

Historic Review Application

For Office Use Only	
Date of Submission:	
Plan Review #:	

DNDEN 183		
Property Address: 1407 Hartford Ro	Autin TV 7	8703
Property Address. 7707 1107 107 10	T) Flushin (1)	0100
Historic Landmark Historic District (Local)	National Regis	ter Historic District
Historic Landmark or		11-1 - 0 1
Historic District Name: Old West Austin Na	tional Requoter	Historic Vistric
Applicant Name: Revenue by Anderson Phone #:	_ Email:	
Applicant Address: City:	State:	Zip:
Please describe all proposed exterior work with location and sheet.	materials. If you need more sp	ace, attach an additional
PROPOSED WORK	LOCATION OF PROPOSED WORK	PROPOSED MATERIAL(S)
1) Redaces 21 windows - like for	1st & 2nd floors	
1) Replace 21 windows-like for like-no changes to frame	(Site plan included)	
2)		
3)		
C. beritte I Commission of the		
Submittal Requirements		
 One set of dimensioned building plans. Plans must: a existing and proposed conditions for alterations and add 		o be used, and b) show
Site Plan Elevations Floor	Plan Roof Plan]
2. Color photographs of building and site:		
Elevation(s) proposed to be modified	Detailed view of each area pro	posed to be modified
Any changes to these plans must be reviewed and appr Historic Landmark Commission.	oved by the Historic Preservation	n Office and/or
	0	
Applicant Signature:	saglia Date:	12-2



Design Standards and Guidelines for Historic Properties

Adopted December 2012

Design Standards and Guidelines for Historic Properties

Landmarks and National Register historic district properties

If you are making changes to a historic landmark, the project *must* comply with these standards to receive a Certificate of Appropriateness. If you are making changes to a contributing property or constructing a new building within a National Register historic district, consider the standards below as advisory guidelines:

- 1. Use a property for its historic purpose or place it in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
- 2. Retain and preserve the historic character or a property shall be retained and preserved. Avoid the removal of historic materials or alteration of features and spaces that characterize a property.
- 3. Recognize each property as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
- Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
- Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.
- Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
- 7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
- 8. Significant archaeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
- 9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
- 10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Local historic district properties

If you are making changes to a contributing property or constructing a new building in a local historic district, the project must comply with the design standards established for that district to receive a Certificate of Appropriateness. Visit the Historic Preservation Office website to view your district's design standards: http://www.austintexas.gov/department/historic-preservation.

What Type of Work Requires a Certificate of Appropriateness?

Certificates of Appropriateness (COAs) are required for exterior changes or additions to historic landmarks, any property pending designation as a landmark, and contributing buildings in local historic districts; or if you are constructing a new building in a local historic district. Work requiring a COA includes:

- Additions
- 2. Construction of new buildings, including outbuildings
- 3. Window and door replacement
- 4. Exterior siding replacement
- 5. Replacement of roof materials with a different material
- 6. Site changes such as a pool, deck, fence, or back porch enclosure

Ordinary repair and maintenance projects do *not* require a Certificate of Appropriateness. For more information, see the historic review process charts on the <u>Historic Preservation Office website</u>.



Residential Express Permit Application

Building a Better and Safer Austin Together

<u>DevelopmentATX.com</u> | Phone: 311 (or 512-974-2000 outside Austin) For submittal and fee information, see <u>austintexas.gov/digitaldevelopment</u>

Download application before entering information.

Property	Information	- присает		sejore entering injorm	ation.	
Project A	ddress: 1407 Hartford Rd. Austin, TX 78703				Fees from Esc Escrow Accor	
Legal Des	cription:			Historic Landmark, Hist	toric District (L	ocal), or National
Contact	Information			Register Historic Distric	ct (if yes, historic r	review is required prior) Y N
Owner	Diana Danziger	Applicant or Agent	Suz	zanne Marsaglia	General	Renewal by Andersen
Mailing Address	Same as "Project Address"	Mailing Address			Contractor Mailing Address	, and any relation
Phone		Phone			Phone	
Email		Email			Email	
	on of Work					
Property U	Ise: single-family residentia Other:	1	dup	lex residential	two-family res	sidential
Project De	scription: (Note: Please provide thorough des Replace 21 wind	scription of project	ct. A	ttach additional pages as necess	sary)	
Trades Per	mits required: electric	plumbii	ing	mechanical (HVAC)	
	odeled Square footage:			Is Total Remodeled Floo (If yes, construction material re	or Area > 5,000	Sq Ft? Y N
	ation - For Properties in a Flood					
job valuation	Valuation: \$_65, 812.00 Note should be the sum total of all valuations noted to terials only, rounded to nearest dollar.	a the right	Bu Plu	ilding: \$ E	Electrical: \$	
If this prop	erty is within 100 feet of the 100-year	floodplain, a	Flo	odplain review is required.	but will not inc	cur a fee
Authoriza	ition					
✓ I hereb accurat ✓ I under with th ✓ I further any res	stand that in accordance with Sections e LDC may be cause for the Building or acknowledge that, should any informulting permit and/or license. e record owner of this property and au	dge and ability 25-1-411 and Official to suspention contains	y, to d 25 spended l	he information provided in the information provided in the land Develor of the Land Develor of the revoke a permit and the nerein prove incorrect, the	n this application this application the sample of the samp	on is complete and (LDC), non-compliance ial may suspend or revoke
Applicant's	signature:					
				Date:		



dba: RENEWAL BY ANDERSEN OF CENTRAL TEXAS

Legal Name: Central Texas Windows and Doors, LLC | License # 6231 E. Stassney Ln, Building 13 - Suite 100 | Austin, TX 78744 Phone: 512-834-8383 | Fax: 972-446-7777 | CTXSales@renewalcentraltexas.com
Measure Tech: Jamie Strain, (972)567-8380

DIANA DANZIGER

1407 Hartford Rd Austin, TX 78703 H: (805)795-6232 I C:

ID#	ROOM	SIZE		DETAILS
JOB				
~~~~		O "	0"	Misc: Misc, Processing Fee, <enter description="" here=""> Construction: Remove exterior stop (21), Install WOCD (21) Material: Caulk - WH (40), Gun foam (8), L trim - WH (36)</enter>
***************************************		0"	0 "	Misc: Misc, Lead Testing Construction: None Material: None
109	Master	38" <b>37-3/4"</b>	66" <b>65-3/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None
110	Master	38" <b>37-3/4"</b>	66" <b>65-3/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: BUCK FRAME, Rebuild buck frame, includes interior trim. (Excl. Paint) Construction: None Material: None
111	Master	38" <b>37-3/4"</b>	66" <b>65-3/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None
112	Master	32" <b>31-3/4"</b>	65" <b>65"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None



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114	Master	32" <b>31-3/4"</b>	65" <b>65"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None
115	Upstairs Bath	30" <b>29-3/4"</b>	42" <b>40-7/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern, Tempered Glass Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None
116	Kids Room	30" <b>29-3/4"</b>	66" <b>65-5/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None
117	Kids Room	31" <b>29-3/4"</b>	66" <b>65-5/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None



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ID#	ROOM	SIZE		DETAILS
118	Upstairs Office	31" <b>29-3/4"</b>	66" <b>65-1/2"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood an GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None
119	Upstairs Office	31" <b>29-3/4"</b>	66" <b>65-1/2"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None
120	Office	38" <b>37-3/4"</b>	66" <b>65-1/2"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None
101	Livingroom	38" <b>37-5/8"</b>	68" <b>69-1/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None
102	Livingroom	38" <b>37-5/8"</b>	68" <b>69-1/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None



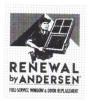
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ID#	ROOM	SIZE		DETAILS
103	Livingroom	38" <b>37-3/4"</b>	68" <b>69-1/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood an GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None
104A	Livingroom	31" <b>29-3/4"</b>	61" <b>61-1/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern, Tempered Glass Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None
105	Hallway	31" <b>29-3/4"</b>	69" <b>69-1/2"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None
106	Office	31" <b>29-3/4"</b>	46" <b>45-1/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None
107	Office	38" <b>37-3/4"</b>	68" <b>69-1/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonial 3w x 2h Misc: None Construction: None Material: None



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ID#	ROOM	SIZE		DETAILS
108	Stairwell	38" <b>37-3/4"</b>	66" <b>65-3/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern, Tempered Glass Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonia 3w x 2h Misc: None Construction: None Material: None
104B	Livingroom	31" <b>29-3/4"</b>	61" <b>61-1/8"</b>	Window: Double-Hung, 1:1, Flat Sill Insert, Traditional Checkrail, Exterior White, Interior White Glass: All Sash: High Performance SmartSun Glass, No Pattern, Tempered Glass Hardware: Distressed Nickel, Window Opening Control Device, Estate Finish Hand Lift Screen: TruScene, Full Screen Grille Style: Interior Wood and GBG (INTW + GBG) Grille Pattern: All Sash: Colonia 3w x 2h Misc: None Construction: None Material: None

PRODUCTS: 23 WINDOWS: 21 PATIO DOORS: 0 SPECIALTY: 0 MISC: 2

Updated 11/9/21

#### JOB NOTES

Existing units are old wood windows.

Rip the exterior stop and install from the exterior. The customer just had the interior repainted.

Units 108 - 120 are 2nd story.

Install WOCDs on all units.

Tested positive for lead.

1 1/2 days for large crew.

Estimated Duration: 11/2 days



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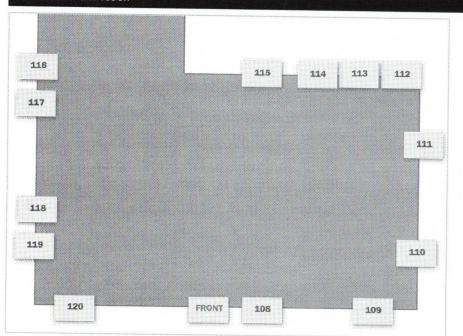
#### FLOORPLAN - 1ST FLOOR



#### UNIT NOTES

<Enter Description Here>

#### FLOORPLAN - 2ND FLOOR



UNIT NOTES

JOB PHOTOS

Do not remove until final code inspection. Save label for future reference. ENERGY STAR® Certified in Highlighted Regions

Certific ENERGY STAR dans les régions en surbrillance

Canada energystar.gc.oa



U.S. / E.U.

energystar.gov

DO NOT REMOVE UNTIL FINAL INSPECTIONINE PAS RETIRER AVANT CHISPECTION FINALE



CERTIFIED



ER/RE 20

WINDOW REPLACEMENT an Anderson Company

AND-N-36-00595-00001 Vinyl/Wood Composite Material Dual-Pane HP SmartSun with Argon

Product Type: Picture

#### ENERGY PERFORMANCE RATINGS

U-Factor

Solar Heat Gain Coefficient

### ADDITIONAL PERFORMANCE RATINGS

Visible Transmittance

Hasufactorer stipulates that these ratings conform to applicable WFRE procedures for determining whole product performance. WFRE Failings are determined for a fixed set of empiroamental conditions and a specific product si NFRE does not recommend my product and dead not warrant the suitability of any product for any specific use. Consult membrackerer's literature for other product performance information. www.mfrc.org



war, when com

Licensee: 129-H-723.03 129-H-723.04

Andersen Corporation

RbA Picture Window

Beaufacturer stipulates certification to the applicable standards,

STARDARD	RATING		
ASSA/WDMA/CBA 101/I.S.2/A449-98	Ckase LC-PGBO Size Tested: 46.0x48.0 in DP +50/-50		
AAMA/BDMA/OSA 101/I.S.2/A440-05	FW-LCS048.0 inx48.0 in		
AAMA/MDBA/GSA 101/I.B.2/AA40-DB A44081-09	Class LC-PSSO Size Tasted: 12:9x12:19 mm; Positive/Megative Design Pressure (DP): 2400 Pa Water Penetration Resistance Test Pressure; 360 Canadian Air Infiltration/Exfiltration: Fixed		

#### ENERGY STAR's Certified in Highlighted Regions Gertiflé ENERGY STAR dans les régions en surbrillance

Canada energystar.gc.ca



U.S. / É.U. energystar.gov



DO NOT REMOVE UNTIL FINAL INSPECTION/NE PAS RETIRER AVANT L'INSPECTION FINALE



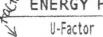
ational Fenestration Reting Council®

CERTIFIED

WINDOW REPLACEMENT an Anderson Company

AND-N-28-02026-00001 Vinvl/Wood Composite Material Dual-Pane with Argon

Product Type: Double Hung



**ENERGY PERFORMANCE RATINGS** 

0.31 1.76 (Netric/SI)

Solar Heat Gain Coefficient

### ADDITIONAL PERFORMANCE RATINGS

Visible Transmittance

Manufacturer stipulates that these ratings conform to applicable AFRC procedures for datarmanay whole product performance. AFRC ratings are determined for a fixed set of any Procedures for Conditions and a specific product size. AFRC does not recommend any product any does not variant the suitability of any product for any specific will Consult menufacturer's liberature for other product par formance in formation. You nirt.org



www.wdma.com

Licensee: 129-H-835.06 129-H-835.07

Andersen Corporation RbA Double-Hung

Manufacturer stipulates certification to the applicable standards.

STANDARD	RATING
AMA/HBMA/CSA 101/I.S.2/A440-68	Class R-PG25 Size Tested: 45x77 in DP +35/-35
AAMA/MOMA/CSA 101/I.S.2/A440-05	H-R2545x77+35/-35
ARMA/NDMR/CSA 101/I.S.2/A440-08 R440S1-09	Class R-PG25 Size Tested: 1143x1955mm Positive/Megative Besign Pressure (DP): 1680 Hater Penetration Resistance Test Pressure: 2 Canadian Air Infiltration/Exfiltration: R2
-	



### PRODUCT OVERVIEW





# PRODUCT OVERVIEW

ribrex material	01-2
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### FIBREX® MATERIAL

Renewal by Andersen® windows are made of our exclusive Fibrex® material. Developed by Andersen, it is a composite blend of reclaimed (not recycled) and new vinyl and wood that provides excellent strength, durability and low maintenance. Window materials are exposed to many atmospheric elements such as wind water, and temperature extremes. The following data demonstrates the performance of Fibrex comaired to other material.

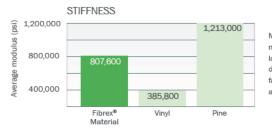
#### **Fibrex Material Composition**

The composition of Fibrex material is a proprietatry blend that may change based on the application requirements and design intent. Generally, Fibrex material is a composite blend of reclaimed, pre-consumer, and new vinyl and wood developed by Andersen that provides excellent strength, durability, and low maintenance.

#### Stiffness

Modulus is the scientific term for a material's stiffness. The higher the number, the stiffer the material. The average modulus for Fibrex material is twice the average for vinyl, making it a far more stable and rigid material for windows. And though wood's average stiffness is higher, it is far less predictable than Fibrex material since wood possesses natural variations such as grain, knots, pitch pockets, and moisture content. All of which means we can make our window frames and sash narrower than competitive windows made from other materials, gaining more glass area and light from the same size opening.

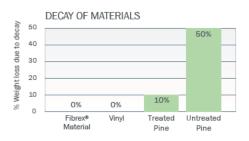
The graph below demonstrates the superiority of Fibrex material over other materials.



Material Strength. Fibrex material offers excellent long-term stability and durability. The Modulus far surpasses vinyl and approaches that of pine.

#### **Decay Resistance**

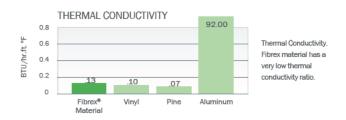
Fibrex material is resistant to rot and decay. Our special composite formulation surrounds and coats each wood fiber in the manufacturing process, providing resistance to rot. And windows made of Fibrex material are warranted not to flake, rust, blister, peel, crack, pit or corrode.



Decay Resistance. Our special polymer formulation surrounds and coats each wood fiber in our Fibrex material manufacturing process providing long-term resistance to rotting, chipping, peeling or blistering.

#### **Thermal Conductivity**

Fibrex material has excellent insulating properties. Unlike aluminum, Fibrex material will resist the effects of cold and heat. Insulating efficiency is measured by the amount of heat transferred or conducted through a material. A lower value means less transfer and greater insulating efficiency.

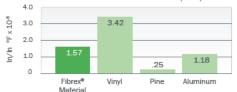


#### FIBREX MATERIAL

#### **Thermal Expansion**

Thermal expansion is the degree to which a given material expands and contracts with changes in temperature. Pine has a very low thermal expansion rate. With a rate of 1.57, Fibrex material, like aluminum, expands and contracts very little. Vinyl, however, with a thermal expansion rate of 3.42, may expand and contract markedly which can cause seal failure over time. Darkening the color of a material can also increase its surface temperature and make the material more likely to expand. The introduction of dark color can greatly affect vinyl. In testing expansion rates, the smaller value indicates the least change to the material.

#### COEFFICIENT OF THERMAL EXPANSION (CTE)



Thermal Expansion. Fibrex material has a very low rate of expansion due to temperature similar to that of aluminum. Vinyl however, expands and contracts markedly which can result in seal failure over time.

#### **Painting and Staining**

Painting guidelines for Fibrex material are available in the Product Installation Manual and Care and Maintenance Guide or Andersen's Help Center at andersenwindows.com.

#### Fibrex Material Colors & Capping Options

Capstock is applied over the Fibrex material to provide a variety of colors in light and dark hues. These cappings consist of various materials and application processes to achieve durability and color retention characteristics.

**PVC:** Light colors (White, Sandtone, Canvas) are blended from a proprietary PVC formulation and applied in the Fibrex extrusion process, thermally bonding them to the Fibrex material.

**Acrylic:** Dark colors (Terratone, Black, Dark Bronze, Red Rock, Forest Green & Cocoa Bean) are blended from a proprietary Acrylic formulation and applied in the Fibrex extrusion process, thermally bonding them to the Fibrex material.

**Wraps:** This technology involves a micro-texture thermal polymer which is applied onto the interior of the window components. This thermal formulation has a satin, low-gloss finish that performs well, yet offers the elegance of a dark interior without high homeowner maintenance. The interior wraps are used for Dark Bronze and Black interiors.

**Veneers:** This technology involves a thin layer of real wood veneer which is applied onto the interior of the window components. Several species of interior wood veneers are available. They can be painted or stained to match existing décor. Painting and staining guidelines for wood interiors are available in the Product Installation Manual and Care and Maintenance Guide.

### **GLASS COMPONENTS**

The way in which glass is made will affect its appearance. as well as the comfort and convenience of the home. The window, as a whole, is defined and tested based on the components and characteristics of glass.



"Slight optical variations in tempered glass should not be mistaken for low quality glass. Tempered glass will be labeled."

#### **Glass Construction**

The glass used in windows today is manufactured from a process first created in England by the Pilkington brothers. Sand, soda ash cullet (reclaimed raw glass), and lime are blended and heated to a molten state in a large furnace. The mixture is then poured over molten tin, and because glass is lighter it floats above the tin, thus the name float glass. Float glass has a very high optical quality and can be made to varying thickness and strength to withstand stresses of wind, heat and cold.

Tempered safety glass is created in a process called tempering. The float glass sheet is heated to a soft but not molten state, then quickly and evenly cooled while retaining a smooth flat surface. Slight optical variations may occur during the cooling stage. Tempered safety glass is primarily used to meet safety building code requirements. When tempered glass is broken, it shatters into small pieces, reducing the chance of injury from large jagged shards.

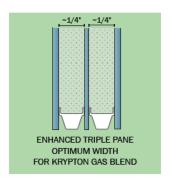
Another safety glass, laminated glass, is created by sandwiching a laminated interlayer between two pieces of glass. Similar to the glass used in automobile windshields. laminated glass remains intact when broken.

#### **Insulated Glass**

Insulated glass is more than one pane (light) of glass separated by a space and assembled into one unit. A spacer separates each light of glass. It's a common misconception that the wider the insulating space, the better the insulating value.

The key to an effective insulating space is to optimize the width of the space and minimize gas movement within the space. Wider spaces can create convection currents that allow heat transfer and lower insulating values.





Wider than optimum insulation spaces can create convection currents that allow heat transfer and lead to poorer insulating values.

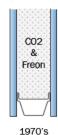
#### Argon and Krypton Gas Fill

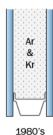
Air was used between two or more glass panes to insulate the glass space until the 1970s when carbon dioxide (CO2) and Freon (F) were introduced. Denser than air, they provided better insulation but were sensitive to seal failure.

In the 1980s, Argon (Ar) and Krypton (Kr) were proven to provide more efficient insulation. For the optimum application of both gas blends, Renewal by Andersen® dual pane options are filled with argon gas blend while a krypton gas blend is used in our Triple Pane options. This is due to how the gas behaves within the confines of the airspace between each

light. While an argon gas blend performs better in the relatively wider space of double pane, krypton gas blend performs best in the smaller spaces of triple pane glass.







### **GLASS COMPONENTS**

#### **Glass Spacer**

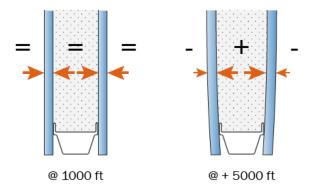
Glass spacer technology has created materials and designs that are more energy efficient. Stainless steel, aluminum and plastics are often used today.

Historically, spacers have been made of aluminum because it is easy to manufacture and bend. Aluminum, however, can promote energy conductivity around the edge of the glass, creating heat loss and reducing the window's insulating capability.

Our low-conductivity spacer is made of stainless steel, which is more durable and provides a more stable seal. Stainless steel is stronger than aluminum, requiring less material. It resists heat transfer four to five times better than aluminum spacers which are used by many other manufacturers.

#### **High-Altitude Considerations**

The altitude at which a product will be installed and the size of the glass determine whether or not a unit will include a gas fill. When insulating glass is filled with gas and sealed, it is sealed at the atmospheric level of the manufacturing facility. As the glass in the window is moved to higher altitudes, the pressure in the insulating space becomes greater than the outside pressure, bowing the glass outward. This can cause optical imperfections and, in severe cases, glass breakage. For some altitudes, a breather tube must be integrated into the window construction.



#### **Capillary Breather Tubes**

Capillary breather tubes are available for glass and may be required for high-altitude installations. Capillary breather tubes equalize the pressure between the insulating space and the outside surfaces of the glass. It is important to note that capillary breather tubes will decrease the thermal performance of the unit.

Please refer to the "Altitude Limits" charts in the Technical Data section to identify which glass sizes may retain a gas blend fill and which glass sizes will require capillary breather tubes.

#### **Capillary Breather Tubes for Triple Pane Glass**

Capillary breather tubes are not available for products with triple pane glass.

#### **Low-Emissivity Coating**

Also called "Low-E" coatings, low emissivity coatings that make the window glass more energy efficient by returning heat energy to its source. Low-E coatings are integrated into window glass in two ways:

#### **Suspended Systems**

The first types of low-emissivity coating developed are still in use. The Low-E coating is applied to a piece of acrylic which is then hung or suspended within the insulating space of the glass. Although the system appears acceptable, the two chambers caused by the suspended acrylic causes pressure differences that can make the acrylic stretch and bag, resulting in optical distortion. The acrylic itself causes visual clarity problems.

#### **Soft-Coat Systems**

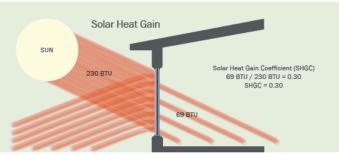
Also called sputter coating, this method is done by applying the emissivity coating to the glass in a vacuum chamber. This offers the highest controlled environment to obtain superior optical clarity. This system can also be easily tailored to meet special customer requirements, as well as providing multiple layers of the coating for superior insulating performance.

### **GLASS CHARACTERISTICS**

There are important performance characteristics of glass that can be measured: solar heat gain, visible light transmittance, and fading. Glass performance should not be confused with total window performance (see Technical Data manual).

#### **Solar Heat Gain**

Solar heat gain is the amount of heat that passes through glass. Shown numerically as a decimal, it represents the percentage of heat that enters the room. The lower the solar heat gain, the less stress on air conditioner use.



*data not specific to any Renewal by Andersen® glass offerings

#### Visible Light Transmittance

Visible light transmittance describes the clarity of the glass or the percentage of visible light coming through the glass. The higher the percentage, the clearer the glass. Renewal by Andersen's Low-E coating is considered to be spectrally selective, which means it filters out even more of the heat and fading than common Low-E coatings.

There are three types of light that greatly affect the home environment. They are ultraviolet, visible light and near-infrared. The following outlines the characteristics of each type of light.

To evaluate the benefits of various glass coatings, it's helpful to compare the transmission of light across this spectrum.

**Clear glass** is just that, clear. It transmits much of the visible light along with much of the heat and fade inducing rays.

**Low-E** coatings limit the transmission of some of the heat as well as some of the UV rays while transmitting much of the visible light.

**SmartSun™** glass filters out even more of the UV rays and controls heat gain while transmitting almost as much visible light as our non-tinted standard high performance glass.

**HeatLock®** technology maximizes visible light transmission and significantly improves U-Factor.

Glass Type	<b>TUV</b> Classical Ultravio- let Transmission (300-380NM)	<b>TDW</b> Krochmann Damage Function (300-600NM)		
Clear Glass	58%	61%		
High-Performance™	16%	33%		
High-Performance Sun™	16%	24%		
High-Performance SmartSun™	5%	21%		
High-Performance® SmartSun™ with Heatlock®	5%	20%		
High-Performance PassiveSun®	29%	-		

#### Transmission Ultraviolet Energy (TUV)

The transmission of short-wave energy in the 300-380 nanometer portion of the solar spectrum. The energy can cause fabric fading.

#### **Transmission Damage Function (TDW)**

The transmission of UV and visible light energy in the 300-600 nanometer portion of the solar spectrum. The value includes both the UV and visible light energy that can cause fabric fading. The rating has also been referred to as the Krochmann Damage Function. This rating better predicts fading potential than UV transmission alone.

The lower the Damage Function rating, the less transmission of short- wave energy through the glass that can potentially cause fabric fading. Fabric type is also a key component of fading potential.

#### **Exterior Condensation**



For more information on exterior condensation visit Andersen's Help Center.

### **GLASS TYPES AND PERFORMANCE FEATURES**

Renewal by Andersen offers glass types to meet specific performance needs. The options range from SmartSun™ glass with HeatLock® coating that is ENERGY STAR® certified in all US climate zones* to PassiveSun® glass that helps heat homes in northern areas. There is an option for essentially every climate, project and customer. The following chart compares the performance features of each glass option.

	ENE	RGY	LIGHT			
	U- FACTOR	SOLAR HEAT GAIN COEFFICIENT	VISIBLE LIGHT TRANSMITTANCE	UV PROTECTION		
GLASS	How well a product prevents heat from escaping.	How well a product blocks heat caused by sunlight.	How much visible light comes through a product.	How well a product blocks ultraviolet rays.		
Enhanced Triple Pane An extra pane of glass helps keep more heat in and cold air out, making it our most energy efficient glass option well suited for cold climates.	••••	••••	•••0	••••		
Enhanced Triple Pane with SmartSun™ Glass Our Enhanced Triple Pane glass with the added benefits of our Low-E4® SmartSun™ Glass	••••	••••	••00	••••		
High-Performance SmartSun™ Thermal control similar to tinted glass, but with the visible light transmittance similar to clear glass.	•••	••••	••••	••••		
High-Performance SmartSun™ with HeatLock® Coating Applied to the room-side surface, it reflects heat back into the home and improves U-factor values.	••••	••••	••00	••••		
High-Performance Low-E4*  Outstanding overall performance for climate where both heating and cooling costs are a concern.	•••		•••			
High-Performance Sun Outstanding thermal control in southern climates where less solar heat gain is desired.	•••	••••	•000			
High-Performance PassiveSun® Ideal for northern, passive solar construction applications where solar heat gain is desired.	•••	•000	•••	••00		
Clear Dual-Pane* High visibility with basic thermal performance.	•000	0000	••••	0000		

^{*} Available via NSPR.



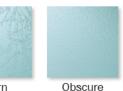
#### **Protective Film**

Renewal by Andersen protects all windows and patio doors during delivery and installation with a protective (transparent) film applied to the glass. The protective film also minimizes time spent masking on the job-site, then peels away for virtually spotless glass.

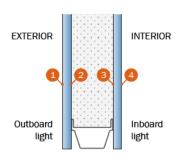
### WINDOW COLOR AND FINISH OPTIONS CHART

#### **Patterned Glass**











Patterned glass lets in light while obscuring vision and adds a unique, decorative touch. These patterns have some size restrictions. Be sure to verify the window type and window size restrictions as shown in the appropriate Product Section of the Spec and Tech Manual before ordering. The options are illustrated below and the surface carrying the pattern is indicated in the Glass Surface chart.

Note: Cascade and Reed patterns can be ordered with either a vertical or horizontal orientation.

**Note:** For Enhanced Triple Pane products, paterned glass options are only available on Universal Picture and Universal Specialty Windows.

#### **Window Color and Finish Options**

WINDOW		Interior		Pine Interior Red Oak Interior		White Interior		Canvas Interior		Exterior Color Match		
EXTERIOR	Exterior	Interior	Exterior	Interior	Exterior	Interior	Exterior	Interior	Exterior	Interior	Exterior	Interior
White												
Canvas												
Sandtone												
Terratone												
Dark Bronze												
Black												
Cocoa Bean											NOT AN OPTION	
Forest Green											NOT AN OPTION	
Red Rock											NOT AN OPTION	

### FRAME OPTIONS

Frame design considerations on the Renewal by Andersen portfolio of products begin with evaluating the installation strategies utilized in window replacement. These strategies are:

#### **Insert Installation Strategy**

The old window frame is solid and/or interior or exterior trim needs to be saved. In this case, an insert application is the appropriate installation strategy. These installations are also typically less disruptive to the home. A typical installation requires removing the old sash and any interfering hardware from the existing window frame, yet leaves the frame and trim intact.



#### **Full Frame Installation Strategy**

The old window is deteriorated beyond repair or opening modifications are required. In this case, a full frame application is the appropriate installation strategy. These installations can be more disruptive to a home and typically require complete removal of the existing window as well as the interior and exterior trim components.

In order to achieve either an insert or full frame window replacement strategy, the Renewal by Andersen portfolio of products incorporates three different frame designs. They are:



Full Frame

#### **Universal Frame**

The Universal Frame design incorporates features on the frame to enable both INSERT and FULL FRAME installations. The products utilizing the Universal Frame design can be configured with a variety of accessories or frame modifications to accommodate the installation method that is appropriate for the home AND incorporates an accessory kerf on the exterior for inserting L-Trims or coil stock to complete the installation.

#### **Full Frame**

The Full Frame design incorporates features on the frame that allow for the attachment of interior and exterior trim accessories.

NOTE: The only Renewal by Andersen® products that utilize a "full-frame" design are the DB Double-Hung and PWF Picture Window.

#### **Insert Frame**

The Insert Frame design incorporates features in the frame the enable a seamless insert installation into existing window frames. The frame exterior includes an accessory kerf for inserting L-Trims or coil stock to complete the installation on the exterior.

NOTE: The only Renewal by Andersen® products that utilize an "insert frame" design are the DB Double-Hung and PWI Picture Window.

#### Weatherstrip

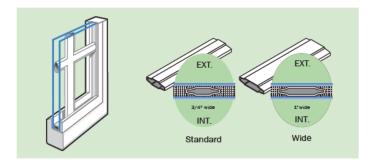
A diverse system made up of automotive grade EPDM foam filled bulbs, piles and constant-force reinforced low friction polymer components provide multiple layers of protection from the elements. Refer to specific product sections for weatherstrip details.

### **GRILLE OPTIONS - TYPES**

Four grille types are available. The interior and exterior sides of the grilles are color coordinated with each side of the window frame. Reference the color combination charts in each product section for detailed color information.

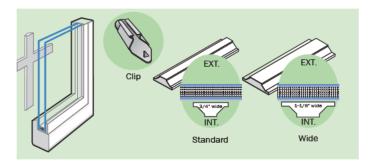
#### Grille-Between-the-Glass (GBG)

Sculpted aluminum grille members are placed between the two panes of glass and are available in two widths. An enamel finish replicates the interior and exterior colors of a window. On wood interiors, the interior color surface will be Sandtone.



#### Interior Wood Grille (INTW)

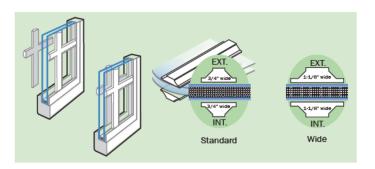
Available in two hardwood options (maple or oak), interior wood grilles snap into clips positioned around the perimeter of the sash interior and may be removed to easily clean the glass. These "high-definition" interior wood grilles are available in two widths. The exterior color of an interior wood grille matches the units exterior color. The interior color of the grille matches the units interior color. If the units interior is a wood finish, the interior wood grille is an unfinished maple for units with a pine or maple interior and an unfinished oak for units with an oak interior.



#### Simulated Divided Light Grille (SDL)

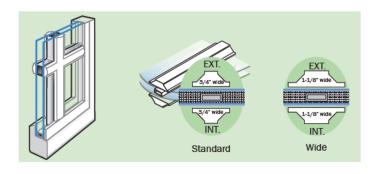
Simulated divided light grilles offer an exterior and interior grille with no spacer between the glass. The exterior grille

is permanently applied. The interior grille is offered as permanently applied or removable for easy of cleaning the glass. The exterior grille is constructed from Fibrex Material and the color matches the exterior color of the unit.



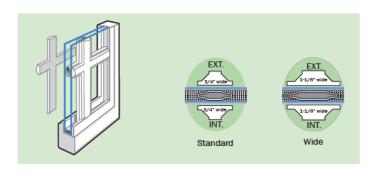
#### **Full Divided Light Grille (FDL)**

Full divided light grilles provide the classic look of a true divided light window. The high-definition exterior grille is Fibrex® material and is available in two different widths. The color of the exterior grille matches the exterior color of the unit. Between the glass panes, an aluminum spacer stands slightly away from each pane to maintain thermal performance. The high-definition interior wood grille is available in two hardwood options (maple or oak), and two different widths, and may be permanently applied or removable.



#### **GBG Full Divided Light Additional Options**

The Grille Between the Glass may be specified with either an Exterior applied Fibrex material grille (EXT + GBG) or an Interior grille (INTW + GBG), removable or applied.

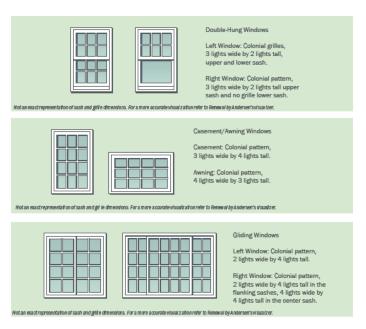


### **GRILLE OPTIONS - PATTERNS**

Renewal by Andersen offers grille patterns and widths to fit any architectural style or the taste of any homeowner. Virtually any existing grille can be matched or custom grille created when replacing windows. Available grille patterns include colonial, prairie, modified prairie and farmhouse.

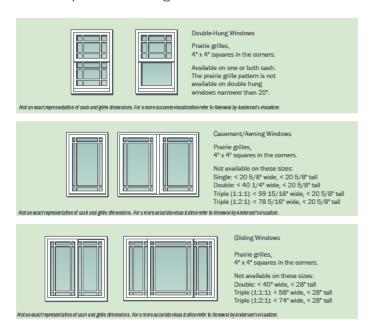
#### **Colonial Patterns**

Refer to colonial pattern grilles by pattern name and grille lights wide by grille lights high for each sash.



#### **Prairie Patterns**

Refer to modified prairie grille by pattern name for each sash. Regardless of sash size, all prairie grilles intersect to form 4" squares of visible glass in the corners of each sash.



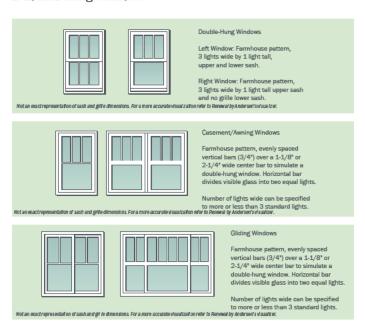
#### **Modified Prairie Patterns**

Refer to modified prairie grille by pattern name for each sash. Regardless of sash size, all modified prairie grilles intersect to form 4" squares of visible glass in the outermost 4 corners of the window, rather than each individual sash.



#### Farmhouse Patterns

The default pattern consists of two evenly spaced vertical bars (3/4") over a 1" wide center bar to simulate a double-hung window.



### **INSECT SCREEN OPTIONS**

#### **Standard Insect Screen**

The standard insect screen is made with an aluminum frame and an easy-to-see-through fiberglass screen mesh ( $18 \times 16$  per inch mesh) in a glare resistant charcoal gray finish.

#### **Aluminum Insect Screen**

The aluminum insect screen is identical to the standard insect screen but with a durable aluminum screen mesh (18 x 16 per inch mesh) in a glare-resistant charcoal gray finish.

#### TruScene® Insect Screen

The TruScene® insect screen is also made with a proprietary aluminum frame with micro-fine stainless steel mesh (25 x 25 per inch mesh) that provides over 50% more clarity than our aluminum insect screens for a beautifully unobstructed view. They also let in more fresh air and sunlight while doing a better job of keeping out small insects. Optional pine, oak and maple veneers are available for TruScene® insect screens.



#### **Insect Screen Frames**

Insect screen frames are made of aluminum. They are reinforced with a unique nylon corner spline to keep it from sagging and is secured to the window with wing blade fasteners in nylon housings.

Insect screen frames for double-hung and gliding windows are installed on the exterior of the unit and match the unit's exterior color.

Insect screens for casement and awning windows are installed on the interior of the unit, allowing the unit to vent. Frames are available in white, stone, dark bronze and black for casement and awning windows. If TruScene® insect screens are ordered, a wood interior is an option.

#### Veneered TruScene® Insect Screen

TruScene® insect screens for casement and awning windows are available with a veneered pine, maple or oak interior.

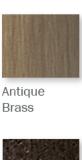


Aluminum Frame

Veneered Frame

### HARDWARE OPTIONS

Renewal by Andersen offers a broad range of hardware styles and finishes, allowing the homeowner to enhance the overall design of a window and harmonize the product with a home's décor. Hardware styles are a mix of plated die cast zinc and solid forged brass. The available finishes, illustrated below, are either a durable powder-coated finish or a metal finish.











Brass

Brushed Chrome









Distressed Bronze

Distressed Nickel

Dark Bronze

Oil Rubbed Bronze







Polished Chrome

Satin Nickel

Canvas





Stone

White

Distressed bronze and oil rubbed bronze are "living" finishes that will change with time and use. Printing limitations prevent exact finish replication.

Please refer to the each product's Specification and Technical Manual for hardware details.



Double-Hung Lock and Keeper in Canvas



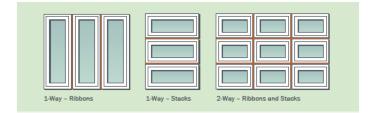
Casement Handle Hardware in Black



Gliding Window Hardware in Distressed Nickel

### **MULLING (JOINING) CAPABILITIES**

There are many options for joining window units to create a window design to meet the needs of the customer. Windows can be joined in the following ways to create a feature window in the home.



#### **Mulling (Joining) Types**

Regardless of which join type you use, it is important that Andersen joining materials and installation accessories be specified by a project architect or contractor.

There are several types of joining materials and each creates a joining system that maintains the look of Renewal by Andersen products and enables a successful installation.

Materials vary depending on the type of units being joined and the wind load requirements. They are as follows:

#### Wood Mull (Joining) Material

Wood joining materials are used to create unit alignment and positive joining between units. Wood joining materials are not connected to the rough opening structure.

#### Steel Mull (Joining) Material

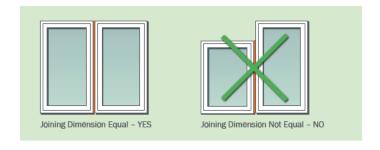
Steel, or reinforced joining materials, are used to create product alignment, positive joining and load transfer between the windows and the rough opening. They provide added strength capable of withstanding a variety of wind load pressures. The structural performance of any combination is only as high as the lowest structural performance rating of any individual window or joining material in the combination.



#### Factory Mulling (Joining) Services

Factory mulling services are available for full-frame windows. This enables installers to receive fully assembled joined unit combinations ready upon delivery. Ribbons, stacks, and transoms are available, as well as groupings or gangs. To enable product integrity, quality, performance, and practical handling, joined unit combinations must conform to each of the following guidelines:

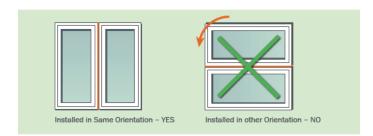
- This service is only available on joined units using wood joining materials.
- 2. Joined windows must have the same joining dimensions. (see graphic below).



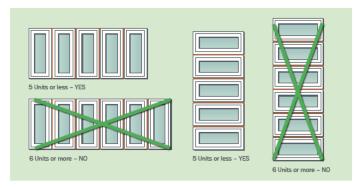
# MULLING (JOINING) CAPABILITIES

#### Factory Mulling (Joining) Services - Continued

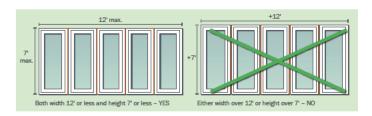
3. All joined units must be ordered in the orientation of the installation. For example, if two picture windows are mulled side-by-side, the joined windows must be installed as a sideby-side. This orientation MUST NOT be rotated 90 degrees for a stacked installation. Also, joined windows will not be shipped on their sides.



 Joined unit combinations are available in ribbons or stacks with a maximum of five windows. More than five windows may stress the mullions during shipment and handling.



 Joined unit combinations have a maximum dimension of 12' (144") wide and 7' (84") tall. This dimension cannot be inverted (i.e., 7' wide and 12' tall) because of the restriction described in capability #3.



Joined unit combinations are available in ribbons or stacks with a maximum of five windows. More than five windows may stress the joins during shipment and handling.



**NOTE:** Factory-assembled full-frame joined windows will be shipped with the interior and exterior mull trim strips set and sealed into the joined unit. With two-directional combinations, the horizontal mullion exterior trim strips will be segmented. Vertical mull exterior trim strips will be continuous. This joining method promotes proper weather performance.

