

Alu Steel Effect

Aluminum, Reduced To Its Most Refined Architectural Line.



40-50+

Service Life
(Years)



0.13-0.17

U-Value
(BTU/ft²·hr·°F)



2 / 3 / 4

Glazing Layers
(Double / Triple / Quad Capable)



2

Low-E Coatings
(#2 & #5 Typical)



40%-70%

Visible Light
Transmitted
(VT Range)



3

Perimeter Seals
(Typical Configuration)



**UP TO
50 dB**

Acoustic
(Max Performance)

Craftsmanship for over 30 years



Inside



Outside





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Quick Facts

PRICE, WARRANTY & DELIVERY

Product Lifespan: 40–50 years+

Warranty Length: 10 Years Frames / 5 Years Components Covered

Approx. Price per Sq Ft (\$ / ft²): Dependent On Unit Type And Configuration

Key Pros / Cons: Pro - Steel Look Without Steel Price / Con - Slightly Less Thermal Performance

Lead Times - Total From Signed Shop Drawings to Product Site [Weeks] :

- NYC Area: 14
- New England: 14
- Southeastern US, Florida: 15
- Great Lakes/Chicagoland: 15
- Texas: 16
- Rockies (Colorado, Idaho, Montana, Utah, Wyoming): 16
- West Coast/California: 16-18

DIMENSIONS & PERFORMANCE

Frame Depth: 3 7/8"

Frame Width: 2 5/8"

Max Height: ~9'–10'

Max Width: ~4'–5' (48"–60" per sash)

Max Area: ~25–35 ft² (operable) / larger for fixed

Min Height: ~16"–20"

Min Width: ~14"–18"

Glass / IGU / Panel Depth Range: ~1"–1 3/4"

Max Glass Weight per Panel: ~220–265 lbs

THERMAL, STRUCTURAL, ACOUSTIC

U-Factor Range (BTU/hr·ft²·°F): 0.13 – 0.17 BTU/ft²·hr·°F

Frame Thermal Break Depth: ~1"–1 3/16"

Air / Water / Structural Ratings: –

Acoustic Performance: ~32-36 dB (Standard Configuration) / ~45 dB Achievable

NFRC Certified: No (If Required, Certification Is Possible)

Passive House / PHIUS Certified or Compliant: Certified No/ Compliant Yes, Depending On Project Location

GLASS, PANEL & SEALING

Glass Panes Available: Double / Triple

Glass / IGU Maximum Depth: ~1 3/4" (44 mm)

Panel Options Available: Fixed / Tilt & Turn

Panel Placement Options: Inward Opening

Number of Gaskets: 2 (Typical)

SDL Bars Available: Yes

Hurricane Rated: Yes

HARDWARE & OPERATION

Hinge Types: Concealed Standard / Exposed If Needed

Handle Pin Diameter: 7 mm Window

Regular Leaf / Hidden Leaf: Both Options Available

Motorization Achievable: Yes

Alarm System Integration Achievable: Yes

Smart Home Compatibility Achievable: Yes

ADA Compliance Options: Yes

Child Safety Options: Yes

FINISH, SCREENS & SPECIAL FEATURES

Color Options: RAL / Custom / Dual-Finish

Coastal / Marine-Grade Option: Yes

Insect Screens: Fixed

Threshold Available: N/A

Performance

SYSTEM PERFORMANCE

Air Infiltration: Class 4 $\approx$ ~0.03–0.05 cfm/ft²

Water Tightness: Class E1800 $\approx$ ~37.6 psf

Wind Load Resistance: Class C5 $\approx$ ~60 psf design pressure

Air / Water / Structural Ratings As Per EN 1026 / 1027 / 12211
U.S. performance values require certified testing where applicable.

THERMAL PERFORMANCE

- U_w : 0.13 – 0.17 BTU/ft²·hr·°F
- U_g : $U_g = 0.09$ BTU/ft²·hr·°F
- U_f : 0.34 BTU/ft²·hr·°F
- Ψ (Psi Values): ~0.037–0.039 (Swisspacer - Advanced)

SOLAR & LIGHT

- SHGC: 37%
- VT: ~47% - 70%

AIR & ACOUSTIC

- Air Infiltration: ≤ 0.05 cfm/ft²
- R_w : ~32-36 dB (Standard Configuration) / ~48–50 dB Achievable

Glass, Glazing & Infill

Glazing Completely Customizable To Your Spec



Standard Configurations

- Triple-pane insulating glass unit – 4 / 18 / 4 / 18 / 4
- Glass / IGU / Panel Depth Range: $\approx 1" - 1 \frac{3}{4}"$
- Low-E coatings on surfaces #2 and #5 for optimized thermal performance
- Center-of-glass performance: $U_g = 0.09 \text{ BTU/ft}^2\cdot\text{hr}\cdot^\circ\text{F}$

Build & Capacity

- Glazing thickness range:
- Designed for high-performance triple-glazed, and quad glazed assemblies
- Panel infill options: insulated core (polystyrene) with structural plywood backing

Spacer Systems

- Standard: Swisspacer Advanced (warm-edge)
- Options: Swisspacer Ultimate, aluminum

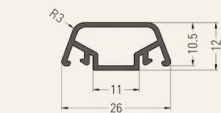
Glass Options

- Safety glazing – tempered (standard) or laminated
- Acoustic / sound control glass
- Decorative options – privacy (satinated), patterned, reflective, anti-reflective, stained
- Bird Friendly Glass
- Impact Resistant / Bulletproof Glass
- Fire Rated Glass
- Hurricane Rate Glass

SDL Bars

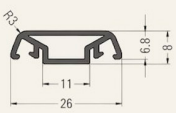
Aluminum

Profile set – mullion and transom profiles



Code	Description	Length
A 3026	Mullion profile	6 m

Technical information:
 $R_{ext} = 250$ mm
 R_{int} = minimum handle radius



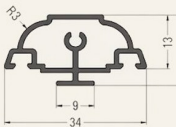
Code	Description	Length
A 3026/8	Mullion profile	6 m

Technical information:
 $R_{ext} = 250$ mm
 R_{int} = minimum handle radius

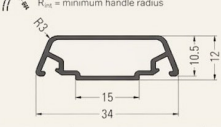


Code	Description	Length
A 3026/7	Mullion profile	6 m

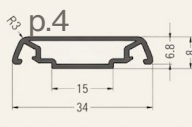
Technical information:
 $R_{ext} = 325$ mm
 R_{int} = minimum handle radius



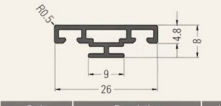
Code	Description	Length
A 3034/7	Mullion profile	6 m



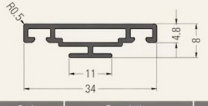
Code	Description	Length
A 3034	Mullion profile	6 m



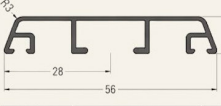
Code	Description	Length
A 3034/8	Mullion profile	6 m



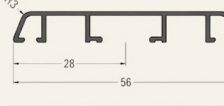
Code	Description	Length
A 3026/25	Transom profile	6 m



Code	Description	Length
A 3034/25	Transom profile	6 m



Code	Description	Length
A 3056	Mullion profile	6 m
AT 3056	Mullion profile THERMO	6 m



Code	Description	Length
A 3056/8	Mullion profile	6 m
AT 3056/8	Mullion profile THERMO	6 m

Technical Drawings

Click Link For Alu Steel Effect Full Technical Drawings

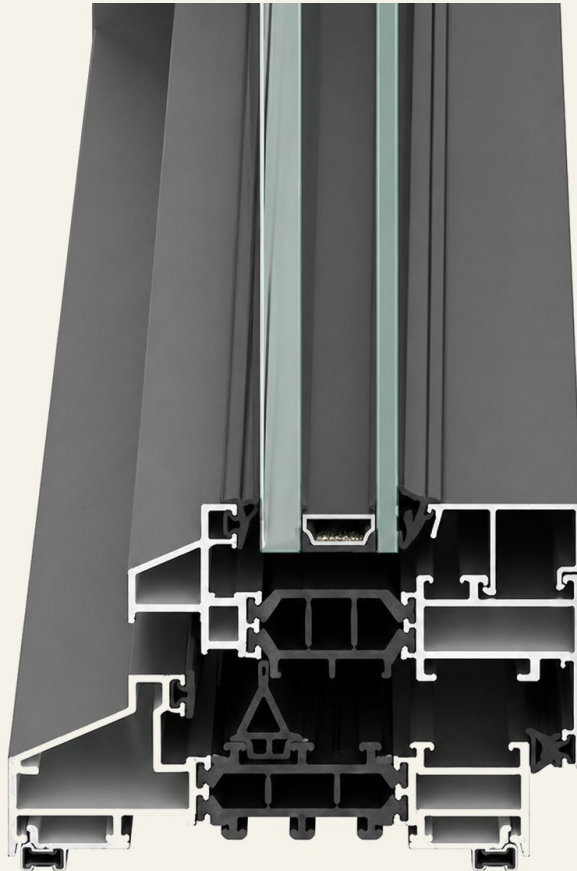
Frame Details

Proportion

- Fixed units remain clean and minimal
- Operable units introduce slight depth for hardware and performance
- Slim aluminum profiles maintain consistent sightlines across configurations

Material Build

- Thermally broken aluminum system – strength with thermal control
- Polyamide thermal breaks – separation of interior and exterior climates
- Engineered multi-chamber profiles – structure, insulation, and drainage integrated



Installation Overview

Contact Prickly Mountain Directly For The Full Alu Hybrid, Alu I, Alu II, & Alu III Install Guides.

#1 Rule: If it's not square, level, and plumb – nothing else matters. Set it right, or it will not perform.

1/2" = Recommended gap between rough opening & outer edge of window or door frame

Mounting Methods

- Installed using engineered bracket systems or direct anchoring (project-dependent)
- Method must align with structure, substrate, and load conditions
- Fastening strategy defined at shop drawings stage

Brackets

- Proper bracket type, spacing, and load capacity is critical
- Brackets must transfer weight safely into structure – not finish materials



Mulling & Stacking

- Multi-unit assemblies require precise alignment and sequencing
- Structural support must account for combined system weight and movement
- Tolerances tighten as units scale – small errors compound quickly

Critical Requirements

- Structure must be true and fully supported
- Sill conditions must be continuous, level, and properly prepared
- Units must be installed without forcing or correcting field errors

Site Coordination

- Confirm rough openings, elevations, and tolerances before delivery
- Ensure handling equipment is available (units are heavy)
- Protect units during construction – dust, debris, and moisture matter

Important

Installation quality directly impacts performance, operation, and longevity. All installation must follow approved shop drawings and best building practices.

High-Performance Building Products Recommended With Our Systems



Configurations



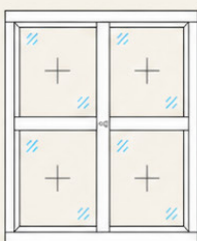
FIXED FIELD



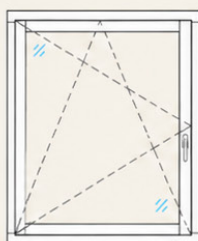
DOUBLE
FIXED FIELD



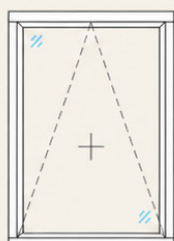
DOUBLE
FIXED FIELD



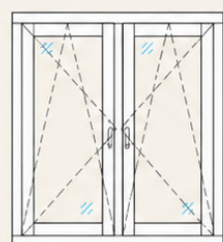
QUADRUPLE
FIXED FIELD



TILT & TURN



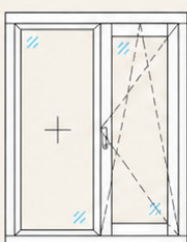
TILT
(INSWING)



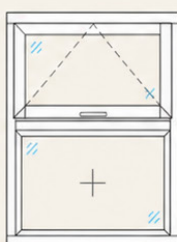
DOUBLE
TILT & TURN



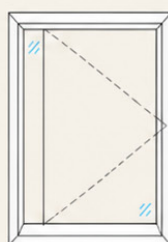
TILT & TURN + TURN
(OPERABLE MULLION)



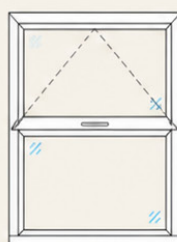
TILT & TURN +
FIXED FIELD



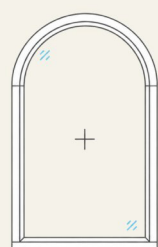
TILT + FIXED FIELD
(INSWING)



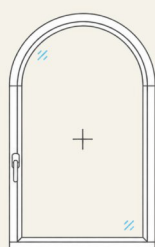
TURN
(OUTSWING)



AWNING
(OUTSWING)



ARCH FIXED



ARCH OPERABLE

Finish & Color

Finish & Color Range

- RAL color palettes – extensive architectural range (matt, texture, satin, gloss)
- Dual-finish capability – independent interior and exterior color selection
- Matte, glossy, structure, or metal finish

Powder Coating Standards

- QUALICOAT certified – high resistance to UV, temperature fluctuation, and mechanical wear
- QUALICOAT SEASIDE – enhanced corrosion protection for coastal or aggressive environments
- AAMA 2604 – long-term exterior durability and color stability

Anodized Finishes

- QUALANOD standard – refined metallic tones with natural depth
- High resistance to abrasion, UV exposure, and environmental wear
- Controlled color tolerances – consistent output across C0, C33, C34 ranges



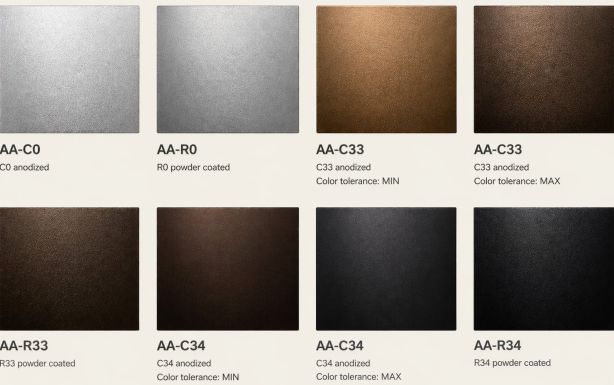
Full RAL Color Library Available)



AR-MAT (Standard Finish & RAL Colors) More Options Available



AA-C, AA-R (Anondized)



AM-FS (Metallic) More Options Available



AR-FS (Structured) More Options Available



AD-MAT



Handles

Spindle Diameter: 7mm

Spindle Length: Typically $\approx 1\frac{3}{8}"$ to $1\frac{3}{4}"$

Handle Height

Standard: centered on sash

Adjustable: within middle third of sash (size and hardware dependent)

Custom placement: Available upon request – subject to system limitations

Standard Handles (Standard Pricing)

- Can Be Painted To Match Unit Color

FKS



Premium Handles (Premium Cost, Limited Availability)

FSB

A | FROM THE ANVIL

ROCKY MOUNTAIN
H A R D W A R E

-ento

Hinges & Fittings



Hardware

- Multi-Point Lock Perimeter System With Three-Way Adjustment
- Supports Large Sash Weights With Smooth Operation
- Tilt-Turn With Ventilation Standard
- Concealed Hinge Option Available

Optional

Security · Sensors · Restrictors · Motorization

Water Management & Drainage

European aluminum systems are not designed to resist water entirely – they are engineered to control, manage, and evacuate it with precision.

System Approach

- Pressure-equalized design
- Multi-chamber profiles with internal drainage paths
- Dual-stage sealing: weather seal + air seal
- Controlled water capture within glazing and frame

Moisture that passes the outer seal is captured, channeled, and expelled – never allowed to build within the system.

Drainage Configuration

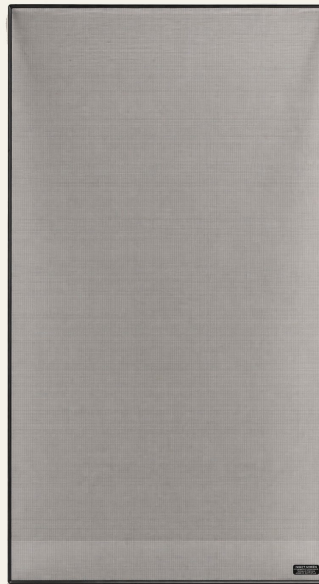
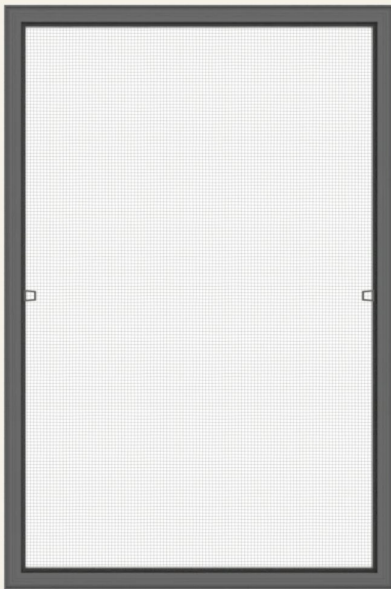
- Concealed drainage – clean exterior, hidden discharge
- Visible drainage – direct, high-capacity evacuation
- Sill-integrated drainage – controlled flow at the base

Each option delivers consistent performance without compromising the elevation.

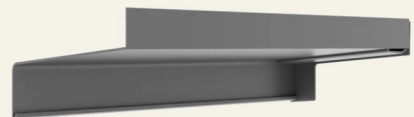
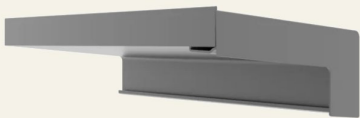


Accessories

Insect Screens



Sill Extensions



Accessibility, Child Safety & ADA Considerations

Designed for accessibility, safety, and intuitive daily use.

Operability

- One-hand use
- No grasping, pinching, or twisting
- Low-force hardware (system-dependent)

Reach

- Within accessible ranges
- Forward $\leq 48"$ AFF
- Side $\leq 54"$ AFF

Thresholds

- Low-profile / flush options
- ADA height + bevel compliant

Clear Opening

- 32" minimum achievable
- Dependent on configuration

Hardware

- Lever-based, accessible systems
- No knobs
- Electronic access available

Automation

- Motorized options
- Smart integration
- Manual override standard



Child Safety

- Lockable handles and restrictors available
- Controlled opening limits for ventilation
- Optional keyed or concealed safety hardware
- Designed to reduce fall risk in operable units

Considerations

THINGS TO THINK ABOUT WHEN DESIGNING



PERFORMANCE DRIVEN
Balance size, glass, hardware, and performance to achieve your target ratings.



OPERABLE VS. FIXED
Hybrid strategies may be required for large openings and code compliance.



SIGHTLINES VS. PERFORMANCE
Minimizing sightlines impacts U-value and structural capacity.



HARDWARE LOCATION
Affects usability, reach, clearances, and daily function.



GLASS SELECTION
SHGC, coating, and laminate makeup matter more than most expect.

THINGS TO THINK ABOUT WHEN INSTALLING / BUILDING



STRUCTURE SUPPORTS WEIGHT
Aluminum windows are heavy — ensure structure is designed accordingly.



OPENINGS MUST BE EXACT
No field “adjusting” like domestic units — precision is critical.



SILL CONDITION IS CRITICAL
Proper water management and flashing start at the sill.



EQUIPMENT & ACCESS
Plan for forklift or telehandler and proper material handling.



SEQUENCE MATTERS
Installation timing impacts performance, risk, and cost.



RED FLAG

- Waiting too long to finalize sizes or details
- Designing oversized assemblies without confirming feasibility
- Assuming site or installer can “figure it out” later



PRO TIP

- ✓ Look finish, style, and samples early — avoid re-approvals and extend timelines
- ✓ Lock down early and leave no room for changes ASAP
- ✓ Use tried + tested combinations to control cost and performance
- ✓ Align GC, installer, and supplier before production



HELPFUL TO PONDER

- Triple vs. double pane — performance, cost vs. weight
- Spacer upgrades: Desiccant vs. Standard
- Finish selections — standard vs. specialty
- Staging and handling — red cost, not optional



\$ UPGRADE! IS IT WORTH IT?

- ✓ Warm-edge spacer upgrade — up front for even better edge and higher-performance glass — pays long-term by far (esp residential)
- ✓ Concealed hardware — yes (operability + aesthetics payoff)
- ✓ Full frame insulation — depends (size, code + budget)
- ✓ Exotic finishes / custom — only if it matters visibly



ALU SYSTEM

- Engineered with premium aluminum profiles
- Thermal broken
- Pressure equalized
- Multi-chamber profiles
- High-performance gaskets
- Designed for durability, performance, and clean architectural lines

PREMIUM ALUMINUM WINDOW SYSTEMS | BUILT FOR PERFORMANCE

Pros vs Cons



ALUMINUM
(THERMALLY BROKEN)

✓ PROS

- Slim profiles — clean, modern sightlines
- Strong — supports large openings with minimal bulk
- Durable — corrosion-resistant, stable over time
- Wide range of finishes — highly adaptable
- Scales well — consistent across full-home systems

✗ CONS

- Requires thermal breaks for high performance
- More conductive than timber-based systems
- Can feel cooler / less tactile than natural materials



**ALUMINUM
PERFORMANCE +
VERSATILITY**

The baseline for performance, scale, and adaptability.



**uPVC /
FIBERGLASS**

✓ PROS

- Most cost-effective option
- Low maintenance
- Good baseline thermal performance
- Fast production and installation

✗ CONS

- Bulkier profiles — reduced sightlines vs aluminum
- Limited color, finish, and depth options
- Lower structural capacity for large openings
- Lower perceived architectural value



**uPVC /
FIBERGLASS
VALUE +
EFFICIENCY**

Practical performance and efficiency at a lower cost.



TIMBER CLAD
(Wood Interior /
Aluminum Exterior)

✓ PROS

- Warm interior — natural material quality
- Strong thermal performance
- Exterior aluminum for durability
- Balanced system — performance + architecture

✗ CONS

- Higher cost vs aluminum
- Longer lead times (custom finishes)
- More coordination required (detailing + install)
- Less scalable across large, complex openings



**TIMBER CLAD
WARMTH +
PERFORMANCE**

Warmth and natural material layered onto aluminum performance.



STEEL

✓ PROS

- Maximum strength — ultra-slim sightlines
- Supports very large glass with minimal frame
- Long lifespan (often 60–100+ years)
- Strong architectural presence

✗ CONS

- Significantly higher cost
- Heavier — more complex installation
- Requires maintenance (coatings / corrosion control)
- Thermal performance highly dependent on system design



**STEEL
PRECISION +
STRENGTH**

The ultimate in strength, slim sightlines, and architectural expression.



**BRASS /
BRONZE**

✓ PROS

- Premium, legacy materials
- Natural patina — evolves over time
- Exceptional durability
- Distinct architectural expression

✗ CONS

- Very high cost
- Long lead times
- Heavy — structural considerations required
- Primarily aesthetic-driven vs performance-driven



**BRASS / BRONZE
LEGACY +
STATEMENT**

Timeless materiality that ages beautifully and makes a statement.

Technical

All Dimensions, Sizing Ranges, And Performance Values Are Provided For Reference And Are Confirmed During The Shop Drawing And Engineering Process For Each Project

Performance Values Shown Are Based On Standard Assemblies. Project-Specific Performance Is Determined Through System Configuration And Engineering

Proper installation requires project-specific detailing developed by the Architect or waterproofing consultant and coordinated with the overall building envelope design

Finish Disclaimer

Colors and finishes shown are for reference only. Final appearance may vary due to aluminum substrate, finish type, lighting conditions, and production processes. Physical samples should be reviewed and approved prior to order. Painted (powder-coated) finishes may exhibit slight variation between batches. Anodized finishes may vary in tone and reflectivity due to alloy and process conditions. Structured/tactile finishes may show variation in texture and sheen. Liquid metal finishes are hand-applied and will exhibit natural variation in tone, and depth

Specialty sizes for both fixed and operable windows may be available at an additional cost. Please consult with Prickly Mountain for project-specific options

Water management performance is achieved through a combination of profile geometry, sealing systems, and concealed drainage paths. Final performance is dependent on proper installation, flashing integration, and site conditions

Accessibility compliance is configuration-dependent and must be verified at the shop drawing and specification stage. Final compliance is subject to project conditions, installation, and applicable local codes

Accessibility Considerations

Select hardware, low-threshold, and motorized configurations may support accessible design goals. Final compliance must be verified by the design team based on project conditions, selected configuration, and applicable code

Information in this document can be modified without notice

Warranty Overview

Coverage You Can Count On

- 15 Years – Insulated Glass Units (seal failure / internal fogging)
- 20 Years – Frames & Structural Components
- 10 Years – Laminated Glass Integrity
- 5 Years – Hardware & Operating Components
- 10 Years – Factory Finishes (adhesion / manufacturing defects)

What's Covered

- Manufacturing defects in materials and workmanship under normal use
- Conditions that materially impair intended function or structural performance
- Factory-supplied and factory-applied components

What's Not Covered

- Installation, labor, freight, or site-related conditions
- Normal wear, maintenance, weathering, or adjustment
- Glass breakage, condensation, or inherent optical characteristics
- Damage arising from construction, environment, misuse, or surrounding building conditions

How It Works

- Covered issues are addressed in accordance with our Limited Warranty
- Replacement components only – labor, freight, and field costs excluded
- Coverage begins from delivery or shipment-based warranty commencement, not installation date



www.pricklymountain.com