

CREATING ENVIRONMENTS WHERE PEOPLE CAN SHINE™



TAKE CONTROL OF



HEAT & COLD & LIGHT



CLIMA-TITE™

TRANSLUCENT DAYLIGHTING SYSTEMS WITH PULTRUDED FIBERGLASS SUPPORT MEMBERS





WHY SETTLE FOR STANDARD ALUMINUM FRAMED DAYLIGHTING SYSTEMS? TAKE CONTROL WITH CLIMA-TITE™.

Traditional aluminum and glass daylighting systems are good at letting light in - but they also tend to be highly thermally conductive, which can make it uncomfortable for building occupants and the wallet when utility bills arrive. Major Industries is proud to offer the first translucent panel daylighting system with pultruded fiberglass support members, providing better thermal performance than both standard and thermally broken aluminum systems.





CLIMA-TITE™

TRANSLUCENT PANEL DAYLIGHTING SYSTEMS THAT TAKE THERMAL PERFORMANCE TO A NEW LEVEL

Natural light is a key ingredient in building design, and for good reason. Studies show that natural light positively impacts a variety of spaces, including schools, commercial spaces, manufacturing settings and even retail environments. When daylighting is implemented, retail sales have been shown to increase, worker productivity soars and student test scores climb. And we all agree that natural light just feels better. But too much light is distracting. Thermal gains and hotspots create discomfort and pose pesky HVAC challenges. Glare is also a serious problem, as it renders computer screens unreadable and all but erases the gains of natural light. Control is critical.



Clima-Tite™ translucent systems allow for controlled natural light to illuminate interior spaces — while eliminating glare and hot spots and reducing the need for power-hungry artificial light sources. Clima-Tite™ systems feature pultruded fiberglass support members for enhanced thermal performance, and their fiberglass reinforced face sheets significantly reduce solar heat gain. These features combine to create superior thermal performance, and assist in benefiting overall building performance.

Clima-Tite™ translucent panel systems help control light and reduce energy use.



Snap-to-lock design feature provides a clean and fastener-free look

High-performance sealants and gaskets provide a strong defense against the elements

Pultruded fiberglass framing offers enhanced condensation resistance and improved U-factors

Ultimate Series™ face sheet features unmatched color retention - up to 20 year color change warranty available

WHY CLIMA-TITE™ IS THE RIGHT SOLUTION

Clima-Tite™ translucent panel daylighting systems from Major Industries take dependability, versatility and light and climate control to a new level.

Clima-Tite™ features Major's Ultimate Series™ Fiberglass Reinforced Polymer (FRP) face sheet technology for unbeatable durability in any environment. The Ultimate Series™ offers superior color retention, an erosion veil for extreme environments, and is backed by industry-long warranties.

The key to the outstanding thermal performance of Clima-Tite™ is pultruded fiberglass. By replacing traditional aluminum support structures with fiberglass, we're able to offer a system that is less thermally conductive, providing better U-factors and CRF values — and has a unique snap-to-lock installation feature that saves labor costs and eliminates unsightly visible fasteners. In order to stand up to the elements, Clima-Tite™ systems also provide built-in moisture management for long-term performance.

FEATURES AND BENEFITS:

- Snap-to-lock installation feature keeps panels in place without visible fasteners — simple installation
- Pultruded framing offers enhanced thermal performance
- Pultruded fiberglass is more corrosion-resistant than aluminum framing — great for specialty applications
- Standard 2-3/4" panels are available up to 5' x 16'
- A variety of grid patterns are available, in sizes from 6" x 6" up to 12" x 24"
- Insulation options available
- Mixed glazed systems available — combining translucent panels with operable or fixed windows
- Industry-best warranties — 25 year fiberbloom and up to 20 year color change

Wall systems with integrated operable glass windows are also available



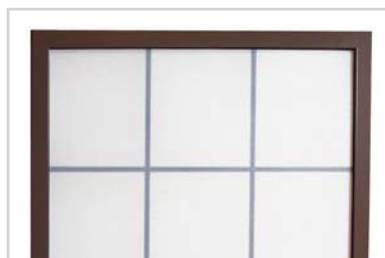


THE FIBERGLASS ADVANTAGE

In order to create the pultruded fiberglass members in a Clima-Tite™ system, continuous strands of glass are combined with resins and pulled through a heated die. Pultruded fiberglass has numerous advantages over aluminum, including dimensional stability and increased protection from temperature differences and condensation, which can enhance occupant comfort.

Other benefits of pultruded fiberglass include:

- Corrosion resistant and durable - long-lasting performance
- Low thermal conductivity - eliminates the need for thermal breaks and improves performance
- Electrically non-conductive - unlike aluminum
- UV resistant
- Paintable just like standard aluminum framing
- No special handling or transportation requirements
- High impact resistance - reinforcing fibers distribute load



Fiberglass and the Environment

Fiberglass is environmentally sound, as the manufacturing processes require less energy compared to aluminum (about 80% less embodied energy). Also, the main ingredient in fiberglass is silica sand, an abundant natural material. Once properly converted, the inherent thermal properties of fiberglass allow for reduced HVAC loads, which can reduce greenhouse emissions.

Pultruded fiberglass offers excellent corrosion resistance and is ideal for extreme environments.



ABOUT MAJOR INDUSTRIES, INC.

Major Industries engineers and manufactures custom skylights and translucent wall systems that fit your needs - and your budget. With more than three decades of experience, we know that architects, designers and owners are looking for tough, dependable and cost-effective daylighting systems, and we've created a wide range of systems to fit every need — all backed by industry-best warranties and an excellent on-time delivery record.

Your decision to use Major Industries is a sign of trust we take seriously, and we're committed to working with you to create the optimal daylighting solution for your next project. Our sales team will work with you to find a daylighting solution that's right for your next project, and our in-house structural engineering capabilities help you conquer your toughest design challenges. From light-controlling translucent panel systems that eliminate glare and block damaging UV to glass skylights and unique mixed glazed systems, we provide reliable daylighting solutions that let natural light in while keeping the elements out.

For more information, visit us online at www.majorskylights.com



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Major Industries provides nationwide continuing education to Architects with its certified "box lunch" training sessions.



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CLIMA-TITE™

FEATURING PULTRUDED FIBERGLASS FRAMING
FOR ENHANCED THERMAL PERFORMANCE



BEYOND TRADITIONAL

Clima-Tite™ translucent systems with pultruded fiberglass support members go beyond traditional aluminum-based daylighting systems to a new level of thermal performance and condensation resistance.

The pultruded fiberglass found in Clima-Tite™ systems allows for improved CRF numbers, improved U-factors, and enhanced corrosion resistance compared to standard aluminum framed systems. Clima-Tite™ also features built-in moisture management as well as a unique snap-to-lock installation feature that saves labor costs and provides a simple, clean and uncluttered appearance that eliminates the need for unsightly visible fasteners

Clima-Tite™ systems also feature Major's Ultimate Series™ FRP face sheet technology for unbeatable weathering performance and unmatched warranties. The Ultimate Series™ offers superior color retention, an erosion veil for extreme environments, and industry-long warranties.



Other benefits of a Clima-Tite™ fiberglass system include:

- No visible fasteners for a clean look
- Corrosion resistant and durable - long-lasting performance
- Low thermal conductivity - eliminates the need for thermal breaks and improves performance
- Electrically non-conductive - unlike aluminum
- UV resistant
- Paintable just like standard aluminum framing
- No special handling or transportation requirements
- High impact resistance - reinforcing fibers distribute load

CLIMA-TITE™ WINDOW-WALL

Clima-Tite™ Window-Wall systems allow light and ventilation control for building occupants plus superior thermal performance compared to traditional window or translucent wall systems.

By incorporating advanced composite operable windows plus high-performance hinges and locking hardware for long-term performance, we can provide a system that's unmatched in the industry. Numerous glazing options are available, including single, double and triple-glazed glass, low-E coatings, as well as optional features like multi-point casement locks and integral mini-blinds.



CLIMA-TITE™ TECHNICAL DATA

LIGHT TRANSMISSION & THERMAL PERFORMANCE



Ultimate Series™ Properties

Impact Strength
Burn Extent
Ignition Temperature
Smoke Density and Flame Spread
Taber Abrasion
Weathering/Delta E
Flexural Strength and Modulus
Tensile Strength and Modulus
IZOD Impact
Barcol Hardness
Coefficient of Linear Expansion
Thermal Conductivity

Test Standard

UL 972
ASTM D635
ASTM D1929
ASTM E84
ASTM D4060
ASTM D2244
ASTM D790
ASTM D638
ASTM D256
ASTM D2583
ASTM D696
ASTM C518

System Properties

Air Infiltration
Structural Performance
Water Penetration
Finish Performance
(AAMA 625 is the fiberglass finish standard comparable to AAMA 2605 for aluminum coatings, Kynar® and other finish options available - contact Major Industries for details)

Test Standard

ASTM E283
ASTM E330
ASTM E331
AAMA 625

CLIMA-TITE™ - 2.75"	FACE SHEET COLOR COMBINATIONS			
	Exterior Sheet Color / Interior Sheet Color			
	Crystal/ Crystal	Crystal/ White	White/ Crystal	White/ White
CENTER OF PANEL U-FACTOR ¹				
No Insulation	0.48			
Insul 24	0.20			
Insul 15	0.17			
IMG 125	0.08			
SYSTEM U-FACTOR ² - Wall System with Pultruded Frame and Enhanced Thermally Broken I-beam - Including Grid				
No Insulation	0.50			
Insul 24	0.25			
Insul 15	0.22			
IMG 125	0.14			
LIGHT TRANSMISSION ³				
No Insulation (%)	64	40	31	24
Insul 24 (%)	33	25	21	17
Insul 15 (%)	23	19	17	15
IMG 125 (%)	7	6	5	5
SOLAR HEAT GAIN COEFFICIENT ⁴				
No Insulation	0.49	0.35	0.31	0.22
Insul 24	0.23	0.20	0.18	0.14
Insul 15	0.20	0.18	0.17	0.13
IMG 125	0.08	0.08	0.06	0.06
CRF ⁵	91			
UV TRANSMITTANCE	<0.01			
SOLAR TRANSMITTAL (Ts)	.04 - .54			
REFLECTIVE (Rs)	.21 - .73			

¹ Center of panel U-factor values determined by NFRC test methods. For glazing comparisons only.

² System U-factor values are determined using NFRC 100-2010 methods and standards, which require simulation and validation testing of assembled wall systems measuring 2000mm x 2000mm (78-3/4" x 78-3/4") consisting of two translucent panels, three vertical rafters/mullions and perimeter head and sill. Certified test results are available on www.nfrc.org. Contact Major for additional details.

³ Light Transmission values are based on an incident angle normal to the plane of a representative panel, and are determined using the ASTM E-972 standard.

⁴ SHGC values are for comparative analysis and are determined using NFRC 201-2010 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)

⁵ Condensation Resistance Factor (CRF) values are based on testing performed on thermally broken glazing panels.