



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 WINDOWS - WITH TODAY'S ENERGY EFFICIENCY AND EASE OF OPERATION.



University of Minnesota Walter Library SBS Architects



by Wausau

Custom
Window™

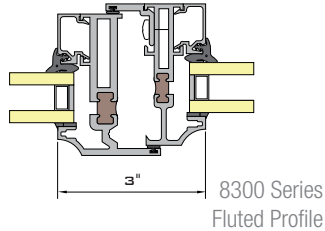
TAX CREDIT-ELIGIBLE HISTORICAL PRESERVATION

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.

8300 AND 8300i SERIES HISTORICAL WINDOWS

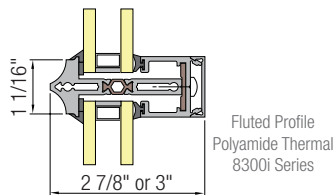
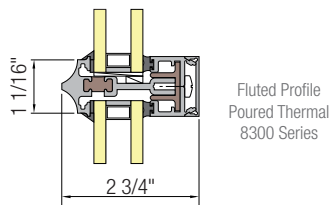
FIXED AND PROJECTED ALUMINUM WINDOWS WITH FLUTED, STEPPED "T," BEVELED OR OGEE PERIMETER GLAZING REBATES TO MATCH EXISTING PUTTY-GLAZED WINDOWS

- AAMA AW-100 Architectural Performance Class - Grids designed for project-specific wind loads
- Poured polyurethane (8300 Series) or polyamide thermal barrier (8300i Series)
- Welded or mechanically fastened frame and true muntin grid construction, corner-blocked and crimped vents
- 0.094" extrusion wall thickness
- Fixed; in- or out-swing casement (pictured); top-hinged, awning or hopper vents
- Custom profiles can be designed for panning, perimeter framing or muntins



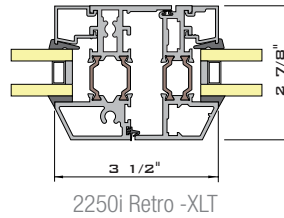
TRUE DIVIDED LITE MUNTIN GRIDS

GLASSMAKING TECHNOLOGY IN THE YEARS PRIOR TO WORLD WAR II LIMITED THE SIZE OF INDIVIDUAL GLASS LITES, MITIGATING 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.



INVENT™ RETRO -XLT PROJECTED WINDOWS

SETBACK BEVELED EXTERIOR FACE TO REPLICATE PUTTY-GLAZED EXISTING WINDOW PROFILES - OPTIONAL OGEE OR COVE PROFILED REBATES, EQUAL SIGHTLINES AT VENTS AND FIXED LITES



- 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
- Triple glazing and integral blinds available
- Grid muntins or true divided lite (pictured)
- Optional decorative cove glazing beads (pictured)
- Optional multi-lock hardware for improved accessibility
- Innovative, French casement available (pictured) for Juliet balconies, terraces or ground floor use



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 |

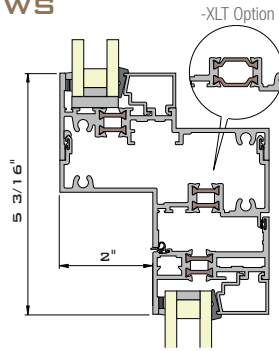


by Wausau

Custom
Window™

4250i AND 4250i-XLT SIMULATED HUNG WINDOWS

PROJECTED WINDOWS WITH 2" OFFSET GLASS PLANES TO REPLICATE EXISTING DOUBLE-HUNG SASH - BUT WITH THE EASE OF OPERATION, DURABILITY AND LOW AIR INFILTRATION OF COMPRESSION SEALS



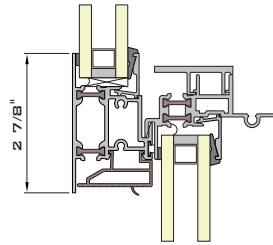
- 4-1/2" or 4-7/8" frame depth with 15mm or 24mm polyamide thermal barrier
- AAMA AW-100 Architectural Performance Class
- Fixed, project-out awning, casement, or project-in hopper
- Flush vent construction reduces collection of dust and debris
- 1/8" wall thickness at hardware connections
- Uses architecturally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

Test results may vary

| Allowable Air | Water | NFRC U-Factor | CRF _f | STC |
|------------------------------|--------|--------------------------------|------------------|----------|
| 0.10 cfm/sqft at 6.24 psf | 15 psf | 0.23 to 0.60 BTU/hr.sqft.°F | 46 to 71 | 32 to 43 |

310i-SH SERIES SINGLE HUNG WINDOWS

DURABLE AW60 ARCHITECTURAL CLASS HUNG WINDOWS, WITH POLYAMIDE THERMAL BARRIER AND STANDARD 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 integrally-blinded options



Test results may vary

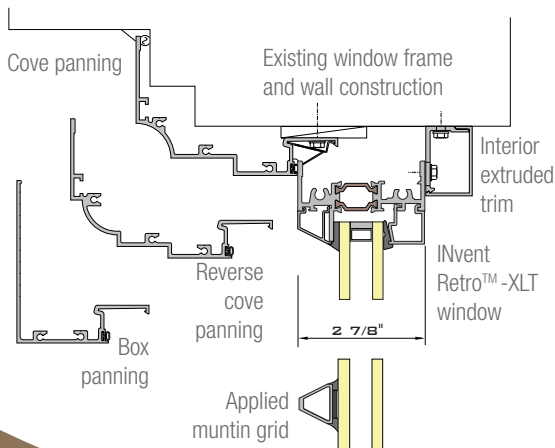
| Allowable Air | Water | NFRC U-Factor | CRF _f | STC |
|------------------------------|--------|--------------------------------------|------------------|----------|
| 0.30 cfm/sqft at 6.24 psf | 12 psf | 0.47 to 0.65 BTU/hr.sqft.°F (est) | 57 | 33 (est) |

PANNING AND MUNTIN GRIDS

REMOVAL OF ONLY EXISTING OPERABLE SASH, LEAVING FRAMES IN PLACE, SPEEDS INSTALLATION AND MINIMIZES DISRUPTION - AN EXTRUDED ALUMINUM "PANNING" SYSTEM PREPARES THE OPENING

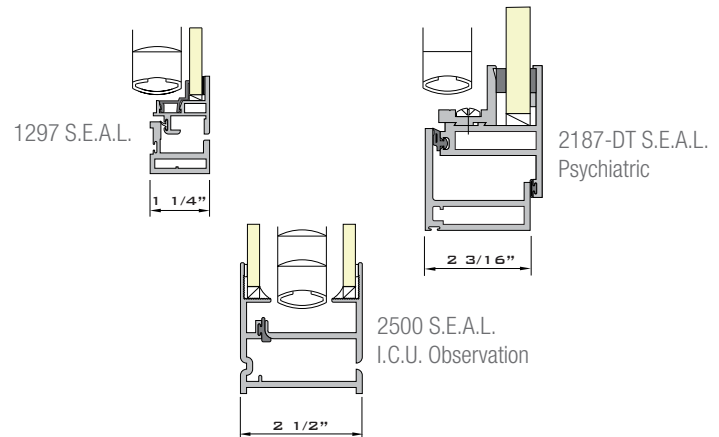


MUNTINS ARE AVAILABLE AS TRUE DIVIDED LITE, GLAZED-IN GRIDS, SILICONE-APPLIED, OR BETWEEN-GLASS



S.E.A.L.™ INTERIOR ACCESSORY WINDOWS

WHEN EXISTING WINDOWS ARE WEATHER-TIGHT, AND VENTILATION IS UNNECESSARY, S.E.A.L. INTERIOR ACCESSORY WINDOWS CAN IMPROVE SOUND, ENERGY, AIR AND LIGHT CONTROL - ECONOMICALLY, AND WITH A MINIMUM OF OCCUPANT DISRUPTION



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





Wausau Manufacturing Center

Somerville Architects

THE USGBC LEED® GREEN BUILDING RATING SYSTEM IS NOT LIMITED TO NEW BUILDINGS LIKE WAUSAU'S LEED-SILVER CERTIFIED MANUFACTURING CENTER - EXISTING BUILDINGS CAN QUALIFY AS MAJOR RENOVATIONS THROUGH LEED-NC, OR THROUGH LEED-EB FOR EXISTING BUILDINGS.

HOW CAN WINDOWS CONTRIBUTE ?

- LOW U-FACTOR
- LOW SOLAR HEAT GAIN COEFFICIENT
- NATURAL VENTILATION
- DAYLIGHTING AND VIEWS
- RECYCLED ALUMINUM IN FRAMES

WHY ALUMINUM WINDOWS ?

- LONG-TERM DURABILITY
- WEATHER RESISTANCE
- MATERIAL STABILITY
- LARGE OPERATING VENTS
- WAUSAU'S EXTRUDED ALUMINUM FRAMING CONTAINS RECYCLED CONTENT AVERAGING 70% OR GREATER
- FACTORY-APPLIED NO-VOC FINISHES
- LOW-CONDUCTIVITY THERMAL BARRIERS
- ECONOMICAL CUSTOMIZATION

BEYOND LEED®

SUSTAINABLE MANUFACTURING PROCESSES

- Minimized packaging materials in receiving and shipping
- Scrap recycling: Aluminum, steel, cardboard, wood, glass, fluorescent bulbs, paper, beverage containers, toner cartridges, electronic equipment
- "Paperless" environment supported by Wausau ShopView™ software
- 100% VOC-capture spray painting of durable AAMA 2605-tested fluoropolymer
- No-VOC finish options: Powder coatings and durable Class I anodic finishes
- Resource-wasting internal rework minimized through Lean/Six Sigma

SUSTAINABLE BUSINESS PRACTICES

- Leadership within industry trade organizations and research groups
- Design charettes supported with engineering resources
- All operable windows are durable, cycle-tested AW-Class
- LEED-GAs on staff



SPECIFICATIONS

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 frames
- Specific minimum requirements for performance, materials, fabrication, finish, operation, and hardware selection
- Pre-qualification procedures for manufacturers and installers
- Field testing and quality control expectations
- Details ensuring the integrity of the building shell is maintained - air/moisture transmission, compatible materials, and thermal expansion
- Related work such as 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 glass
- Access to, and protection of, occupied spaces and their contents
- Working hours
- Available outside and inside storage.

Samples installed in an easily accessible on-site location offer first-hand experience in field measuring, removal, and replacement logistics.

WARRANTY

FOR ALMOST 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.



WAUSAU

WINDOW AND WALL
SYSTEMS

7800 INTERNATIONAL DRIVE WAUSAU, WI 54401
TOLL FREE 1 877 678 2983 FAX 1 715 843 4350
EMAIL INFO@WAUSAUWINDOW.COM

"INvent," "INvent Retro," "Custom Window," and "S.E.A.L." are trademarks of Apogee Wausau Group, Inc. All rights reserved. © 2015 Apogee Wausau Group, Inc.



efpa

Promoting environmentally friendly building practices

Cert. No. 000092308

www.myefpa.com