BASIS OF DESIGN
MATERIAL DATA

2827 JOHN R STREET

EXTERIOR WALL SYSTEMS

STRUCTURAL SYSTEM

ELEMENT5
MODERN TIMBER BUILDINGS

ONTARIO WOOD

Element5 is proud to be the only CLT and Glulam manufacturer making mass timber products in Ontario with Ontario wood.

WHY ONTARIO WOOD?

- Renewable Resource
- Sustainably Managed
- Reduced Transportation Costs
- Lower Embodied Energy
- Supports Jobs & Communities

Ontario Wood
The natural choice

ONTARIO WOOD

Element5 is on a mission to improve lives and communities, while simultaneously doing our part to sustain the environment, by designing, suppling and assembling innovative and sustainable mass timber buildings made with Ontario wood products.

E5's PRODUCTS THAT USE ONTARIO LUMBER:

- CLT (Cross-Laminated Timber)
- CLIPs (Cross-Laminated Insulated Panels)
- BOXX Panels (floor / roof cassettes)
- Glulam
- NLT (Nail-Laminated Timber Panels)

CONTACT US:
lee@elementfive.co
1-888-670-7713
www.elementfive.co

A SUSTAINABLE, LOCALLY-SOURCED BUILDING SOLUTION:

The environmental benefits of building with wood are well documented. Of the three principal building materials used today, wood is the only one that is renewable.

From an ecological standpoint, wood is also the only material that can provide a net carbon benefit, helping mitigate climate change by providing long-term storage for atmospheric carbon. In a word, wood is the 'sustainable' choice. But how sustainable is it?

Ensuring sustainability begins in the forest with responsible forest management practices. In Ontario we have virtually zero deforestation because we harvest only a fraction of one percent of the forest each year and renewal of the forest is required by law. Three trees are planted for every tree that is harvested and our forest management standards are recognized among the best in the world.

We are also world leaders when it comes to forest certification. Our partner mills in Northern Ontario hold several certifications for responsible forest management including the Forest Stewardship Council® (FSC®), the Sustainable Forestry Initiative® (SFI®) and the Rain Forest Alliance.

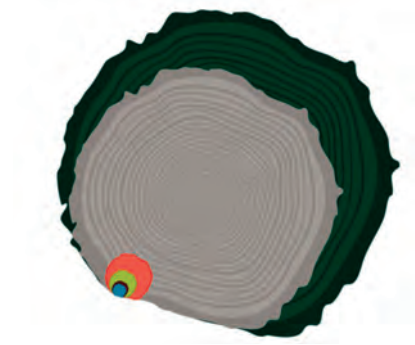
We are proud to partner with mills that protect the environment and support diverse forest values and inclusive community outcomes. White River Forest Products, a key lumber supplier for our mass timber products, is a community-based venture between the Netamisakomik Anishinabek, the White River EDC, and private investors.

When we build with Ontario wood products, we can be confident we are not only building sustainably, but also supporting jobs and forest-dependent communities, and contributing to innovation and advancement in the value-added wood sector.

In addition to providing the most sustainable construction option, mass timber products are well-suited to prefabrication. Factory-built and volumetric solutions can offer many advantages including cost savings, rapid assembly, fewer inconveniences for nearby residents during construction (less noise, fewer lane closures) improved worker safety, freedom from the negative impacts of bad weather conditions, and consistent, high-quality results.

ONTARIO FORESTRY REPRESENTATION

The Ontario Forest Disturbances 2009-2013 graphic is an outtake from "The State of Ontario's Natural Resources – Forests 2016" published by the OMNRF



- **71 million** hectares of forest
- **43 million** hectares of managed Crown forest area
- **1.1 million** hectares damaged by natural weather disturbances (annual average)
- **0.45 million** hectares damaged by insects and disease (annual average)
- **0.18 million** hectares burned by forest fires (annual average)
- **0.11 million** hectares of forest harvested (annual average)

COST CONSULTING | DESIGN CONSULTING | ENGINEERING | FABRICATION | ASSEMBLY

VMBUILDINGSOLUTIONS

EWS 01

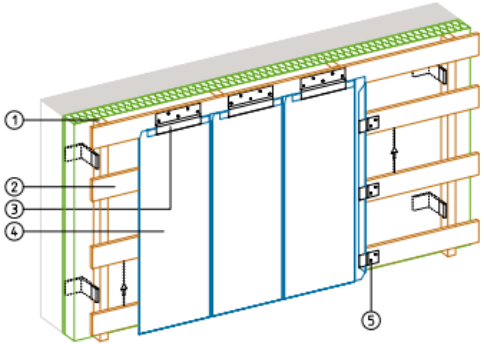
VMZINC
&
Flat lock panel

Presentation

The system involves laying the panels on a compatible wooden framework fixed to the supporting structure (masonry or metal structure).

It consists of a wall system of factory-formed panels. The rectangular-shaped panels interlock into each other on the four sides and are secured with concealed fasteners and clips.

VMZINC Flat lock panels offer a simple yet elegant cladding solution that provides a longitudinal flat seam.



1. **Wood frame**
2. **Pine Wood**
3. **Top sliding clip**
4. **Vertical VMZINC Flat Lock panel**
5. **Edge sliding clip**

Key advantages

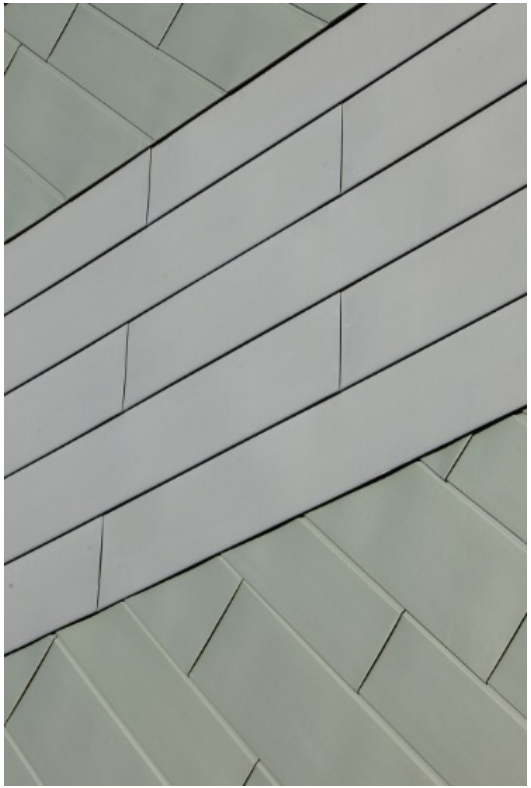
- Versatile system with a traditional design,
- Vertical or horizontal installation,
- Horizontal, vertical and diamond shape,
- Interlocking with a single fold on all 4 sides,
- Recessed joints with concealed fastenings,
- Range of components offering a wide variety of all flashing details.

Areas of application

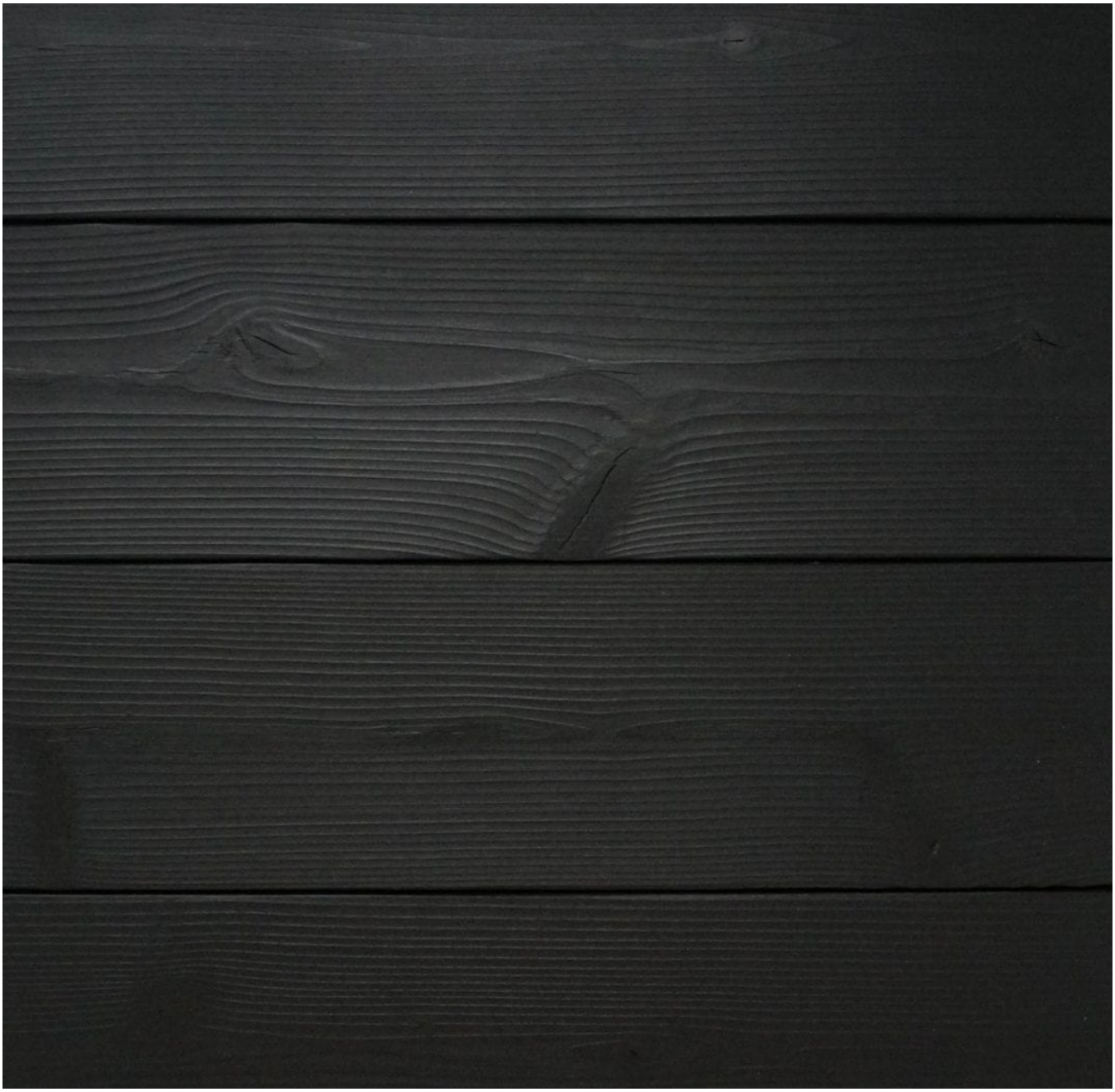
- New or refurbishment projects.
- Flat facades for public and office buildings or collective housing.

Thickness	0.8 mm
Centre to centre	375 mm - 285 mm
Weight*	7.83 kg/sq.m
Length	From 0,5 to 4 m
Width of the joint	10 m

(*) Weight of the system /sq. m excluding framework.



EWS 02 & EWS 06



PRODUCT SPECS

Western Red Cedar | SSB | Dire Wolf

STANDARD SIZE

1x4, 1x6, 1x8, 2x4, 2x6, 2x8; custom sizes available

LENGTHS

Lengths: 8’-20’ random lengths (RL), with 5% or less 6’-8’

SS 01

PRODUCT SPECS

Accoya | Rough Sawn 2.0

STANDARD SIZE

8’-16’ random lengths (RL), with 5% or less 6’-8’; Accoya typically comes in metric lengths, so boards can be up to a half inch scant of their imperial measurement (i.e. 12’ could be 11’ 11-1/2”)

PROFILES

Shiplap, Tongue & Groove, and S4S; custom milling available

Accoya is sustainably-sourced Radiata Pine treated by nontoxic acetylation. The chemical modification provides dimensional stability and durability that exceeds the best hardwoods.

EXPLORE THE COLLECTION

Delta MILLWORKS

Benefits of Accoya Wood

Delta is proud to partner with Accoya as the first lumber mill to apply shou-sugi-ban to this modified wood. Using Accoya, Delta has created extraordinary products that preserve the benefits and aesthetics of traditional charred wood while offering warranties unsurpassed in the lumber industry.

LEARN MORE

BRICK SCREEN

Choose Your **Color** : Terra Cotta

Choose Your **Texture** : Matte

Clear

Choose Your **Shape**

Click here to talk to one our consultants to find exactly what you're looking for.

Request a Sample | Add to Project

NOTE: Keep track of your selections by adding this Product to your Project Wishlist

KAWNEER

Versatility, Ultra-Thermal Performance and More Design Possibilities Front and Center

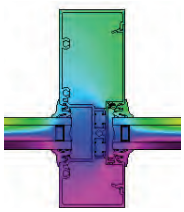
EGS 01

Kawneer's Trifab® VersaGlaze® 601/601T/601UT Framing System touts the first front set, ultra-thermal 6" storefront system available. By expanding on a proven platform, Trifab® VersaGlaze® 601 offers a choice of front and center plane glass applications in non-thermal, thermal and ultra-thermal configurations. Structural silicone glazing (SSG) options allow for an even greater range of design possibilities for specific project requirements and architectural styles.

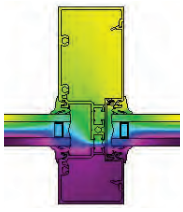
PERFORMANCE

Flexible enough for a wide range of building projects, the Trifab® VersaGlaze® 601/601T/601UT Framing System has a 6" depth, which accommodates higher spans than conventional 4-1/2" storefront framing systems. The 3-in-1 series includes the non-thermal Trifab® 601, the single thermal break Trifab® 601T and the dual thermal break Trifab® 601UT. The greater system depth combined with three thermal performance options and two glass plane options make this one of the most versatile framing systems available. By combining the greater 6" depth with superior thermal performance and versatility, Kawneer is able to bridge the gap between traditional framing systems and low-rise curtain walls.

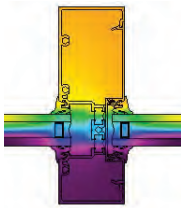
The Trifab® 601/601T/601UT Framing System is perfect for projects where an economical alternative to a low-rise curtain wall is desired. These systems meet the same high standards for air and water infiltration and thermal performance that are traditionally found in Kawneer products. The Trifab® 601/601T/601UT Framing System also has a high-performance sill design. The sill attaches to the sill flashing by way of a raceway and eliminates the troublesome blind seal method used on many flashing systems. The sill includes a screw-applied end dam, which ensures positive and tight joints between the sill flashing and end dam.



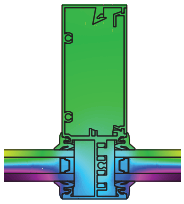
Trifab® 601 Center Set



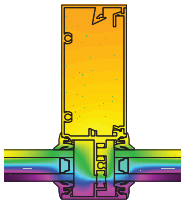
Trifab® 601T Center Set



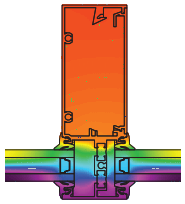
Trifab® 601UT Center Set



Trifab® 601 Front Set

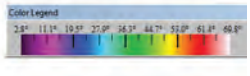


Trifab® 601T Front Set



Trifab® 601UT Front Set

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



PERFORMANCE TEST STANDARDS

Air Performance	ASTM E283
Water Performance	ASTM E331
Uniform Static Structural	ASTM E330
Sound Transmission Class (STC)	AAMA 1801 and in accordance with ASTM E1425
Condensation Resistance (CRF)	AAMA 1503 and CAN/CSA-A440
Thermal Transmittance (U-Value)	AAMA 1503.1
U-Value Simulations for Other Glazing Options	AAMA 507, NFRC 100, NFRS 200, NFRC 500 and CAN/CSA-A440.2

DIVERSE FABRICATION AND INSTALLATION METHODS

The Trifab® 601/601T/601UT Framing System employs various joinery construction types for efficient fabrication and installation.

Glass Plane	Center Set			Front Set		
Framing Type	601	601T	601UT	601	601T	601UT
Thermal Level	Non-Thermal	Thermal	Ultra-Thermal	Non-Thermal	Thermal	Ultra-Thermal
Screw Spline Fabrication	●	●	●	●	●	●
Shear Block Fabrication	—	—	—	●	●	●
Stick Fabrication	—	—	—	●	●	●
Stick Fabrication SSG	—	—	—	●	●	●

The framing can be specified for glazing from either the inside or outside. Inside glazing can help reduce field labor costs by eliminating the need for exterior scaffolding or swing stages for installation on floors above the ground level. In addition, the frames have a two-piece receptor option that easily accommodates attachment of air-barrier systems.

AESTHETICS AND VERSATILITY

Front Set System

Center Set System

The Trifab® 601/601T/601UT Framing System is designed with cost and flexibility in mind. With a 2" x 6" frame profile, the sightline is consistent with current framing systems and the glass pockets are aligned to 4-1/2"-deep Trifab® framing systems. This allows for a shallow horizontal member that not only lowers overall metal costs, but also provides flexibility to accommodate interior finishes, such as blinds, that can span the full uninterrupted elevation height. The flexibility of the 3-in-1 series provides a pre-designed solution for non-thermal as well as thermal entrances. Framing options include non-thermal and thermally broken door framing members to accommodate 1-3/4"-deep and 2-1/4"-deep entrance doors, an expansion mullion and a two-piece head and jamb receptor. The 6" depth accommodates higher spans than conventional 4-1/2" storefront framing systems, and an optional 2-1/4" wide vertical mullion allows for internal steel reinforcement for projects with greater structural performance requirements.

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Norcross, GA 30092
770.449.5555
kawneer.com

KAWNEER

ARCHITECTURAL SYSTEMS | ENTRANCES + FRAMING | CURTAIN WALLS | WINDOWS

EGS 02 & 03

Merging a slim, sleek sightline with advanced thermal performance and seismic testing, the 1620UT/1620UT SSG Curtain Wall System touts a powerful combination of features.

Built on the success of the 1600UT Curtain Wall platform and a narrow 2" (50.8 mm) sightline, the system delivers high thermal performance, versatility and reliability, making It an excellent choice for low- to mid-rise applications in climates where high thermal performing and seismic-tested façades are needed.

The 1620UT/1620UT SSG Curtain Wall System features an engineered polymer thermal separator and accommodates 1" double-pane and 1-3/4" triple-pane insulating glass. The curtain wall integrates seamlessly with other high thermal performing windows and doors from Kawneer to create a complete, advanced, thermally efficient solution for commercial buildings.

Tested to US and Canadian standards and featuring a slimmed-down sightline, the 1620UT/1620UT SSG Curtain Wall System allows occupants to see more

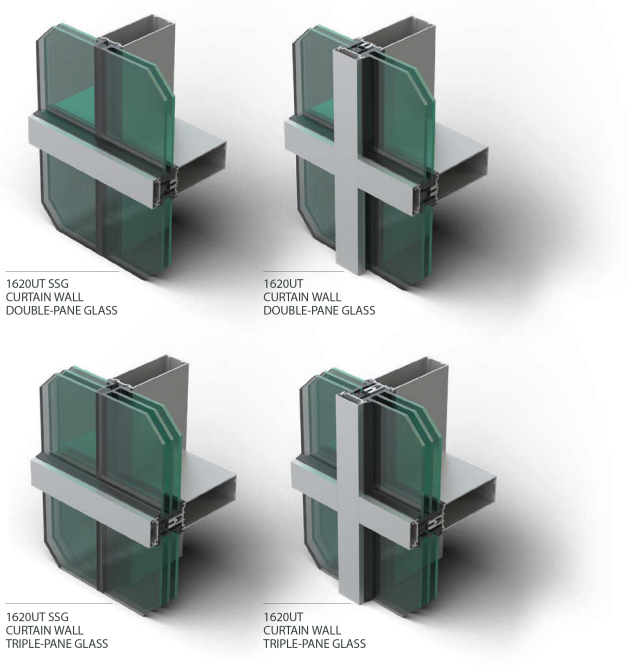
PERFORMANCE

The 1620UT/1620UT SSG Curtain Wall System exceeds current building codes for thermal transmittance energy requirements in North America. The U-factors range from 0.30-0.32 when using glazing with a 0.24 CoG value, and U-factor from 0.18-0.22 with 0.12 CoG value. The 1620UT/1620UT SSG has also been independently tested to AAMA 501.4 and 501.6 seismic protocols to meet your building movement code requirements.

The system achieved static and dynamic water infiltration performance of up to 20 psf.

U-FACTOR*

Multiple thermal performance levels can be achieved with different infill types and system type

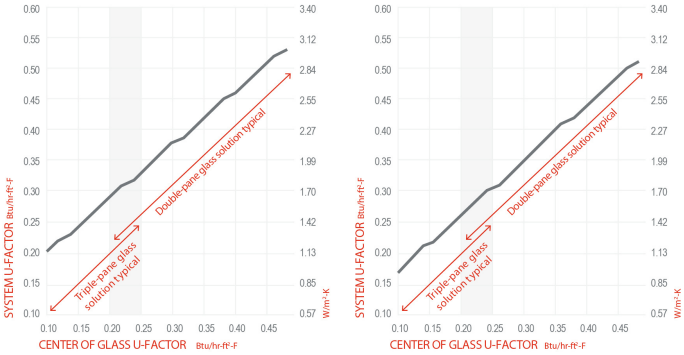


1620UT SSG CURTAIN WALL DOUBLE-PANE GLASS

1620UT CURTAIN WALL DOUBLE-PANE GLASS

1620UT SSG CURTAIN WALL TRIPLE-PANE GLASS

1620UT CURTAIN WALL TRIPLE-PANE GLASS



* *U-factor values are simulated applying NFRC sizes and procedures using insulating glass units with warm-edge spacers having effective thermal conductivity (Keff) of 0.28 W/m.K (0.16 Btu/hr.ft.F). This chart is for general illustration purposes only. Please refer to thermal charts in the Kawneer architectural detail manual on Kawneer.com for additional information.

AESTHETICS

The 1620UT Curtain Wall System offers a traditional captured look or a two- sided vertical SSG mullion solution that permits greater uninterrupted sightlines while providing enhanced thermal performance. To create flush and unbroken sightlines, both systems use concealed fasteners in their joinery construction.

Mullion depth options provide both aesthetic design and structural range flexibility. Choices of 90° and 135° are available for corner mullion conditions.

For the finishing touch – Architectural Class I anodized aluminum finishes are available in clear and color choices. Painted finishes, including fluoropolymer, that meet AAMA 2605 standards and solvent- free powder coatings that meet AAMA 2604 standards are available in a variety of color choices.

FABRICATION & INSTALLATION

Installation time and effort are minimized in a number of ways:

CONDENSATION RESISTANCE

1620UT Curtain Wall not only enhances thermal performance, but also provides best-in-class condensation resistance.

	INSULATING GLASS UNIT	CRF (AAMA 1503)		I – TEMPERATURE INDEX (CSA A440.2)	
		FRAME	GLASS	FRAME	GLASS
1620UT Curtain Wall System (Captured)	1" Double-Pane Glass	77	71	69	65
	1-3/4" Triple-Pane Glass	80	80	72	75
1620UT SSG Curtain Wall System (2-side SSG)	1" Double-Pane Glass	81	73	75	67
	1-3/4" Triple-Pane Glass	82	75	73	67

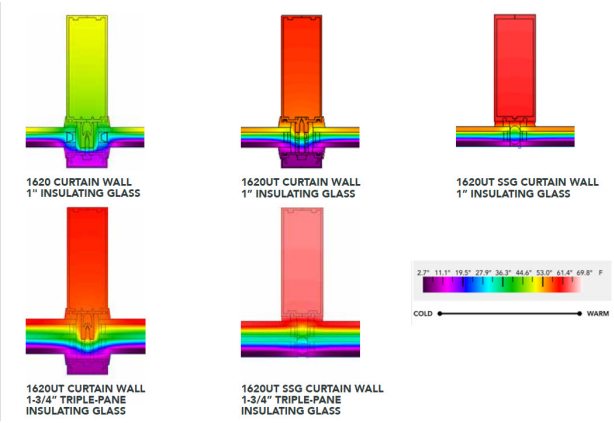
TEST STANDARDS

Air Infiltration	**ASTM E283; NFRC 400; TAS 202**
Water	**ASTM E547, E331; TAS 202**
Severe Wind-Driven Rain, Level 10	**AMA 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**

easy-to-install spandrel adapters.

DOWNLOAD CAD DETAILS & GUIDE SPECIFICATIONS

side.



LEARN MORE

8225TL THERMAL WINDOWS

Windows that Open Design Possibilities

W 13 & W 24

20 Fulton East Apartments
Grand Rapids, Michigan
ARCHITECT
Pappageorge Haymes Partners, Chicago, Illinois
GLAZING CONTRACTOR
Vos Glass, Grand Rapids, Michigan
PHOTOGRAPHY
© Perzel Photography Group

8225TL Thermal Windows combine design flexibility and high performance. This is fenestration for today. Windows that offer engineering and superior aesthetics – true lasting value combined with the elements of design excellence.

These windows address all-important issues of form, function and performance. Architects, building owners and occupants alike will find their new window expectations fulfilled in the 8225TL, because behind these windows stands the Kawneer tradition of leadership in architectural aluminum window systems.

AESTHETICS

The choices offered by these windows translate into design flexibility: 8225TL Thermal Windows come in a variety of operable and fixed versions. These are windows for every building application and for every design possibility.

Cast white bronze locking hardware lends superior strength and an attractive appearance to 8225TL Thermal Windows. Because details count, panning systems and muntins are a basic part of the product offering, as well as dual glazing and venetian blinds. They answer individual needs of new office, school and hospital architecture, as well as a range of retrofit options.

PERFORMANCE

The pressure-equalized ventilators feature mitered, clipped, sealed and staked corner joinery that securely supports even the largest recommended window size, while the screw spline jointed frames are secured with two stainless steel fasteners in extruded screw ports to ensure strong, watertight joints. Standard factory silicone glazing also assures that only the highest-quality glazing methods, procedures and materials are used.

8225TL Thermal Windows' superior thermal performance stems from Kawneer's IsoLock™ thermal break with a 3/8" (9.5 mm) separation that effectively separates the interior of the window from the exterior in both frame and vent members. The IsoLock™ difference is a lanced design that creates a positive interlock between the polyurethane and aluminum components of a pour-and-debridge thermal break. With IsoLock™, the two materials act as a single composite element, thus protecting from any possibility of shrinkage of the polyurethane from frame members.

The windows have a vent and frame design that retards air infiltration and provides water resistance under the most severe weather conditions. For added performance, fixed over project-out window configurations are large and small missile impact tested, and they meet or exceed AAMA/WDMA/CSA 101/I.S. 2/A440 performance standards.

CLASS & GRADES

Fixed	F-HC100 / F-AW100
Project-In	AP-HC90 / AP-AW90
Project-Out	AP-HC90 / AP-AW90
Inswing Casement	C-HC90 / C-AW90
Outswing Casement	C-HC90 / C-AW90

Choose Kawneer 8225TL Thermal Windows for:

- design flexibility and performance
- the advantage of Kawneer single-source responsibility
- value that lasts well into the future
- fully engineered and tested designs

North Schuylkill Elementary School
Ashland, Pennsylvania
ARCHITECT
EI Associates, Harrisburg, Pennsylvania
GLAZING CONTRACTOR
Empire Paint & Glass, Pottsville, Pennsylvania

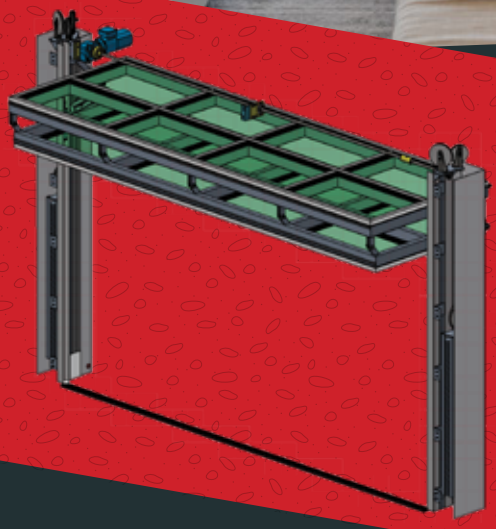
Pennsylvania State University – Dickinson School of Law, Lewis Katz Building
University Park, Pennsylvania
ARCHITECT
Polshek Partnership Architects, LLP, New York, New York
GLAZING CONTRACTOR
D-M Products, Inc., Bethel Park, Pennsylvania

Kawneer Company, Inc.
Technology Park / Atlanta
555 Guthridge Court
Norcross, GA 30092
770.449.5555
kawneer.com

KAWNEER

ARCHITECTURAL SYSTEMS | ENTRANCES + FRAMING | CURTAIN WALLS | WINDOWS

DOOR # F01



S-3000
FOLDAWAY

Dual-Panel Counterweight
Balanced Vertical Opening

RENLITA
Custom Opening Solutions

www.RenlitaUSA.com

Made in the USA

ABOUT RENLITA

Renlita is the industry leader in custom doors, windows, and operable walls that transform architectural designs and define interior and exterior spaces. Customize one of our time-tested models or design your own one-of-a-kind, "never been done before" masterpiece. Our Design Consultants guide you through the creation of specially designed steel or aluminum vertical openings that blend in or stand out. **Come see why we're the clear-cut, safe, and trendsetting leader in vertical opening and custom metal architectural pieces.**

CONCEPT TO COMPLETION

Renlita provides a turnkey solution, including specified finish, glass or cladding, and installation. Every project is unique and built to meet your design needs. Our concept to completion service provides customers with confidence that all aspects of the project are properly executed.

STEP 01

CONCEPT

Our Design Consultants listen to your ideas and walk you through the process of designing the window, wall, door, or special project you've been envisioning.

STEP 02

CREATE

Renlita's engineers are the best in the business. We specifically design all parts of the system to match your design intent and provide drawings and details for your unique project.

STEP 03

CRAFT

Every single inch of your project is as important to us as it is to you. Each custom project is carefully handcrafted by a team of specialized artisans with pride in the USA.

STEP 04

COMPLETE

The most exciting part is bringing your project across the finish line! Renlita's factory trained technicians complete your custom project with expert installation and service.

ENDICOTT EWS C

Projects Face Brick Thin Brick Pavers Resources About Careers/Canada

FACE BRICK - DARK IRONSPOT

PROJECTS VIDEO

Smooth Texture SHARE

Textures	Sizes
Smooth	Roman
Velour	Modular
Velvetex	Norman
Vertical Score	2-5/8" Kingsize
Artisan	Kingsize
	Engineer Modular
	Engineer Kingsize
	Engineer Norman
	Closure
	3" Utility
	Utility
	Triple

FAMILY OWNED • MADE IN THE U.S.A. • SINCE 1920

MORTARR

Approved for hurricane impact applications. See Test Results section for additional information.

TILT/TURN

Hardware

Operator

Multi-latchpoint fully-concealed locking hardware controlled by single lever handle control. Horizontal and vertical perimeter locking points ensure weather-tight performance and security. In the turn mode, an adjustable friction stay holds window in any open position from 0° to 90°. In the tilt mode, the sash projects in at head approximately 10° to provide controlled ventilation without compromising security.

Egress: Available as quick-release pin at sash connection.

Lever Handle

Operating hardware accepts any lever handle with 43mm attachment spacing and 7mm sq. spindle. A wide variety of styles and finishes are available from various manufacturers.

Optional Hardware

Custodial locks, sash restrictors, removable operating handle.

Insect Screens

1" x ¼" tubular extruded frames in anodized bronze, mill finish aluminum or custom color painted aluminum. Mesh of 18 x 16 screen cloth held with vinyl spline, available in charcoal finished aluminum, mill finish aluminum, stainless steel or bright brass. Maximum width of screen mesh is 72". Wood-framed screens are available.

Glazing

All glazing is per project specifications. Duratherm can accommodate most configurations and make-ups from ⅛" single glazed to a maximum of 1¾" security glass. Refer to the Glass and Glazing Guide in the Introduction section of this binder.

Clear glass opening: Unit height minus 7¾", unit width minus 6¾".

Weather-Stripping

Double continuous extruded silicone flap gasket set in rebate around the perimeter of the sash. Engaging the multi-latchpoint espagnolettes compresses the weather-strip to ensure a tight seal.

Sizing

The minimums and maximums shown are intended as guidelines. For applications that exceed these ranges, please contact the factory for assistance.

General

WIDTH:	Minimum:	18"
	Maximum:	62"
HEIGHT:	Minimum:	30"
	Maximum:	96"

To ensure smooth and trouble-free operation over time:

At maximum width of:	62"
limit height to:	60"
At maximum height of:	96"
limit width to:	36"
Maximum area for a single sash:	25 sq ft

Egress

Based on:
- 20" clear width
- 24" clear height
- 5.7 sq ft clear opening

Minimum unit width:	28"
Minimum unit height:	30"

To meet egress requirements:

At minimum unit width of:	28"
height must be at least:	48"
At minimum unit height of:	30"
width must be at least:	40"

Frame Depths

Standard frame depth:	6¼"
Minimum frame depth*:	4¾"
Maximum frame depth:	10"

* Contact factory for frame depths less than 6¼".

THOMAS PHIFER PRIVATE RESIDENCE, NY

LEPAIR MOREY PRIVATE RESIDENCE, CA

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