The Next Architectural Evolution in Window Technology!

Patented OptiCore Technology

Quaker® Patented OptiCore Technology defines the next evolution in thermal, structural and sound transmission performance for windows and doors, while allowing for application flexibility that is changing the face of architectural window design. The scope of the OptiCore patent encompasses 16 protected elements and product variants, setting OptiCore apart from any other window system in the industry.

Architecturally Enhanced Aluminum

OptiCore patented products have been engineered to create a superior **Architecturally Enhanced Aluminum** window and door system that maximizes thermal and structural performance.

Unparalleled Thermal Performance

The OptiCore evolutionary thermally-aligned patented products were engineered to maximize thermal performance by minimizing thermal conductivity passing through the Aluminum frame system, thus establishing U-Values previously unheard of in an Aluminum frame window. No matter which interior product series is selected, OptiCore Technology industry-leading thermal performance test results speak for themselves:

Dual Glazed 1" (Standard)
- C600 Series Aluminum Interior   CA/AW 0.25 U-Value   FXD 0.23 U-Value
- W600 Series Natural Wood Interior   CA/AW 0.24 U-Value   FXD 0.22 U-Value

Triple Glazed 1-3/8" (Optional)
- C600 Series Aluminum Interior   CA/AW 0.19 U-Value   FXD 0.15 U-Value
- W600 Series Natural Wood Interior   CA/AW 0.17 U-Value   FXD 0.14 U-Value

Quaker offers a variety of glass combinations to achieve the look desired without compromising thermal efficiency and performance. OptiCore windows are designed to handle a triple-pane insulating glazing unit with a 1-3/8" pocket providing even greater thermal efficiency, as well as, the standard double-pane glazing unit with a 1" pocket.

Structural Performance

More than ever before, Architectural products are getting larger and must meet and exceed design expectations and continue to perform. Performance testing is critical, that is why all OptiCore windows are not just tested to AAMA minimum *Gateway* sizes, but undergo AAMA's rigorous AW testing and certification process at the *Maximum* sizes for each window or combination of windows. OptiCore products utilize double corner key construction for maximum corner joinery and frame strength. This ensures superior performance while offering architectural design and combination flexibility to meet your project's specifications.

Sound Transmission Performance

The OptiCore patented windows along with Azon's Azo-Core™ thermal barrier system, has been engineered to improve Sound Attenuation for enhanced noise reduction. The C600 and W600 series also allow for up to a 1-3/8" glazing pocket for a variety of double and triple pane glass packages to enhance STC and OITC performance ratings.

IDEA Essentials

OptiCore products IDEA "Innovative Design Enhanced Adaptability" Essentials offer you inside and outside design flexibility to turn your vision into reality, without compromising strength, durability or energy efficiency.
OptiCore C600 and W600 windows offer three core interior options to meet any project requirement —
- Natural Wood interior windows with an Aluminum exterior
- Painted or Class I Anodized Aluminum interior/exterior
- Two-Tone Aluminum interior option that allows you to mix interior and exterior colors

Glass and Glazing

OptiCore windows have been designed with a standard exterior glazed 1" pocket, with an option of up to 1-3/8" triple-pane glazing to achieve the glass performance your project deserves. OptiCore products provide a variety of glass options such as internal grids, or Simulated Divided Lites (SDL) to reflect your design style. OptiCore windows offer two different sash glazing design options as part of its IDEA Essentials —
- Square Glazed - for a modern look that also simulates storefront
- Bevel Glazed – for a more traditional/historic look

Hardware

OptiCore products were engineered with a dual Euro-Groove frame system to allow for a variety of standard and custom hardware options and adjustments. The C600 and W600 feature contemporary low-profile architectural grade hardware designed for maximum ease of operation. The OptiCore window Euro-Groove frame system also allows for a variety of custom built hardware and technology options to allow for larger than normal sash sizes and even remote control of your windows.

Paint

OptiCore C600 and W600 windows offer a variety of industry leading high-performance powder paint options to achieve the perfect interior and exterior look —
- W600 – Wood interior / Painted or Anodized exterior
- C600 – Single color or Two-Tone Aluminum interior/exterior
- Standard High Performance AAMA 2604 Powder Paint
- Optional AAMA 2605 Powder Paint
- Unlimited color options for interior and exterior Finish
- Class I Anodized Aluminum Finish for superior anodized performance

Screen Options

C600 and W600 windows can be ordered with or without screen channels depending on your preference —
- FlexScreen® – Shallow profile, easy to install and remove – "Life-Time Warranty"
- Standard flange screen with "thumb-turn" locking system

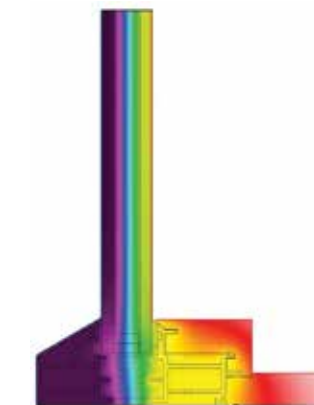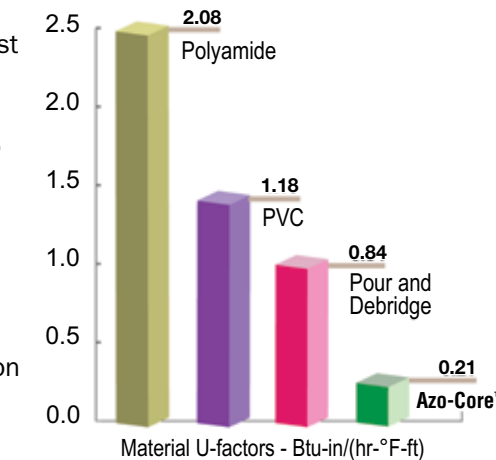## Size and Combination Flexibility

OptiCore windows were designed for a maximum viewing area. Assorted combinations and sizes offer expansive views, more natural daylight and the ability for year-round comfort. OptiCore windows feature larger size and combination options while maintaining and exceeding AAMA AW performance levels.
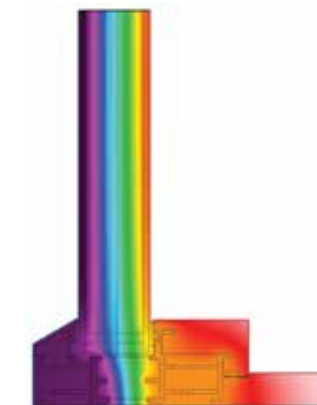
Enhanced Thermal Performance with Azon Azo-Core™

OptiCore windows feature Azon's Azo-Core™ thermal barrier system. Azo-Core™ offers superior performance compared to traditional Strut and Pour & Debridge technology —

- Enhance thermal performance with the lowest conductivity value of 0.21, compared to 0.84 for traditional *Polyurethane Pour & Debridge* and 10X lower than *Polyamide Strut/Strip System.*
- Superior structural performance based on torsion, shear and deflection testing over *Polyamide Strut System.*

Bar chart — Material U-factors - Btu-in/(hr-°F-ft)
- 2.08 Polyamide
- 1.18 PVC
- 0.84 Pour and Debridge
- 0.21 Azo-Core™

Dual Glazed 1" IG
U-Value 0.22 - 0.25

Triple Glazed 1-3/8" IG
U-Value 0.14 - 0.19

Mullions and Continuous Frame

Both the C600 and W600 windows can be configured to meet your project needs utilizing both factory and field applied C-Mullions and T-Mullions, as well as, the OptiCore continuous framing system for enhanced performance and narrow sitelines, maximizing both Architectural flexibility and ease and speed of installation.

Casement *C600/W600 / AW-PG100-C / AW-PG70-C*

A Versatile Choice

The OptiCore AW100 Casement window system provides a variety of possibilities for the building's interior and exterior design. Flexibility options allow you to create larger window configurations and a variety of interior styles that can range from real and painted Wood to Aluminum custom colors without compromising quality or performance.

Standard Features and Benefits

- AAMA rating — AW-100 (Tested at Gateway size)
- AAMA Rating — AW-70 (Tested at Maximum size)
- C600 Alum/Alum frame depth is 4-1/8"
- W600 Alum/Wood frame depth can be 4-9/16" and 6-9/16" standard
- 1" insulating glass
- Dual Sealed Warm Edge Spacer System for increased energy efficiency, performance and durability
- Two-tone capabilities (i.e. different colors inside and outside)
- Integral nailing fin for low floor installation
- Azo-Core™ Thermal Barrier System for reduced thermal conductivity and increased energy efficiency
- FlexScreen® for greater visibility, easy installation and removal and a life-time warranty
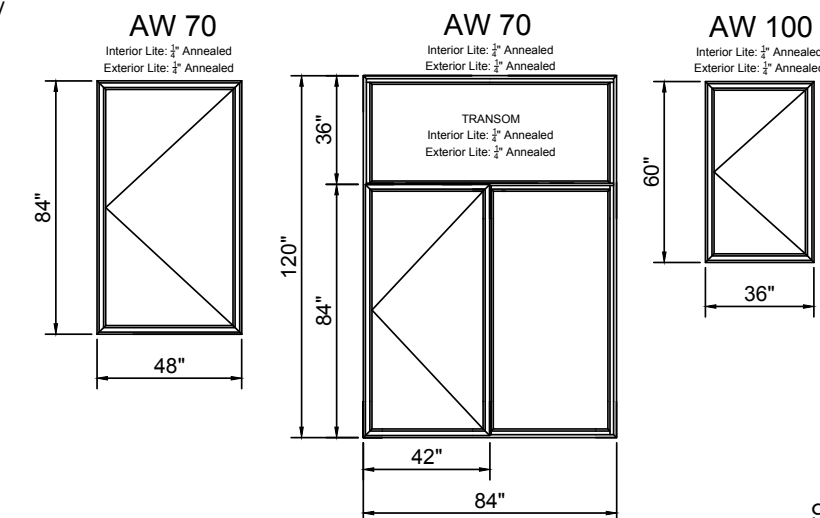
Options

- Modern Squared or traditional/historic style Beveled frame glazing
- ADA Hardware
- Structural mullions for multi-unit configurations
- Panning systems to assist with the most challenging installations
- Multiple glazing packages and Finish options
- 1-3/8" glazing pocket for optimal energy efficiency and enhanced sound attenuation
- Retractable Screen
- Continuous Framing System
- Muntin Options – Grids Between the Glass, Simulated Divided Lites
- Impact-rated glazing package

Performance

Description	Value*
U-Value	0.17-0.25
CR	52
SHGC	0.16
VT	0.34
OITC	28-35
STC	28-44

Depending on Glazing Package

Awning C600/W600 / AW-PG100-AP / AW-PG70-AP

The Perfect Combination

The C600 and W600 window series' provide the perfect combination of exceptional Performance and Flexibility. OprtiCore windows are ideal for creating a unique architectural design with a mixture of fixed and awning units. The result is an abundance of natural daylight, full ventilation, maximum energy efficiency and a custom architectural style.

Standard Features and Benefits

- AAMA rating — AW-100 (Tested at Gateway size)
- AAMA Rating — AW-70 (Tested at Maximum size)
- C600 Alum/Alum frame depth is 4-1/8"
- W600 Alum/Wood frame depth can be 4-9/16" and 6-9/16" standard
- 1" insulating glass
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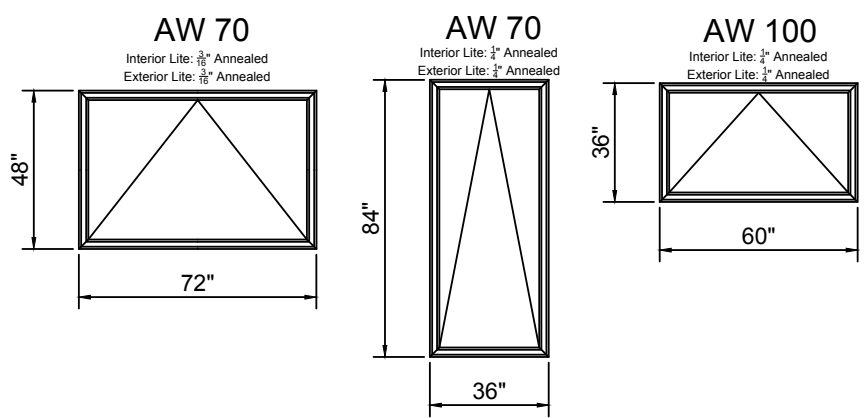- FlexScreen® for greater visibility, easy installation and removal and a life-time warranty

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U-Value	0.17-0.25
CR	52
SHGC	0.16
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OITC	28-35
STC	28-44

*Depending on Glazing Package

AW 70
Interior Lite: ⅛" Annealed
Exterior Lite: ⅛" Annealed
48"
72"

AW 70
Interior Lite: ⅛" Annealed
Exterior Lite: ⅛" Annealed
84"
36"

AW 100
Interior Lite: ⅛" Annealed
Exterior Lite: ⅛" Annealed
36"
60"

Fixed *C600/W600 / AW-PG100-FW / AW-PG70-FW*

A Myraid of Possibilities

OptiCore windows can satisfy your most creative vision. The patented C600 and W600 Fixed window systems can be manufactured in a variety of shapes, larger sizes and two-tone colors without compromising performance or energy efficiency. Your inspired design can be realized with the OptiCore Architectural Fixed Series.

Standard Features and Benefits

- AAMA rating — AW-100 (Tested at Gateway size)
- AAMA Rating — AW-70 (Tested at Maximum size)
- C600 Alum/Alum frame depth is 4-1/8"
- W600 Alum/Wood frame depth can be 4-9/16" and 6-9/16" standard
- 1" insulating glass
- Dual Sealed Warm Edge Spacer System for increased energy efficiency, performance and durability
- Two-tone capabilities (i.e. different colors inside and outside)
- Integral nailing fin for low floor installation
- Azo-Core™ Thermal Barrier System for reduced thermal conductivity and increased energy efficiency
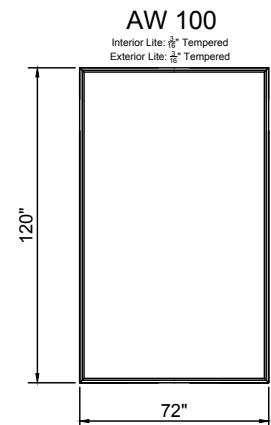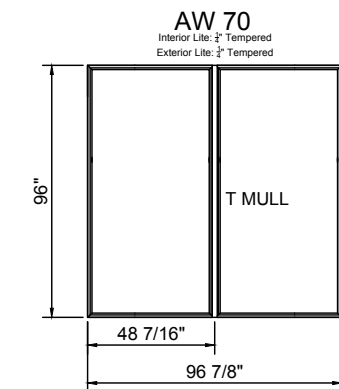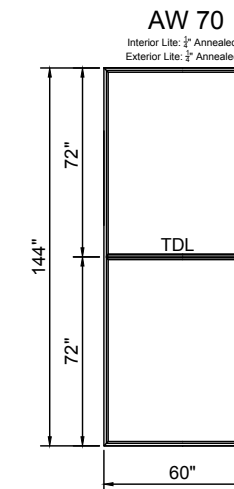
Options

- Modern Squared or traditional/historic style Beveled frame glazing
- Structural mullions for multi-unit configurations
- Panning systems to assist with the most challenging installations
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Performance

Description	Value*
U-Value	0.14-0.23
CR	52
SHGC	0.16
VT	0.34
OITC	28-35
STC	28-44

Depending on Glazing Package

AW 70
Interior Lite: ¼" Annealed
Exterior Lite: ¼" Annealed

144"
72"
72"
TDL
60"

AW 70
Interior Lite: ¼" Tempered
Exterior Lite: ¼" Tempered

96"
T MULL
48 7/16"
96 7/8"

AW 100
Interior Lite: ⅜" Tempered
Exterior Lite: ⅜" Tempered

120"
72"

Capabilities and Services

Designed for Innovative Solutions

Quaker offers a full range of services to satisfy your vision — your way. We have an experienced team who are strongly committed to providing creative and practical solutions to the most difficult challenges unique to a project. We offer the highest quality product designs and services within technical and budget constraints to satisfy and fulfill your project goals.

Research

Quaker® Research objectives are to identify the latest product and manufacturing technologies, market trends, future code requirements and product features that are required and desired by the key influencers and various market segments.

Design and Engineering Services

Our Design and Engineering team collaborates closely with our customers and the Quaker® team to focus on project necessities. This allows quick and seamless modifications and enhancements as well as the highest quality design solutions for your project.

Project Support Team

Our Project Support Team helps to drive all aspects of a project from planning and implementation to meeting the successful objectives in an efficient and cost effective manner.

LEED® and GREEN

Two words that have revolutionized the building industry and changed the way architects, designers and developers think are LEED® and GREEN.

At Quaker, we've been offering positive, environmental products for many years, so the GREEN concept is simply second nature to us.

We have the products to help your project achieve the coveted Leadership in Energy and Environmental Design (LEED) status.

Our Aluminum and glass contain a significant amount of recycled materials. On all of our Aluminum windows, doors and components, Quaker employs only powder-coat paint which emits nearly zero Volatile Organic Compounds (VOCs) into the air. Enhanced glass packages are offered with all of our windows and doors. These glazing systems are versatile and efficient — sunlight and solar heat can be deflected or captured depending upon what's required.
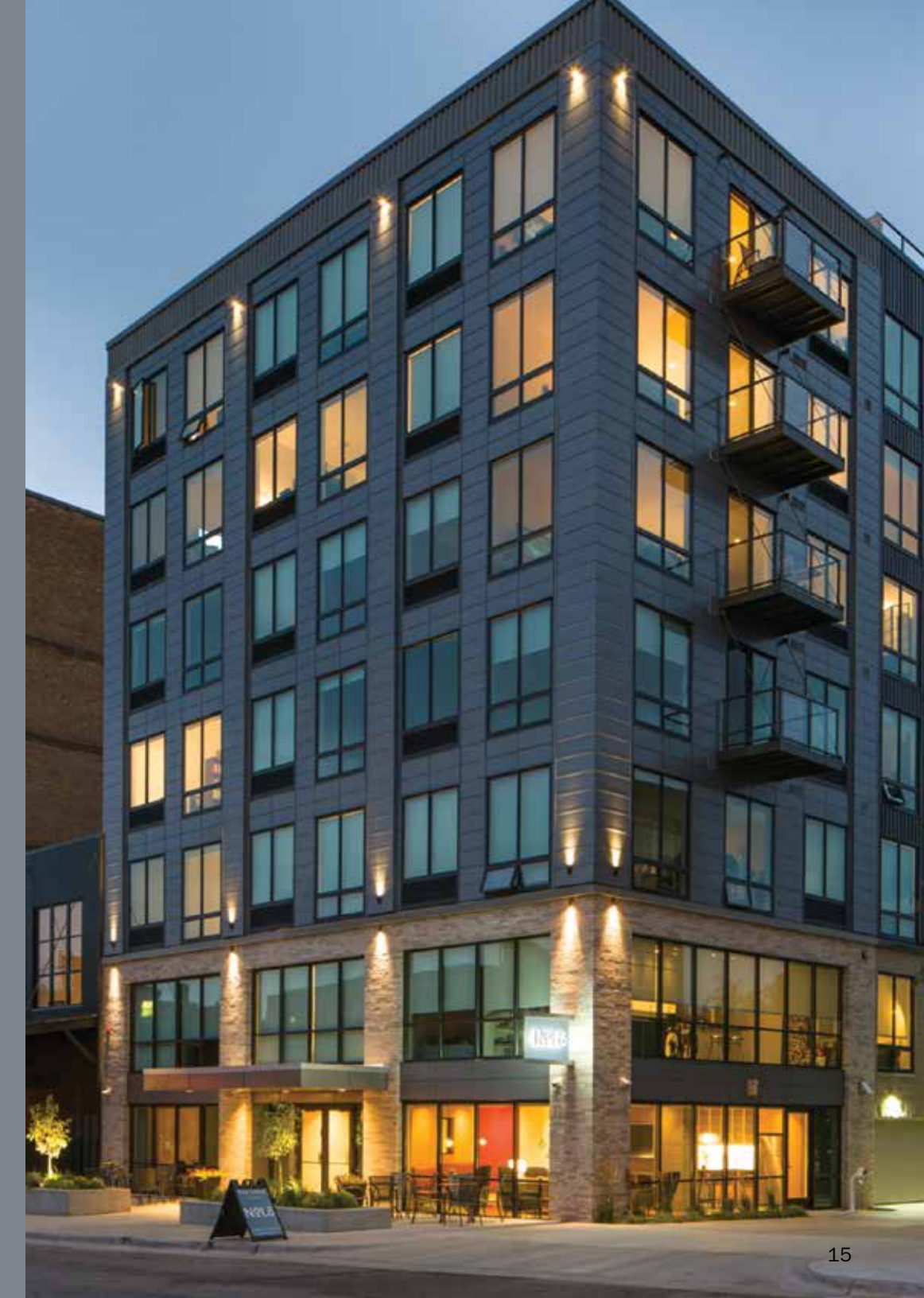
The Quaker Difference

Design Performance — Quaker® OptiCore windows are tested to achieve an AAMA certified AW architectural rating based on both the windows *Maximum* design size *and Gateway* test size. This means that no matter the size needs of your project, your windows will perform to desired requirements.

Main Frame and Vent Construction — The C600/W600 Series of OptiCore enhanced windows are constructed utilizing aluminum alloy 6063-T6. A fully automated computer-controlled corner-key assembly system aligns and locks each mitered frame corner to exact specifications. Sealant is then robotically injected into the key for added strength and to ensure a water-tight corner and glazing pocket.

New Construction — Quaker® windows are designed and manufactured to meet your installation needs. OptiCore windows can be ordered with an integral miter cut continuous nail fin built into the frame, which surrounds the whole unit. You do not have to worry about open gaps around the window, or uneven fins. Quaker also offers a variety of receptor, subsill and panning options to meet your project's installation needs.

Anodized Exterior Aluminum Finish — Quaker® OptiCore Aluminum windows use the superior Class I Anodized Aluminum Exterior Finish to ensure a long-lasting appearance and performance that will hold up to the challenges of the elements, unlike some manufacturers who use a Class II Finish on their windows. The Class II Anodized Aluminum Finish is meant for interior applications and has a limited life and warranty.

Exterior Powder Paint — Quaker has one of the largest state-of-the-art Aluminum window powder paint facilities in the United States. This not only enables Quaker to offer consistent color flexibility, but also the highest quality standards in the industry. Quaker® OptiCore standard coating is the higher grade AAMA 2604 powder paint, while offering the option for AAMA 2605 rated coating where specified.

the quaker difference Q

Celebrating 70 Years

Since 1949, the Quaker® Difference has been represented by a standard of quality, engineering, craftsmanship and innovation that Quaker builds into every window and door. It is that attention to detail and manufacturing excellence that distinguishes Quaker from all other window and door companies in America.

An American Company
Founded in 1949.

North Campus

South Campus

QUAKER®
Windows & Doors

ENERGY STAR PARTNER

WINDOW & DOOR MANUFACTURERS ASSOCIATION
WDMA AAMA

Learn more about OptiCore Technology

OPTICORE
T E C H N O L O G Y

This product is **Patent Protected**.
Refer to www.QuakerWindows.com/Patents for more information.

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COMMERCIAL WINDOWS AND DOORS

www.QuakerCommercialWindows.com
Phone: (800) 347-0438
Fax: (573) 469-4151

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