





Sanford Hills Mathews, born in Searsmont, moved to Bangor at the age of 19 to learn the trade of joinery. He joined his family in Belfast in 1854 as he continued to learn his trade. Summers he worked, and winters he taught public school. In 1860, he joined his brothers, and the company was renamed "Mathews Brothers Company".

It is said that in his entire career, which spanned 37 years at Mathews Brothers, he never took a vacation, except to attend his son's graduation from the University of Rochester in 1885.

*"His was a life of simplicity, of simple obedience to duty, of earnest toil, and of ready service to those around him."
- Maine Biographies, Harriet B. Coe*

A WINDOW 165 YEARS IN THE MAKING

For 160 years, Mathews Brothers produced putty-glazed wood sash. Millions of them, each and every one hand-glazed.

So, the look and feel of wood windows is not only in our heritage, it's in our blood.

Nearly three decades ago, when Mathews Brothers added PVC windows to our product line, we were among the first wood window manufacturers in the country to do so. Although it was a break with our traditional wood framing (which we'd continue to make for 25 more years), we still made windows that were beautiful, energy-efficient, low-maintenance, and worry-free. So, no matter whether the framing material was wood or PVC, the Mathews Brothers brand was the builder's and homeowner's assurance that it was made with our unique dedication to craftsmanship and quality.

Wicked Awesome Windows we're proud to make, dealers are proud to distribute, and builders are proud to recommend.

But, still, we missed the look and feel of our wood windows. We missed the aesthetic of beefy sash rails, the texture of historic muntin bars.

We wanted the best of both worlds.

So, we made a bold move. We took our collective decades of experience in the builder's world, learning what they want and need, along with our passion for exceeding customer demands, and coupled it with our generations of knowledge in producing superior quality windows and doors, both efficiently and accurately, and applied it to the design of this product family.

The result is our Sanford Hills family of products.

This breakthrough design is unlike any PVC windows you've ever seen, and the performance is decidedly world-class.

CLASSIC BEAUTY

From every angle, the Sanford Hills looks like a classic New England wood window. Starting with a deep 4⁹/₁₆" Master Frame, the window hosts sash that are a full 1³/₄" thick. Traditional 3¹/₂" Flat Casing, 4¹/₂" Banded Casing, Historic Staff Bead Brickmould, as well as Standard or Historic Sill Nosings are available to complete the exterior.

The window's interior is equally impressive. The deep sash rails can accommodate both Low-Profile as well as Hidden Tilt Latches. Choose extruded White, Adobe or Stain-Grade Wood-Based Laminate. Color-matched Jamb Covers and Historic Putty Muntins all hearken back to our Classic wood design.

BREAKTHROUGH DESIGN

The breakthrough design of the Sanford Hills takes us back to our roots. We emulated the classic 5⁸/₁₆" muntin bars that we moulded for generations. We copied the historically accurate interior putty beads that we hand-applied for a century and a half. At the same time, we designed not one, but two different sash sets to accommodate both 3⁴/₈" Dual-Glazed, and optional 1¹/₈" Triple-Glazed Insulating Glass Units.

INCREDIBLE PERFORMANCE

Despite its beauty, the Sanford Hills is incredibly high performing. Performance Grade 50 without any upgrades. Amazing Energy Star® 6.0 rating with our standard 3⁴/₈" Low-e/Argon glazing. Sizes up to 48" x 88" in the Double Hung and 40" x 84" in the Casement. Incredible.

After 165 years, the Sanford Hills has redefined what a window can be.

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*Historic 1716 Cape
Cottage Style Double Hung
% Simulated Divided Lite/Spacer Bar
5/8" Historic Putty Bead
5/4 x 3 1/2" Flat Casing/ Historic Sill Nose
Wood-Based Interior/Hidden Tilt Latches*

Standard Frame Features

- 4-9/16" Master Frame.
- Performance Grade 50 without upgrades.
- Fusion-welded for added strength.
- Integral nailing fin provides air and water seal around frame.
- Integral "Fat" 7/8" J-channel accepts virtually every siding thickness.
- Balance Covers for a neater interior appearance.
- Pre-sloped sills for water runoff.
- Extruded White interior and exterior.

Optional Frame Features

- Extruded Adobe interior and exterior.
- Wood-based stain-grade laminate.
- J-channel cover.
- 3/4" Drywall return.
- Extension Jamb.
- Window Opening Control Device.
- 5/4 x 3-1/2" Flat Casing.
- 4-1/2" Banded Casing.
- Historic Staff Bead Brickmould.
- Standard and Historic Sill Nose.
- Custom exterior color finishes.
- Full or Half Screen-BetterVue® insect screen.



*Hidden Tilt Latch
Black Lock & Keeper
5/8" Grill Bar - Ovolo Sticking
Spacer Bar*

Standard Sash Features

- 1-3/4" Stiles and Rails.
- 3/4" Dual-Pane Insulating Glass Unit with/Low-E glass/Argon gas fill.
- Lift rail removed.
- Non-corrosive color-matched hardware.
- Equal glass size on sash emulate traditional wood appearance.
- Cam-action lock action draws sashes closer for a tighter positive lock.
- Low profile tilt latches.
- Integral interlocking meeting rail provides additional security.
- Duralite® warm-edge technology for reduced condensation.

Optional Sash Features

- 1-1/8" Triple Pane Insulating Glass Unit.
- Extruded Adobe interior and exterior.
- Custom exterior color finishes.
- Grilles Between Glass.
- Simulated Divided Lites.
- -Ovolo sticking on 3/4" IGU interior
- -Trapezoidal Putty on 3/4" IGU exterior
- -Trapezoidal Putty on 1-1/8" IGU both sides



Double Hung

Traditional, classic, durable — double-hungs give you all of that plus energy efficiency and peace of mind. Top and bottom sash operate smoothly allowing you to control air flow, and they both tilt-in for easy cleaning and care. Grilles can be added to further enhance the traditional look of your home.

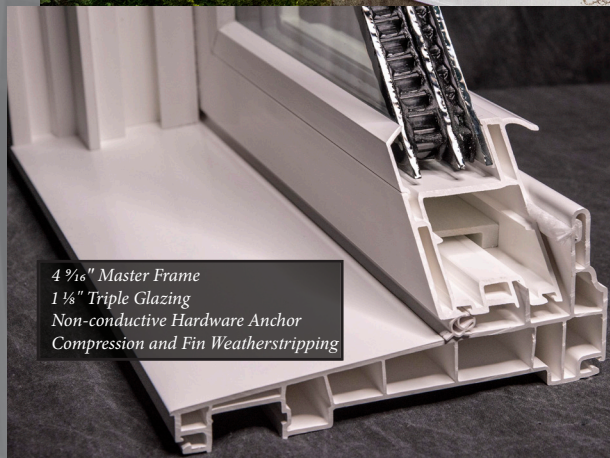
Use singly, or factory mulled with transoms or other fixed or operable units to add a dramatic accent to your home's appearance, while providing a brighter, more open interior.



Self-Identifies as a Wood Window
 Ultra-deep 1 3/4" Sash Profiles
 Deep Sash Profiles
 3/4" Dual Glaze
 1 1/8" Triple Glaze
 Hidden Tilt Latches
 Stain-Grade Wood-based Interior Laminate



1980 Beachfront Renovation
 2/2 Simulated Divided Lite/Spacer Bar
 1 1/8" Historic Putty Bead
 5/4 x 3 1/8" Flat Casing/Historic Sill Nose
 Hidden Tilt Latches
 Color-Matched Half Screen

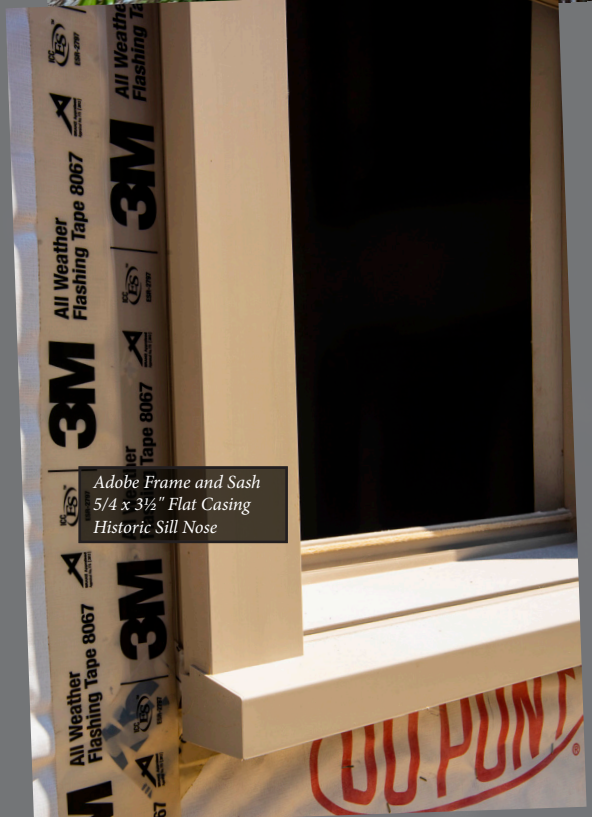


4 5/8" Master Frame
 1 1/8" Triple Glazing
 Non-conductive Hardware Anchor
 Compression and Fin Weatherstripping





*Residential New Construction
With a "fat" 7/8" J-Channel, any type of siding can be accommodated. Optional exterior casings include 5/4 x 3 1/2", 4 1/2" Banded, and Staff Bead Brickmould.*



*Adobe Frame and Sash
5/4 x 3 1/2" Flat Casing
Historic Sill Nose*



*Residential New Construction
Double Hung with Transom
Black Exterior
4/1 Simulated Divided Lite/Spacer Bar
5/8" Historic Putty Bead
4 1/2" Banded Casing/Historic Sill Nose*



Six Window Mullion Unit
9/16" Simulated Divided Lite
Hidden Tilt Latches



Simulated Divided Lite with Spacer Bar
Historic 5/8" Ovolo Sticking
Low Profile Tilt Latch
Window Opening Control Device



Historic Renovation
The historic accuracy of our 4 1/2" Banded Casing can be seen when compared to the original windows on the second and third floors of this 1930s era barn.



Want to see more?



Visit our Projects Page



*Multi-Family New Construction
3, 4 and 6 Window Muller Units
Picture Window over Awning
Triple Picture Window*

Standard Frame Features

- 4-⁹/₁₆" Master Frame.
- **Commercial** Grade 65 without upgrades.
- Fusion-welded for added strength.
- Integral nailing fin provides air and water seal around frame.
- Integral "Fat" ⁷/₈" J-channel accepts virtually every siding thickness.
- Extruded White interior and exterior.
- Multi-Point Locking System for the utmost security.
- Three layers of weather-stripping ensure effective barrier to air and water penetration.
- Top rated hardware system allows even the largest casements to be easily and smoothly operated.

Optional Frame Features

- Extruded Adobe interior and exterior.
- Wood-based stain-grade laminate.
- J-channel cover.
- ³/₄" Drywall return.
- Extension Jambs.
- Window Opening Control Device.
- ⁵/₄ x ³/₂" Flat Casing.
- 4-¹/₂" Banded Casing.
- Historic Staff Bead Brickmould.
- Standard and Historic Sill Nose.
- Custom exterior color finishes.



Standard Sash Features

- 1-³/₄" Stiles and Rails.
- ³/₄" Dual-Pane Insulating Glass Unit with/Low-E glass/Argon gas fill.
- Casement sash opens completely, so windows can be cleaned easily from inside your home.
- Non-corrosive color-matched hardware.
- Duralite® warm-edge technology for reduced condensation.

Optional Sash Features

- 1-¹/₈" Triple Pane Insulating Glass Unit.
- Extruded Adobe interior and exterior.
- Custom exterior color finishes.
- Grilles Between Glass.
- Simulated Divided Lites.
- -Ovolo sticking on ³/₄" IGU interior
- -Trapezoidal Putty on ³/₄" IGU exterior
- -Trapezoidal Putty on 1-¹/₈" IGU both sides

Casement/Awning

With clean, contemporary architectural lines, casement and awning windows offer 100% opening for maximum ventilation. By extending beyond the plane of the wall, casements catch passing breezes and channel them into the home.

Casement & Awning are our most energy-efficient operating product unit, featuring 3/4" insulating glass standard and a single lever multi-point locking system that keeps the sash tightly sealed in multiple locations. You'll be able to open and close your windows with ease, thanks to our smooth low gear operator. Our top rated hardware system allows even the largest units to be effortlessly and smoothly operated.

A unique glazing feature of our Casement units is the 2 1/8" False Meeting Rail, which emulates the lines of a Double Hung, yet allows the opening and egress of a Casement.



Residential New Construction
Single and Twin Casements with 3/4" Historic Ovolo Sticking,
Multi-Point Hardware, Nesting Operator Handles



Commercial Historic Renovation (Top Floor)
Single and Twin Casements
5 Lite Ladder Grille with 2 1/8" False Meeting Rail
5/4 x 3 1/2" Flat Casing



Residential New Construction
Single Awning
Adobe Frame & Sash
Grille-Between-Glass - Flat Bar
5/4 x 3 1/2" Flat Casing with Historic Sill Nose



Historic Restoration
Unfinished Wood-Based Interior
5 Lite Ladder Grille with Spacer
2 1/8" False Meeting Rail
3/4" Historic Ovolo Sticking



Residential New Construction
6 Window Muller Unit, Double Hung, Picture, Transom
Hidden Tilt Latches
Single Casement



Residential New Construction
Casements and Picture Windows provide you with unobstructed views as well as the maximum opening for ventilation. Casements capture the passing breeze and channel it to your home's interior



Want to see more?



Visit our Projects Page



Residential New Construction
Black Sash/White Frame and Casing
Historic 5/8" Putty Bead
5/4 x 3 1/2" Flat Casing with Standard Sill Nose

Beachfront Condo Renovation
Double Hung / Casement / Awning
Black Sash / White Frame and Casing
5/4 x 3 1/2" Flat Casing / Standard Sill Nose



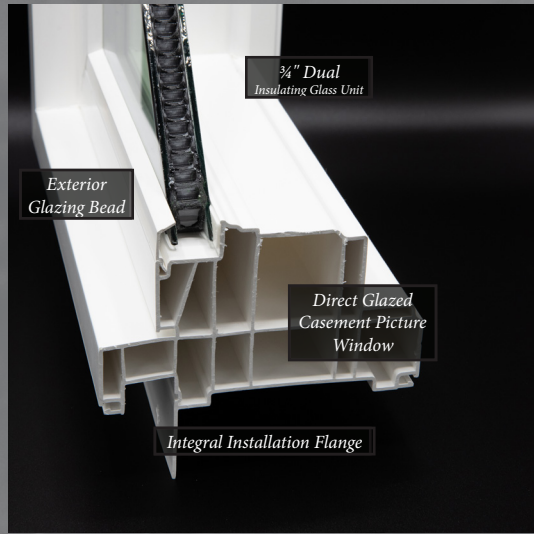
False Meeting Rail
2 1/8" Historic Putty Bead emulate the look
of a Double Hung Meeting Rail



Factory Mull Units
Dual and Triple Casements
5/4 x 3 1/2" Flat Casing
Historic Sill Nose



Residential New Construction
 Casement - White Frame and Casing/Black Sash
 Historic 5/8" Putty Bead - Simulated Divided Lite
 5/4 x 3 1/2" Flat Casing with Standard Sill Nose
 "Fat" 7/8" J-Channel accommodates most siding applications



Exterior Glazing Bead

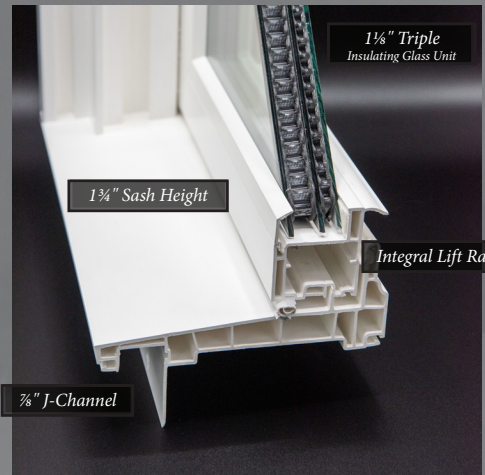
3/4" Dual Insulating Glass Unit

Direct Glazed Casement Picture Window

Integral Installation Flange



Residential New Construction
 Triple Double Hung - Factory Mull
 White Frame and Casing/Black Sash
 7/8" Historic 5/8" Putty Bead - Simulated Divided Lite
 5/4 x 3 1/2" Flat Casing with Historic Sill Nose



1 1/8" Triple Insulating Glass Unit

1 3/4" Sash Height

Integral Lift Rail

7/8" J-Channel

EXTERIOR CASINGS

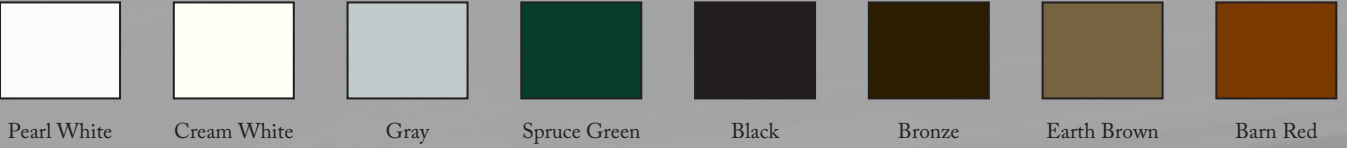
Give your windows depth and character with exterior casings. Shown, from top to bottom, Flat, Banded or Brickmould. Available with our without J-Channel.

Sill Nosing adds the final touch, with either the architecturally accurate Historic Sill Nose (above, right) or the Standard Sill Nose (below, right).



Exterior Paint Options

Our in-house palette consists of 8 prefinished exterior colors, with many other colors available.



Pearl White Cream White Gray Spruce Green Black Bronze Earth Brown Barn Red

Please note that the material colors are not necessarily precise representations due to variance in the printing process.

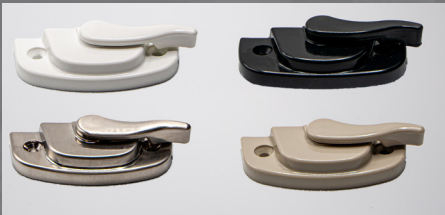
Exterior / Interior Customization



The Sanford Hills Double Hung is available with either low-profile surface mounted tilt latches, or optional Hidden Tilt Latches, for a smooth lock rail appearance



The 2018 International Residential Code requires Window Opening Control Devices on certain windows. Please check local code office for details.



Choose your hardware color from White, Black, Satin Nickel or Adobe. Tilt latches are available in White, Black and Adobe.



Wood-based laminate can be ordered for any interior surface of the Sanford Hills. Shown here are Casement Screen Frame (left), Casement Multi-point Lock Arm (above left, in Satin Nickel), and Casement Adobe Screen (above right).

Frame and Sash are available in either White or Adobe. The Interior Frame, Sash, Muntin Bars and Casement Screen frame can also be ordered with a wood-based interior laminate for the ultimate wood look.



Stain-grade quality, a light coat of water-based or gel coat stain or paint is all that's required to finish the interior.

Want to see more?



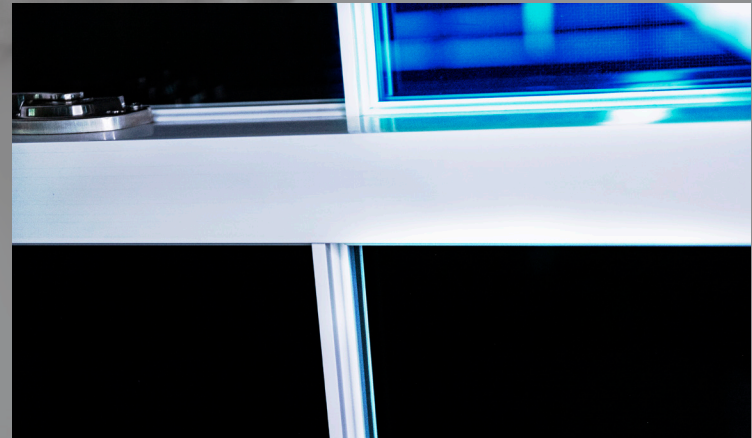
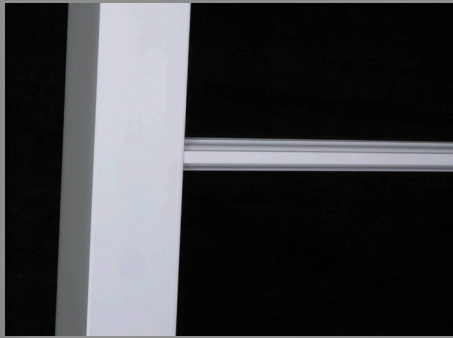
Visit our Options Page

The Importance of Proper Glazing

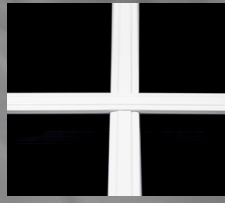
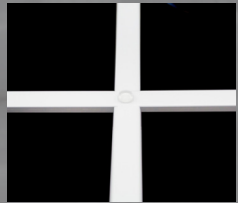
Glass accounts for approximately 85% of the square footage of a window, so a small investment in the proper Insulating Glass Units can pay dividends for decades. While Low-e glass dramatically improves a window's thermal performance, it does slightly reduce Visible Light Transmittance (VT), as well as Solar Heat Gain (SHG). Our unique "PassivGlas" and "PassivGlas Plus" Insulating Glass Units let in around 70% more of the sun's heat, and allow about 15% more sunlight into the room, while still providing outstanding thermal performance.

Our standard Low-e/Argon glazing package exceeds Energy Star 6.0 requirements for U-Factor. If you wish a higher degree of VT and SHG, however, we offer our PassivGlas and PassivGlas Plus.

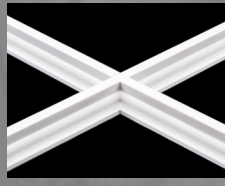
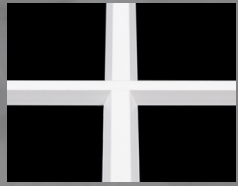
Dual Pane			Triple Pane			
exterior	Low-e (S2)	PassivGlas (S2)	exterior	Low-e (S2)	PassivGlas (S2)	PassivGlas+ (S2)
fill	Argon	Argon	fill	Argon	Argon	Argon
interior	Clear	Clear	center	Clear	Clear	Clear
			fill	Argon	Argon	Argon
			interior	Clear	Clear	PassivGlas+ (S5)
Double Hung	0.26	0.28		0.22	0.22	0.19
Casement	0.23	0.25		0.20	0.21	0.19
Awning	0.24	0.25		0.20	0.21	0.19
Stationary Casement	0.24	0.26		0.20	0.21	0.19
Sash Glazed Picture Window	0.25	0.27		0.21	0.22	0.19



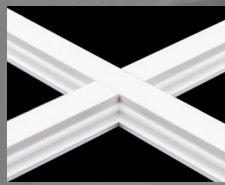
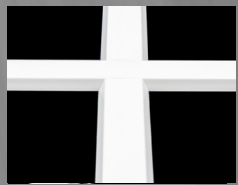
Glazing Options



Grille-Between-Glass
Rectangle (left)
Contoured (Right)



5/8" Historic Putty Muntin (left)
5/8" Historic Ovolo Sticking (right)



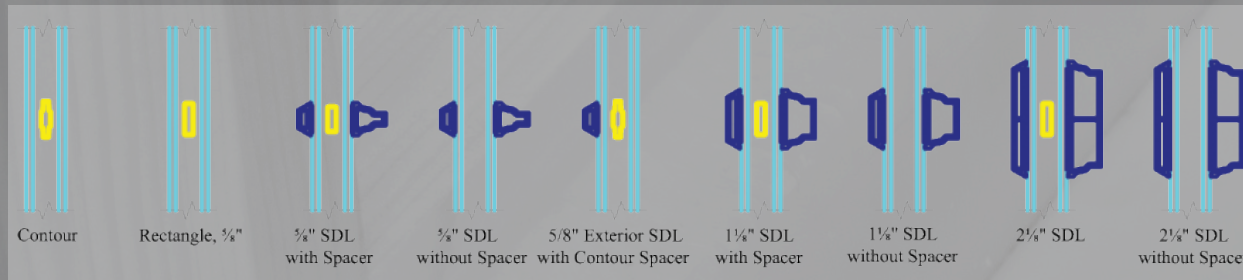
1 1/8" Historic Putty Muntin (left)
1 1/8" Historic Ovolo Sticking (right)



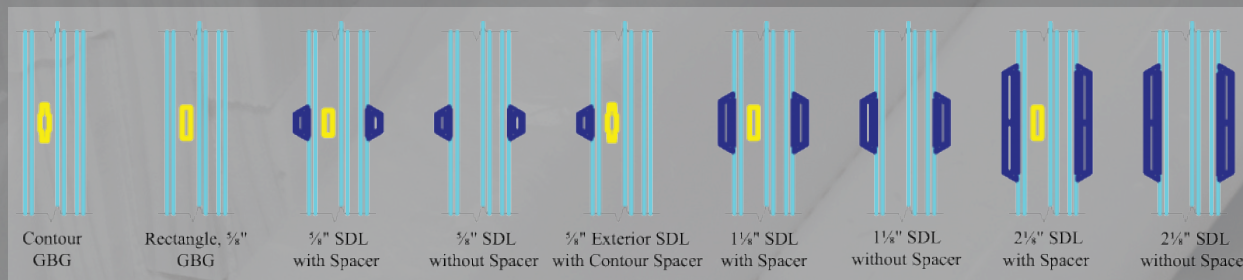
2 1/8" Historic Putty Muntin (left)
2 1/8" Historic Ovolo Sticking (right)



Exterior and interior muntin bars
are treated to match sash, either with
exterior paint, or interior lamination.



Dual glazed grille options, showing
arrays with and without spacer bar.

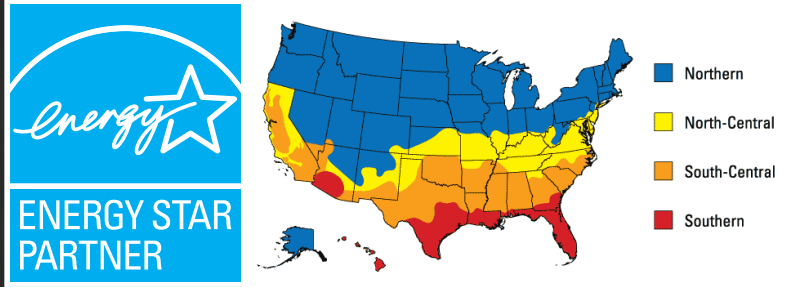


Triple glazed grille options, showing
arrays with and without spacer bar.



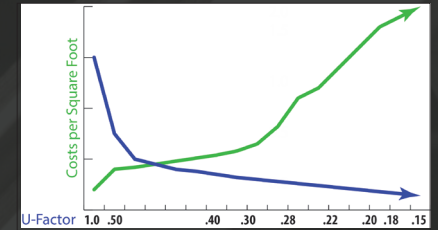
WHEN THE SOLUTION

BACKGROUND - Since its introduction in 1992, **Energy Star**® certification has been the 'Holy Grail' for manufacturers of electronics, lighting, appliances, and building materials, especially windows. The certification is the consumer's assurance that the product bearing the **Energy Star**® label is among the most energy efficient in its class. And because the designation is given only to the top performers within their class, achieving **Energy Star**® certification has prompted window designers and manufacturers to continually produce better and more energy-efficient products.



The EPA has defined four climate zones for the country

When first adopted, **Energy Star**® certification was fairly easy to achieve. Usually, a thermally improved frame with an Insulating Glass Unit would qualify. However, over the subsequent decades, the Environmental Protection Agency has required gradually improved performance in order to qualify.



Every incremental improvement costs exponentially more

THE QUANDARY - Keeping pace with these demands for improved performance has taken the combined efforts of the entire industry, including manufacturers and their suppliers of framing, glass, sealants, hardware and other components. Ultimately, every incremental performance improvement comes with an exponentially higher price tag.

Under **Energy Star**® 6.0, the stringent U-Factor required in the Northern zone (U=0.27 or better) has proven to be an extremely difficult metric for many manufacturers to meet. As frequently happens, government regulations and mandates require solutions that are beyond the performance limits of a product's design. When this occurs, manufacturers either replace the old product, or they explore alternate methods of meeting performance criteria, some of which may have unintended consequences.

U-Factor is the measurement of the rate of Heat Loss through the window, so the lower the number, the better. U-Factor takes into consideration framing, glazing and spacer conductivity, therefore it is a rating of the entire window unit.

In order to qualify for Energy Star® 6.0, some window manufacturers have had to resort to providing so-called 'S4' Glazing, wherein the interior surface of the window contains an exposed Low-e (low emissive) surface.


While this option will result in a lower U-Factor, it also increases interior levels of condensation to potentially damaging and unhealthy levels, particularly in the Northern climate zone.

Because of the risk of sheetrock damage, the potential for dangerous mold growth, and other reasons, Mathews Brothers will not offer S4 Glazing on any of our window or door units.

VT is the Visible Light Transmittance of the glass unit. This is an important rating to consider when specifying glazing packages that include Low-e glass. Low-E glass reduces radiated heat loss, but also reduces visible light.

Since 'S4' Glazing typically involves the introduction of at least one additional layer of Low-e, VT is reduced dramatically, resulting in a condition many consumers find unsatisfactory.

Know Your Values

 National Fenestration Rating Council® CERTIFIED		Mathews Brothers Company Sanford Hills NC/Repl DOUBLE HUNG MBC-M-55-00101-00001 HOLLOW VINYL FRAME LOWE ARGON MNTNS Triple Pane	
ENERGY PERFORMANCE RATINGS			
U-Factor (U.S./I-P)	Solar Heat Gain Coefficient		
0.20	0.41		
ADDITIONAL PERFORMANCE RATINGS			
Visible Transmittance	Air Leakage (U.S. / I-P)		
0.50	≤ 0.3		
<small>Manufacturer stipulate that these ratings conform to applicable NFRC procedures for determining whole product performance. NFRC ratings are determined for a fixed set of environmental conditions and a specific product size. NFRC does not recommend any product and does not warrant the suitability of any product for any specific use. Consult manufacturer's literature for other product performance information. www.nfrc.org</small>			

SHGC is the Solar Heat Gain Coefficient of the glass unit. Since the SHGC typically drops with the U-Factor, any potential passive solar heating will also be reduced. This can be an important consideration in the Northern climate zone, where in the winter the days are shorter, and the sun has a lower azimuth.

Introducing additional layers of Low-e glass will also reduce the potential for solar heat gain.

Mathews Brothers offers Low-e coatings that provide very low U-Factor values, while still permitting solar heat gain.

Air Infiltration is a measurement of the cubic volume of air that passes between a window frame and the sash, and is expressed as cubic feet per minute, per square foot of window.

This number is typically posted as 'less than or equal to 0.3', since air infiltration is a pass/fail at that number.

Of all the information appearing on the NFRC label, this is perhaps the least important, from a performance standpoint.

CHASING THE NUMBERS - In thermal testing, administered by the National Fenestration Rating Council (NFRC), windows are measured for various performance attributes -

- (average) **Air Infiltration (AI)**
- (overall) **Thermal Conductivity (U-Factor)**
- (potential) **Solar Heat Gain (SHGC)**
- (percentage of) **Visible Light Transmittance (VT)**
- and overall **Condensation Resistance (CRF)**.

Each one of these attributes are measured and reported, as they all influence energy consumption and are excellent indicators of how the window will perform when compared to other windows.

BECOMES THE PROBLEM

QUESTIONABLE SOLUTION - When looking at the NFRC label, it's important to remember that a window's overall thermal performance is the result of all its contributing factors, and that frequently an adjustment to one area can have undesirable effects in another. For example, it's easy to reduce the unit's U-Factor by applying additional layers of Low-e glass. However, this would also have the undesirable effect of reducing both VT and SHGC, so it's important to maintain a balance in all areas.


One particular measurement of importance to people in the cold Northern climate zones is the unit's Condensation Resistance Factor (CRF), since the accumulation of excessive condensation can be particularly detrimental not only to the building's structure, but to the indoor air quality as well. Since this number (which ranges from 1 - 100) is not required to be reported, most architects, building professionals and homeowners are unaware of its existence, much less its importance.

Unfortunately, in order to meet Energy Star® 6.0, some manufacturers have chosen to resort to so-called "Surface 4" or "roomside" Low-e glazing. Under this technique, an additional layer of low-E coating is placed on Surface 4 (S4) of the glass of a traditional improved IG (generally, low-E and argon fill).

According to industry experts, the science behind S4 results in a higher risk of condensation in cold weather because the Low-e coating reduces radiant heat transfer from the room to the glass surface. While this does improve the window U-factor by about 0.03, ultimately the room-side glass is cooler, which increases the chance of an excess of water vapor condensing on the glass surface, which can result in sheetrock damage, peeling paint or mold growth.

This is the unintended, yet potentially dangerous consequence of S4 glazing: a dramatic reduction in the CRF, with a resulting increase in condensation on interior glass surfaces, and the subsequent damage that results.

PROTECT YOUR HOME, PROTECT YOUR FAMILY - How can you be sure the window you are specifying or installing has the recommended CRF for your climate zone? What is the recommended CRF for your climate zone?

 National Fenestration Rating Council® CERTIFIED	Mathews Brothers Company Sanford Hills NC/Repl DOUBLE HUNG MBC-M-55-00101-00001 HOLLOW VINYL FRAME LOWE ARGON MNTNS Triple Pane	
	ENERGY PERFORMANCE RATINGS	
U-Factor (U.S./I-P) 0.20	Solar Heat Gain Coefficient 0.41	
ADDITIONAL PERFORMANCE RATINGS		
Visible Transmittance 0.50	Air Leakage (U.S. / I-P) ≤ 0.3	
Condensation Resistance 72	—	
<small>Manufacturer stipulate that these ratings conform to applicable NFRC procedures for determining whole product performance. NFRC ratings are determined for a fixed set of environmental conditions and a specific product size. NFRC does not recommend any product and does not warranty the suitability of any product for any specific use. Consult manufacturer's literature for other product performance information. www.nfrc.org</small>		



According to both the American Architectural Manufacturers Association (AAMA) and NFRC, for the cold Northern climate zone, windows should have a CRF of at least 50. This will provide a sufficiently warm roomside glass surface to resist moisture. Even with a CRF above 50, windows in highly humid areas of the home (kitchens and bathrooms) may show some occasional condensation, as may other windows in the home during the seasonal transition from Summer to Autumn. This type of condensation should not be a cause for alarm. What should be a cause for alarm would be continuous, daily, uncontrollable condensation.

But how can you find the CRF it's not on the NRFC label? First: ask the manufacturer, as they are able to provide this information to you. Or you can visit www.NFRC.org, hover over "Consumers" in the top menu bar, then click on "Search for a Fenestration Product". This will pull up a search tool, with which you can search by manufacturer, window type, as well as by minimum U-Factors, SCGC and VT. Included in all reports will be the unit's CRF.

Double Hung Standard Sizes

Dual Glazed

Custom Sizes Available
Widths: 20" to 60"
Heights: 34" to 94"



Double Hung Transom with 3/4" Dual Insulating Glass

Egress Legend

- NO
- ≥24" x 20"
≥20" x 24"
- W ≥20" H ≥24"
SF ≥5.7

Rough Opening	22½"	24"	26½"	28½"	30½"	32½"	34½"	36½"	38½"	39½"	40½"	42½"
Unit Size	22"	24"	26"	28"	30"	32"	34"	36"	38"	39"	40"	42"
Exposed Glass	14½"	16½"	18½"	20½"	22½"	24½"	26½"	28½"	30½"	31½"	32½"	34½"

Double Hung Standard Sizes

Triple Glazed

Custom Sizes Available
Widths: 20" to 42"
Heights: 34" to 78"



Double Hung with 1 1/2"
Triple Insulating Glass

Egress Legend

- NO
- ≥24" x 20"
≥20" x 24"
- W ≥20" H ≥24"
SF ≥5.7

CAD Drawings



Rough Opening	22 1/2"	24 1/2"	26 1/2"	28 1/2"	30 1/2"	32 1/2"	34 1/2"	36 1/2"	38 1/2"	39 1/2"	40 1/2"	
Unit Size	22"	24"	26"	28"	30"	32"	34"	36"	38"	39"	40"	
Exposed Glass	14 1/2"	16 1/2"	18 1/2"	20 1/2"	22 1/2"	24 1/2"	26 1/2"	28 1/2"	30 1/2"	31 1/2"	32 1/2"	
42 1/2"												42"
46 1/2"												46"
50 1/2"												50"
54 1/2"												54"
58 1/2"												58"
60 1/2"												60"
62 1/2"												62"
66 1/2"												66"
70 1/2"												70"
74 1/2"												74"
78 1/2"												78"

Rough Opening	36½"	42½"	48½"	54½"	60½"	64½"	68½"	72½"
Unit Size	36"	42"	48"	54"	60"	64"	68"	72"
Exposed Glass	28⅞"	34⅞"	40⅞"	46⅞"	52⅞"	56⅞"	60⅞"	64⅞"
DP2831	DP3431	DP4031	DP4631	DP5231	DP5631	DP6031	DP6431	
DP2835	DP3435	DP4035	DP4635	DP5235	DP5635	DP6035	DP6435	
DP2839	DP3439	DP4039	DP4639	DP5239	DP5639	DP6039	DP6439	
DP2843	DP3443	DP4043	DP4643	DP5243	DP5643	DP6043	DP6443	
DP2847	DP3447	DP4047	DP4647	DP5247	DP5647	DP6047	DP6447	
DP2851	DP3451	DP4051	DP4651	DP5251	DP5651	DP6051	DP6451	
DP2853	DP3453	DP4053	DP4653	DP5253	DP5653	DP6053	DP6453	
DP2855	DP3455	DP4055	DP4655	DP5255	DP5655	DP6055	DP6455	
DP2859	DP3459	DP4059	DP4659	DP5259	DP5659	DP6059	DP6459	
DP2863	DP3463	DP4063	DP4663	DP5263	DP5663	DP6063	DP6463	
DP2867	DP3467	DP4067	DP4667	DP5267	DP5667	DP6067	DP6467	

Double Hung Picture Window Standard Sizes

Custom Sizes Available
Widths: 14" to 72"
Heights: 14" to 72"



Double Hung Transom Standard Sizes

Custom Sizes Available
Widths: 14" to 88"
Heights: 14" to 74"

Rough Opening	22½"	24½"	26½"	28½"	30½"	32½"	34½"	36½"	38½"	39½"	40½"	42½"	48½"	54½"	60½"	66½"	72½"
Unit Size	22"	24"	26"	28"	30"	32"	34"	36"	38"	39"	40"	42"	48"	54"	60"	66"	72"
Exposed Glass	14½"	16½"	18½"	20½"	22½"	24½"	26½"	28½"	30½"	31½"	32½"	34½"	40½"	46½"	52½"	58½"	64½"
TR1406	TR1606	TR1806	TR2006	TR2206	TR2406	TR2606	TR2806	TR3006	TR3106	TR3206	TR3406	TR4006	TR4606	TR5206	TR5806	TR6406	
TR1408	TR1608	TR1808	TR2008	TR2208	TR2408	TR2608	TR2808	TR3008	TR3108	TR3208	TR3408	TR4008	TR4608	TR5208	TR5808	TR6408	
TR1410	TR1610	TR1810	TR2010	TR2210	TR2410	TR2610	TR2810	TR3010	TR3110	TR3210	TR3410	TR4010	TR4610	TR5210	TR5810	TR6410	
TR1412	TR1612	TR1812	TR2012	TR2212	TR2412	TR2612	TR2812	TR3012	TR3112	TR3212	TR3412	TR4012	TR4612	TR5212	TR5812	TR6412	
TR1414	TR1614	TR1814	TR2014	TR2214	TR2414	TR2614	TR2814	TR3014	TR3114	TR3214	TR3414	TR4014	TR4614	TR5214	TR5814	TR6414	
TR1416	TR1616	TR1816	TR2016	TR2216	TR2416	TR2616	TR2816	TR3016	TR3116	TR3216	TR3416	TR4016	TR4616	TR5216	TR5816	TR6416	
TR1418	TR1618	TR1818	TR2018	TR2218	TR2418	TR2618	TR2818	TR3018	TR3118	TR3218	TR3418	TR4018	TR4618	TR5218	TR5818	TR6418	
TR1420	TR1620	TR1820	TR2020	TR2220	TR2420	TR2620	TR2820	TR3020	TR3120	TR3220	TR3420	TR4020	TR4620	TR5220	TR5820	TR6420	
TR1422	TR1622	TR1822	TR2022	TR2222	TR2422	TR2622	TR2822	TR3022	TR3122	TR3222	TR3422	TR4022	TR4622	TR5222	TR5822	TR6422	
TR1424	TR1624	TR1824	TR2024	TR2224	TR2424	TR2624	TR2824	TR3024	TR3124	TR3224	TR3424	TR4024	TR4624	TR5224	TR5824	TR6424	
TR1425	TR1625	TR1825	TR2025	TR2225	TR2425	TR2625	TR2825	TR3025	TR3125	TR3225	TR3425	TR4025	TR4625	TR5225	TR5825	TR6425	
TR1426	TR1626	TR1826	TR2026	TR2226	TR2426	TR2626	TR2826	TR3026	TR3126	TR3226	TR3426	TR4026	TR4626	TR5226	TR5826	TR6426	
TR1428	TR1628	TR1828	TR2028	TR2228	TR2428	TR2628	TR2828	TR3028	TR3128	TR3228	TR3428	TR4028	TR4628	TR5228	TR5828	TR6428	
TR1430	TR1630	TR1830	TR2030	TR2230	TR2430	TR2630	TR2830	TR3030	TR3130	TR3230	TR3430	TR4030	TR4630	TR5230	TR5830	TR6430	
TR1432	TR1632	TR1832	TR2032	TR2232	TR2432	TR2632	TR2832	TR3032	TR3132	TR3232	TR3432	TR4032	TR4632	TR5232	TR5832	TR6432	
TR1434	TR1634	TR1834	TR2034	TR2234	TR2434	TR2634	TR2834	TR3034	TR3134	TR3234	TR3434	TR4034	TR4634	TR5234	TR5834	TR6434	
TR1436	TR1636	TR1836	TR2036	TR2236	TR2436	TR2636	TR2836	TR3036	TR3136	TR3236	TR3436	TR4036	TR4636	TR5236	TR5836	TR6436	

CAD Drawings







Casement Standard Sizes

























































































Rough Opening	18½"	20½"	24½"	26½"	28½"	30½"	32½"	36½"
Unit Size	18"	20"	24"	26"	28"	30"	32"	36"
Exposed Glass	10½"	12½"	16½"	18½"	20½"	22½"	24½"	28½"
CA1824	CA2024	CA2424	CA2624	CA2824	CA3024	CA3224	CA3624	
CA1828	CA2028	CA2428	CA2628	CA2828	CA3028	CA3228	CA3628	
CA1830	CA2030	CA2430	CA2630	CA2830	CA3030	CA3230	CA3630	
CA1832	CA2032	CA2432	CA2632	CA2832	CA3032	CA3232	CA3632	
CA1836	CA2036	CA2436	CA2636	CA2836	CA3036	CA3236	CA3636	
CA1842	CA2042	CA2442	CA2642	CA2842	CA3042	CA3242	CA3642	
CA1844	CA2044	CA2444	CA2644	CA2844	CA3044	CA3244	CA3644	
CA1848	CA2048	CA2448	CA2648	CA2848	CA3048	CA3248	CA3648	
CA1854	CA2054	CA2454	CA2654	CA2854	CA3054	CA3254	CA3654	
CA1860	CA2060	CA2460	CA2660	CA2860	CA3060	CA3260	CA3660	
CA1866	CA2066	CA2466	CA2666	CA2866	CA3066	CA3266	CA3666	
CA1872	CA2072	CA2472	CA2672	CA2872	CA3072	CA3272	CA3672	

Custom Sizes Available
 Widths: 18" to 40"
 Heights: 18" to 84"

Egress Legend

-  NO
-  ≥24" x 20"
≥20" x 24"
-  W ≥20" H ≥24"
SF ≥5.7
-  ≥24" x 20"
≥20" x 24" (with special hinge)
-  W ≥20" H ≥24"
SF ≥5.7 (with special hinge)

Casement Picture Window Standard Sizes

Rough Opening	36½"	42½"	44½"	48½"	52½"	56½"	60½"	64½"	66½"	68½"	72½"
Unit Size	36"	42"	44"	48"	52"	56"	60"	64"	66"	68"	72"
Exposed Glass	28½"	34½"	36½"	40½"	44½"	48½"	52½"	56½"	58½"	60½"	64½"
 CAP3636	 CAP4236	 CAP4436	 CAP4836	 CAP5236	 CAP5636	 CAP6036	 CAP6436	 CAP6636	 CAP6836	 CAP7236	
 CAP3642	 CAP4242	 CAP4442	 CAP4842	 CAP5242	 CAP5642	 CAP6042	 CAP6442	 CAP6642	 CAP6842	 CAP7242	
 CAP3644	 CAP4244	 CAP4444	 CAP4844	 CAP5244	 CAP5644	 CAP6044	 CAP6444	 CAP6644	 CAP6844	 CAP7244	
 CAP3648	 CAP4248	 CAP4448	 CAP4848	 CAP5248	 CAP5648	 CAP6048	 CAP6448	 CAP6648	 CAP6848	 CAP7248	
 CAP3654	 CAP4254	 CAP4454	 CAP4854	 CAP5254	 CAP5654	 CAP6054	 CAP6454	 CAP6654	 CAP6854	 CAP7254	
 CAP3660	 CAP4260	 CAP4460	 CAP4860	 CAP5260	 CAP5660	 CAP6060	 CAP6460	 CAP6660	 CAP6860	 CAP7260	
 CAP3666	 CAP4266	 CAP4466	 CAP4866	 CAP5266	 CAP5666	 CAP6066	 CAP6466	 CAP6666	 CAP6866	 CAP7266	
 CAP3672	 CAP4272	 CAP4472	 CAP4872	 CAP5272	 CAP5672	 CAP6072	 CAP6472	 CAP6672	 CAP6872	 CAP7272	


























































































Custom Sizes Available
Widths: 14" to 72"
Heights: 14" to 84"

CAD Drawings



36½"
36"
42½"
42"
44½"
44"
48½"
48"
52½"
52"
56½"
56"
60½"
60"
64½"
64"
66½"
66"
68½"
68"
72½"
72"

Awning Standard Sizes

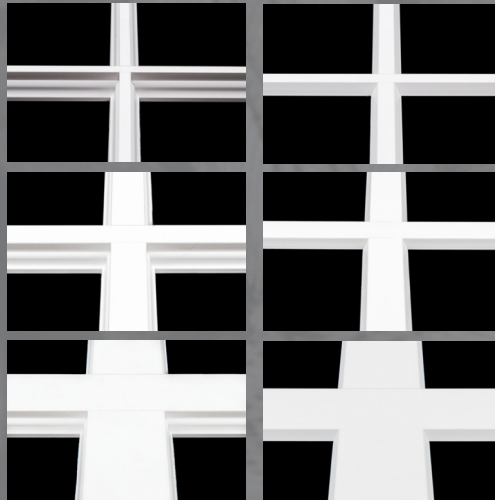
Rough Opening	24½"	28½"	30½"	32½"	36½"	42½"	48½"	54½"	60½"
Unit Size	24"	28"	30"	32"	36"	42"	48"	54"	60"
Exposed Glass	16½"	20½"	22½"	24½"	28½"	34½"	40½"	46½"	52½"
 AW2418	 AW2818	 AW3018	 AW3218	 AW3618	 AW4218	 AW4818	 AW5418	 AW6018	18" 18½"
 AW2420	 AW2820	 AW3020	 AW3220	 AW3620	 AW4220	 AW4820	 AW5420	 AW6020	20" 20½"
 AW2424	 AW2824	 AW3024	 AW3224	 AW3624	 AW4224	 AW4824	 AW5424	 AW6024	24" 24½"
 AW2428	 AW2828	 AW3028	 AW3228	 AW3628	 AW4228	 AW4828	 AW5428	 AW6028	28" 28½"
 AW2430	 AW2830	 AW3030	 AW3230	 AW3630	 AW4230	 AW4830	 AW5430	 AW6030	30" 30½"
 AW2432	 AW2832	 AW3032	 AW3232	 AW3632	 AW4232	 AW4832	 AW5432	 AW6032	32" 32½"
 AW2436	 AW2836	 AW3036	 AW3236	 AW3636	 AW4236	 AW4836	 AW5436	 AW6036	36" 36½"
 AW2440	 AW2840	 AW3040	 AW3240	 AW3640	 AW4240	 AW4840	 AW5440	 AW6040	40" 40½"
 AW2442	 AW2842	 AW3042	 AW3242	 AW3642	 AW4242	 AW4842	 AW5442	 AW6042	42" 42½"
 AW2448	 AW2848	 AW3048	 AW3248	 AW3648	 AW4248	 AW4848	 AW5448	 AW6048	48" 48½"

Custom Sizes Available
Widths: 20" to 60"
Heights: 18" to 48"

CAD Drawings



Historic Accuracy/Patented Design



Our Patented 1854 external Ovolo sticking (left column) and internal Historic Putty Bead (right column) muntin bars are available in 5/8", 1 1/8" and 2 1/8".



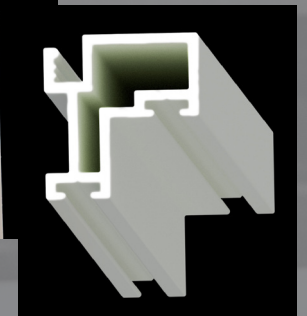
Historic Putty Bead (internal) and Ovolo sticking (external) are incorporated into the Casement Frame and Sash profiles for 3/4" Glazed windows.



Historic accuracy is maintained with the joinery of our 5/4 x 3 1/2" Flat (left) Staff Bead Brickmould (above), or 4 1/2" Banded (below) with our Historic Sill Nose.



Our Patented Sash Glazed Double Hung Picture Window provides the exact same sight lines maintained within the same glass planes as our operable Double Hung units. This provides an aesthetic improvement over current window designs. Our Historic 1854 Ovolo Sticking (on 3/4" glazed sash), Putty Bead contours as well as the radius edge on the Sill Dam maintain the historic accuracy. With Performance Grade 50 ratings the Sanford Hills is as rugged as it is beautiful



A wise man once said, "When you set out to design a window, start with the screen." We took this advice to heart and came up with a screen design so breakthrough, it's patented. This is, quite simply, the best window screen design on the market, whether it's for Double Hung or Casement.

Committed to Performance

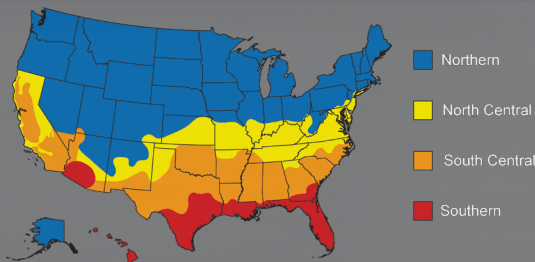


Since 1936, the American Architectural Manufacturers Association (AAMA) has stood as a strong advocate for manufacturers and professionals in the fenestration industry. Today AAMA, stands as a representative of both the residential and commercial sectors.



The National Fenestration Rating Council (NFRC) is a nonprofit, public/private organization created by the window, door, and skylight industry. It is composed of manufacturers, suppliers, builders, architects and designers, specifiers, code officials, utilities, and government agencies. The NFRC has developed a window energy rating system based on whole product performance.

The NFRC label provides the only reliable way to determine the window energy properties and to compare products. The NFRC label appears on all products certified to the NFRC standards and on all window, door, and skylight products which are part of the ENERGY STAR® program. At this time, NFRC labels on window units give ratings for U-Factor, Solar Heat Gain Coefficient (SHGC), and Visible Light Transmittance (VT).



Residential Windows, Doors, and Skylights: Version 6.0 (April 7, 2009)

Mathews Brothers is proud to offer our customers products that have earned the government's ENERGY STAR® label.

ENERGY STAR is a government-backed program that helps consumers identify the most energy-efficient products.

Learn more at www.energystar.gov.

Website Resources



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SANFORD HILLS



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Links to Product Features, Product Documentation, History of Sanford Hills Mathews



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DEALER LOCATOR

SPENCER WALCOTT



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Links to Product Features, Product Documentation, History of Spencer Walcott Mathews



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800.615.2004 / 207.338.6490 *Inside Sales* ♦ 207.930.7030 fax

www.mathwsbrothers.com

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