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Re:Vision Architecture - LEED Consultant
Bala Consulting Engineers - Commissioning Agent
Johnson Controls
One Source - Green Sweep
Community Energy
David Miller / Associates - Civil Engineer

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Armstrong World Industries
CAMPUS CORPORATE HEADQUARTERS
Building 701



In May of 2007 the U.S. Green Building Council informed Armstrong World Industries that the Campus – Corporate Headquarters Building 701 had earned their highest award, platinum certification, under the LEED® for Existing Building Rating System. Building 701 is only the sixth building nationwide to achieve this distinction.

The Leadership in Energy and Environmental Design (LEED) rating system was created by the U.S. Green Building Council to encourage and facilitate the development of more sustainable buildings. LEED-EB rates existing buildings in an effort to promote buildings that are economically profitable, environmentally responsible and healthy, productive places to work.

Built in 1998, as a ‘green’ building, Building 701 included design features that helped to create the final criteria for the first LEED version for new construction. Nine years later, after many design and operational improvements, Building 701 once again becomes an example of what is possible when you make a serious commitment to building a healthy, sustainable future.



Achieving platinum certification under the LEED rating system for existing buildings means attaining performance goals in each of the following categories:

- Sustainable Sites
- Water Efficiency
- Energy & Atmosphere
- Materials & Resources
- Indoor Environmental Quality
- Innovation in Upgrades, Operation & Maintenance



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Here are just a few of the enabling Building 701 to be many initiatives that made significant contributions recognized for excellence in sustainable design.

Energy Star® Building 701 was recognized in 2006 by The U.S. Environmental Protection Agency for demonstrating superior energy performance, earning their coveted Energy Star designation, and ranking it among the Top 25% of energy-efficient buildings in the U.S. **LEED® EA Credit 1.0**

Wind Power 2 million kWh per year, or 75% of the electricity we use, is generated from wind turbines. That's like not producing 3,814,602 lbs of CO2 every year. Wind is a clean, 100% pollution-free, alternative energy that saves natural resources. EPA Green Power Partnership encourages the use of green power to reduce the risk of climate change. **LEED® EA Credit 2.0**

Storm Water Management The site is designed to effectively manage storm water runoff and allow some infiltration as well. The goal is to control erosion and to minimize the possible pollution of natural water flows. **LEED® SS Credit 5.0**

Energy Efficient Glass 80% of the building's exterior walls are PPG insulating glass. The tinted, argon-gas filled double-pane glass also has a low-e coating to minimize heat gain. **LEED® EA Credit 1.0**

Superior Acoustics Superior acoustic performance was achieved with the combination of sound absorption from Optima® 1" thick acoustical ceiling panels (AC 200), sound blocking from the furniture systems (STC 25) and covering background noise with our i-ceilings® sound masking system (48 dBA +/-2dB spatial variation). The result – improved speech privacy and a quieter, more pleasant place to work. **LEED® Innovation Credit 1.3**

Sound Masking

Our i-ceilings® sound masking system is built into designated ceiling panels. It masks unwanted background noise, contributing to enhanced productivity.

greater speech privacy and **LEED® Innovation Credit 1.3**

Low Emissions Ceilings All Ultima® ceiling panels have no-added formaldehyde, no detectable formaldehyde. Optima® ceiling panels are rated **LEED® MR Credit 3.0**

which means there are emissions. And, all low VOC emissions.

Ceilings and Recycling

Our Ultima® and Optima® ceiling panels contain a high percentage of recycled materials: slag wool, paper, recycled glass. Suspension systems are made from metal with recycled content.

And all ceilings are recyclable as part of the Armstrong Ceiling Recycling Program. **LEED® MR Credit 2.0**

Systems Controls Building HVAC and lighting are controlled for maximum energy efficiency by Johnson Controls® systems software. The system is used campus wide for additional energy savings. **LEED® EA Credit 3.3 and IEQ Credits 6.0, 7.0**

HVAC Equipment The HVAC system uses energy-efficient motors, CFC-and HCFC-free refrigeration, energy-management software, and is zoned into small areas for precise climate control. Integrated control systems interface with lighting systems using outdoor photocells and timers to reduce energy consumption. **LEED® EA Prerequisite 3.0 and EA Credits 3.3, 4.0**

Procurement Policies We have instituted a sustainable policy for IAQ compliant products, as well as a low-VOC product purchasing policy that covers adhesives, sealants, paints, coatings, carpet, carpet cushion, composite panels and agri-fiber products. The goal is to be kind to the environment and to the well-being of occupants. **LEED® MR Credit 3.0**

Waterless Urinals Reducing water usage is an important part of protecting and preserving our environment. The use of waterless, touch-free urinals saves an average of 40,000 gallons of fresh water per urinal, each year. **LEED® WE Credits 2.0, 3.0**

Daylighting The glass and steel building is designed with a shallow floor plan that allows natural daylight to fill more than 50% of the workspace. Interior light shelves reflect sunlight onto Armstrong high light reflectance ceilings to minimize the need for energy-consuming lighting. **LEED® EA Credit 1.0 and IEQ Credit 8.0**

Light Shelves The building architecture incorporates two light shelves. The exterior light shelves shade the windows, reducing glare and minimizing solar heat gain during the summer. The interior light shades reflect sunlight onto the Armstrong high light reflectance ceilings to increase the energy-saving benefits of daylighting. **LEED® EA Credit 1.0**

Indirect Lighting To supplement the significant use of daylighting, high light reflectance ceilings and indirect lighting systems utilizing energy-efficient fixtures with T8 fluorescent lamps and electronic ballasts are used in all office workspaces. Building-wide energy consumption is less than 1.5 watts/square foot – half the national average for comparable buildings. **LEED® EA Credit 1.0**

Mercury Minimization While even the most efficient, energy-conserving fluorescent and HID lamps typically contain small amounts of mercury that is consumed over the life of the lamp, it is important to minimize overall mercury content. In order to meet LEED credit MR 6, the weighted average mercury content must be 80 or less – we scored 67.89. **LEED® MR Prerequisite 2.0 and MR Credit 6.0**



High Light Reflectance Ceilings High light reflectance Optima® and Ultima® ceilings are used throughout the building to increase the effectiveness of day-lighting and other light sources, thereby reducing the energy requirements of the lighting. **LEED® EA Credit 1.0**

Occupancy Sensors It's simple. When the office workspaces aren't occupied, the lights go off automatically, saving energy. The combination of occupancy sensors and dual-switch lighting systems minimize the use of artificial light and related heat gain. **LEED® IEQ Credit 6.0**

Furniture Systems Herman Miller furniture systems are designed to evolve as work changes, maintaining high performance. Ethospace® system helps block unwanted noise and contributes to privacy in open office areas. Glass tiles allow more light into the space; open returns and up-mounted storage reduce materials usage and the system is up to 78% recyclable. **LEED® Innovation Credit 1.3**

Green Cleaning By identifying and specifying environmentally friendly paper cleaning products, we are able to be 'green' while saving \$4,400 a year campus wide. And there's satisfaction in knowing that all cleaning products meet Green Seal® standards, free from odor and VOC's, making for a more pleasant and productive working environment. **LEED® MR Credit 4.0 and IEQ Credit 10.2-6**

Cleaning/Janitorial Services We've created a comprehensive facility management plan with environmentally-responsible cleaning and janitorial maintenance. It includes occupant training, isolation of chemical storage, sustainable supplies, use of concentrates from dispensing equipment, disposable housekeeping products, carpet care and floor stripping – all part of the OneSource® GreenSweep™ Program. **LEED® MR Credit 4.0 and IEQ Credit 10**



Site Maintenance Our comprehensive site management plan helps us protect the environment and use resources wisely. That's why the grass is mowed only when necessary, all landscape waste is composted, maintenance equipment meets California emissions standards and is routinely serviced by a licensed mechanic, and operators wear personal protective equipment. **LEED® SS Credit 1.0**

Landscaping Efficiencies Plants selected for the campus require minimal maintenance and no irrigation. They are also part of an erosion control system that provides a catch basin for site water run-off and allows for its measured release into the adjoining wetlands. Composted waste is used for weed control and as a bed for walking paths. **LEED® SS Prerequisite 1.0 and SS Credit 1.0**

Transportation Efficiencies Employees are encouraged to carpool and ride their bikes to work. A covered bicycle storage area has been provided. And, there are preferred parking spaces for carpool vehicles and hybrid vehicles. Saving energy going to and from work is as important as on-site energy savings. **LEED® SS Credits 3.2-4**



Recycling Based on the waste audit, the LEED®-EB team documented that our recycling program for paper, cardboard, aluminum, plastic and glass exceeds the USGBC recycling criteria. We are effectively recycling over 60% of the building's total waste by weight. Recycling not only bypasses landfills, it saves natural resources. **LEED® MR Prerequisite 1.1 and MR Credit 5.0**



Green Carpet The carpet used in the executive offices is made from wool, a rapidly renewable resource. The carpet cushion is low-VOC. Special carpet cleaning procedures are used to ensure long life and to protect the environment. **LEED® MR Credits 2.0, 3.0**

Education We're committed to sharing the green building features of Building 701 with others through an educational outreach program that includes guided tours of the facility, as well as internal and external communications. **LEED® Innovation Credit 1.4**

Water Efficiency Dual-flush toilet valves, low-flow faucets, waterless urinals, and no-irrigation landscaping are just some of the ways water usage is minimized. The combined LEED® initiatives in Building 701 have resulted in a reduction in water use from 800,000 to 420,000 gallons per year. **LEED® WE Credits 1.0, 2.0 and 3.0**

Wood Walls Environmentally friendly Armstrong WoodWorks® Ekos™ walls are used in a conference room. The walls are made from real wood veneer over a mineral fiber substrate, with no-added formaldehyde. The mineral fiber has high recycled content and can be recycled. **LEED® MR Credits 2.0, 3.0**

Resilient Flooring Armstrong Translations™ flooring used in the building is FloorScore™ certified for low VOC emissions according to CA Section 01350. **LEED® EQ Credit 4.3**