



WAUSAU WINDOW AND WALL SYSTEMS MANUFACTURING FACILITY - DESIGNED AS LEED®-SILVER BY SOMERVILLE ASSOCIATES

A COMMITMENT TO GREEN BUILDING - A FOCUS ON VALUE

WAUSAU WINDOW AND WALL SYSTEMS' NEW
MANUFACTURING CENTER, OPENED IN SEPTEMBER 2008,
HAS BEEN CERTIFIED SILVER THROUGH THE
USGBC LEED® GREEN BUILDING RATING SYSTEM™.

LEED®-SILVER
FACTORY

SUSTAINABLE DESIGN FEATURES

- Spectrally selective Viracon glass
- Thermal barrier Wausau window and curtainwall frames
- Use of recycled and regional content
- Natural landscaping, storm water management, and alternative transportation accommodations
- Low-flow plumbing fixtures
- High-efficiency HVAC designed to use air compressor waste heat
- White roof
- Tri-level lighting, with energy-saving lamps and ballasts
- Exterior lighting designed to prevent light pollution

SUSTAINABLE CONSTRUCTION PRACTICES and OPERATION

- Construction waste recycling
- Facility manager electrical load shedding
- Advanced commissioning
- Utility savings exceeding \$90,000 annually



SOLAR CONTROL & NATURAL DAYLIGHTING

EXTERIOR SUN SHADES
INTERIOR LIGHT SHELVES
BETWEEN-GLASS VENETIAN BLINDS



THERMAL PERFORMANCE

TRIPLE GLAZING OPTIONS
MULTI-LEVEL THERMAL BARRIER SYSTEMS
POLYAMIDE THERMAL BARRIER CURTAINWALL
ENHANCED CONDENSATION RESISTANCE

**RENEWABLE ENERGY &
DYNAMIC GLAZING**
FACADE-INTEGRATED PHOTO-VOLTAICS
ELECTROCHROMIC SAGEGLASS®



HOW WINDOWS AND CURTAINWALL CONTRIBUTE TO LEED®

LEED® 2009 VERSION 3 for NEW CONSTRUCTION and MAJOR RENOVATIONS Wausau Windows and Curtainwall Contribution to Credits				
Credit Category	Points Possible	Credits Impacted by Wausau Products		Commentary
Sustainable Sites (SS)	24	None	-	
Water Efficiency (WE)	11	None	-	
Energy and Atmosphere (EA)	33	1 Optimize Energy Performance 2 On-Site Renewable Energy	✓ ✓	Wausau's products have long been recognized as some of the industry's best in energy performance. Combined with Viracon high-performance glass, the "right" windows for your building type and climate zone are always available from Wausau. The Wausau "Performance Upgrade Tables" give both "typical" energy performance values, as well as <u>leading-edge</u> standard product options for thermal transmittance (U-Factor) and Solar Heat Gain Coefficient (SHGC). Custom applications with over-size and multi-level polyamide thermal barriers have been developed by Wausau for several unique projects. Photovoltaic panels generate renewable electrical energy directly from sunlight, and can be readily integrated into building facades and skylights. Wausau was a pioneer in development of building-integrated photovoltaic (BIPV) systems in the US. Wausau SuperWall has been UL-listed as a BIPV system for several projects, and Wausau holds US Patent # 6,646,196 B2 "Window Structure with Photovoltaic Panel".
Materials and Resources (MR)	13	1.1 Building Re-Use - 75% and 1.2 95% 4.1 Recycled Content 10% and 4.2 20%	✓ ✓	Wausau provides a complete line of replacement windows and panning for historic renovation, energy upgrade, or building re-use. Wausau aluminum framing is extruded exclusively from secondary billet containing high recycled content. Glass, steel and hardware components also contain high percentages of recycled content.
Indoor Environmental Quality (IEQ)	19	2 Increased Ventilation 4.1 Low-Emitting Materials – Adhesives and Sealants 6.2 Controllability of Systems – Thermal Comfort 7.2 Thermal Comfort-Design 8.1 Daylight and Views 75% and 8.2 90%	✓ ✓ ✓ ✓	Operable windows can be part of an effective natural ventilation strategy, when applied using the recommendations in the Carbon Trust "Good Practice Guide 237"[1998] and ASHRAE 62.1-2004. Wausau structurally-glazed operable window products such as Visuline, Zero-Sightline, Epic and Heritage Series can provide "no-sag" performance even for over-sized ventilators. All primers, structural glazing adhesives, and metal-to-metal sealants recommended by Wausau for use on-site, meet applicable SCAQMD Rule #1168 VOC limits. Occupant-controlled operable windows may be used in lieu of comfort controls for areas nearby, as outlined in ASHRAE 62.1-2004. Wausau structurally-glazed operable window products such as Visuline, Zero-Sightline, Epic and Heritage Series can provide "no-sag" performance even for over-sized ventilators. Wausau window and curtainwall systems utilizing polyurethane or polyamide nylon thermal barriers and warm-edge insulating glass increase "Mean Radiant Temperature" perceived by building occupants, compared to lower-performing systems. The low air infiltration of AAMA AW-Class windows, helps keep drafts to a minimum. Wausau's products have long been recognized as some of the industry's best in energy performance. Combined with Viracon high-performance glass, the "right" windows for your building type and climate zone are always available from Wausau. The Wausau "Performance Upgrade Tables" give both "typical" energy performance values, as well as <u>leading-edge</u> standard product options for Visible Light Transmittance (VLT). Most Wausau products are available with between-glass Venetian blinds.
Innovation and Design Process (ID)	6	1.1 thru 1.4 Innovation in Design	✓	Wausau design engineers are available for custom window and curtainwall consultation. BIM models are available for the most popular Wausau products.
Regional Priority (RP)	4			As determined by USGBC regional councils and chapters.
Project Totals	110 Points	46 Total Credits	Up to 15 Impacted	In addition to these Credits, windows and curtainwall also impact prerequisite Minimum Energy Performance.

Levels of LEED® Certification

Certified	40 to 49 Points	Silver	50 to 59 Points
Gold	60 to 79 Points	Platinum	80 Points and Above

NOTES:

1. EQ Credit 4.2 "Low-Emitting Materials – Paints and Coatings" specifically exempts factory baked-on finishes such as fluoropolymer, acrylic enamel and urethane paints. Residual VOC solvent content of these products is typically less than 0.3% after curing, hence they have no effect on indoor air quality.

2. MR Credits 5.1 and 5.2 "Regional Materials – 10% or 20% Extracted, Processed and Manufactured Regionally" has been revised in LEED® Version 2.2., to eliminate credit for any material that is not extracted or recovered within 500 miles of the site. Since the bauxite mined to make aluminum is 100% imported, no primary aluminum framing material qualifies. Recycled aluminum used by Wausau's Midwestern extruder-partners is cast into secondary extrusion billet in several locations. Most of these cast houses are within 500 miles of Wausau, Wisconsin, and if the job site is also within 500 miles, framing fabricated from recycled aluminum may help projects qualify for MR Credits 5.1 and 5.2 "Regional Materials." There are certain unusual situations where glass or other infills may help contribute. More information is available at www.viracon.com.

THE GREEN DESIGN AND CONSTRUCTION INFORMATION
AND TOOLS NOW OFFERED AT OUR WEB SITE ASSIST
ARCHITECTS AND ENGINEERS, BUT ALSO SUPPORT
OTHER MEMBERS OF THE DESIGN TEAM -
INCLUDING BUILDING OWNERS AND SUBCONTRACTORS.

WWW.WAUSAUWINDOW.COM



- LEED criteria and rating systems
- LEED checklist and sample submittals
- Recycled, regional and innovative materials
- Potential credit contributions of windows and curtainwalls
- Supplemental guide specifications for LEED
- Performance upgrade tables for Wausau's standard products



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 charrettes supported with Pre-Bid Engineering
- All operable windows are durable, cycle-tested AW-Class
- LEED-AP on staff

WE UNDERSTAND THAT LEED® IS JUST A TOOL - A MEANS TO AN END. THE SUSTAINABLE DESIGN MOVEMENT IS REALLY ABOUT THE TRIPLE BOTTOM LINE:

PROTECTING THE ENVIRONMENT, SOCIAL RESPONSIBILITY, AND FINANCIAL VIABILITY



WAUSAU

WINDOW AND WALL
SYSTEMS

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