1620/1620 SSG Curtain Wall System

See Less So You Can See More

It's hard to say whether the beauty of the 1620/1620 SSG (structural silicone glazed) Curtain Wall System is in the slim, sleek 2" sightline or in the performance. Built on the strength and reliability of the flagship 1600 curtain wall platform, the 1620/1620 SSG Curtain Wall System is an excellent choice for low- to mid-rise applications.

The 1620/1620 SSG Curtain Wall System is engineered with a thermal break and can accommodate double pane insulating glass. Helping architects and glazing contractors achieve even greater thermal performance is an optional fiberglass pressure plate. Glaziers and installers can leverage their previous knowledge of 1600 Wall System™1 and 1600 Wall System™2 to simplify installation. With a slimmed-down sig
to U.S. and Cana
System allows you

EGS 02

THERMALLY-BROKEN, INSULATED INTERNALLY REINFORCED CURTAINWALL SYSTEM WITH LOW-E GLASS. B.O.D. KAWNEER 1620 W KYNAR FINISH

KAWNEER
AN ARCONIC COMPANY

Economy

The highly versatile 1620/1620 SSG Curtain Wall System leads the way to performance at a competitive price, providing an attractive, cost-effective solution for low- and mid-rise construction. It allows building owners, architects and glaziers to meet stringent building codes while simultaneously providing fast installation, simplified fabrication, robust design options and value.

Performance and Aesthetics

The 1620/1620 SSG Curtain Wall System delivers the desired narrow sightline aesthetic of many traditional storefront products packaged with performance levels and options expected of a curtain wall system. The system is tested in accordance with North American performance standards for curtain walls, including air and water infiltration, thermal transmittance, severe wind-driven rain, acoustical, and condensation resistance.

The stick-fabricated, pressure-glazed curtain wall system is available as a four-sided captured system and offers a vertical SSG mullion option. Additionally, to create flush and unbroken sightlines, the captured and SSG options both use concealed fasteners in their joinery construction.

1620 Curtain Wall **1620 SSG Curtain Wall**

Performance Test Standards

The 1620 / 1620 SSG Curtain Wall Systems has been tested in accordance with the following major standards for curtain walls:

Air Infiltration	ASTM E283; NFRC 400; TAS 202
Water	ASTM E547, E331; TAS 202
Severe Wind-Driven Rain, Level 10	AAMA 520
Structural – Uniform Wind Load	ASTM E330; TAS 202
Thermal Transmittance – U-Factor	AAMA 1503, 507; NFRC 100
Condensation Resistance (CRF, I, CR)	AAMA 1503; CSA A440.2; NFRC 500
Overall Solar Heat Gain (SHGC, VT)	AAMA 507; NFRC 200
Acoustical (STC & OITC)	ASTM E90, E1425; AAMA 1801

* Test results available from Kawneer.
Contact your Kawneer sales representative for more information.

Fabrication and Installation

A variety of features enhance ease of installation and minimize time for the 1620/1620 SSG Curtain Wall System, including:

- Installers can leverage their knowledge of fabrication and installation methods for the 1600 curtain wall platform.
- Straight cuts without notching simplify fabrication.
- A pre-engineered rain screen pressure-equalized (RSPE) back pan option is available that uses easy-to-install spandrel adapters.

For the Finishing Touch

Permanodic™ anodized finishes are available in clear (Class I and Class II) and color (Class I) choices, including champagne, black, light bronze, medium bronze and dark bronze.

Painted finishes, including fluoropolymers that meet or exceed the standards of AAMA 2605, are offered in many standard choices and an unlimited number of specially designed colors.

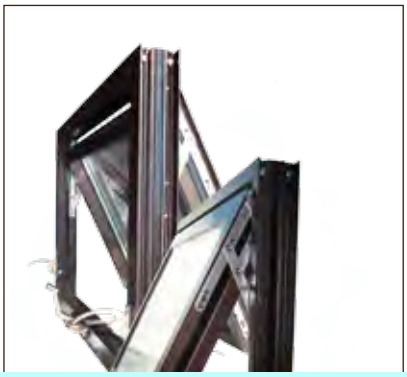
Solvent-free powder coatings add the "green" element with high performance, durability and scratch resistance that meet the standards of AAMA 2604.

Kawneer Company, Inc.
Technology Park / Atlanta
555 Guthridge Court
Norcross, GA 30092

kawneer.com
770 . 449 . 5555

KAWNEER
AN ARCONIC COMPANY

in.vent™
...the future of windows...



EGS 03

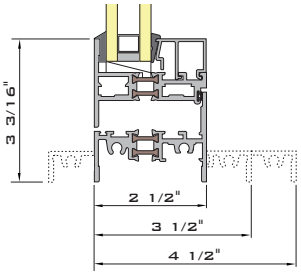
THERMALLY-BROKEN, INSULATED EXTRUDED ALUMINUM WINDOW SYSTEM WITH LOW-E GLASS: B.O.D WAUSAU STANDARD ALUMINUM SERIES

iN.vent™

...the future of windows...

2250i . 3250i . 4250i
4250i-OS Offset INvent

Wausau's standard high-performance projected window product line



- 2-1/2", 3-1/2" and 4-1/2" frame depth with polyamide thermal barrier
- AAMA AW-100 Architectural Performance Class
- Fixed, project-in hopper, project-out awning, or casement
- Integral blinds with access doors available
- 1/8" wall thickness at hardware attachments
- Multi-lock hardware option for improved accessibility
- High recycled aluminum content, choice of 30,000 finish colors, including two-color option

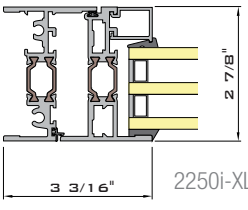
Test results may vary

Allowable Air	Water	NFRC U-Factor	CRF_f	STC OITC
0.10 cfm/sqft at 6.24 psf	15 psf	0.34 to 0.64 BTU/hr.sqft.°F	46 to 65	31 to 42 26 to 37

Production line sampling, with inspection and water testing prior to shipment, helps ensure real-world performance equal to the laboratory.

INvent -XLT

Superior energy efficiency and condensation resistance



2250i-XLT

- 2-7/8", 3-7/8" and 4-7/8" frame depth
- XLT option features extra-wide polyamide thermal barrier
- AW-100 rating - Accepts triple glazing
- Glazed-in muntin grid option for historical renovation

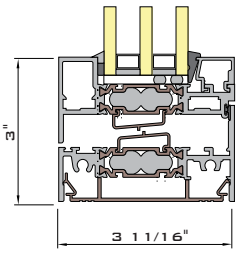
Test results may vary

Allowable Air	Water	NFRC U-Factor	CRF_f	STC OITC
0.10 cfm/sqft at 6.24 psf	15 psf	0.21 to 0.60 BTU/hr.sqft.°F	59 to 68	31 to 42 26 to 37

2250i-XP INvent.PLUS

European benchmark thermal performance - Designed for U.S. architectural preferences

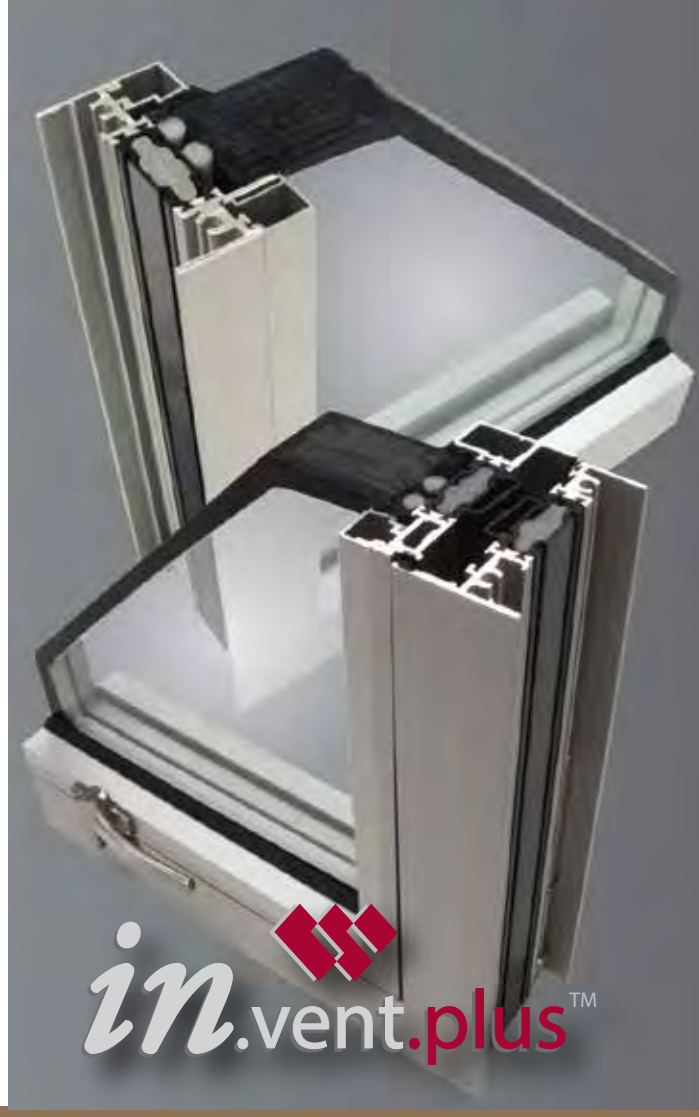
- Best-in-class NFRC U-Factors as low as 0.16 BTU/hr.sqft.°F (fixed) and 0.20 BTU/hr.sqft.°F (operable)
- AAMA AW-100 Architectural Performance Class
- 3-11/16" frame depth with 44mm polyamide thermal barrier and foam cavity fillers
- Incorporates engineered polymers and aluminum extrusions where their inherent material properties are best suited
- Narrow sightlines and flush, convection-baffled, operable vents
- Fixed; in- or out-swing casement; top-hinged, hopper or awning vents (detail)
- 1" exterior glass offset complements curtainwall and storefront systems
- Heavy butt hinges or concealed, stainless steel, four-bar friction hinges carry triple glazing with ease



2250i-XP
INvent.PLUS

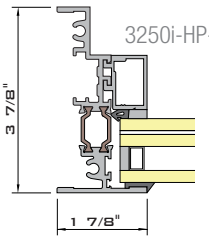
Allowable Air	Water	NFRC U-Factor	CRF_f	STC OITC
0.10 cfm/sqft at 6.24 psf	15 psf	0.16 to 0.51 BTU/hr.sqft.°F	46 to 65	34 to 41 28 to 35

Performance can vary with glass and hardware package selected.
Minimum vent sizes apply for certain hardware packages.



INvent -HP -XLT

Hurricane Impact Resistant Fixed and Operable Windows



3250i-HP-XLT

- 3-7/8" and 4-7/8" frame depth
- 24mm XLT polyamide thermal barrier
- AAMA AW-100 Architectural Performance Class
- Fixed, project-out awning, project-in or project-out casement
- Integral blinds with access doors available
- Multi-lock hardware option
- Large "D" missile impact tested to ASTM E 1996 and TAS protocols for Wind Zones 1-4 - Miami-Dade NOAs
- "E" missile impact tested for essential facilities to ASTM E 1996 and TAS protocols for Wind Zones 3-4 - Miami-Dade NOAs

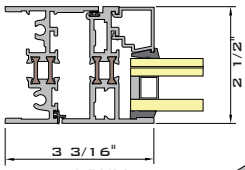
Allowable Air	Water	NFRC U-Factor	CRF_f	STC OITC
0.10 cfm/sqft at 6.24 psf	15 psf	0.34 to 0.64 BTU/hr.sqft.°F	46 to 65	31 to 42 26 to 37

Test results may vary

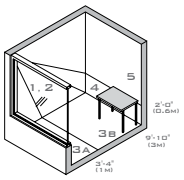
Federico Degetau Federal Building Hato Rey, Puerto Rico WASA

INvent -BHM

Shock-Tube Tested
Blast Hazard Mitigation



2250i-BHM
6 psi-42 psi-msec



- 2-1/2", 3-1/2" and 4-1/2" frame depth with polyamide thermal barrier - Two color option
- Fixed, awning, or project-out casement - XLT option, triple glazing, project-in hopper and casement available for some applications
- Various 2250i and 3250i-BHM configurations achieve ASTM F 1642 "Minimal Hazard" or "No Hazard" rating, tested at 6 psi peak, 42 psi-msec impulse
- Various 4250i-BHM configurations achieve ISC Performance Conditions 1, 2, 3a or 3b, tested at 10 psi peak, 89 psi-msec impulse

DoD - UFC

Department of Defense Unified Facilities Criteria UFC 4-010-01 (October 2013)
"DoD Minimum Anti-Terrorism Standards for Buildings"

Level of Protection	Potential Glazing Hazards (Glazing hazard levels from ASTM F 1642)
Below AT Standards	Catastrophic failure. Lethal potential. "High" hazard rating.
Very Low	Glazing fractures, and is propelled into the building. Serious injury potential. "Low" hazard rating.
Low	Glazing fractures, may leave frame at reduced velocity. Does not present a significant injury hazard. "Very low" hazard rating.
Medium	Glazing fractures, glass dust and slivers. "Minimal" hazard rating.
High	Glazing does not break. No hazard.

IMPORTANT NOTES: Stand-off distance requirements vary widely with building site, perimeter control and stand-off distance.
Charge Weight I or II may control window design, depending on corresponding stand-off distances and glazing resistance.
UFC Paragraph 1-11 "Design Submittals" requires determination of applicable explosive weight(s), level of protection, and stand-off distance(s).
This is the responsibility of the AE or security/blast consultant; not the window/curtainwall manufacturer or installer.

GSA-ISC

General Services Administration Inter-Agency Security Committee
"Security Design Criteria for New Federal Office Buildings or Major Modernizations"

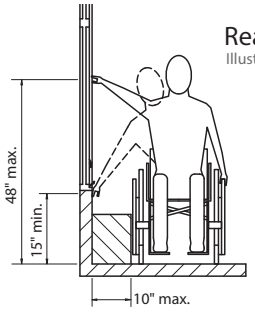
Performance Condition	Protection Level	Hazard Level	Description of Window Glazing Response
1	Safe	None	No glazing breakage or visible damage.
2	Very High	None	Glazing cracks-Dusting of fragments.
3a	High	Very Low	Glazing cracks-Fragments on floor within 3'-4" (1m) of window.
3b	High	Low	Glazing cracks-Fragments on floor within 10'-9"(3m) of window.
4	Medium	Medium	Glazing cracks-Fragments impact lower 2'-0" (0.6m) of wall.
5	Low	High	System fails catastrophically.

IMPORTANT NOTE: Determination of peak pressure, impulse, and Performance Condition (to include Hazard Condition and Protection Level) is the responsibility of the Owner's security/blast consultant; not the window/curtainwall manufacturer or installer. Design parameters typically range from 4 psi peak and 28 psi-msec impulse, to 10 psi peak and 89 psi-msec impulse.

ADA Accessibility for Windows

Wausau's accessible projected windows are laboratory-proven capable of operating with one hand using a force of five pounds or less, to unlock, open, close, and lock, without tight grasping, pinching or twisting of the wrist.

- All INvent™ Series and the 4250-Z Zero Sightline Series
- Project-out awning, in-swing or out-swing casement
- AAMA Architectural AW-100 Performance Class
- No reductions in air, water or structural performance for laboratory testing of accessible vents



Reach Diagram
Illustrative Example Only

Operating Force Test
Roto-operator force-to-open

Wisconsin Veterans' Home Skilled Nursing Facility Chippewa Falls, Wisconsin
Photo: Phil Weston Weston Imaging Group, Inc.

INvent Series windows may be finished in a color palette of over 30,000 choices, including exciting new copper anodize.

Liquid or powder paint coatings are applied using VOC-free processes.

The frosty, matte finish of eco-friendly anodize is ideal for Wausau's high recycled content aluminum framing.

efpa
Promoting environmentally friendly printing practices.
Cert. No. 000092309
www.myefpa.com

WAUSAU
WINDOW AND WALL SYSTEMS

7800 International Drive Wausau, WI 54401
Toll Free 1 877 678 2983 Fax 1 715 843 4350
E-Mail info@wausauwindow.com

U.S. GREEN BUILDING COUNCIL MEMBER

AA®605TE and AA®605TE^{Plus} Swing Doors

Introduction

The Kawneer AA®605TE and AA®605TE^{Plus} Swing Doors are high performance thermally efficient doors due to the polyamide thermal break that is incorporated into the aluminium profile. With the use of extruded gasket profiles, this system achieves its weathering performance by means of drained and ventilated glazing rebates.

Designed for direct fix to masonry, window and door composites or ribbon windows, the range can suite with the Kawneer curtain walling and framing systems and is suitable for low or high rise buildings.

The AA®605TE and AA®605TE^{Plus} Swing Doors are available as single action open-in or open-out swing doors and can be single or dual colour.

Construction

The AA®605TE and AA®605TE^{Plus} Swing Doors are three chamber pressure equalised systems crimped with mechanical corner cleats. Weathering is achieved by the use of single and dual durometer, EPDM gaskets, all with non-shrinkage cord.

Security *

Kawneer's AA®605TE Swing Door has been tested to the PAS 24 Standard for the enhanced security performance of single and double leaf external doors, proven by stringent laboratory testing, carried out at the Building Research Establishment (BRE). The AA®605TE Door is suitable for both light and medium duty requirements, making it ideal for low to medium frequency use in dwellings and commercial applications.

* *Does not refer to standard hardware, security hardware required.*

AA®605TE^{Plus} Thermal Enhancement

The AA®605TE^{Plus} enhancements include a new thermally broken low threshold and EPDM gasket. In addition to this we have introduced additional glazing packers and formalised the glazing bead offer to allow the use of triple glazing.

Product Features

With the decisive advantage of...

Low (for easy wheelchair access) or mid/ rebated threshold	Low threshold provides improved accessibility for all
Specifically designed anti-finger trap protector	Finger guard design provides safety in use
Choice of locks: multi-point or single with latch, roller or deadbolt	Flexibility
Adjustable two or three part hinges	Suitable for use in medium traffic locations
Suites with the AA®601TE and AA®601TE^{Plus} Casement, AA®602TE Pivot, AA®603TE Tilturn, Kawneer's Curtain Walling and Framing products	Total design flexibility Offering total project solutions

Oxford Business Park
Aukett Europe
Swing Doors

AA®720 Series Door Systems

Introduction

The Kawneer AA®720 Door has been developed to meet the latest European requirements for thermal performance and has been future proofed against expected changes in thermal regulation up to 2019.

To enable complete flexibility of design, performance and cost, the AA®720 Door is available in two levels of thermal performance, the **AA®720** and the **AA®720HI**.

The 72mm profiles incorporate the very latest thermal technology including; extruded polyamide thermal breaks, insulated centre seals and foam isolators.

As well as being fully integrated, the AA®720 Door can suite with Kawneer's curtain walling and framing products and is suitable for installation in low or high rise buildings for commercial and domestic new build or refurbishment projects.

Construction

Crimped or pinned with mechanical corner cleats. Corner braces are also used.

Weathering is achieved by the use of single and dual durometer, EPDM gaskets.

Pressure equalised system.

Configurations

As well as flexibility in performance, the AA®720 offers versatility in design with the range encompassing a wide variety of integrated window and door configurations. For information on Kawneer's AA®720 Series Window Systems please refer to our Window Systems Brochure.

Variants to the AA®720 Door range are:

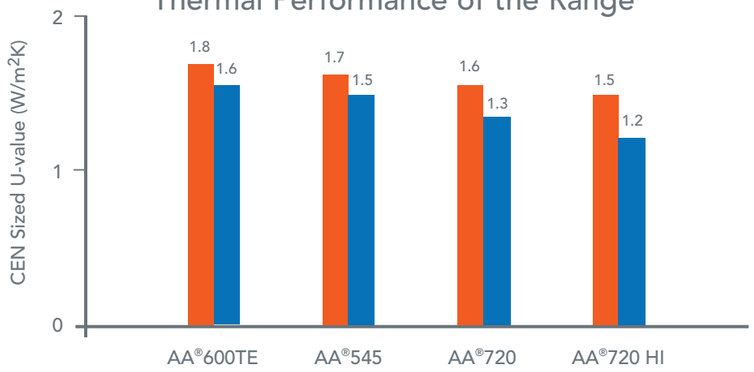
- Softline/Design variants with rounded contours
- Open in and open out variants
- Choice of thresholds
- Extensive panic hardware offer
- Large leaf size and weight capabilities

The AA®720 Door also offers extensive hardware configurations, including new concealed hinges and barrel hinges as well as extensive handle and locking options, to suite with other products in the Kawneer range.

Glazing

Glazing and panels up to 56mm thickness can be accommodated enabling the use of triple glazing for when there is a requirement for the very highest thermal and acoustic performance.

Thermal Performance of the Range



U-values are based on a 1000mm x 2000mm CEN sized single door

Incorporating 1.1 W/m²K double glazing with warm edge Swisspacer V bar

Incorporating 0.7 W/m²K triple glazing with warm edge Swisspacer V bar

Product Selector

Performance	AA®720	AA®720 HI	AA®720 FR
U-value (Double Glazing)*	1.6 W/m²K	1.5 W/m²K	1.6 W/m²K
U-value (Triple Glazing)**	1.3 W/m²K	1.2 W/m²K	1.3 W/m²K
Frame Depth	72mm	72mm	72mm
Sound Insulation (BS EN 4109)	38 dB	38 dB	38 dB
Air Infiltration (BS EN 12207: 2000)	Class 2	Class 2	Class 2
Watertightness (BS EN 12208: 2000)	Class 4A	Class 4A	Class 4A
Wind Resistance (BS EN 12210: 2000)	Class C2	Class C2	Class C2
Security (ENV 1627)	WK2 & 3	WK2 & 3	WK2 & 3
Smoke Protection (DIN EN 1634-3)	-	-	•
Fire Protection (DIN EN 1634-1)	-	-	$EI_2$30
Design Variants			
Standard	•	•	•
Softline/Design – Rounded Contours	•	•	
Renovation – Angular Contours	•	•	
Panel Door	•	•	
Configurations			
Inward Opening			
Single	•	•	•
Double	•	•	•
Folding/Sliding	•	•	
Outward Opening			
Single	•	•	•
Double	•	•	•
Design Features			
Maximum Door Leaf Size	1400mm x 3000mm		
Maximum Door Leaf Weight	250kg	250kg	250kg
Dual Colour Option	•	•	•
Maximum Glazing Thickness	50mm	50mm	50mm
Colour Co-ordinated Hardware	•	•	•
Multi-Point Locking	•	•	•
Concealed Hinges	•	•	
Barrel Hinges	•	•	•
Thermally Broken Threshold	•	•	•
Fire Escape (DIN EN 179)	•	•	•
Anti-Panic (DIN EN 1125)	•	•	•
Durable Function (EN 1191)	Heavy Duty	Heavy Duty	Heavy Duty

* *U-values based on BR443 size door (1000mm x 2000mm) using 1.1 W/m²K double glazing with warm edge Swisspacer V bar.*

** *U-values based on BR443 size door (1000mm x 2000mm) using 0.7 W/m²K triple glazing with warm edge Swisspacer V bar.*

Fire protection tests carried out using specialist glazing. Tested to DIN EN 1634-1

Sound insulation values are Rw reduction values and are based on tests using acoustic glazing. Further details are available within the Product Manual

Independently weather and operational performance tested to BS EN 1026, 1027 & 12211

AA®720 FR

Introduction

The AA®720 FR consists of door and fixed light variants that are compliant with the latest European standards offering 30 minute insulation and integrity.

This is cleverly achieved using additional components to the standard AA®720 System and with the use of specialist fire-rated glazing.

Performance

Kawneer's AA®720 FR has been tested in accordance with DIN EN 1634-1 achieving $EI_2$30 (insulation and integrity), and has met the requirements of DIN EN 1634-3 for smoke protection. Testing has been carried out at various locations.

It has also been tested to:
Air Infiltration BS EN 12207: 2000 (Class C2)
Watertightness BS EN 12208: 2000 (Class 4A)
Wind Resistance BS EN 12210: 2000 (Class 2)

Glass

The AA®720 FR has been tested with specialist glazing. All glazing options are available in the AA®720 FR Product Manual.

Product Features

With the decisive advantage of ...

Same versatility as the AA®720 Series	Inward and outward opening single and double doors, combined with integrated fixed lights
Extensive panic hardware offer	Integrated panic doors
Wide range of hardware options	Large range of options and configurations for Architects and Specifiers
Specialist cooling material within the profiles	Helps keep the aluminium at a temperature under the melting point
Intumescent strip	Protection against smoke and heat penetration
Specialist steel glazing clips and retaining bolts	Maintaining the structural integrity of the system
Suites with AA®100/AA®110 FR Curtain Walling	Total design flexibility Offering total project solutions
Tested and certified in accordance with DIN EN 1634-1 and DIN EN 1634-3 at various locations	Offering protection against both fire and smoke
Similar U_{Frame} values as the standard AA®720 Door and Fixed Light variants	Complies with all current thermal regulations
Aesthetics	Profile depths and widths are the same as the standard AA®720 System

Fire Resistant Systems

Kawneer's AA®720 FR Door and Fixed Light variants enable design flexibility when fire protection is a requirement to building design. They enable safe evacuation of building occupants by offering fire and smoke protection in escape routes. They can also be used to prevent the spread of fire through the building and to adjacent buildings.

Performance of the system is heavily dependent on the performance of the individual profiles, hardware items, specialist glazing and the interface between the system and the building structure. All these factors have been carefully considered in the development of the product.

AA®720 FR Door

AA®720 FR Fixed Light Variant

For details of other Kawneer Fire Resistant solutions please refer to our Fire Resistant Systems Brochure.

2827 JOHN R STREET

OOMBRA
ARCHITECTS

Complete

We are capable of supplying fully tested zinc wall systems including mounting systems and related hardware.

CONTACT Us

www.northclad.com

NorthClad® rainscreen solutions

Phone: (425) 740-3702
Fax: (425) 485-3503

11831 Beverly Park Road, Building C
Everett, WA 98204

Design By Nature

with NorthClad®
Zinc Series Cladding Options

EWS 02

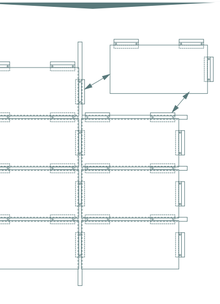
ZINC PANEL WALL SYSTEM: 1 1/4" FORMED ZINC PANEL, 1/4" AIRSPACE, 2" RIGID INSULATION BETWEEN 21/2" Z-GIRTS, WRB, 5/8" DENSGLASS W/ SEALED JOINTS,6" METAL STUDS @ 16" O.C. WITH 3" SPRAYED FOAM 06 012 CHARRED CEDAR VERTICAL POLYURETHANE INSULATION, AND 5/8" GYP BOARD

NorthClad® rainscreen solutions

NorthClad® Zn
Zinc Series Cladding Systems

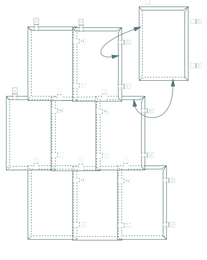
Zinc Composite
Panel System

- Allows for larger panel sizes.
- Flattest option available for zinc.
- Tested pressure equalized rainscreen system.
- Combines the appearance of natural zinc with the flatness of composite.
- Span large distances without warping.



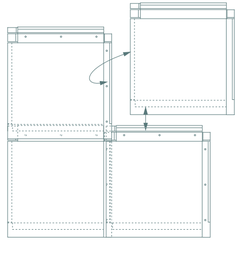
Interlocking Natural Zinc
Shingle Panels

- Complete siding system featuring interlocking zinc shingle panels.
- Customizable shingle width and height.
- CNC machinery ensures total accuracy.
- Manufactured with state of the art equipment owned and operated by NorthClad.
- Easy to install.



Formed Natural Zinc
Panel System

- Single-skin pressure-equalized rainscreen with interlocking panel design for ease of assembly with no butyl tape required on the panel.
- Proven Wall System, Tested to AAMA 508-7, fabricated by NorthClad.
- Custom sizes allow for endless options.
- Available in stacking or dual-interlocking panel configurations.



A naturally occurring, resilient building material.

100% Recyclable

Zinc, the 23th most abundant element on Earth, has been used for architectural roofing and drainage applications for hundreds of years. With its natural weathering, environmentally friendly properties, and long life time, zinc is quickly becoming the material of choice for modern designers. Our Zn system adds to the natural versatility of zinc by providing architects and designers an array of options utilizing this amazing material.

ZN + Interlocking Composite Shingles Custom

Zinc Series Systems

Custom Panel System
Design Options

The malleable properties of zinc allow sheet material to be manipulated in ways that cannot be matched by steel or aluminum.

We invite you to take some creative license and envision the perfect facade. We'd love the opportunity to help you make your vision a reality.

Versatile

Our Zn Series features an array of options to accommodate even the most complex design.

Material for this project supplied by Jarden Zinc.

NorthClad® rainscreen solutions

Find what you're looking for at www.northclad.com

FIRECLAY TILE

BRICK
SPECIFICATIONS

The raw brick that makes up our Glazed Thin Brick is sourced through McNear Brick & Block, the USA's oldest continuously operating brick manufacture and located only 100 miles from the Fireclay Tile factory. The brick body is made up of 100% reclaimed earth. Brick qualifies for numerous LEED points and is glazed on site at the Fireclay Tile factory in Aromas, CA. As with all hand made tile and brick, some degree of color and size variation is to be expected. Please see the attached Color Guide for a full list of colors and variation.

RECOMMENDED APPLICATIONS

- Can accommodate projects over 100,000 sq.ft.
- Commercial, hospitality and residential settings
- Interiors and exteriors
- Walls, vertical and horizontal surfaces
- Floors, commercial and residential
- Fireplace faces and hearths, not for use inside the fireplace box.
- Contact us or your sales team member to further discuss the details of your project

PHYSICAL PROPERTIES

- Thickness: approx. 5/8"
- Weight: 5.5 lbs per sq.ft.
- Pieces per sq.ft.: 5.9 (assumes 8-1/8" x 2-7/16" size)
- Glazed Thin Brick is available in traditional brick sizes and shapes, including corners. Standard price sizes range from Standard (8-1/8" x 2-7/16") to Modular (7-5/8" x 2-1/4") with corner. Thin brick thickness and size varies up to 1/8".
- Pieces per sq.ft. assumes 3/8" grout joint which is standard in the brick industry. If thinner grout line is desired, please follow guidelines below to ensure enough material is ordered:
  - 3/16" grout line (minimum recommended) - order 20% overage
  - 1/4" grout line - order 16% overage
  - 3/8" grout line - order 10% overage

COLOR INFORMATION

- Available in 28 all-natural and lead-free glazes.
- Natural variation is inherent in color, texture, and finish depending on the specific glaze. Individual color variation is graded V1 (least) to V4 (most). See the attached Color Guide for a full list of colors and variations.
- Custom colors are available for large commercial projects over 5,000 sq.ft. Please contact us so we can best assist you on your next project.

CUSTOM OPTIONS

- Custom colors, sizes, and brick finishes are available. Please contact us with specific details so we can best evaluate the project.

MANUFACTURING INFORMATION

- The original brick production takes place by McNear Brick & Block in San Rafael, CA, just 100 miles away from our Aromas, CA factory. McNear's brick products contain 100% locally sourced post-consumer recycled materials from local excavation projects.
- Glazed Thin Brick is manufactured by our expert team of ceramicists in Aromas, CA.

LEAD TIMES

- Our lead times vary, please contact our website for current lead times.

SUSTAINABLE DESIGN | LEED CREDITS

- Glazed Thin Brick may qualify for:
  - MR 4.1/4.2: Recycled Content (1–2 points)
  - MR 5.1/5.2: Regional Materials (2 points)
  - EQ 4.2: Low-Emitting Materials (1 point)
- McNear Thin Brick is made from 100% locally sourced and post-consumer recycled materials from surrounding excavation projects.
- All of our glazes are 100% lead-free.
- All products are packaged in recycled cardboard boxes and on recycled pallets or crates. We use recycled sawdust, biodegradable peanuts, or other recycled materials for protection.
- Glazed Thin Brick is substantially lighter than traditional g
  85% cost an
  and pre-cor
  we recycle c
  incorporate
- All of our gl

EWS 03

FULL BRICK WALL SYSTEM: BRICK, AIR AND WATER BARRIER, 5/8" DENSGLASS W/ SEALED JOINTS, 2" RIGID INSULATION, STRUCTURE, 1" METAL FURRING, SHEET VAPOR BARRIER, 1/2" PTD GYP BOARD

BRICK
SPECIFICATIONS

(SUSTAINABLE DESIGN | LEED CREDITS, continued)

- Tile orders are packaged in recycled cardboard boxes and on recycled pallets or crates. We use biodegradable peanuts, and/or other sustainable materials for protection.

INSTALLATION | BRICKFAST & PRECAST PANELS

- Water Absorption: 0.03%
- Physical Dimensions
  - Thickness: 5/8"
  - Weight: 4 lbs per sq.ft.
- Breaking Strength: 420 lbs
- Abrasion Resistance Index: 137.5

COLOR GUIDE

COLOR NAME	COLOR VARIATION	FINISH	CRAZING
Abyss	3	Gloss	Low
Alcatraz	3	Satin	Low
Andromeda	4	Gloss w/Engobe	Low
Blue Nebula	4	Gloss w/Engobe	Low
Ceres	4	Gloss w/Engobe	Low
Cotton	3	Satin	Low
Creme Brulee	3	Gloss	Low
Fog City	3	Gloss	Low
Glacier	3	Gloss	Low
Graphite	2	Matte	Low
Grey Heron	3	Gloss	Low
Harbor	3	Satin	Low
Inkwell	1	Gloss	Low
Luna	4	Gloss w/Engobe	Low
Mars	4	Gloss w/Engobe	Low
Mercury	2	Gloss w/Engobe	Low
Meteorite	2	Gloss w/Engobe	Low
Moss	3	Gloss	Low
Northwoods	3	Gloss	Low
Parakeet	3	Satin	Low
Rust	3	Gloss	Low
Scarlet	3	Gloss	Low
Silk	3	Gloss	Low
Snow	1	Gloss	Low
Stardust	2	Gloss w/Engobe	Low
Supernova	4	Gloss w/Engobe	Low
Vintage Blue	3	Matte	Low
Willow	3	Satin	Low

SIZE GUIDE

BRICK	BRICK (ACTUAL SIZE)	PIECES/SF
Brick Flat	8-1/8" L x 2-7/16" W x 5/8" T	5.9
Standard Corner	8-1/8" L x 2-7/16" W x 5/8" T with 3-7/8" return	—

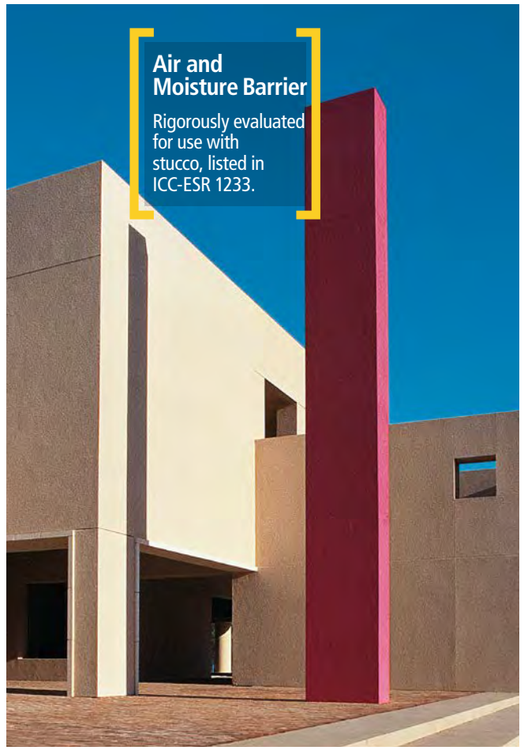
Building Code Compliant Wall Assemblies

StoPowerwall® Systems incorporate stucco products produced by Sto® or its manufacturing partners that comply with ICC Acceptance Criteria for Cementitious Exterior Wall Coverings (AC 11) and/or ASTM C 926.

Energy efficiency
For meeting energy codes, StoPowerwall ci incorporates up to two inches of Dow STYROFOAM™ Type IV extruded polystyrene (XPS) rigid foam insulation providing an R-value of up to 10. StoPowerwall ci complies with regulatory requirements for continuous insulation over steel and wood framing, including ASHRAE Standard 90.1-2013, the new IGCC/IECC energy code requirements for continuous insulation, and the Title 24 requirements for energy efficiency.

Water management
For water management, StoPowerall ci and StoPowerwall DrainScreen™ Systems incorporate advanced cavity wall design with Sto Drainage Mat and a continuous fluid-applied, vapor-permeable air and moisture barrier, Sto EmeraldCoat®, both listed components in ICC-ESR 1233.

Fire testing compliance
For fire safety, StoPowerall ci and StoPowerwall DrainScreen Systems have been tested in accordance with NFPA 285 and meet acceptance criteria for use on noncombustible construction (Types I-IV) and combustible construction (Type V) as described in ICC-ESR 1233.



Three Premium Systems

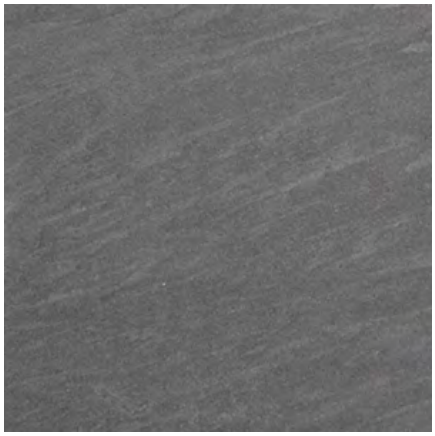
	StoPowerwall ci	StoPowerwall DrainScreen	StoPowerwall ExtraSeal®
Substrate Type	Wood, Gypsum sheathing	Wood, Gypsum sheathing	Masonry, Concrete
Air and Moisture Barrier Protection	Uses StoGuard® fluid-applied air and moisture barrier to provide superior protection against water penetration and air leakage. StoGuard EmeraldCoat provides a vapor permeable fluid-applied air and moisture barrier.		Uses Sto ExtraSeal, a single component air barrier barrier and scratch coat for CMU beneath ASTM C 926 stucco brown coats.[1]
Drainage and Drying	Incorporates Sto DrainScreen, a drainage mat that creates an air gap to facilitate drainage and faster drying.		Barrier wall design.
Continuous Insulation	Up to two inches of Dow STYROFOAM™ Type IV XPS (extruded polystyrene) insulation board installed inbound or outbound of sheathing for R-values of 5.0-10.0.	None	None
Stucco	Sto listed stucco (ICC ESR 2323) and stucco produced by Sto's manufacturing partners.		
Finish	Sto Powerflex® Silco: A ready-mixed silicone enhanced elastomeric textured wall finish for covering hairline cracks and enhanced water repellency. Sto Powerflex: A ready-mixed elastomeric textured wall finish for covering hairline cracks. Sto Powerwall: A ready-mixed flexible acrylic textured wall finish with high water vapor permeability. All finishes use marble aggregate—not quartz—for cleanest, most vivid colors.		
Other Components	Sto Armor Guard: Uses woven glass fiber Sto Mesh embedded in Sto base coat to resist cracking.		

1. Only applies to stucco brown coats evaluated for this application by Sto Corp., StoPowerwall Stucco (ICC-ESR 1233) and (

EWS 04
STUCCO WALL SYSTEM: STANDARD THREE-COAT PORTLAND CEMENT PLASTER W ACRYLIC FINISH COAT, LATH, WATER RESISTANT BARRIER, 5/8" DENSGLAS W SEALED JOINTS ON 6" MTL STUDS AT 16", FULL THK INSUL, SHEET VAPOR BARRIER, 5/8" GYP BOARD

STONE SOURCE
STONESOURCE.COM

PIETRA CARDOSA
FINISH: HONED



Product photography and samples are to be used as a general guide. Color as well as percentage, size and shape of markings will vary. Sizes are nominal, not actual.

RELATED INFORMATION:

SEE SLABS

MATERIAL CONSIDERATIONS
Explains what to expect with materials. IF YOU READ NOTHING ELSE, READ THIS.

INVENTORY OVERVIEW
Defines material options and availability.

APPLICATIONS GUIDE
Lists the materials most commonly used in each application.

CARE + MAINTENANCE
Gives guidelines for ensuring that materials last over time.

TECHNICAL PERFORMANCE SPECS
Defines criteria we use to rate the performance of our materials.

MATERIAL: Schist
COLOR RANGE: Gray

INVENTORY				
Availability	Type	Nominal Size	Thickness	Finish
Special Order	Slab	Varies by lot, see stock.	2CM	Honed
Limited Stock	Slab	Varies by lot, see stock.	3CM	Honed

STOCK - Items are generally in stock in select sizes. Inventory levels vary.
LIMITED STOCK - Boutique items. Available in smaller quantities due to material demand and availability.
QUICK SHIP - Items are available in quantities up to 2,000 SF and are available to ship in 7 business days or less.
SPECIAL ORDER - Items are not in stock. Lead times vary. Ask your sales consultant for details.

Refer to Inventory Overview PDF for "Availability" descriptions.

APPLICATIONS							
Exterior Cladding	Exterior Pavers	Interior Walls	Interior Floors	Kitchen Countertops	Other Countertops	Wet Areas	Traffic
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Heavy Commercial

Refer to Applications Guide PDF for descriptions and most commonly used materials by application.

CARE + MAINTENANCE					
Pre-Grouting Protection	Initial Cleaning	Protection Natural Effect	Protection Color Enhancing	Standard Maintenance	Special Maintenance
NA	Fila Cleaner	Fila Fob	Fila Stone Plus	Fila Cleaner	NA

Refer to Care + Maintenance PDF for descriptions and cleaning instructions.

IMPORTANT INFORMATION ABOUT THIS MATERIAL

	TECHNICAL PERFORMANCE SPECS
Rating	ABRASION RESISTANCE (The ability of a material to resist surface wear.)
Low	This material has low abrasion resistance. It rates as a 1-3 on the Mohs scale. Light scratching will occur with exposure to sand and other abrasives. The finish will patina or dull over time as a result of this scratching. Always use a cutting board for countertop applications and walk-off mats at entrances in flooring applications.
Rating	ABSORPTION (The relative porosity of a material.)
Moderate	This material has a low to moderate absorption rate. Always seal this material prior to use. To reduce the appearance of stains, always wipe up spills immediately. Oil and highly-pigmented liquids can penetrate and stain the stone and may need poultice to remove the stain.
Rating	ACID SENSITIVITY (The likelihood of a material reacting to acidic foods or liquids.)
Minimal	This material is minimally sensitive t exposed to acidic liquids such as lem
Rating	(The ability of a material to w
All Exteriors	Due to this material's Minimal or Mod fastness and tensile strength, this material is suitable for all exterior applications where freeze-thaw cycles are a concern. Use MIA standards for thickness in exteriors and consult an engineer

EWS 05

STONE VENEER WALL SYSTEM: PIETRA CARDOSA STONE VENEER, AIR AND WATER BARRIER, 5/8" DENSGLASS W/ SEALED JOINTS, 6" METAL STUDS @ 16" O.C. WITH 6" UNFACED BATT INSULATION, SHEET VAPOR BARRIER, 5/8" GYP BOARD, STONE VENEER

FIRECLAY TILE

800-773-2226
FIRECLAYTILE.COM
HELLO@FIRECLAYTILE.COM

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- Weight: 5.5 lbs per sq.ft.
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- All products are packaged in recycled cardboard boxes and on recycled pallets or crates. We use recycled sawdust, biodegradable peanuts, or other recycled materials for protection.
- Glazed Thin Brick is substantially lighter than traditional glazed brick, resulting in potentially an 85% cost and emissions reduction. porcelain/glass and pre-con
  we recycle o
  incorporate i
- All of our gla

EWS 06

NEW BRICK VENEER WITH AIR AND WATER BARRIER, 2-IN RIGID INSULATION ON EXISTING CMU WALL

BRICK
SPECIFICATIONS

(SUSTAINABLE DESIGN | LEED CREDITS, continued)

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INSTALLATION | BRICKFAST & PRECAST PANELS

- Water Absorption: 0.03%
- Physical Dimensions
  - Thickness: 5/8"
  - Weight: 4 lbs per sq.ft.
- Breaking Strength: 420 lbs
- Abrasion Resistance Index: 137.5

COLOR GUIDE

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Fog City	3	Gloss	Low
Glacier	3	Gloss	Low
Graphite	2	Matte	Low
Grey Heron	3	Gloss	Low
Harbor	3	Satin	Low
Inkwell	1	Gloss	Low
Luna	4	Gloss w/Engobe	Low
Mars	4	Gloss w/Engobe	Low
Mercury	2	Gloss w/Engobe	Low
Meteorite	2	Gloss w/Engobe	Low
Moss	3	Gloss	Low
Northwoods	3	Gloss	Low
Parakeet	3	Satin	Low
Rust	3	Gloss	Low
Scarlet	3	Gloss	Low
Silk	3	Gloss	Low
Snow	1	Gloss	Low
Stardust	2	Gloss w/Engobe	Low
Supernova	4	Gloss w/Engobe	Low
Vintage Blue	3	Matte	Low
Willow	3	Satin	Low

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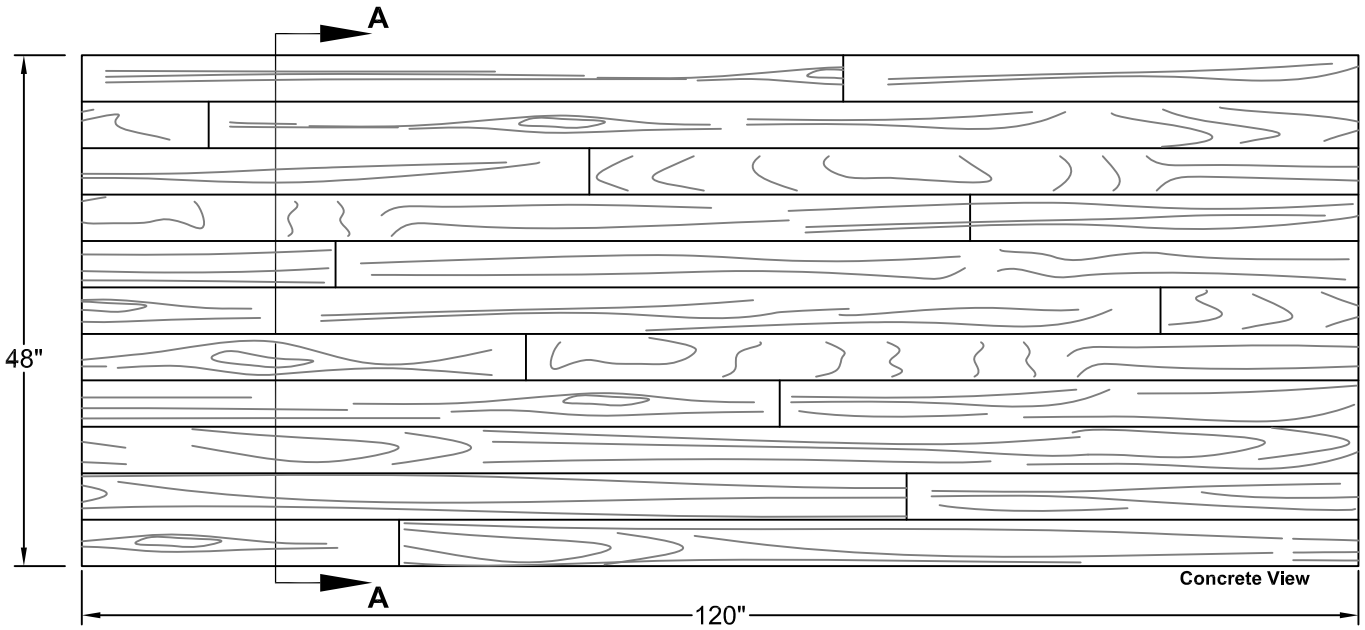
FITZGERALD FORMLINERS
Forming The Future ™

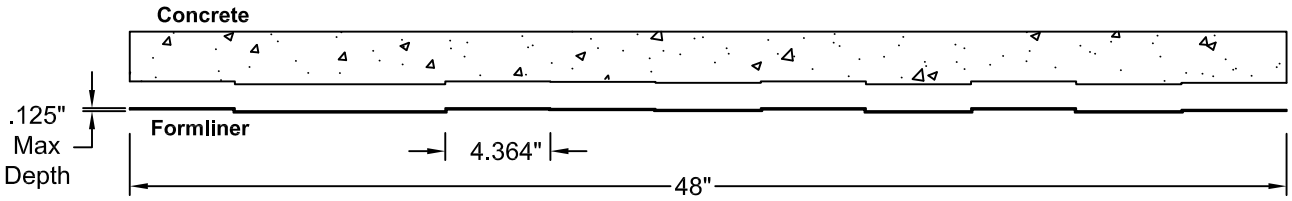
PATTERN 16020
Rough Sawn Plank

Rough Grain Plank

Vac-U-Form™
Styrene - Single Use.
ABS Plastic - Up to 15 reuses.

Wooden Plank
Part Size: 120" W x 48" H
Max Depth: 0.125"
Board Width: 4.364
Grain: Rough





Section A-A

FORMLINER DETAIL

EWS 07

PRECAST CONCRETE WALL SYSTEM: WHITE PORTLAND CEMENT WITH FORMLINER

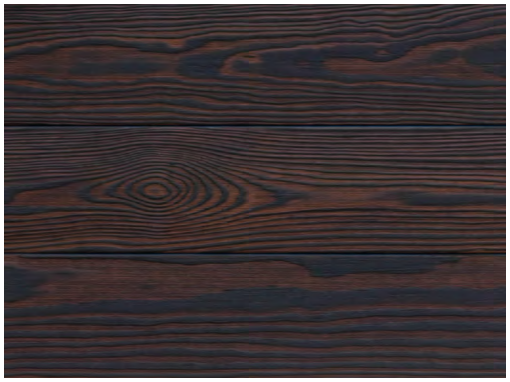
FITZGERALD FORMLINERS
1500 East Chestnut Avenue • Santa Ana, CA 92701 • Fax (714) 245-9715
Ph: (800) 547-7760 • Ph (714) 547-6710 • www.formliners.com

Pattern can be requested in AutoCad format.

KEBONY TECH SPECS

SUPERKÜL - KEBONY® WOOD
SOLID - SKU #CH-750318

VETTE - KEBONY® WOOD
SOLID - SKU #CH-750332



NOBU - KEBONY® WOOD
SOLID - SKU #CH-750257

MARKA - KEBONY® WOOD
SOLID - SKU #CH-750316

RUSS - KEBONY® WOOD
SOLID - SKU #CH-750317

FAEN - KEBONY® WOOD
SOLID - SKU #CH-750314

Kebony® is a beautiful wood recommended by leading architects. It is sustainable, durable and requires no maintenance beyond normal cleaning. Kebony's performance has been proven in a variety of applications including decking and cladding.

Developed in Norway, the Kebony® technology is an environmentally friendly, patented process, which enhances the properties of sustainable softwood with a bio-based liquid. The process permanently modifies the wood cell walls giving Kebony premium hardwood characteristics and a rich brown color. After exposure to sun and rain the wood develops a natural silver-gray patina..

The Kebony® technology permanently transforms sustainable wood species such as pine into Kebony wood with features that are comparable, and in some cases superior, to those of precious tropical hardwoods. This unique environmentally friendly process is also a superior alternative to traditional wood treatment based on impregnation with biocides (wood preservatives). The company's patent-protected production processes yield products that deliver major improvements in durability and dimensional stability, at the same time as being highly attractive. The Kebony products are suitable for a multitude of applications and designs – encompassing both indoor and outdoor applications.

EWS 08

VERTICALLY ORIENTED 1x8 CHARRED CEDAR BOARDS, MODIFIED WIDTHS CUT TO PATTERN SHOWN @ 4" O.C. WITH STEEL CLIP BACKUP SYSTEM ATTACHED TO EDGE OF SLAB AS NECESSARY. B.O.D. - reSAWN TIMBER CO. SHOU SUGI BAN CHARRED CEDAR

KEBONY TECH SPECS

KEBONY ®

Class Rating*: B (ASTM E 84)
Flame Spread Index*: 65 (ASTM E 84)
Smoke Developed Index*: 300 (ASTM E 84)
NOTE: ALL DESIGNS ARE AVAILABLE FIRE TREATED TO CLASS A FOR INTERIOR APPLICATIONS

EXCELLENT STABILITY
swelling and shrinkage reduced by 40-60%

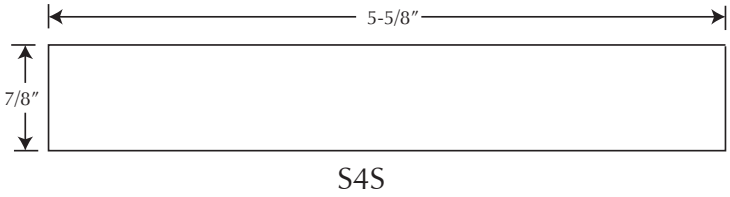
GUARANTEED LONG LIFE
outdoor life time warranty for 30 years

REAL WOOD
with enhanced and strengthened cell structure

HIGH RESISTANCE
against fungi, rot and other wood destroying micro-organisms

STANDARD DIMENSIONS & MILLING:

- 7/8" thick X 5-5/8" wide X 8-16' random lengths - S4S



S4S

NOTE: Custom width, lengths and millings available.

APPLICATIONS:
- EXTERIOR siding (note: for exterior applications we recommend sealing all four sides)
- DECKING - (MARKA & RUSS)

FINISH SPECS:
- EXTERIOR Burned, Brushed, and Sealed on FACE & BACK
- DECKING Unfinished

INSTALL GUIDELINES:
- Rear ventilation and weather acclimatization are vital to minimize swelling & shrinking
- EXTERIOR: Contact reSAWN for Install Instructions
- DECKING: Refer to Kebony Decking Guidelines: http://resawntimber.wpengine.netdna-cdn.com/wp-content/uploads/2017/05/kebony_us_decking_installation_instructions.pdf

GRADES
- SELECT (Highest quality - mostly clean, small knots allowed)
- See reSAWN's CHARRED usage guide for additional details

POSSIBLE LEED CREDITS
- MR 1 - Building Life-Cylce Impact Reduction

PACKAGING AND FREIGHT:
- All shipments are carefully packaged on 16' pallets (Not boxed or bundled)

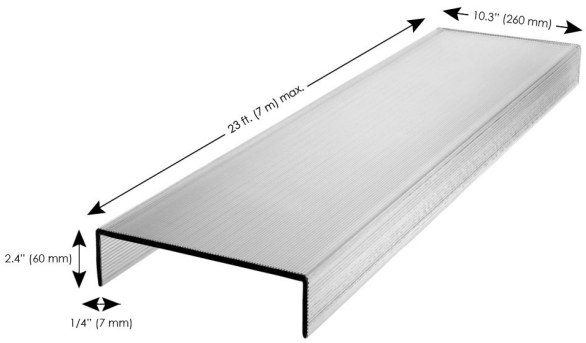
** Class Rating, Flame Spread Index and Smoke Developed Index per 3rd party testing from the Wood Database. Contact reSAWN for more information.
* Janka Rating from similarly tested products - expected to be close to actual measurements of reSAWN TIMBER co.'s CHARRED™ products
*All data provided by 3rd party testing that can be found on Kebony's product data sheet based on non-CHARRED Kebony products.

BENDHEIM

Bendheim Corporate
122 Hudson Street, New York, NY 10013

Phone: 800.221.7379
info@bendheim.com

Moire™ Fluted Channel Glass (Ultra-Brilliant Low-Iron or Regular)



Application:

Interior, Exterior

Composition:

Regular or optically-clear (low-iron) glass, including up to 40% post-consumer recycled glass

Installation:

Approx. ¼"-thick lightweight glass in channel form is relatively easy to install, especially with the smart design of Bendheim's channel glass wall systems. No specialized training is required. Any competent commercial glazier with curtainwall or storefront installation experience can handle the channel glass installation. Cranes are not required, as individual glass channels are lightweight. The channels can be glazed on site or pre-assembled at the glazier's shop using Bendheim's unique unitized channel glass systems.

Approx Dimensions:

Length = up to 23 ft. (7 m); glass is fabricated to specified length. Width = 10.3" (260 mm). Flange depth = 2.4" (60 mm). Thickness = 0.28" (7 mm). Maximum size depends on wind loads, glass safety option, and other factors. Custom sizes may be available, please inquire.

Approx Weight:

Approx. 5 lbs/ft² (24.5 kg/m²) for a single layer of channel glass (single-glazed configuration)

EWS 09

CHANNEL GLASS WALL SYSTEM WITH CONTINUOUS STRIP LIGHT AT PERIMETER

Bendheim Corporate
122 Hudson Street, New York, NY 10013

Phone: 800.221.7379
info@bendheim.com

Safety Options:

Standard, Tempered

Maintenance:

Bendheim glass is easy to maintain. We suggest cleaning with warm water and a lint free cloth (terry cloth). Conventional non-abrasive glass cleaners may also be used.

Performance Characteristics:

- **Visible Light Transmittance (VLT)** = 77% for double-glazed, uncoated, ultra-clear (low-iron) channel glass / 72% for double-glazed, uncoated, clear (regular) channel glass
- **STC Rating** = STC 34 to STC 38 | Note: STC 34 is based on test of Bendheim I-41 conventional interlocking double-glazed channel glass wall system with push-in gaskets. Wet-sealed I-60 channel glass system is projected to reach STC 38. Compare to STC 33 for a typical interior wall (1/2" drywall on each side, wood studs, no insulation) and STC 39 for a typical insulated interior wall (1/2" drywall on each side, wood studs + fiberglass insulation)

Testing:

Bendheim tempered safety channel glass is 100% heat soak tested (test is recommended for all exterior tempered glass applications), and Safety Glazing Council certified. It meets the requirements for ANSI Z97.1 & the Consumer Product Safety Commission CPSC 16FR, Part 1201 – Safety Standard for Architectural Glazing Materials. Heat soak testing minimizes the risk of spontaneous tempered glass breakage as a result of nickel sulfide inclusions.

Potential Leed Credit:

- EA Credit 1: Optimize Energy Performance
- MR Credit 4: Recycled Content
- IEQ Credit 7.1: Thermal Comfort
- IEQ Credit 8.1: Daylight & Views: Daylight 75% of Spaces
- IEQ Credit 8.2: Daylight & Views: Views for 90% of Spaces

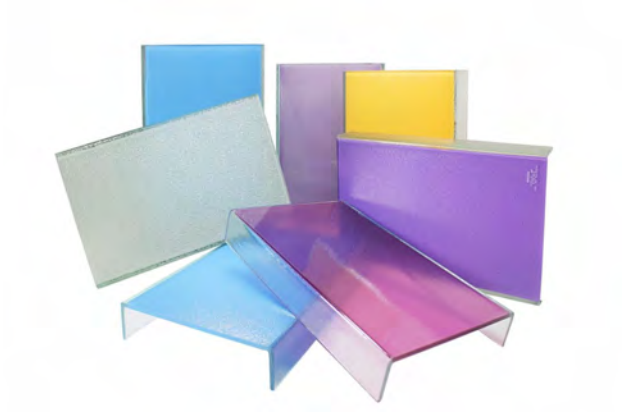
Options & Customizations:

Aesthetic & Thermal Performance Options

- Available in ultra-low-iron glass, featuring superior clarity & brilliance, or regular-iron glass (approx. 30-40% post-consumer content)
- Sand-Blast & DuraEtch® Options: sand-blasted 2nd surface and durable, fritted Dura-Etch® (simulated acid etch) obscure views, diffuse light, and protects against glare
- Fritted Colors: a rich palette of hundreds of colorfast, scratch resistant, translucent & opaque colors
- Thermal Performance Coatings: Low-E & Azur (special production)
- Thermal Insulation Interlayers: Okapane (acrylic tubes) & Wacotech TIMax (fiberglass)

Bendheim Corporate
122 Hudson Street, New York, NY 10013

Phone: 800.221.7379
info@bendheim.com



Fritted colors

Low-E thermal performance coating

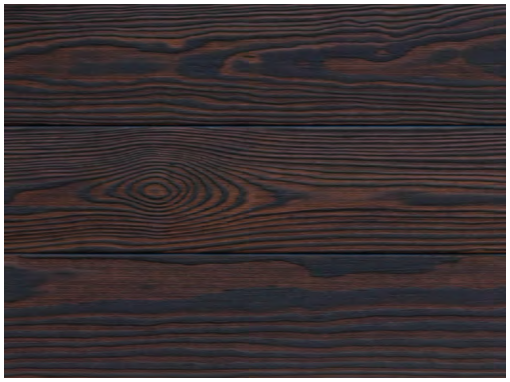
Azur thermal performance coating

Channel glass wall with Wacotech insulation

KEBONY TECH SPECS

SUPERKÜL - KEBONY® WOOD
SOLID - SKU #CH-750318

VETTE - KEBONY® WOOD
SOLID - SKU #CH-750332



NOBU - KEBONY® WOOD
SOLID - SKU #CH-750257

MARKA - KEBONY® WOOD
SOLID - SKU #CH-750316

RUSS - KEBONY® WOOD
SOLID - SKU #CH-750317

FAEN - KEBONY® WOOD
SOLID - SKU #CH-750314

Kebony® is a beautiful wood recommended by leading architects. It is sustainable, durable and requires no maintenance beyond normal cleaning. Kebony's performance has been proven in a variety of applications including decking and cladding.

Developed in Norway, the Kebony® technology is an environmentally friendly, patented process, which enhances the properties of sustainable softwood with a bio-based liquid. The process permanently modifies the wood cell walls giving Kebony premium hardwood characteristics and a rich brown color. After exposure to sun and rain the wood develops a natural silver-gray patina..

The Kebony® technology permanently transforms sustainable wood species such as pine into Kebony wood with features that are comparable, and in some cases superior, to those of precious tropical hardwoods. This unique environmentally friendly process is also a superior alternative to traditional wood treatment based on impregnation with biocides (wood preservatives). The company's patent-protected production processes yield products that deliver major improvements in durability and dimensional stability, at the same time as being highly attractive. The Kebony products are suitable for a multitude of applications and designs – encompassing both indoor and outdoor applications.

EWS 10

FREE-STANDING SCREEN WALL, VERTICALLY ORIENTED CHARRED WOOD BOARDS (2X8) WITH WELDED GALVANIZED STEEL FRAME

KEBONY TECH SPECS

KEBONY ®

Class Rating*: B (ASTM E 84)
Flame Spread Index*: 65 (ASTM E 84)
Smoke Developed Index*: 300 (ASTM E 84)
NOTE: ALL DESIGNS ARE AVAILABLE FIRE TREATED TO CLASS A FOR INTERIOR APPLICATIONS

EXCELLENT STABILITY
swelling and shrinkage reduced by 40-60%

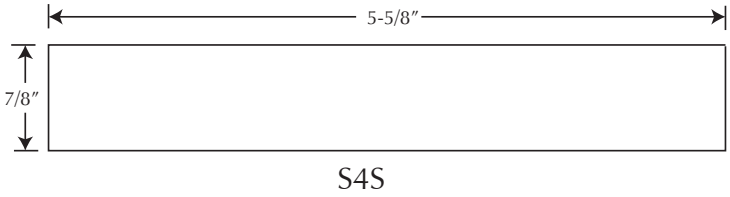
GUARANTEED LONG LIFE
outdoor life time warranty for 30 years

REAL WOOD
with enhanced and strengthened cell structure

HIGH RESISTANCE
against fungi, rot and other wood destroying micro-organisms

STANDARD DIMENSIONS & MILLING:

- 7/8" thick X 5-5/8" wide X 8-16' random lengths - S4S



S4S

NOTE: Custom width, lengths and millings available.

APPLICATIONS:
- EXTERIOR siding (note: for exterior applications we recommend sealing all four sides)
- DECKING - (MARKA & RUSS)

FINISH SPECS:
- EXTERIOR Burned, Brushed, and Sealed on FACE & BACK
- DECKING Unfinished

INSTALL GUIDELINES:
- Rear ventilation and weather acclimatization are vital to minimize swelling & shrinking
- EXTERIOR: Contact reSAWN for Install Instructions
- DECKING: Refer to Kebony Decking Guidelines: http://resawntimber.wpengine.netdna-cdn.com/wp-content/uploads/2017/05/kebony_us_decking_installation_instructions.pdf

GRADES
- SELECT (Highest quality - mostly clean, small knots allowed)
- See reSAWN's CHARRED usage guide for additional details

POSSIBLE LEED CREDITS
- MR 1 - Building Life-Cylce Impact Reduction

PACKAGING AND FREIGHT:
- All shipments are carefully packaged on 16' pallets (Not boxed or bundled)

** Class Rating, Flame Spread Index and Smoke Developed Index per 3rd party testing from the Wood Database. Contact reSAWN for more information.
* Janka Rating from similarly tested products - expected to be close to actual measurements of reSAWN TIMBER co.'s CHARRED™ products
*All data provided by 3rd party testing that can be found on Kebony's product data sheet based on non-CHARRED Kebony products.

Exterior Glazing Systems

OOMBRA
ARCHITECTS

Trifab™ VG (VersaGlaze™)

Trifab™ VG 450, 451 & 451T (Thermal) Framing Systems & Trifab™ 451UT (Ultra Thermal) Framing System

Design + Performance Versatility with Unmatched Fabrication Flexibility

Preston Pointe, Louisville, KY
Architect: Potter & Associates Architects PLLC, Louisville, KY
Glazing Contractor: Kentucky Mirror & Plate Glass Company, Louisville, KY

Trifab™ VersaGlaze™ is built on the proven and successful Trifab™ platform – with all the versatility its name implies. There are enough framing system choices, fabrication methods, design options and performance levels to please the most discerning building owner, architect and installer. The Trifab™ VersaGlaze™ family's newest addition, Trifab™ 451UT (Ultra Thermal) framing system, is designed for the most demanding thermal performance and employs a "dual" Isolock™ Thermal Break.

Aesthetics

Trifab™ VersaGlaze™ framing systems offer designers a choice of front-, center-, back- or multi-plane glass applications. Structural silicone glazing (SSG) and Weatherseal glazing options further expand the designers' choices, allowing for a greater range of design possibilities for specific project requirements and architectural styles. All systems have a 4-1/2" fram sightlines, while Tr have 2" sightlines.

EGS 01

THERMALLY-BROKEN, INSULATED STOREFRONT SYSTEM WITH LOW-E GLASS. B.O.D. KAWNEER 451T-VG W KYNAR FINISH

KAWNEER
AN ARCONIC COMPANY

With seamless incorporation of Kawneer entrances or windows, including GLASSvent™ visually frameless ventilators, Trifab™ VersaGlaze™ can be used on almost any project. These framing systems can also be packaged with Kawneer curtain walls and overhead glazing, thereby providing a full range of proven, and tested, quality products for the owner, architect and installer from a single source supplier.

Economy

Trifab™ VersaGlaze™ 450/451/451T framing systems offer four fabrication choices to suit your project (Trifab™ 451UT available as screw spline fabrication only):

- **Screw Spline** – for economical continuous runs utilizing two piece vertical members that provide the option to pre-assemble units with controlled shop labor costs and smaller field crews for handling and installation.
- **Shear Block** – for punched openings or continuous runs using tubular moldings with shear block clips that provide tight joints for transporting large pre-assembled multi-lite units.
- **Stick** – for fast, easy field fabrication. Field measurements and material cuts can be done when metal is on the job.
- **Type B** – Same fabrication benefits as shear block except head and sill run through.

All systems can be flush glazed from either the inside or outside. The Weatherseal option provides an alternative to SSG vertical mullions for Trifab™ VersaGlaze™ 450/451/451T. This ABS/ASA rigid polymer extrusion allows complete inside glazing and creates a flush glass appearance on the building exterior without the added labor of scaffolding or swing stages. Additionally, High-Performance (HP) Flashing options are engineered to eliminate perimeter sill fasteners and associated blind seals.

Brighton Landing, Cambridge, MA
Architects: ADD Inc., Cambridge, MA
Glazing Contractors: Ipswich Bay Glass Company,Inc., Rowley, MA

For the Finishing Touch

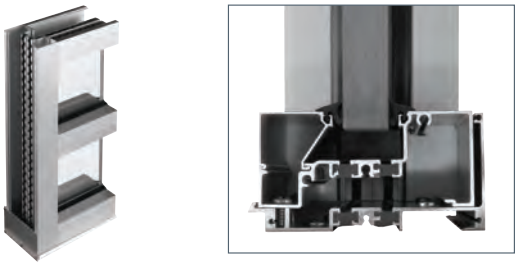
Architectural Class I anodized aluminum finishes are available in clear and Permanodic™ color choices.

Painted finishes, including fluoropolymer, that meet AAMA 2605 are offered in many standard choices and an unlimited number of specially designed colors.

Solvent-free powder coatings add the green element with high performance, durability and scratch resistance that meet the standards of AAMA 2604.

Performance

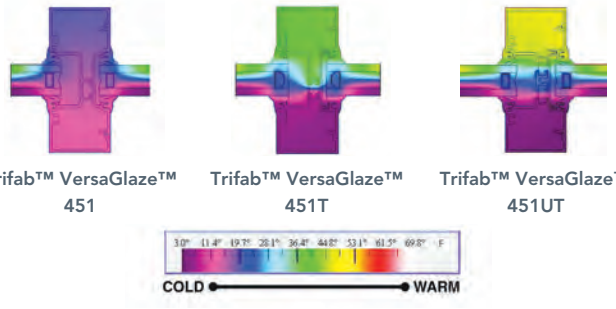
Kawneer's Isolock™ Thermal Break process creates a composite section, prevents dry shrinkage and is available on Trifab™ VersaGlaze™ 451T. For even greater thermal performance, a "dual" Isolock™ Thermal Break is used on Trifab™ 451UT.



Trifab™ 451UT uses a "dual" Isolock™ Thermal Break (right) and features a new HP (High Performance) sill design, which incorporates a screw-applied end dam (left), ensuring positive engagement and tight joints between the sill flashing and end dam.

U-factor, CRF values and STC ratings for Trifab™ VersaGlaze™ vary depending upon the glass plane application. Project specific U-factors can be determined for each individual project. (See the Kawneer Architectural Manual or Kawneer.com for additional information).

Thermal simulations showing temperature variations from exterior/cold side to interior/warm side.

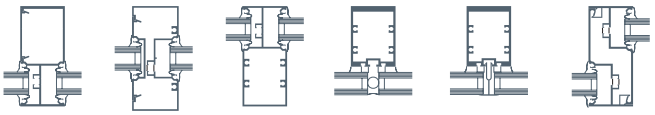


Trifab™ VersaGlaze™ 451 | **Trifab™ VersaGlaze™ 451T** | **Trifab™ VersaGlaze™ 451UT**

PERFORMANCE TEST STANDARDS

Air Infiltration	ASTM E 283
Water	AAMA 501, ASTM E 331
Structural	ASTM E 330
Thermal	AAMA 1503
Thermal Break	AAMA 505, AAMA TIR-A8
Acoustical	AAMA 1801, ASTM E 1425

Trifab™ VersaGlaze™ 450/451/451T glazing options
(note: Trifab™ 451UT available as center set glass plane only).



Front | **Center** | **Back** | **SSG** | **Weatherseal** | **Multi-Plane**

Kawneer Company, Inc.
Technology Park / Atlanta
555 Guthridge Court
Norcross, GA 30092

kawneer.com
770 . 449 . 5555

KAWNEER
AN ARCONIC COMPANY

1620/1620 SSG Curtain Wall System

See Less So You Can See More

It's hard to say whether the beauty of the 1620/1620 SSG (structural silicone glazed) Curtain Wall System is in the slim, sleek 2" sightline or in the performance. Built on the strength and reliability of the flagship 1600 curtain wall platform, the 1620/1620 SSG Curtain Wall System is an excellent choice for low- to mid-rise applications.

The 1620/1620 SSG Curtain Wall System is engineered with a thermal break and can accommodate double pane insulating glass. Helping architects and glazing contractors achieve even greater thermal performance is an optional fiberglass pressure plate. Glaziers and installers can leverage their previous knowledge of 1600 Wall System™1 and 1600 Wall System™2 to simplify installation. With a slimmed-down sig
to U.S. and Cana
System allows you

EGS 02-03

THERMALLY-BROKEN, INSULATED INTERNALLY REINFORCED CURTAINWALL SYSTEM WITH LOW-E GLASS. B.O.D. KAWNEER 1620 W KYNAR FINISH

KAWNEER
AN ARCONIC COMPANY

Economy

The highly versatile 1620/1620 SSG Curtain Wall System leads the way to performance at a competitive price, providing an attractive, cost-effective solution for low- and mid-rise construction. It allows building owners, architects and glaziers to meet stringent building codes while simultaneously providing fast installation, simplified fabrication, robust design options and value.

Performance and Aesthetics

The 1620/1620 SSG Curtain Wall System delivers the desired narrow sightline aesthetic of many traditional storefront products packaged with performance levels and options expected of a curtain wall system. The system is tested in accordance with North American performance standards for curtain walls, including air and water infiltration, thermal transmittance, severe wind-driven rain, acoustical, and condensation resistance.

The stick-fabricated, pressure-glazed curtain wall system is available as a four-sided captured system and offers a vertical SSG mullion option. Additionally, to create flush and unbroken sightlines, the captured and SSG options both use concealed fasteners in their joinery construction.

1620 Curtain Wall **1620 SSG Curtain Wall**

Performance Test Standards

The 1620 / 1620 SSG Curtain Wall Systems has been tested in accordance with the following major standards for curtain walls:

Air Infiltration	ASTM E283; NFRC 400; TAS 202
Water	ASTM E547, E331; TAS 202
Severe Wind-Driven Rain, Level 10	AAMA 520
Structural – Uniform Wind Load	ASTM E330; TAS 202
Thermal Transmittance – U-Factor	AAMA 1503, 507; NFRC 100
Condensation Resistance (CRF, I, CR)	AAMA 1503; CSA A440.2; NFRC 500
Overall Solar Heat Gain (SHGC, VT)	AAMA 507; NFRC 200
Acoustical (STC & OITC)	ASTM E90, E1425; AAMA 1801

* Test results available from Kawneer.
Contact your Kawneer sales representative for more information.

Fabrication and Installation

A variety of features enhance ease of installation and minimize time for the 1620/1620 SSG Curtain Wall System, including:

- Installers can leverage their knowledge of fabrication and installation methods for the 1600 curtain wall platform.
- Straight cuts without notching simplify fabrication.
- A pre-engineered rain screen pressure-equalized (RSPE) back pan option is available that uses easy-to-install spandrel adapters.

For the Finishing Touch

Permanodic™ anodized finishes are available in clear (Class I and Class II) and color (Class I) choices, including champagne, black, light bronze, medium bronze and dark bronze.

Painted finishes, including fluoropolymers that meet or exceed the standards of AAMA 2605, are offered in many standard choices and an unlimited number of specially designed colors.

Solvent-free powder coatings add the "green" element with high performance, durability and scratch resistance that meet the standards of AAMA 2604.

Kawneer Company, Inc.
Technology Park / Atlanta
555 Guthridge Court
Norcross, GA 30092

kawneer.com
770 . 449 . 5555

KAWNEER
AN ARCONIC COMPANY

WOOD CURTAIN WALL SYSTEM

SERIES SI5000W

Natural wood interior, durable aluminum exterior.

Wood Curtain Walls, or Timber Walls, innovatively combine the warmth and beauty of a natural wood interior with the durability and longevity of an aluminum exterior to create the perfect solution for those seeking a high-performing, sustainable building system. This exterior aluminum system creates a superior barrier to the elements, limiting the wood's exposure to any type of precipitation or wind and dependably maintaining a high level of performance through positive drainage principles. The series SI5000W Wood Curtain Walls are pressure equilized systems; this is achieved by overlapping the horizontal profiles with the vertical profiles. The unobstructed flow from horizontal to vertical is key to the construction of this pressure equalized curtain wall. In addition, the wood is the main component of structural support, as it stiffens the system and carries the dead load from the glazing.

FEATURES

FEATURES:
- Outside set, pressure glazed system
- Completely factory engineered & fabricated
- Multiple profile width and depth options
- Custom designed shear blocks for easy assembly
- Multiple glulam and solid wood species available
- FSC certified wood available upon request
- Aluminum horizontal members option
- LEED friendly system including recycled content
- Designed and manufactured in the U.S.A.

PERFORMANCE:
- Large missile impact tested
- Natural thermal properties of wood insulates for higher energy efficiency
- Test results available upon request

GLAZING:
- Accommodates glazing infills from 3/16" to 1 1/2"; thicker glass options depending on engineering
- Two or four sided structurally glazed options

OPTIONS

FINISHES:
- Standard wood finishes
  - Multi-coat water-based interior finish
  - Solvent or water-based exterior finish
- Standard aluminum finishes
  - AAMA 2603: Bronze, White
  - AAMA 611 Class I Anodized: Clear, Dark Bronze
- Designer aluminum finishes
  - AAMA 2603: Hartford Green, Black Natural, Clay, Sandstone
- Custom finishes
  - Powder coat finish: AAMA 2604 - 2605
  - Fluoropo
  - Wood ve exterior f
  - Custom

ACCESSORIES:
- Window & doo
- Multiple decorative cover caps in aluminum or wood
- Custom milled or shaped wood members possible
- Photovoltaic panel inserts (BIPV)

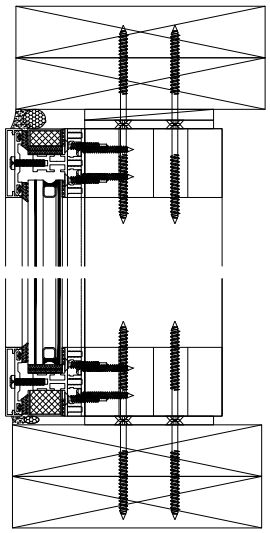
EGS 04

THERMALLY-BROKEN, INSULATED WOOD WINDOW SYSTEM WITH LOW-E GLASS: B.O.D MILGUARD ESSENCE SERIES

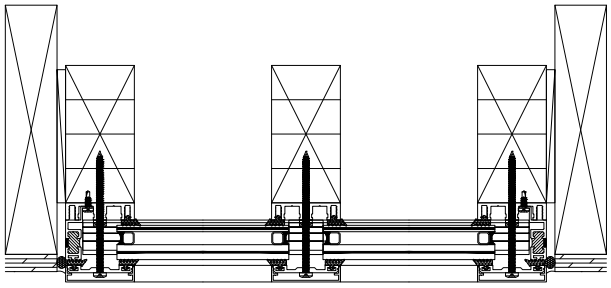
2" WOOD CURTAIN WALL DETAILS

Head Detail

Sill Detail



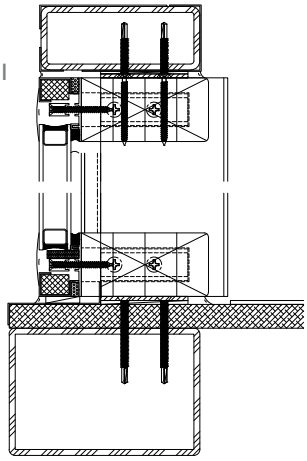
Jamb Intermediate Jamb



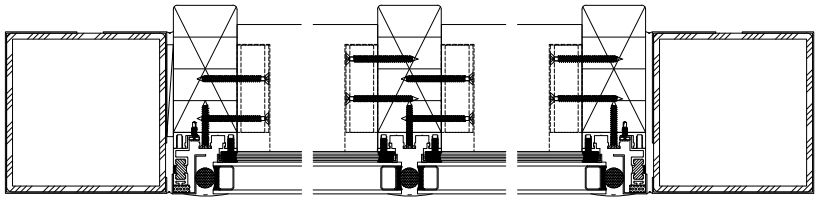
2" WOOD 4 SIDED STRUCTURALLY GLAZED CURTAIN WALL DETAILS

Head Detail

Sill Detail



Jamb Intermediate Jamb



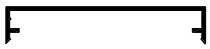
TESTING

Air and Structure Impact Testing						
TEST NUMBER	PANEL SIZE	CERTIFICATION	THERMAL	DESIGN PRESSURE	AIR AT 6.24 PSF	WATER
13582.1 (FL) 110-13134-1(NCTL)	5' x 10'	Florida	0.18 NFRC	± 40 PSF	0.02 cfm/ft^2	15 PSF

Please Note:
Testing and performance results may vary depending upon sill, size, and hardware selections. Please be sure to visit our website at www.solarinnovations.com or contact your Solar Innovations® representative for additional product information.

Additional testing (non-impact) available upon request.

COVER CAP OPTIONS



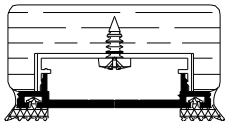
Flat Cap

Beveled Cap

Fluted Cap

Concave Cap

Double Ogee Cap



Wood Cap

DESIGN OPTIONS

In addition to Solar Innovations® wood interior/aluminum exterior system, Solar offers a variety of design options for a truly custom Wood Curtain Wall. For an all wood style, a wood cover cap can be used on the exterior side. Structurally glazed options allow for a smooth exterior exterior with no caps. Additionally, aluminum horizontals or steel interior verticals are available.

Wood Facade System (Standard Option)

Wood Facade with Wood Cover Cap (Available for interior walls/sheltered walls)

2-Sided Structurally Glazed Wood Facade

4-Sided Structurally Glazed Wood Facade

Wood and Aluminum Facade System

Wood and Steel Facade System

FINISH OPTIONS

Stock Finishes

SI White

SI Bronze

Class I Clear Anodized

Dark Bronze Anodized

Designer Finishes

SI Black

SI Sandstone

SI Natural Clay

SI Hartford Green

Metal Cladding

Copper

Lead Coated Copper

304 Stainless Steel #4 Satin Cladding

304 Stainless Steel #8 Mirror Cladding

Faux Wood Finishes

Acacia 1001
DS 716 Textured
DS 402 Smooth

Acacia 1001
DS 733 Textured
DS 403 Smooth

Douglas Fir 1501
DS 716 Textured
DS 402 Smooth

Cherry 1402
DS 716 Textured
DS 402 Smooth

Knotty Pine 2103
DS 716 Textured
DS 402 Smooth

Cherry 1402
DS 733 Textured
DS 403 Smooth

Oak Assi 2501
DS 733 Textured
DS 403 Smooth

Dark Walnut 1802
DS 733 Textured
DS 403 Smooth

Teak 2601
DS 706 Textured
Mahogany Finish

National Walnut 1806
DS 706 Textured
Mahogany Finish

Wood Veneering (Unfinished)

White Oak

Birch

Mahogany

Southern Yellow Pine

Northern White Pine

Red Oak

Spanish Cedar

Western Red Cedar

Douglas Fir

White Maple

Please Note: Depending upon color selection, additional charges and increased lead times may apply. Color illustrations are shown as accurate as standard photography and printing processes allow. Final finish selection should be made from a physical sample; please contact Solar Innovations® to receive samples. All product and finish options are subject to vendor availability. Solar Innovations® reserves the right to discontinue any option at any time without notice. Additional options, including custom color match, are available; contact Solar Innovations® for details.

To find out more about the features and options of our **Wood Curtain Walls**, visit our website at
solarinnovations.com/wood-curtain-walls/

Clear-Vue Custom Designed Doors

WILSON INDUSTRIAL DOORS

Clear-Vue custom doors from Wilson bring creativity and functionality together for unique openings in a range of applications. Combining glass with aluminum framing, Clear-Vue doors add architectural interest most people wouldn't expect from commercial rolling doors.

Wilson is the preferred manufacturer of custom commercial doors among contemporary American architects, specifiers and building professionals.

IDEAL FOR COMMERCIAL AND RESIDENTIAL INSTALLATIONS

- Open Air Restaurants and Bars
- Retail Store Fronts
- Greenhouses
- Pool Houses
- Residential Patios
- Garages

Completely Customizable

Wilson Clear-Vue doors are completely customizable to provide the aesthetic your design demands. The doors can be covered with essentially any material (provided by others), and you can choose your preferred door configuration. Let your imagination run wild!

Style with Function

Clear-Vue doors are constructed of 1/4" thick 6061-T6 Aluminum Alloy tubing. The aircraft grade aluminum frame resists corrosion and maintains a crisp, clean raw aluminum finish for years to come.

EGS 07

THERMALLY-BROKEN, INSULATED EXTRUDED ALUMINUM FOLDING WALL SYSTEM WITH LOW-E GLASS: B.O.D SOLAR INNOVATIONS G3 SERIES W SI BRONZE FINISH

Clear-Vue Custom Designed Doors
Specifications:

POWER OPERATOR – All electrical controls are designed to meet National Electrical Code Section 513. The gear motor is equipped with an electric brake and will hold the door in any position during its travel. A magnetic starter with momentary pushbutton controls is standard. Heavy-duty rotary limit switch is weather proof. All controls are factory tested.

CONTROL BOX – Momentary contact, 3-button controls (Up/Down/Stop) standard. All electrical components are pre-wired and tested at the factory.

LIFT CABLES – Galvanized steel cables are sized and numerous enough to provide a 5:1 safety factor.

DRIVE SHAFT – The drive shaft is mounted above the door on the header and runs continuously along the entire width of the door. The cable drums are an integral part of the drive shaft, ensuring an even lift of the door at all times. The shaft and drums are heavy-duty galvanized tubing.

MATERIAL CONSTRUCTION – 6061-T6 aircraft aluminum alloy construction is lighter, yet stronger than steel, reducing the need for shoring up the building structure. Simple bolt-together, modular construction.

SEALS – Doors are furnished with full perimeter seals: a soft rubber top seal, neoprene side seals and a bottom loop that hugs the contour of the ground and center seal.

COMPONENTS – Hinges are extruded aluminum. All glazing and covering is provided by others.

LOCKING MECHANISM – A dual handle manual locking mechanism is standard. A "lock switch" is standard and shuts off the power to the motor until the door is unlocked, eliminating the risk of damage. Optional auto-locks lock and unlock the door with a push of a button.

OVER TRAVEL SWITCH – This back-up switch stops the door to ensure the door never exceeds its upper limit.

PROGRAMMABLE DRIVE WITH DOOR CONTROLLER – The variable speed drive provides for a smooth start and stop, which minimizes wear on the motor and components. Features Up/Down/Stop buttons.

Please note: Wilson Industrial Doors, does not supply sheathing or framing for the door opening. Wilson Industrial Doors reserves the right to change door specifications without notice.

Wilson Bi-Fold Door Comparison	Premier™	Clear-Vue
CONSTRUCTION		
Aluminum	•	•
STANDARD FEATURES		
Auto locks	•	OPTION
Manual Jamb Locks	OPTION	•
Lift Cable & Drive Mechanism	•	•
Cable Guards	•	
Full Width Drive Shaft	•	•
Weather Seal	•	•
Photo Eye	•	OPTION
Over Travel Switch	•	•
Radio Control	•	OPTION
Programmable Drive w/Controller	•	•
3 Button Controller	•	•
Installation Services Available		•
SIZE/WIDTH LIMITATIONS		
Up to 30 ft.		•
Up to 70 ft.	•	

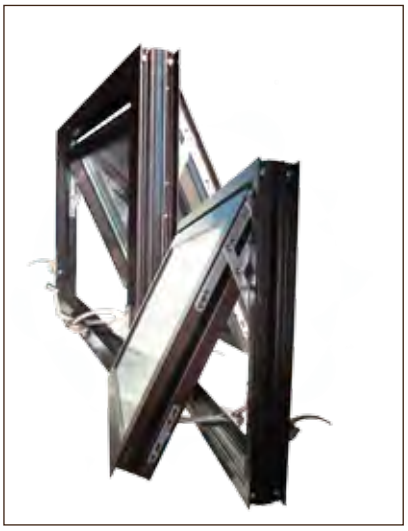
Wilson Industrial Doors • PO Box 246, Franksville, WI 53126 • info@wilsondoors.com
www.wilsondoors.com • 800-558-5974 • Fax: 262-835-2660

Scan to request a quote.

OOMBRA
ARCHITECTS

in.vent™

...the future of windows...



www.wausauwindow.com

toll free 1.877.678.2983

112 EDMUND PLACE

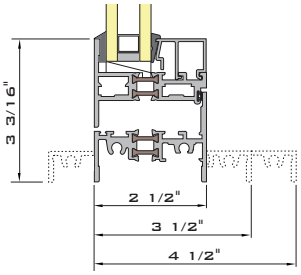
112 EDMUND PLACE

iN.vent™

...the future of windows...

2250i . 3250i . 4250i
4250i-OS Offset INvent

Wausau's standard high-performance projected window product line



- 2-1/2", 3-1/2" and 4-1/2" frame depth with polyamide thermal barrier
- AAMA AW-100 Architectural Performance Class
- Fixed, project-in hopper, project-out awning, or casement
- Integral blinds with access doors available
- 1/8" wall thickness at hardware attachments
- Multi-lock hardware option for improved accessibility
- High recycled aluminum content, choice of 30,000 finish colors, including two-color option

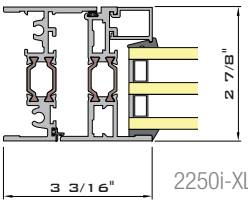
Test results may vary

Allowable Air	Water	NFRC U-Factor	CRF_f	STC OITC
0.10 cfm/sqft at 6.24 psf	15 psf	0.34 to 0.64 BTU/hr.sqft.°F	46 to 65	31 to 42 26 to 37

Production line sampling, with inspection and water testing prior to shipment, helps ensure real-world performance equal to the laboratory.

INvent -XLT

Superior energy efficiency and condensation resistance



2250i-XLT

- 2-7/8", 3-7/8" and 4-7/8" frame depth
- XLT option features extra-wide polyamide thermal barrier
- AW-100 rating - Accepts triple glazing
- Glazed-in muntin grid option for historical renovation

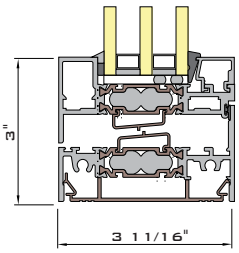
Test results may vary

Allowable Air	Water	NFRC U-Factor	CRF_f	STC OITC
0.10 cfm/sqft at 6.24 psf	15 psf	0.21 to 0.60 BTU/hr.sqft.°F	59 to 68	31 to 42 26 to 37

2250i-XP INvent.PLUS

European benchmark thermal performance - Designed for U.S. architectural preferences

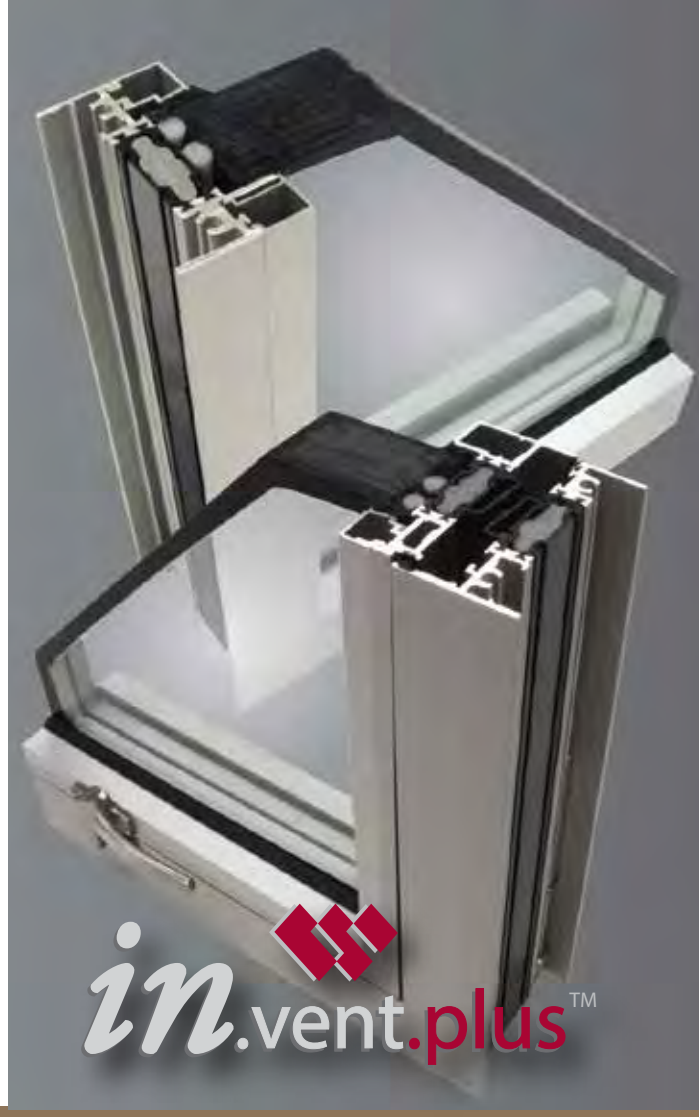
- Best-in-class NFRC U-Factors as low as 0.16 BTU/hr.sqft.°F (fixed) and 0.20 BTU/hr.sqft.°F (operable)
- AAMA AW-100 Architectural Performance Class
- 3-11/16" frame depth with 44mm polyamide thermal barrier and foam cavity fillers
- Incorporates engineered polymers and aluminum extrusions where their inherent material properties are best suited
- Narrow sightlines and flush, convection-baffled, operable vents
- Fixed; in- or out-swing casement; top-hinged, hopper or awning vents (detail)
- 1" exterior glass offset complements curtainwall and storefront systems
- Heavy butt hinges or concealed, stainless steel, four-bar friction hinges carry triple glazing with ease



2250i-XP
INvent.PLUS

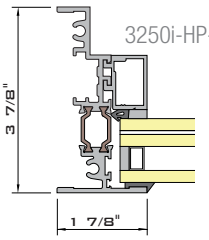
Allowable Air	Water	NFRC U-Factor	CRF_f	STC OITC
0.10 cfm/sqft at 6.24 psf	15 psf	0.16 to 0.51 BTU/hr.sqft.°F	46 to 65	34 to 41 28 to 35

Performance can vary with glass and hardware package selected.
Minimum vent sizes apply for certain hardware packages.



INvent -HP -XLT

Hurricane Impact Resistant Fixed and Operable Windows



3250i-HP-XLT

- 3-7/8" and 4-7/8" frame depth
- 24mm XLT polyamide thermal barrier
- AAMA AW-100 Architectural Performance Class
- Fixed, project-out awning, project-in or project-out casement
- Integral blinds with access doors available
- Multi-lock hardware option
- Large "D" missile impact tested to ASTM E 1996 and TAS protocols for Wind Zones 1-4 - Miami-Dade NOAs
- "E" missile impact tested for essential facilities to ASTM E 1996 and TAS protocols for Wind Zones 3-4 - Miami-Dade NOAs

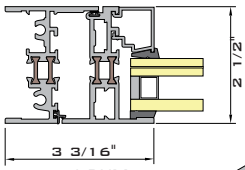
Allowable Air	Water	NFRC U-Factor	CRF_f	STC OITC
0.10 cfm/sqft at 6.24 psf	15 psf	0.34 to 0.64 BTU/hr.sqft.°F	46 to 65	31 to 42 26 to 37

Test results may vary

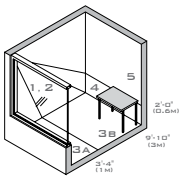
Federico Degetau Federal Building Hato Rey, Puerto Rico WASA

INvent -BHM

Shock-Tube Tested
Blast Hazard Mitigation



2250i-BHM
6 psi-42 psi-msec



- 2-1/2", 3-1/2" and 4-1/2" frame depth with polyamide thermal barrier - Two color option
- Fixed, awning, or project-out casement - XLT option, triple glazing, project-in hopper and casement available for some applications
- Various 2250i and 3250i-BHM configurations achieve ASTM F 1642 "Minimal Hazard" or "No Hazard" rating, tested at 6 psi peak, 42 psi-msec impulse
- Various 4250i-BHM configurations achieve ISC Performance Conditions 1, 2, 3a or 3b, tested at 10 psi peak, 89 psi-msec impulse

DoD - UFC

Department of Defense Unified Facilities Criteria UFC 4-010-01 (October 2013)
"DoD Minimum Anti-Terrorism Standards for Buildings"

Level of Protection	Potential Glazing Hazards (Glazing hazard levels from ASTM F 1642)
Below AT Standards	Catastrophic failure. Lethal potential. "High" hazard rating.
Very Low	Glazing fractures, and is propelled into the building. Serious injury potential. "Low" hazard rating.
Low	Glazing fractures, may leave frame at reduced velocity. Does not present a significant injury hazard. "Very low" hazard rating.
Medium	Glazing fractures, glass dust and slivers. "Minimal" hazard rating.
High	Glazing does not break. No hazard.

IMPORTANT NOTES: Stand-off distance requirements vary widely with building site, perimeter control and stand-off distance.
Charge Weight I or II may control window design, depending on corresponding stand-off distances and glazing resistance.
UFC Paragraph 1-11 "Design Submittals" requires determination of applicable explosive weight(s), level of protection, and stand-off distance(s).
This is the responsibility of the AE or security/blast consultant; not the window/curtainwall manufacturer or installer.

GSA-ISC

General Services Administration Inter-Agency Security Committee
"Security Design Criteria for New Federal Office Buildings or Major Modernizations"

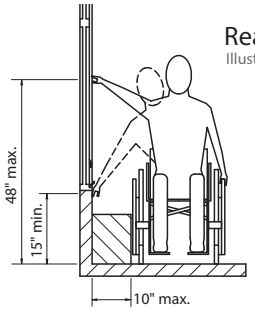
Performance Condition	Protection Level	Hazard Level	Description of Window Glazing Response
1	Safe	None	No glazing breakage or visible damage.
2	Very High	None	Glazing cracks-Dusting of fragments.
3a	High	Very Low	Glazing cracks-Fragments on floor within 3'-4" (1m) of window.
3b	High	Low	Glazing cracks-Fragments on floor within 10'-9"(3m) of window.
4	Medium	Medium	Glazing cracks-Fragments impact lower 2'-0" (0.6m) of wall.
5	Low	High	System fails catastrophically.

IMPORTANT NOTE: Determination of peak pressure, impulse, and Performance Condition (to include Hazard Condition and Protection Level) is the responsibility of the Owner's security/blast consultant; not the window/curtainwall manufacturer or installer. Design parameters typically range from 4 psi peak and 28 psi-msec impulse, to 10 psi peak and 89 psi-msec impulse.

ADA Accessibility for Windows

Wausau's accessible projected windows are laboratory-proven capable of operating with one hand using a force of five pounds or less, to unlock, open, close, and lock, without tight grasping, pinching or twisting of the wrist.

- All INvent™ Series and the 4250-Z Zero Sightline Series
- Project-out awning, in-swing or out-swing casement
- AAMA Architectural AW-100 Performance Class
- No reductions in air, water or structural performance for laboratory testing of accessible vents



Reach Diagram
Illustrative Example Only

Operating Force Test
Roto-operator force-to-open

Wisconsin Veterans' Home Skilled Nursing Facility Chippewa Falls, Wisconsin
Photo: Phil Weston Weston Imaging Group, Inc.

INvent Series windows may be finished in a color palette of over 30,000 choices, including exciting new copper anodize.

Liquid or powder paint coatings are applied using VOC-free processes.

The frosty, matte finish of eco-friendly anodize is ideal for Wausau's high recycled content aluminum framing.

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Promoting environmentally friendly printing practices.
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WINDOW AND WALL SYSTEMS

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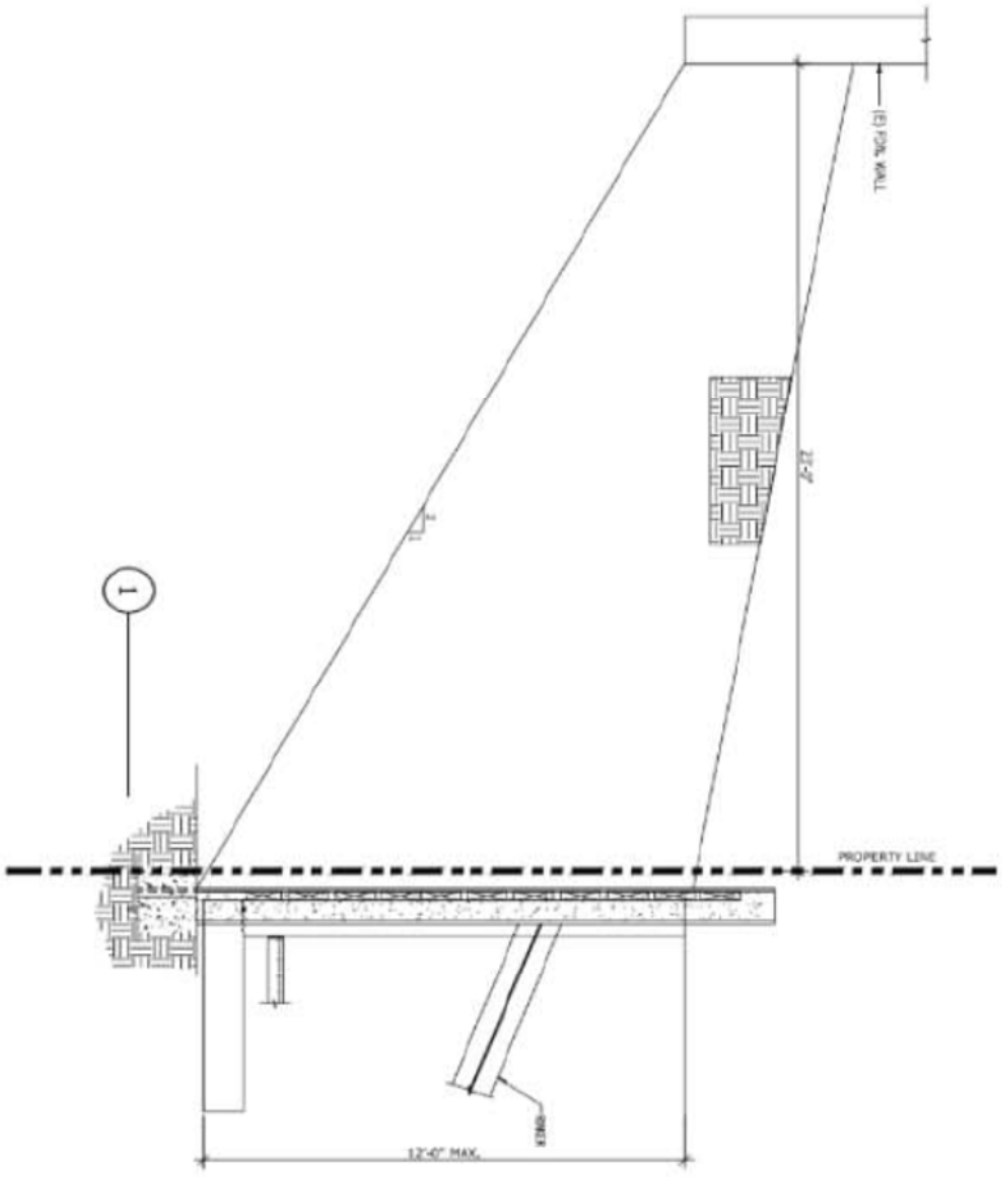
E-Mail info@wausauwindow.com

U.S. GREEN BUILDING COUNCIL MEMBER

REPORT



REPORT

Jennifer Ross - 112 Edmund Place Development Concerns

From: Carter Bundy <bundycar@gmail.com>
To: <rossj@detroitmi.gov>
Date: 5/3/2018 8:49 AM
Subject: 112 Edmund Place Development Concerns

Jennifer-

My name is Carter Bundy and I am the owner & resident of a condo at The Carlton. I have been a proud member of the Brush Park community since 2016. Over these past few years, I have welcomed developments such as City Modern and The Scott that have added to the neighborhood which I call home. About two weeks ago, I was made aware of the proposed development across from The Carlton.

At first, I shared the similar excitement that these other recent Brush Park developments brought, however, after hearing /seeing the plans (last night) for a proposed giant 7-story, mixed-use development, I had to voice my concerns:

1. The Carlton has been in place for over 100 years, and one of the tallest building in the neighborhood (8 stories)... which adds to its charm and the residents (MY) property values.
2. Other developments, such as City Modern, have lowered most of their structures to 5 stories or less in order to accommodate the views of the homes on Edmund Place, between John R and Brush. Let's be good neighbors and extend these guidelines between John R and Woodward.
3. **Let's be sure to honor the history that built this community.** The character and charm of Brush Park must be maintained and setting a new standard for building heights will impair the historic nature of Brush Park.
4. Having lived in Brush Park for two years now, I can't see how office space would mesh with the residential community that we call home. Woodward Ave is just next door if I wanted commercial office space.

Brush Park is a very tight-knit community, which welcomes the resurgence of Detroit. I know that I am not the only one who share these concerns. Instead of building a development without actively seeking the involvement of your neighbors, let's work together to compromise on a solution that adds value to all residents both inside the neighborhood and beyond.

Don't hesitate to reach out with any questions, comments or concerns. I look forward to learning more and working with you to find common ground.

Thank you.

Carter Bundy
Carlton Loft - Unit 206
C: 810-701-0851

Jennifer Ross - Fwd: URGENT: New Development Concern - 112 Edmund Place

From: Lisen Helander <lisenhelander@gmail.com>
To: <rossj@detroitmi.gov>, Cortney Reno <cReno8@gmail.com>
Date: 5/3/2018 11:44 AM
Subject: Fwd: URGENT: New Development Concern - 112 Edmund Place
Attachments: IMG_5125.jpg; IMG_0143.jpg

It has unfortunately come to my attention recently that there is a proposed development that would include 8 stories located at 112 Edmund Place.

My partner and I are owners at The Carlton, # 404. Our absolute favorite part of our home/loft is our view of the downtown skyline - example attached with joy!

Unfortunately this new building (with 8 floors) would take away our view and prohibit any new memories we all currently share!

This was the **selling point** in our decision to invest in the neighborhood of Brush Park and in an old classic building like The Carlton. We were also reassured that this historical neighborhood would not build over 4 floors in front of our view, all which the surrounding streets have honored up to this point.

We welcome new developments, like City Modern for example, as they are respecting the neighbors and history by not building over the current views the neighbors have enjoyed for years. This is NOT the case with 112 Edmund Place.

We also stand with the below concerns sent in from our board at the Carlton and want to reiterate them all --

- Yes The Carlton is also 8 stories, but it has been in place for the better part of 100 years
- The Gilbert development, City Modern, lowered the majority of its structures to five feet and below so as not to impair the view of those homes on Edmund Place between John R and Brush. Why should there not be the same accommodation for those who live between John R and Woodward?
- The character of Brush Park must be maintained and setting a new standard for building heights will impair the historic nature of Brush Park.
- The development includes two floors of commercial office space. This is a residential neighborhood and there is no rationale to add office space to the Brush Park ecosystem.

What else can we do to prohibit this new 8 story development?

Thank you for your time and understanding,
Lisen Helander

Lisen Helander
lisenhelander@gmail.com // 619.929.8436

"Davidoff, Mark (US - Detroit)" <mdavidoff@deloitte.com>

Jennifer –

I am writing you in advance of the May 9th meeting of the Detroit Historical Society regarding the project at 112 Edmund Place.

I live in unit 505 at The Carlton and serve as the Chair of the Board of the Carlton Homeowners Association.

The residents of The Carlton only recently were made aware of the project. The notice of the public hearing from the Planning Commission was not sent to every owner or resident, only to the developer. Thank you by the way for making the effort to send the notice of your hearing to everyone. Since we were made aware our owners and residents have become active in our opposition to the current design of this project. The City Planning Commission is holding a second public hearing on May 17th.

We have major concerns about the extensive nature of the development, and specifically about the building at 112 Edmund Place.

We understand the need for development and applaud creative people like this development team in their effort to move Detroit forward.

However, its essential that we respect the history of neighborhoods.

We have been told by Kimani Jeffrey from the City Planning Department that density is the number one objective in Brush Park and that seven story buildings on north/ south streets will be the new high water mark for achieving this goal.

The 112 Edmund Place Project is 83 feet tall and over 80,000 square feet of structure. Overwhelming in height and mass.

The Carlton was built in 1924 and is eight stories. Why would anyone build an 83 foot building 180 feet away from another building of approximately the same height?

This is density vs destiny

The developer has been very open about their plans and we are asking for a mitigation plan to limit the impact on this area of Brush Park and to avoid setting a new standard for the height of buildings that other developers will surely use as a template.

Thank you in advance for your consideration.

Mark Davidoff
Michigan Managing Partner
Deloitte LLP

Office: 313-396-3317
Mobile: 248-705-1996
200 Renaissance Center
Detroit, Michigan 48243-1895

"Davidoff, Mark (US - Detroit)" <mdavidoff@deloitte.com>

Jennifer –

As an addendum to my previous email, I provide the image attached of the before and after impact of this project.

This picture taken from Unit 505.

Thank you.

Mark Davidoff
Michigan Managing Partner
Deloitte LLP

Office: 313-396-3317
Mobile: 248-705-1996
200 Renaissance Center
Detroit, Michigan 48243-1895

Jennifer Ross - Historic Commission Public Hearing - 112 Edmund & 2827 John R

From: <rttoft@aol.com>
To: <rossj@detroitmi.gov>
Date: 5/6/2018 8:40 PM
Subject: Historic Commission Public Hearing - 112 Edmund & 2827 John R
Attachments: Form Based Code Slides from May '17 Presentation.pdf

Dear Jennifer Ross,

I am writing to you in reference to the PH being held this Wed at 5:35pm related to a erection of new buildings in the Brush Park Neighborhood. I live in the Carlton Lofts and want you to know that I am directly opposed to the size of the building being proposed for 112 Edmund. Currently the developer is asking for a variance to build up to seven stories. This proposed building will dwarf the beautifully restored "Edmund Place" at 104 Edmund, being that it will be more than twice as tall. Additionally this proposal will block the downtown view for many of the tenants at the Carlton Lofts.

I am not totally opposed to this project, just the size of the building proposed for 112 Edmund. As Dan Gilbert is doing with his City Modern Project, I feel that there needs to be some moderate stepping up and down as the sizes of the building change. Going from a three story residential (104 Edmund) to a seven story retail/commercial (112 Edmund) is way too drastic.

Additionally, I am told that the current code for this area is to build no higher than 4-5 stories. Relative to the "Form Based Code" initiative that the City is Currently Working on, this proposal was presented to the Brush Park Residents last year and that presentation also showed building in this area no higher than 4-5 stories. In the attached PDF you will see some of the slides from that Presentation made last year by Maurice Cox that references over and over "Complimenting the existing scale & historic character" of the neighborhood. Please note that the Text Boxes in RED were notes added by me.

I doubt I will be able to attend this hearing in person due to work commitments, but hope you can take into consideration my points and opinion here.

Sincerely,
Thomas J. Toft
Carlton Lofts
2915 John R.
Unit #406

586-215-6099

"Davidoff, Mark (US - Detroit)" <mdavidoff@deloitte.com>

Please see the linked article below and the quote from Maurice Cox, which says:

Planning director Maurice Cox is a champion of high-caliber architecture and design, but he also sees his mission as connecting directly with people living in disenfranchised and distressed neighborhoods. "My first obligation is to make the city work for those who have stuck it out for decades," he said.

The almost 100 year old Carlton should certainly receive more respect.

Thank you.

https://www.architecturalrecord.com/articles/12464-detroit-the-remix

Mark Davidoff
Michigan Managing Partner
Deloitte LLP

Office: 313-396-3317
Mobile: 248-705-1996
200 Renaissance Center
Detroit, Michigan 48243-1895

Jennifer Ross - 112 Edmund Project

From: <eyedoc2222@aol.com>
To: <rossj@detroitmi.gov>
Date: 5/7/2018 8:04 AM
Subject: 112 Edmund Project
Cc: <mdavidoff@deloitte.com>, <rogerjrohr@icloud.com>, <karenrohr1@aol.com>,...

Detroit Historical Commission,

I am one of the investors of 74, 84 and 104 Edmund and would like to express my opinion on the proposed project immediately adjacent to us, 112 Edmund. I was under the impression that we were supposed to receive written correspondence in advance regarding any new project in the area. As of today, we have not received any notification.

We purchased 74, 84 and 104 Edmund from Michael VanOverbeke last fall. I would like to go on record stating that he was very professional and helpful from start to finish with our purchase. However, when we inquired about his plan for the adjacent parcel, he informed us that he was a historic home specialist who has brought several dilapidated homes "back to life" in the area. Furthermore, he stated he was looking forward to creating a mixed use building that would blend in with the historic architecture and stay true to the area, including the property that we were looking to purchase. Our investment group feels misled and I want to convey our disappointment with the proposed 7-story project. We would never have purchased the property from him if we knew that a "monstrosity" was planned on the bordering property. The renderings of 112 Edmund definitely do not blend in with our adjacent property, historic architecture or any other existing property in the area for that matter.

Further concern is that a 7-story building / project of this magnitude will completely overshadow our building and destroy our tenants views. Also, it appears from the photos that the least desirable "back side" of the proposed building will face our units making them difficult to lease and make future potential condo conversion or property sale difficult, if not impossible, thereby doing irreparable damage to our property and investment.

Feel free to e-mail or contact me at 810-516-5858.

Thank you.

Jeff Rohr
Blue Star Property Investors LLC
Member

Dr. Jeffrey S. Rohr
Rohr Eye & Laser Center
2240 E. Hill Rd.
Grand Blanc, MI 48439
www.michiganlasik.com

Rohr Eye & Laser Center

Jennifer Ross - Historical District Commission meeting on 112 Edmund

From: Tom VanderMey <tomvanmey@yahoo.com>
To: "rossj@detroitmi.gov" <rossj@detroitmi.gov>
Date: 5/7/2018 11:42 AM
Subject: Historical District Commission meeting on 112 Edmund
Cc: "Davidoff Mark (US - Detroit)" <mdavidoff@deloitte.com>

Hello Jennifer,

My name is Tom VanderMey and I own unit 507 at the Carlton Lofts.
I've seen the plans for the City Modern development and think it will be a valuable addition to the neighborhood, especially given the fact that it will occupy a largely vacant city block.
However this is not the case with the proposed 7 story building at 112 Edmund.
This, in my opinion, will simply overwhelm the neighborhood historic homes, and is not consistent with the character of Brush Park.
Also, it will negatively impact many residents of the Carlton Lofts, who currently enjoy a spectacular view of downtown Detroit.
I urge that this project not be approved, or significantly reduced in height.

Sincerely,
Tom VanderMey

Jennifer Ross - Development project @ 112 Edmund in Brush Park

From: Margie Dunn <dunndavidoff@gmail.com>
To: <rossj@detroitmi.gov>
Date: 5/7/2018 4:01 PM
Subject: Development project @ 112 Edmund in Brush Park

Hello Jennifer

I don't think I will be able to attend the meeting on May 9th, so I was hoping to get the opportunity to express my thoughts:

As those who have always had our hearts in Detroit, we are pioneers. Current residents of Brush Park have blazed a trail. We have committed ourselves to the very special historic character we found in Brush Park. We have a great appreciation for the history of our city that is like no other. When others said the Motor City was a lost cause, we held to our hope and invested with more than our wallets.

Recently, we came to find that there is a proposed plan for the property at 112 Edmund, which is adjacent to the historic Julienne Moore home and across from the Carlton. The current plan clearly dwarfs the Moore home by a design that does not belong in the neighborhood. Additionally, creating office space in the middle of a residential neighborhood other than what is needed to support the residents, sets a poor precedent. The bulk of commercial spaces should be kept on the perimeter of the neighborhood. There is plenty of room on Woodward, especially at a time when so many existing buildings stand vacant and run down.

Condominium owners at the Carlton were told that the Form Based Code for the neighborhood would be based on the existing homes. Form Based Code in Brush Park should not be based on the Carlton, which should stand alone as our "tower." The Carlton was renovated with large windows to showcase our unique skyline, with three stadiums within walking and viewing distance to the tower. Carlton owners were sold on this notion.

Holding on to our neighborhood's character will set us apart from all the "big" cities, those cities that we will never be. People who have come here from outside of Detroit, come here especially because Detroit is not like any other city. They have discovered a soul of a people who are diverse, determined, and creative and who are committed to finding a way to rebuild together.

And although City Modern is a beautiful modern city design, we don't need more of City Modern within Brush Park. It would be just as easy to fill the vacant lots with contemporary brick buildings that blend in with the historic character of the neighborhood. It was successfully done with the design of the Kelemen project on Eliot street, as well as the reconstruction of the Devon building on Watson. Let's put aesthetics before greed.

With so much vacant land in other places in this city, density should not be our destiny in Brush Park.

Thank you for your time,

Margie Dunn
unit #505
Carlton Lofts
2915 John R