crystal	IMG125	0.17	0.11	0.06	28
Thermally Broken	KLA-M-7	Crystal	Crystal	-	0.52	0.45	0.45	26
		Crystal	White	-	0.52	0.33	0.25	28
		White	White	-	0.52	0.20	0.14	28
		Crystal	Crystal	Insul24	0.28	0.26	0.25	28
		Crystal	White	Insul24	0.28	0.21	0.19	29
		White	White	Insul24	0.28	0.15	0.13	29
		Crystal	Crystal	Insul15	0.25	0.24	0.19	29
		Crystal	White	Insul15	0.25	0.19	0.15	29
		White	White	Insul15	0.25	0.14	0.10	29
		Crystal	Crystal	IMG125	0.17	0.11	0.06	29
		Crystal	White	IMG125	0.17	0.11	0.06	29
		White	White	IMG125	0.17	0.08	0.04	29
		White	Crystal	IMG125	0.17	0.11	0.06	29

* Values assume a 2-3/4" panel thickness and standard mullion profiles. Please see the NFRC Certified Products Directory (CPD) using the above CPD#s for complete offering.

Center of Panel U-Factor - 2.75"		Center of Panel U-Factor - 4"	
Insul 24	.20	Insul 10	.11
Insul 15	.17	IMG 125	.06
IMG 125	.08		

*Center of panel values determined by computer simulation using Window 5.2. Please note that center of panel values are for glazing comparison purposes only and are not meant as a replacement for system values when calculating overall system performance.



Color + Finish Options

FRP Sheet Color Options:

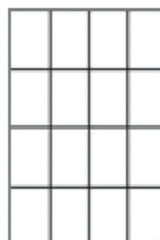
FRP sheet colors are available in two standard colors (Crystal and White) as well as special order and custom options. Please contact us for additional information.



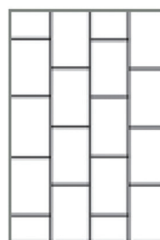
*Exterior Colors shown for comparative use only and may differ slightly from actual product. Contact us for sheet color samples for interior/exterior use.

Grid Pattern Options:

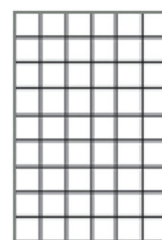
FRP panels for UniGrid™ are available in four standard grid pattern options (custom designs also available), and include in-line and staggered Shoji, Tuckerman (square) and Verti-Lite™ (examples at right). Please contact us for additional information.



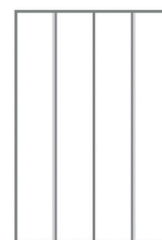
In-Line Shoji



Staggered Shoji



Tuckerman



Verti-Lite™

Specialty Configurations

Whether you need a system that can handle extreme climates, the unique demands of a military facilities, or anything in between, we can help you achieve your performance goals.

- Additional Insulation for extreme climates
- Mixed glazed systems that incorporate FRP panels with glass glazing, operable windows, louvers and insulated panels (contact us for more information)
- Unitized systems that can be delivered onsite ready to install
- Hurricane and blast systems
- Backlighting opportunities
- Colored insulation options - great for creating a stained glass look or incorporating school or corporate logo colors



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