



WAUSAU

WINDOW AND WALL
SYSTEMS

HISTORICALLY INFLUENCED WINDOW REPLACEMENT

Perhaps no action demonstrates social responsibility and environmental stewardship more profoundly than respectful modernization of a classic architectural masterwork. **Art and science** come together in the design of historically influenced aluminum windows and doors - with today's energy efficiency and ease of operation.



TAX CREDIT-ELIGIBLE HISTORICAL PRESERVATION

Meeting the U.S. Secretary of the Interior's "Standards for Rehabilitation," and featured in The National Park Service's "Preservation Tech Notes," Custom Window's **true-divided-lite** muntin grid designs have been approved by state historical preservation offices nationwide, when existing steel, bronze or wood sash are not salvageable.



Custom
Window™

by Wausau

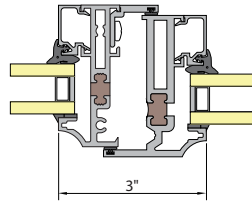


Custom Window™
by Wausau

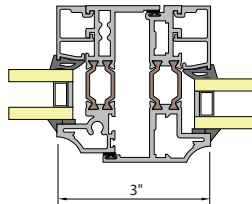
8300 and 8300i SERIES HISTORICAL WINDOWS

Fixed and projected aluminum windows with fluted, stepped "T," beveled or ogee perimeter glazing rebates to match existing putty-glazed windows

- ▶ AAMA AW-100 Architectural Performance Class - Grids designed for project-specific wind loads
- ▶ Poured polyurethane (8300 Series) or polyamide thermal barrier (8300i Series)
- ▶ Mechanically fastened frame and true muntin grid construction, corner-blocked and crimped vents
- ▶ 0.094" extrusion wall thickness
- ▶ Fixed; in- or out-swing casement, awning or hopper vents
- ▶ AW-40 "floating vent" configurations match existing steel industrial sash
- ▶ Custom profiles can be designed for panning, perimeter framing or muntins



8300 Series fluted profile poured thermal



8300i Series fluted profile polyamide thermal



8300i Series "floating vent" window wall with true divided lite muntins



8300 Series casement with custom-milled aluminum casting inserts

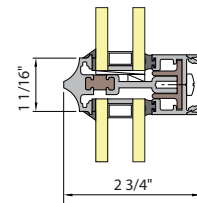


Frank M. Johnson, Jr. U.S. Courthouse - Montgomery, Alabama - Barganier Davis Sims

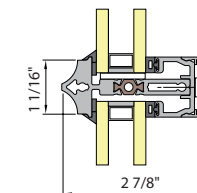
TRUE DIVIDED LITE MUNTIN GRIDS

Glassmaking technology in the years prior to World War II limited the size of individual glass lites, requiring the use of putty-glazed muntin grids. Only true divided lite (TDL) design can reproduce this aesthetic with the fidelity required for rigorous historical preservation.

- ▶ 1-1/16" sightline at thermal barrier muntins
- ▶ Interior access for re-glazing standard, outside glazed options available
- ▶ Requires only small, low-cost replacement insulating glass units
- ▶ Complies with industry standard deflection limits - Reduced glass bite and edge clearance for minimum sightline
- ▶ TDL muntin grids will affect NFRC U-Factor - Check local codes for historical building requirements



8300 Series fluted profile poured thermal



8300i Series fluted profile polyamide thermal



Historically accurate true divided lite (TDL) muntins

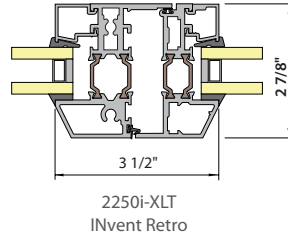


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INVENT™ RETRO -XLT PROJECTED WINDOWS and SIMULATED HUNG WINDOWS

INvent Retro: Setback beveled exterior face to replicate putty-glazed existing window profiles - optional ogee or cove profiled rebates

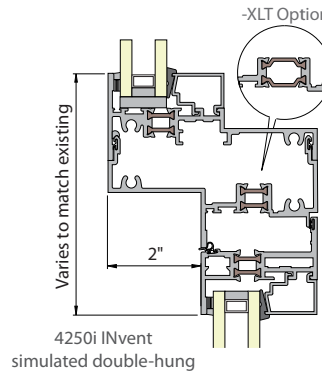
- ▶ 2-7/8", 3-7/8" and 4-7/8" frame depth; 18mm and 24mm XLT polyamide thermal barriers
- ▶ AAMA AW-100 Architectural Performance Class
- ▶ Optional equal sightlines at vents and fixed lites
- ▶ Grid muntins or true divided lite
- ▶ Optional decorative cove glazing beads
- ▶ Optional multi-lock hardware for improved accessibility
- ▶ Innovative French casement for Juliet balconies, terraces or ground floor use



2250i-XLT Series
INvent Retro
French casement with
cove glazing beads

Simulated Hung Windows: Projected windows with 2" offset glass planes replicate existing single- or double- hung sash - with the ease of operation, durability and low air infiltration of compression seals

- ▶ 4-1/2" or 4-7/8" frame depth with 15mm or 24mm polyamide thermal barrier
- ▶ AAMA AW-100 Architectural Performance Class
- ▶ Fixed, project-out awning, casement, or project-in hopper
- ▶ Flush vent construction reduces collection of dust and debris
- ▶ 1/8" wall thickness at hardware connections
- ▶ Uses architecturally flat 6 mm glass without balance weight limits



4250i-XLT Series INvent
simulated double-hung
window with
glazed-in grids

Test results may vary

Allowable Air	Water	NFRC U-Factor	CRF _f	STC
0.10 cfm/sqft at 6.24 psf	15 psf	0.22 to 0.65 BTU/hr.sqft.°F	46 to 67	31 to 42



Soho House Hotel Chicago, Illinois Hartshorne Plunkett Architecture

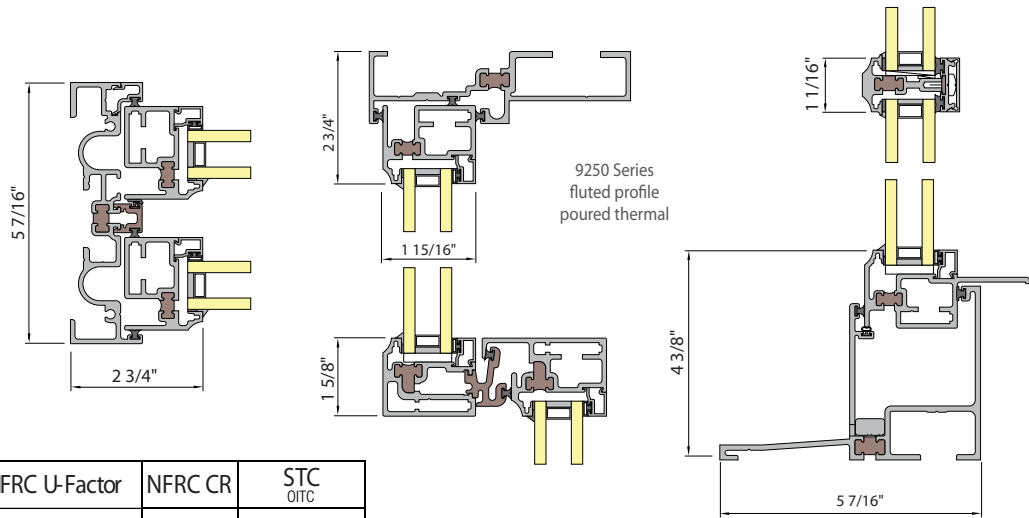


Custom
Window™

9250 SERIES HISTORICAL SELF-BALANCING DOUBLE-HUNG WINDOWS

Upper and lower sash operate together by a patented jamb-mounted system of stainless steel aircraft cables and pulleys.

- ▶ Operating force governed by weather-strip friction - not by size and/or glass weight
- ▶ Fluted or beveled perimeter glazing rebates to match existing putty-glazed windows
- ▶ AAMA AW-80 Architectural Performance Class - Grids designed for project-specific wind loads
- ▶ 5-7/16" frame depth with polyurethane or optional polyamide strut thermal barrier
- ▶ Welded, true muntin grid construction; mechanically-fastened frame and crimped sash
- ▶ 0.094" extrusion wall thickness
- ▶ Custom profiles can be designed for panning, perimeter framing or muntins



Allowable Air	Water	NFRC U-Factor	NFRC CR	STC OITC
0.30 cfm/sqft at 6.24 psf	12 psf	0.44 to 0.72 BTU/hr.sqft.°F	36 to 43	31 to 38 26 to 32

Test results may vary with size, grids and hardware used.



Springfield (Massachusetts) Union Station HDR, Inc. Architects

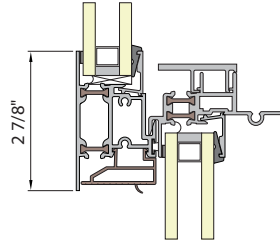


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310i-SH SERIES SINGLE-HUNG

Durable and economical AW-60 Architectural Class hung windows, with polyamide thermal barrier and Caldwell Ultralift® balances

- ▶ Rigid "five-member" frame construction for ease of installation
- ▶ Sturdy corner-blocked and crimped sash construction
- ▶ Extruded aluminum or slide-in steel anchors
- ▶ Accepts 1" insulating glass; bead glazed
- ▶ Side load sash for cleaning
- ▶ Check out www.wausauwindow.com for double hung, tilt sash and between-glass blind options



310i-SH Series
single-hung window



310i-SH Series
single-hung window

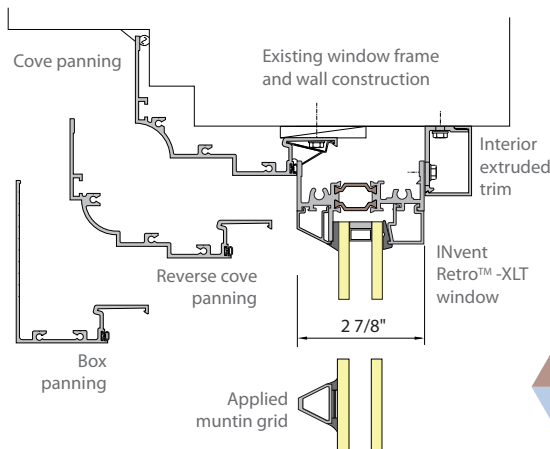
Custom panning trim
and mechanically
fastened muntin grids



PANNING AND MUNTIN GRIDS

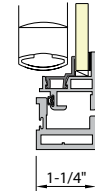
Removal of existing operable sash, leaving frames in place, speeds installation and minimizes disruption - An extruded aluminum "panning" system prepares the opening.

Muntins are available as true divided lite, mechanically fastened, pinned, glazed-in grids, silicone-applied, and/or between-glass.

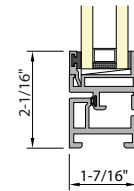


S.E.A.L.™ INTERIOR ACCESSORY WINDOWS

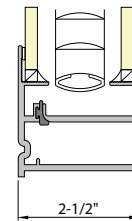
When existing windows are weather-tight, and ventilation is unnecessary, S.E.A.L. interior accessory windows (IAWs) can improve Sound, Energy, Air and Light control - economically, and with a minimum of occupant disruption.



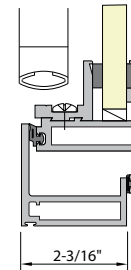
1297 S.E.A.L.
with blinds



1437 S.E.A.L. IGU
blinds unavailable



2500 S.E.A.L.
I.C.U. observation



2187-DT S.E.A.L.
behavioral care

- ▶ Minimal frame depth to fit within, or inboard of, existing window frame openings
- ▶ Also used as a curtainwall and storefront add-on for between-glass blinds or enhanced performance
- ▶ Side-hinged access doors with custodial locks
- ▶ 5/8" or 1" between-glass blinds available, with slip-clutch tilt control knob and concealed raise-lower controls
- ▶ Mitered frame construction, corner-blocked vents
- ▶ Dual-glazed 2500 Series I.C.U. observation windows
- ▶ Drop-tested 2187-DT Series accepts psychiatric glazing, ideal for adaptive re-use



2500 S.E.A.L. I.C.U.
observation

2187-DT S.E.A.L.
behavioral care

1297 S.E.A.L.



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Window™
by Wausau

EN-8300i SERIES HISTORICAL THERMAL BARRIER ENTRANCES

Preservation and replication demand more than just a nod to the architectural vernacular - Respectful design calls for integration of character-defining fenestration features.

Strict attention to detail delivers unique, true divided lite, historically influenced entrance doors, offered exclusively to complement Custom Window™ 8300i and 9250 Series historical fixed and operable windows.

FEATURES

- ▶ Fluted exterior glazing rebates to match existing putty-glazed doors and windows
- ▶ Air infiltration and structural testing per the AAMA Storefront and Entrance Manual - Cycled 500,000 times per AAMA 920
- ▶ Polyamide thermal barrier for energy savings and improved condensation resistance
- ▶ Sturdy and corrosion-resistant 316 Series stainless steel tie-rod construction
- ▶ Single or double; out-swing reverse (pictured) or in-swing door leaf options
- ▶ 4-7/8" frame depth;
1/8" extrusion wall thickness
- ▶ Custom profiles can be designed for panning, perimeter framing or muntins
- ▶ Meets IECC and ASHRAE prescriptive U-Factors for Climate Zones 1 through 6 with any insulating glass option



EN-8300i Series Entrance
outswing reverse,
fluted profiles in and out
polyamide thermal

NOTE: Use of the hardware required by project specifications or called out in a Wausau Quote Confirmation for EN-8300i Historical entrance doors is subject to physical constraints of the unique profiles employed, as well as the interoperability of hardware combinations. These limitations may only become evident after engineering has been completed. Wausau reserves the right to substitute hardware of similar functionality and finish. Refer to terms and conditions of sale and the Wausau Standard Limited Warranty for other disclaimers, qualifications and exclusions.

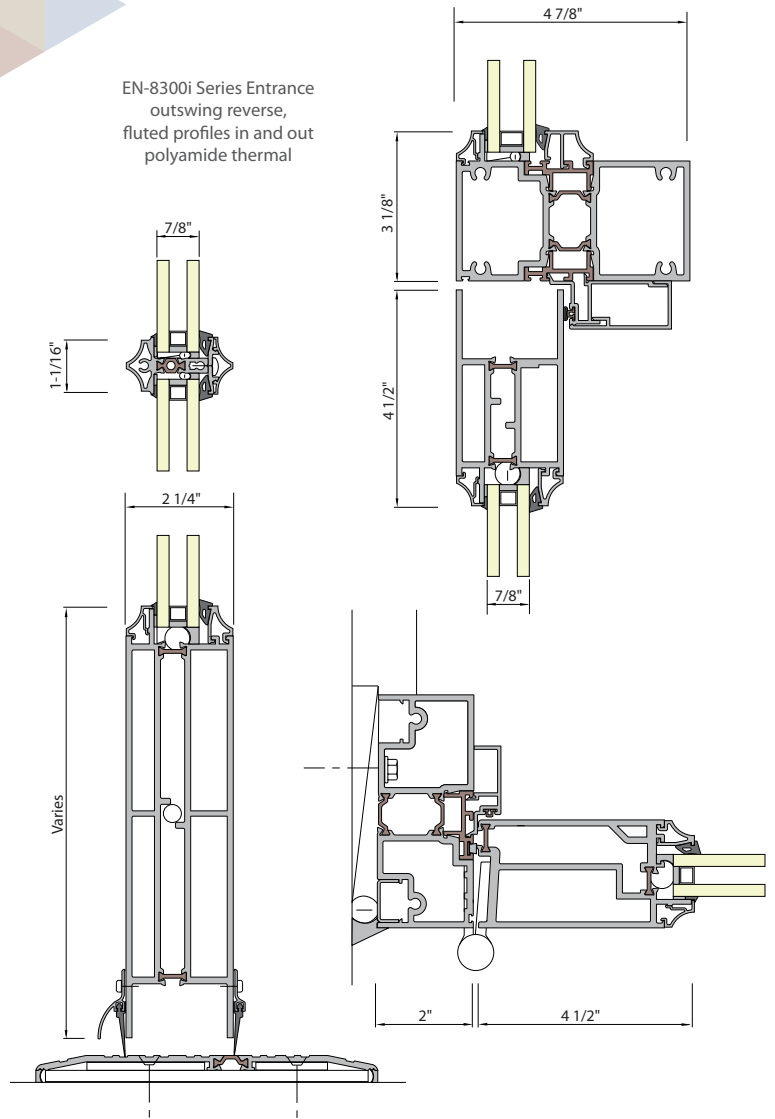
EN-8300i SERIES OPTIONS

DETAILS

- ▶ Dual-color frame finishes
- ▶ Interior fluted glazing beads (pictured)
- ▶ Applied muntin grids at exterior, interior and/or between-glass
- ▶ Matching accessible thresholds; transoms and stacking side lites (pictured)
- ▶ Head, jamb, and sill receptors at adjacent fixed framing
- ▶ Accepts most standard entrance door hardware - Hinges, pivots, push/pull handles, dead bolts, hook bolts, thumb turns, locking cylinders, shoot bolts, electromagnetic locks, access control, panics, closers, threshold sweeps
- ▶ More than 30,000 color choices in ultra-low VOC paints, or VOC-free anodize finishes
- ▶ Frosty matte eco-friendly anodize is ideal for recycled aluminum - Patina-free copper anodize available



Historically accurate true divided lite (TDL) muntins



www.wausauwindow.com
Download comprehensive details, specifications and product performance information



For more than 60 years, Wausau has worked closely with renovation teams to realize their vision for **aesthetics, sustainability and lasting value**, while striving to maintain the highest level of customer service, communication and overall satisfaction.

SPECIFICATION CHECKLIST

The **unique logistical considerations of replacement projects** can be impacted considerably by the extent of work required, as well as the early decision on exterior or interior access. Comprehensive drawings and specifications ensure complete and competitive bids.

Contract documents should include:

- ▶ A complete description of work to be performed; to include instructions on panning versus tear-out of existing sash and/or frames
- ▶ Specific minimum requirements for performance, materials, fabrication and operation, as well as project-specific glass, finish and hardware selection
- ▶ Pre-qualification procedures and criteria for manufacturers and installers
- ▶ Field testing and quality control expectations
- ▶ Details that ensure the integrity of the building shell is maintained - air/moisture transmission, compatible materials, and thermal expansion
- ▶ Related work such as HVAC upgrade, plaster repair or molding removal/replacement
- ▶ General conditions, including bonding, insurance, and warranty
- ▶ Sequence of work and schedule
- ▶ Instructions for deliveries and disposal of materials removed, such as diverting demolition debris from landfills and the recycling of aluminum and glass
- ▶ Access to, and protection of, occupied spaces and their contents; dust control
- ▶ Working hours
- ▶ Available outside and inside storage



Leinenkugel Brewery | Chippewa Falls, Wisconsin | Ayres Associates, Inc.



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