



M600

ARCHITECTURAL
Aluminum Window Series



QUAKER
COMMERCIAL WINDOWS AND DOORS

M600

ARCHITECTURAL

Aluminum Window Series

Designed for Strength, Durability and Energy Efficiency

The M600 Aluminum Architectural Series of Windows is ideal for multiple applications including — Multi-Family, Office, Education, Hotel, Government, Healthcare and Assisted Living. The M600 design incorporates structural integrity, durability, design flexibility and energy efficiency, to meet the challenges that each of these project types bring.

*7001 Arlington Road, Bethesda, MD
Architect: KGD Architecture
Contractor: Walsh Construction II, LLC*



**Life Cycle Tested
Meets Stringent Industry
Standards Set By
FGIA/WDMA/CSA**

Casement Window Series

Thermally Enhanced Aluminum
AW-PG70-C

Design Flexibility and Strength

The M600 casement is strong, versatile, durable, inviting and design friendly. It's larger vents and narrow sightlines make it the ideal choice for any size project. Quaker casements are designed with thick aluminum walls for added strength and tested to the most stringent industry standards for superior performance and durability. The M-600 Series can be easily factory-mulled or set up as a multiple unit in one continuous master frame. This immediately adds value in the form of ease of installation and less costly field labor.



Superior Thermal Performance, Strength and Durability

*Project: The Addition, Long Island, NY
Developer: The Hakimian Organization
Dealer: Architectural Window*

Standard Features and Benefits

- 3-1/4" thermally broken aluminum frame
- Adjustable roto crank-out hardware
- 1" insulating glass for added energy efficiency
- 0.94" wall thickness for added strength
- Multi-point locking system for ease of operation, added safety and greater aesthetic appeal (Crank-Out style)
- Cam handle turn hardware (Push-out style)
- Heavy-duty corner keys internally sealed to eliminate sag for increased strength and performance
- Sash frame and main frame have clean corner joints for greater aesthetic appeal
- Single-frame combination capability
- Integral Nailing Fin

Options

- Crank out and Push out styles
- Structural Mullions
- Wide variety of Panning, Receptors and Trim
- Multiple glazing packages and Finish options
- 1-3/8" glazing pocket for enhanced STC/OITC
- Impact Resistant with special glazing

Performance M600 Casement (Project-out)

FGIA/WDMA/CSA 101/I.S.2/ A440-08 Rating	AW-PG70-C
Test Size	48" x 84"
Structural Load	105.26 PSF
Air Infiltration Rate @ 50MPH	0.01 cfm/ft²
Water Test Pressure	12.11 PSF
Dual Glazed Insulating Glass (ranges shown are based on multiple Low-E/Argon combinations)	
CR	44-48
U Value	0.39-0.44
SHGC	0.13-0.44
Triple Glazed Insulating Glass (ranges shown are based on multiple Low-E/Argon combinations)	
CR	47
U Value	0.32-0.34
SHGC	0.11-0.43
STC	
Dual Glazed (range based on varying glass thicknesses)	29-43

Design Essentials

Insulating Glass System

The glazing pocket size is an essential part of a flexible window system design. Many manufacturers offer only 3/4" glazing, which limits sizing, thermal performance and STC.

The Quaker Difference

Quaker's M600 glazing pocket accommodates insulated glass from 1" up to 1-3/8" overall. At 1", the M600 ensures design flexibility, superior thermal performance and the ability to incorporate larger or thicker lites of glass to meet project specifications. With 1-3/8", you get all that plus superior STC/OITC performance courtesy of laminated glass and larger air space cavities. For projects that require the ultimate sound attenuation, the M600 will host interior storm panels, thus reaching the highest ranges of sound control. No matter which glass thickness you choose, you can be assured of the same uniform look throughout the building.

Frame Construction

Proper frame thickness and corner joinery construction is essential to ensure a window's strength and stability, as well as an even, aesthetically pleasing, water tight seam. Many aluminum window manufacturers only offer a 2-3/8" frame depth rather than a full 3-1/4" frame at the expense of window strength and performance.

The Quaker Difference

Quaker's M600 Series windows and doors are manufactured using a mitered frame and corner key system. The M600 automated crimp locking system utilizes custom corner keys that securely square and lock all 4 corners of the 3-1/4" frame. State-of-the-art machinery then injects silicone into the key creating a rigid water-tight corner that eliminates the need for unsightly gasket and screw construction.

Projected Window Series

Thermally Enhanced Aluminum
AW-PG70-AP

Designed for a Variety of Applications

The M600 Projected window system allows fresh air in while the vent acts as a protective cover to keep precipitation from entering.

This Project-Out window system features a multi-point locking system on roto operating units for ease of operation and added safety. The AW-70 rating of this Projected window system is your assurance of long-term durability, engineered and manufactured to the highest quality standards set by FGIA (formerly AAMA).



Easy Installation and Consistent Integrated Appearance

Project: Main Square, Winona, MN
Architect: Miller Hanson Architects
Contractor: Schwab LLC
Developer: Main Square Development
Dealer: Badger Corrugating
Install: A Plus Windows

Standard Features and Benefits

- 3-1/4" thermally broken aluminum frame
- 1" insulating glass for added energy efficiency
- 0.94" wall thickness for added strength
- Multi-point locking system for ease of operation, added safety and greater aesthetic appeal (Crank-Out style)
- Cam turn handle hardware (Push-out style)
- Heavy-duty corner keys internally sealed to eliminate sag for increased strength and performance
- Sash frame and main frame both have clean corner joints for greater aesthetic appeal
- Single-frame combination capabilities
- Integral Nailing Fin

Options

- Crank out and Push out styles
- Structural Mullions
- Muntins — Internal or Simulated Divided lites (SDL)
- Multiple glazing packages and Finish options
- 1-3/8" glazing pocket for enhanced STC/OITC
- Impact Resistant with special glazing

Performance M600 Projected

FGIA/WDMA/CSA 101/I.S.2/ A440-08 Rating		AW-PG70-C
Test Size		48" x 72"
Structural Load		105.26 PSF
Air Infiltration Rate @50MPH		0.06 cfm/ft ²
Water Test Pressure		12.11 PSF
Dual Glazed Insulating Glass (ranges shown are based on multiple Low-E/Argon combinations)		
CR		41-49
U Value		0.39-0.43
SHGC		0.13-0.45
Triple Glazed Insulating Glass (ranges shown are based on multiple Low-E/Argon combinations)		
CR		48
U Value		0.32-0.33
SHGC		0.11-0.39
STC		
Dual Glazed (range based on varying glass thicknesses)		29-43

*STC numbers are projected

Design Essentials

Installation Flexibility

Not all installations are the same. Nevertheless, some products aren't made to provide solutions for an atypical installation. The inability to adapt can cause additional labor costs and can lead to post-installation issues such as water infiltration.

The Quaker Difference

Quaker's M600 was designed to work with all major install methods. An integral and miter-cut nail fin is standard. However, the M600 can easily adapt to installs using companion receptors, anchor straps, nail fin/receptor combo and slab-to-slab.

Head and Sill Flashing

Consistent look and color is essential when it comes to the head and sill flashing used as part of a window installation. Many window installers are forced to use generic head flashing material because there isn't any supplied by the manufacturer as part of the window system. This material usually will not match the color of the window units and may not be of the same quality and extrusion thickness.

The Quaker Difference

Quaker supplies custom designed head and sill flashing, that is specifically developed and manufactured to integrate with the M600 main frame. You can always be sure that M600's head and sill flashing is of the same extrusion quality, is an exact color match and will contain the same paint finish as the window. All this plus a much cleaner design and less obtrusive appearance.

Fixed Window Series

Thermally Enhanced Aluminum
AW-PG70-FW

Designed for Architectural Flexibility

The M600 Fixed window system presents a myriad of design possibilities. Matching sightlines allow the M600 Fixed window to be a true compliment to any operable window systems creating a distinct, cohesive architectural style. Quaker’s M600 Fixed windows can also be designed as expansive stand alone units providing stunning views, generous amounts of natural daylight and a unique visual appearance.



Sleek Design, Greater Glass Area, Internal Water Management System

*Project: The Cypress, Sunrise Beach, MO
Contractor: Peninsula Construction
Developer: Cypress @The Lake, Inc.
Dealer: XL Building Products*

Standard Features and Benefits

- 3-1/4" thermally broken aluminum frame
- 1" insulating glass for added energy efficiency
- 0.94" wall thickness for added strength
- Extended sizes allow for larger viewing areas
- Narrow sightlines for increased viewing area
- Heavy-duty corner keys internally sealed to eliminate sag for increased strength and performance
- Single-frame combination capabilities
- Integral Nailing Fin

Options

- Structural Mullions
- Muntins—Internal or Simulated Divided Lites (SDL)
- Multiple glazing packages and Finish options
- 1-3/8" glazing pocket for enhanced STC/OITC
- Impact Resistant with special glazing

Performance M600 Fixed

FGIA/WDMA/CSA 101/I.S.2/ A440-08 Rating		AW-PG70-C
Test Size	(Tempered Glass)	72" x 120"
Structural Load		105.26 PSF
Air Infiltration Rate @50MPH		<0.01 cfm/ft²
Water Test Pressure		12.11 PSF
Dual Glazed Insulating Glass (ranges shown are based on multiple Low-E/Argon combinations)		
CR		49-56
U Value		0.26-0.32
SHGC		0.15-0.56
Triple Glazed Insulating Glass (ranges shown are based on multiple Low-E/Argon combinations)		
CR		59-60
U Value		0.18-0.20
SHGC		0.13-0.49
STC		
Dual Glazed	(range based on varying glass thicknesses)	29-43

Design Essentials

Exterior and Interior Design

A consistent look that meets the expectations of the building owner and architect is essential. Older pre-glazed aluminum windows systems have a very distinct look. However, there was a clear difference in the appearance between the look of the lower retail storefront / entryways, and the upper floor punched windows.

The Quaker Difference

The M600 series has been designed to meld perfectly with storefront applications, giving you a seamless look, which blends well, looks consistent, and is a perfect fit to today’s modern architecture. The M600 beautifully matches the look of storefront with clean lines and minimal frame appearance allowing for more glass, wider views and less frame obstruction. It truly gives you the benefits of a factory glazed window system in a quality controlled environment, while reducing time in the shop and field, and the labor costs that go with it.

Water Management

It is essential to choose a window that is designed with an internal water management system, this should even include fixed units. The premise is simple, to channel any encroaching water away from the inside and back out of the building. Yet, some window designs overlook the importance of managing water, which ultimately leads to damage inside walls and floors.

The Quaker Difference

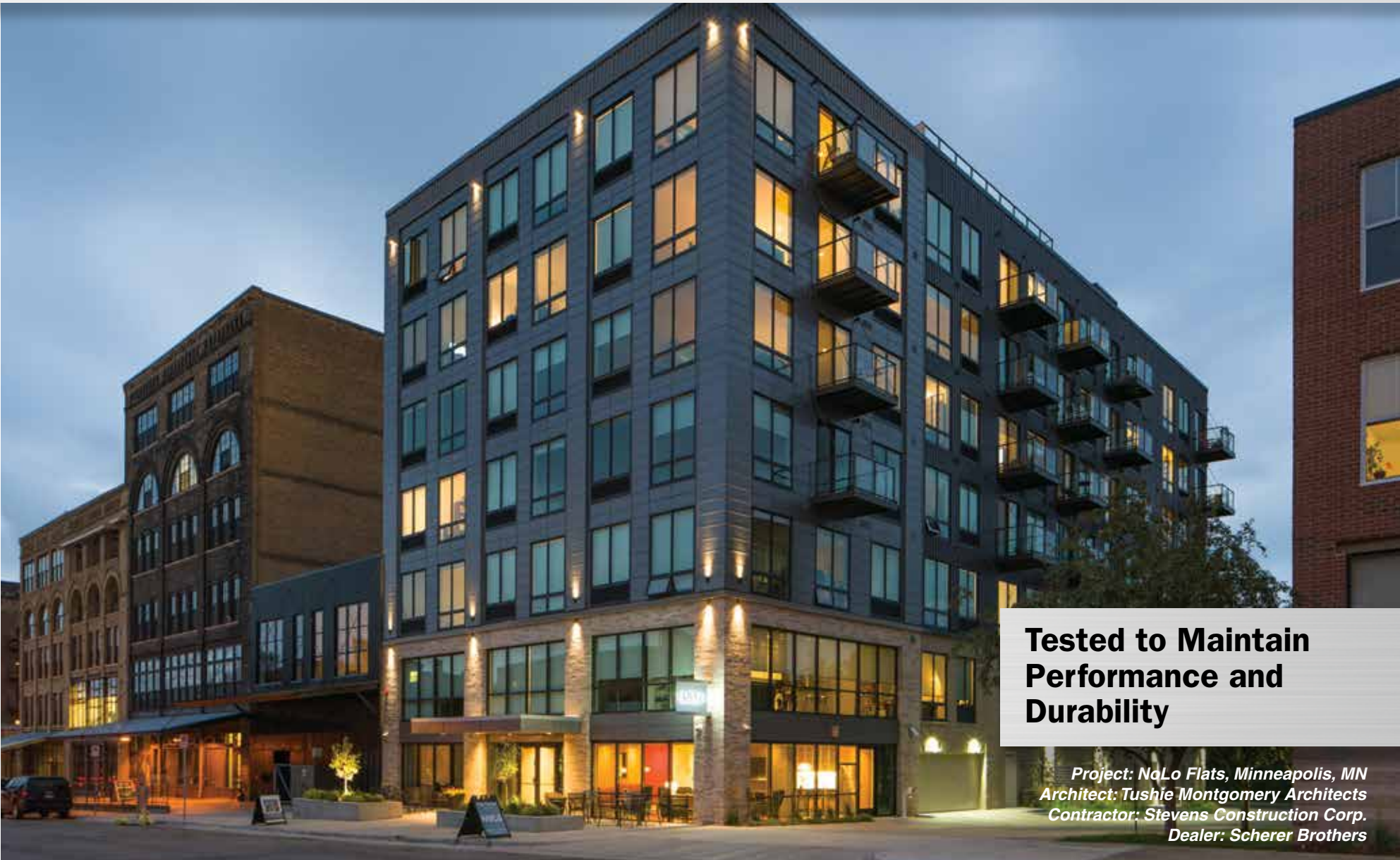
The M600 fixed window series was engineered with an internal water management system that channels any water out of the unit and away from the building. Operating units as well contain a weep system that safely dispenses water.

M600 Sliding Glass Door

Thermally Enhanced Aluminum
AW-PG50-SD

Designed for Ease of Operation

Sliding Glass Doors are often a vital component when designing Multi-family Lofts, Apartments and Assisted Living Centers. M600 Sliding Glass Doors offer a modern architectural design with a traditional sliding door model, plus modern multi-slide and bi-parting models. These high performing doors are tested and certified to meet the toughest challenges from extreme weather to continual in-and-out use.



**Tested to Maintain
Performance and
Durability**

*Project: NoLo Flats, Minneapolis, MN
Architect: Tushie Montgomery Architects
Contractor: Stevens Construction Corp.
Dealer: Scherer Brothers*

Standard Features and Benefits

- 5" thermally broken aluminum frame
- From 1" to 1-3/8" insulating glass for added energy efficiency
- Steel roller system for ease of operation
- 3" sill with anodized threshold for added durability
- Internal weep system for effective water drainage
- Mitered panels with heavy-duty corner keys for added strength and improved aesthetics
- D-loop handle (interior and exterior)
- Integral Nailing Fin

Options

- Premium 2" roller system for superior gliding operation
- Structural transition mulls for door/window combinations
- Multiple glazing packages and Finish options
- Optional flush handle hardware
- Impact Resistant with special glazing

Available in — 2, 3 and 4 panel configurations
Frames Shipped KD

Performance M600 Sliding Glass Door

FGIA/WDMA/CSA 101/I.S.2/ A440-08 Rating		AW-PG50-SD
Test Size	(2-Panel)	123" x 96"
Structural Load		75.19 PSF
Air Infiltration Rate @50MPH		0.10 cfm/ft²
Water Test Pressure		12.11 PSF
Dual Glazed Insulating Glass (ranges shown are based on multiple Low-E/Argon combinations)		
CR		42-46
U Value		0.36-0.41
SHGC		0.14-0.49

Design Essentials

Design Performance

A Design Performance (DP) rating is based on a window and/or door system's certified class and grade. It is an essential part of the specification and design process to ensure that the right product is being used to satisfy/comply with a project's design, as well as meet local or regional building codes. Too often, windows and doors are certified at the minimum test size, which means if it exceeds that test size, it will probably have a reduced rating — or sometimes no rating at all — and will fail to meet the project's specifications.

The Quaker Difference

Bigger and taller products that maintain their strength and performance. All M600 windows are tested to achieve FGIA (formerly AAMA) certified ratings using their maximum size allowed. M600 doors are also tested using exaggerated sizes.

Thermal Performance

Traditionally, aluminum windows and doors are not known for their thermal performance. This is because older aluminum window and door systems were not designed with U values and Solar Heat Gains in mind. More recently, aluminum windows and doors attempted to achieve thermal-efficiency, but their thermal-break design and placement did not materialize into energy savings.

The Quaker Difference

Quaker's M600 series offers a thermally enhanced Pour & Debridge design that utilizes a much larger thermal separation pocket. It's strategically positioned with the glass pocket to maximize the thermal performance of the window and door systems. As a result, M600 thermal performance numbers are as much as 20% better than older generation aluminum window and door systems, and can achieve even greater thermal results when combined with specialized glass combinations.

Terrace Doors

Thermally Enhanced Aluminum
AW-PG70-ATD (Outswing model)
AW-PG50-ATD (Inswing and Low-Profile Threshold models)

Designed for Strength and Beauty

Modern building designs integrate doors now more than ever. M600 Terrace Doors provide an elegant addition to any architectural project, while also supplying superior structural, operational and thermal performance levels not found in other Terrace Door systems. Quaker’s M600 Terrace Doors have design versatility to fit almost any project, including one where continuous framing is the preference. ADA adaptability to provide proper accommodations offers even more value.



Superior Class I Anodize Finish/Highest Consistent Quality Color

*Project: 255 St. Paul, Denver, CO
Contractor: Saunders Construction
Developer: BMC Investments
Dealer: Signature Windows*

Standard Features and Benefits

- Adjustable hinge systems for ease of operation
- 5-point locking system for added security
- Heavy-duty corner keys internally sealed to eliminate sag for increased strength and performance
- Stylish handle sets add modern touch to every door
- Integral Nailing Fin
- 2-way adjustable hinge (optional 3-way available)

Options

- Structural Mullions
- Sidelites with matching sightlines
- Multiple glazing packages and Finish options
- 1/2" Low-Profile Threshold
- 10" Kick plate
- Surface mounted closure
- Impact Resistant with special glazing

Available in—
Multiple door and window combinations
Single or double panel configurations
Inswing or outswing styles
Shipped assembled

Performance M600 Terrace Door

FGIA/WDMA/CSA 101/I.S.2/ A440-08 Rating		AW-PG70-ATD
Test Size	(Single Pane Outwing)	48" x 96"
Structural Load		105.26 PSF
Air Infiltration Rate @50MPH		<0.01 cfm/ft²
Water Test Pressure		12.11 PSF
Dual Glazed Insulating Glass (ranges shown are based on multiple Low-E/Argon combinations)		
CR		43-46
U Value		0.39-0.44
SHGC		0.13-0.43

Design Essentials

Anodized Exterior Aluminum Finish

When it comes to anodized aluminum window and door finishes, it is essential to specify the proper Class of anodization. There are two Classes of anodized aluminum finishes and it is imperative to know the difference and specify the right anodized finish for a long lasting look and performance.

- Class I coating is a high performance anodic finish used primarily for exterior use, because it must withstand continuous outdoor exposure.
- Class II coating is a commercial anodic finish recommended for interior applications or light exterior applications.

The Quaker Difference

While some window and door manufacturers use Class II, Quaker always goes with the best — a Class I anodized finish. By choosing that high-quality route, our M600 aluminum windows and doors will provide the best performance and a long-lasting look that will hold up to the elements.

Exterior Painted Finish

There are 3 levels of architectural paint finishes. FGIA 2604 and 2605 are high-grade and premium grade respectively. Both are powder coat paint finishes. Whereas, lower-grade 2603 liquid paint finish risks quality issues and quicker-than-normal fading.

The Quaker Difference

The standard coating used on Quaker's M600 Series windows and doors is the higher grade 2604 powder paint. The optional 2605 up-grade coating is also available when specified. All painting is done in our state-of-the-art powder paint facility, one of the largest in the United States. Thus, unlike manufacturers that outsource their painting, Quaker controls the quality and consistency of our window and door finishes.

The Environmental Choice

Quaker Products can contribute to LEED® certification

As part of our Green initiative, Quaker employs only powder-coat paint for our extruded aluminum windows and doors. Powder coat emits nearly zero Volatile Organic Compounds (VOCs) into the air and Quaker recycles nearly all of the over spray eliminating any waste. Powder Coat facilities are also more energy efficient, which contribute to the Department of Energy (DOE) Zero-Net Energy initiative. Quaker's products can also contribute to LEED certification through our recycling efforts and innovative product designs that increase ventilation, thermal comfort, daylighting and energy performance levels.



*Project: Domus Apartments, Phoenix, AZ
Contractor: Smithfield Construction Group*

Glass, Colors and Finishes

Glass

Select from a variety of Quaker Glass Packages to maximize energy savings, reduce STC, as well as add a distinct style to any building façade.

Quaker Glass Packages —

- EnergyBasic, Energy3S
- EnergyPlus, EnergyMAX
- EnergyNorth and EnergyEnhanced

Other glass availabilities:

- Tempered (for safety purposes)
- Obscure (for privacy)
- Laminated (for safety and sound attenuation)

Architectural Paint Coatings and Finishes

Quaker's in-house paint facilities allow you to select any color you envision for your project's M600 windows and doors — from black to white and everything in-between.

Just as important as the color you select, is the quality of the finish. The painting of our extruded aluminum is factory-controlled and provides a baked-on finish that is nearly maintenance free.

Quaker's standard architectural paint coatings meets the specifications of FGIA 2604, while our optional upgrade meets FGIA 2605.

If an anodized finish is preferred, Quaker uses the higher performance Class I anodized, which meets FGIA 611-98.



*Project: Wingate by Wyndham, Lynn Haven, FL
Developer: Krishna Ventures of NW Florida, LLC
Contractor: True Property Group
Architect: Florida Architects, Inc.*

Impact Protection

As the need for Impact products continues to increase in areas that are affected by hurricanes, high velocity winds and the inevitable flying debris, so too does the need for evolutionary products that can meet future code requirements. Ask for Quaker's M700 Impact products — essentially it's the M600 bolstered with special glazing to satisfy Impact code obligations without any sacrifice of energy-efficiency and design flexibility.



*Project: Lark Austin, Austin, TX
Developer: Parallel Company
Contractor: McInerney & Associates*



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Phone: (800) 347-0438



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Cover Photo:
Project: The Irby, Atlanta, GA
Contractor: Alliance Residential
Developer: Broadstone Henri's LLC
Dealer: Designer Glassworks

01-11-21