



# GridSpan™ Product Data Sheet

Formerly Guardian 275® skylights from Major Industries, Inc.

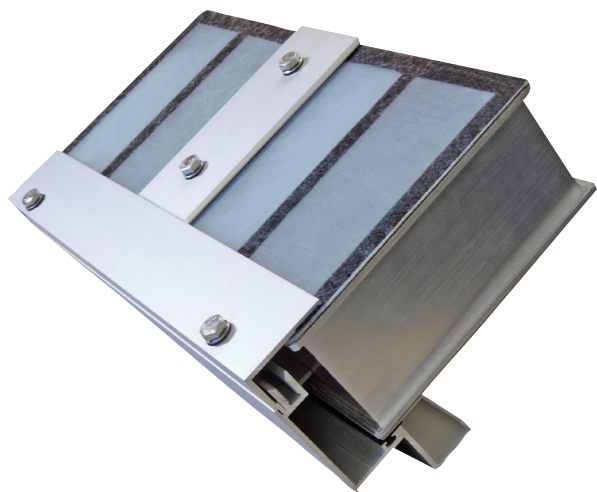
## Fiberglass Reinforced Polymer Skylight Systems





# Application

GridSpan™ translucent panel skylight systems (formerly Guardian 275® by Major Industries, Inc.) consist of two fiberglass reinforced polymer (FRP) face sheets bonded to an aluminum grid core. Panels can be insulated and are available with thermal breaks. Panels are held in place by an aluminum framing system, EPDM gasketing and butyl sealants. GridSpan™ panels are available in sizes up to 5 feet wide and 20 feet long (contact Kingspan Light + Air for details as loading requirements may vary by project location). Specialty systems including hurricane and blast protection systems, mixed glazed systems and pre-assembled options.



## Features

1. 2.75" or 4" panel systems available
2. Extruded aluminum frame
3. Ultimate Series™ face sheet technology
4. EPDM gasketing and high-performance sealants
5. Gutted framing for enhanced moisture management
6. Maximum panel widths of 5 feet
7. Maximum panel lengths up to 20 feet (contact KLA for specific numbers related to your project location)
8. Anodized and paint finishes - standard and custom

## Options

1. Curved systems
2. Sheet color options include Desert Rose, Tan, Aqua - custom colors available - contact us for details and availability
3. Specialty systems, including hurricane and blast protection, are also available



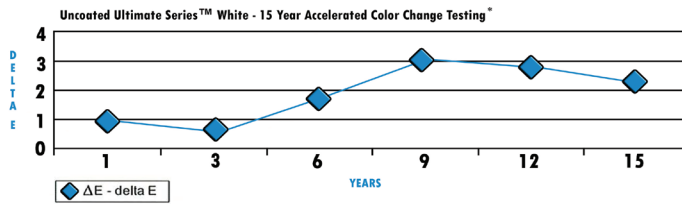


# FRP Face Sheet Technology

## Ultimate Series™

Ultimate Series™ exterior face sheets have been put through rigorous testing and offer exceptional weathering performance - backed by a 25 year fiberbloom warranty and available 20 year color change warranty.

The advanced resin system and polymer coating combination used in Ultimate Series™ sheets is a durable solution for achieving high quality, diffused natural daylighting.



Kingspan Light + Air reserves the right to improve products without notice as the result of ongoing R&D and/or third-party compliance.



# Testing/Performance

Test Description	Test Procedure	Results & Comments
Ignition Temperature, Smoke Density, and Combustibility Classification	ASTM D635, D1929, E84, UL 723	Complies with Ignition Temperature and Smoke Density defined in IBC Section 2606.4. Exterior Sheet Combustibility Class: CC2. Interior Sheet Combustibility Class: CC1. See ICC-ESR-2855 for full details.
System Resistance to Fire	ASTM E108	Class A and C Roof Construction
Uniform Load Structural / Spans	ASTM E330	Span: 6 ft. tp 16 ft. *Consult KLA for job specific span capabilities
High Velocity Hurricane Zone (HVHZ)	TAS 201/202/203	Missile Impact Level D, up to 65psf
Water Penetration	ASTM E331	Pass at 15 psf
Air Infiltration	ASTM E283	Pass
Impact Strength	UL 972	Standard Exterior Sheet - five impacts at 50 ft-lbs High-Impact Exterior Sheet - 200 ft-lbs - no penetration High Impact Interior Sheet - 245 ft-lbs - no penetration Class "A" Sheet - 245 ft-lbs - no penetration Section 6.3 (Outdoor Impact): Material shall withstand five 40ft-lb impacts Section 6.4 (Indoor Impact): Material shall withstand five 50ft-lb impacts Section 6.5 (High Energy Impact): Material shall withstand one 200ft-lb impact
Structural Performance	AAMA/WDMA/CSA 101/I.S.2/A440-05 REQ. Sect	No permanent deformation > 0.2%
Adhesive Bond Strength	ASTM D1002 (shear) - Un-aged ASTM D1037 - Aged ASTM C297 (tensile) - Un-aged ASTM D1037 - Aged	lbf=Min 310, Avg 563, Max 837 lbf=Min 836, Avg 1212, Max 1669 Load=557.3 lbf Load=913.6 lbf
Taber Abrasion Test	ASTM D4060	Ultimate Series™ Exterior Sheet (White + Crystal) - 1000 cycles @ 500 grams = 32.5mg wt. loss
Color Difference*	ASTM D2244	$\Delta E = 2.86$ after 12 years

\*  $\Delta E$  readings on uncoated white samples exposed to 12 years full spectrum solar radiation. Accelerated per ASTM G90-05, Standard Practice for Performing Accelerated Outdoor Weathering of Nonmetallic Materials Using Concentrated Natural Sunlight.

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# Light Transmission + Thermal Performance

## NFRC Certified Data

GridSpan™ 2.75" SYSTEM VALUES	FACE SHEET COLOR COMBINATIONS		
	Exterior Sheet Color / Interior Sheet Color (Additional color combinations available)		
	Crystal / Crystal	Crystal / White	White / White
<b>Visible Transmittance - VT (Visible Light Transmittance - VLT %)<sup>1</sup></b>			
No Insulation	.45 (45%)	.25 (25%)	.14 (14%)
Insul 24	.25 (25%)	.19 (19%)	.13 (13%)
Insul 15	.19 (19%)	.15 (15%)	.10 (10%)
IMG 125	.06 (6%)	.06 (6%)	.04 (4%)
<b>Solar Heat Gain Coefficient<sup>2</sup></b>			
No Insulation	.45	.33	.20
Insul 24	.26	.21	.15
Insul 15	.24	.20	.14
IMG 125	.11	.11	.08

System U-Factor <sup>3</sup>	(Standard   Thermally Broken)	
No Insulation	.59 - .61	.59 - .61
Insul 24	.33 - .35	.32 - .34
Insul 15	.30 - .31	.29 - .31
IMG 125	.22 - .24	.22 - .23

GridSpan™ 4" SYSTEM VALUES	FACE SHEET COLOR COMBINATIONS		
	Exterior Sheet Color / Interior Sheet Color (Additional color combinations available)		
	Crystal / Crystal	Crystal / White	White / White
<b>Visible Transmittance -VT (Visible Light Transmittance - VLT %)*</b>			
Insul 10	.16 (16%)	.12 (12%)	.08 (8%)
IMG 125	.04 (4%)	.03 (3%)	.02 (2%)
<b>Solar Heat Gain Coefficient</b>			
Insul 10	.15	.16	.13
IMG 125	.07	.07	.06

System U-Factor	(All Thermally Broken)
Insul 10	.22
IMG 125	.17

<sup>1</sup> NFRC Certified System Visible Transmittance values determined using NFRC 202 methods and standards.

<sup>2</sup> NFRC Certified System Solar Heat Gain values determined using NFRC 201 methods and standards, SHGC is 87% of the Shading Coefficient at a given solar incidence and has replaced the Shading Coefficient as it is a more accurate method of stating glazing performance in a building envelope. (SC = 1.15 x SHGC)

<sup>3</sup> NFRC Certified System U-factor values determined using NFRC 100-2020 methods and standards, which require simulation and validation testing of both standard and thermally improved assembled skylight / wall systems measuring 2000mm x 2000mm (78-3/4" x 78-3/4") consisting of 2 translucent panels, 3 vertical rafters / mullions and perimeter head and sill. Please contact us for project-specific information as these value may vary based on loading and spanning requirements.

\* Please note that Visible Transmittance, or VT, is determined using NFRC methods and standards and is not equal to center of panel light transmission as it takes into account framing and other factors.

Certified test results for these systems can be found at [www.nfrc.org](http://www.nfrc.org) under Kingspan Light + Air Fenestration/GridSpan™

## Center of Panel U-Factor\*

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

\*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.

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MKT-PDS-0003-2404

