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## ACHIEVING LEED

What's involved in earning gold LEED certification? Bringing home 41 points was the bronzed aluminum-clad Macallen Building, which was judged to perform 15.4% better than ASHRAE requirements. Turn inside for the key products, materials and systems behind the points. [\[PAGE 112\]](#)

# ACHIEVING LEED

A great deal of hype surrounds the term green. To provide a little insight into what's actually going into LEED-certified projects, Architectural Products presents "Achieving LEED," a snap shot of the key products and materials behind the LEED points.



**MACALLEN BUILDING CONDOMINIUMS**  
 Project: Macallen Building Condominiums  
 Location: Boston  
 Client/Owner: Pappas Enterprises Inc., Boston  
 Architect: Burt Hill, Boston (architect of record), office dA, Boston (design architect)  
 LEED APs: CJ, Boston; Bovis Lend Lease, New York; Burt Hill  
 Size: 350,000 sq. ft.  
 Total Budget/Cost: \$20 million (excluding land)  
 Date Completed: April 2007  
 LEED Rating: Gold (LEED NC, v2/v2.1)

MACALLEN BUILDING CONDOMINIUMS: EXTERIOR	
Product/Mfr./Brand:	LEED CREDIT:
<b>SKYLIGHTS:</b> OpenAir® Model: OpenAir® Retractable skylight provides several benefits, including natural light and ventilation. Thermally broken frame members and other components maintain an energy-efficient and weather-resistant feature.	EQ 4.1 (Daylight & Views)
<b>CURTAIN WALL:</b> VistaWall Model: CW-250 Series Versatile curtain wall system offers thermal performance and weather resistance. System balances economic, aesthetic, and performance standards to achieve project goals.	EQ 4.1 (Daylight & Views)
<b>GLASS:</b> Vitrocon Model: VRE 1-59 SolarScreen radiance low-E insulating glass delivers a summer daytime U-value of 0.37 and a SHGC of 0.33, while maintaining 51% visible light transmittance.	EQ 4.1 (Daylight & Views)
<b>ROOF FLASHING:</b> Carlisle SynTex Model: SecureEdge Cornin Metal edging system eliminates the need for an extra deck membrane under thermal waterdam.	MR2 (Construction Waste Management)
<b>GREEN ROOF:</b> American Hydrotech Model: Garden Roof Assembly Sloped green roof controls stormwater drainage, filters carbon dioxide and other pollutants from the outdoor air, helps cool interior spaces and reduce the building's heat island effect.	EQ 7 (Thermal Comfort)



**LEED-NC**

**MACALLEN BUILDING CONDOMINIUMS**

LEED-NC Rating: Gold  
March 2008

<p><b>44 Points Achieved</b></p> <p>Certified: 26-33   Silver: 34-36   Gold: 38-51   Platinum: 52+</p> <p><b>10 Sustainable Sites (SS)</b></p> <p>Credits were earned for using an existing urban in-fill site which afforded ready access to and provisions for alternative transportation and stormwater management.</p> <p><b>3 Water Efficiency (WE)</b></p> <p>The project eliminated the use of potable water for irrigation by recycling site water and reducing potable water use by replacing low-flow plumbing fixtures.</p> <p><b>4 Energy &amp; Atmosphere (EA)</b></p> <p>The project was judged to perform 12.4% better than ASHRAE requirements, thanks to a green roof, high-performance windows, heat recovery, and high-efficiency cooling equipment.</p> <p><b>7 Materials &amp; Resources (MR)</b></p> <p>More than 70% of the total materials used involved recycled content, low-volatile organic compound (VOC) adhesives and sealants, rapidly renewable materials and 100% FSC-certified wood.</p> <p><b>11 Indoor Environmental Quality (IEQ)</b></p> <p>The building minimizes carbon dioxide, achieves a higher rate of outdoor air ventilation, and uses low-VOC adhesives and sealants, architectural sealants, carpets and composite woods.</p> <p><b>4 Innovation, Etc.</b></p> <p>1 LEED credit was awarded for a green housekeeping plan, a non-chemical water treatment system for the cooling towers, an investment in green power and the use of a LEED AP consultant.</p>	<p>Possible Points: <b>69</b></p> <p>Possible Points: <b>14</b></p> <p>Possible Points: <b>5</b></p> <p>Possible Points: <b>17</b></p> <p>Possible Points: <b>18</b></p> <p>Possible Points: <b>15</b></p> <p>Possible Points: <b>5</b></p>
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**OH POINT**  
 Set on a 65,000-sq.-ft. grey-field wedge in South Boston, the 350,000-sq.-ft. mixed-use Macallen Building perfectly responds to its setting and sets a new standard for residential green building design, construction and operation. The high, sharp-angled tower, sheathed in blonzed aluminum, puts condominium residents above the tangle of roads and railroad tracks below and provides them with a clear view to city's Back Bay skyline. As it wraps around the corner, the building drops to the scale of its low-rise neighbors, employing a warmer brick facade to match theirs and welcome customers to its street-level retail shops. The building's urban location also puts residents and workers in close proximity to a variety of public transportation options while also providing bike storage and hybrid vehicle stations—all of which supports a green-first approach that earned it a LEED Gold rating, Boston's first for a residential project, and a competitive edge in an increasingly tough sales environment.



**OPEN INVITATION**

The building's staggered steel truss system, unusual in a residential project, kept structural columns from intruding an interior spaces and reduced the amount of steel (98% of it recycled) required to construct the frame. The result is a loft-like feel for the apartments, enabling opportunities for enviable views and for natural light to flood the living spaces; insulated glass and a green roof over the upper-most apartments temper the solar heat gain. The 140 units (30 of which were reserved as below-market rate) also are devoid of individual heating and cooling units, as a central cooling tower economizes that function for all of the building's spaces and also helps heat the outdoor pool. Several products, including the floor and wall finishes, countertops and insulation, are manufactured from natural materials such as cork, bamboo and cotton, to maintain healthy indoor air and reduce the building's environmental footprint without sacrificing performance. Lighting fixtures and appliances also meet green building standards for efficiency, while low-flow plumbing fixtures reduce the building's water use significantly. Operable windows and a filtering system for each unit introduces outdoor air into the building at a rate that is significantly higher than ASHRAE standards.

**MACALLEN BUILDING: INTERIOR**

Product/Mfr./Brand:	LEED CREDIT:
<p><b>INTERIOR DOORS:</b> Marshfield Door Systems  <b>Model:</b> Environmental Class</p> <p>Recycled-content interior doors feature wheat/straw-board cores for environmental efficiency and high performance. At least 40% of core content is recycled.</p>	MR 4 (Recycled Content)
<p><b>CABINET BODIES:</b> Environ Biocomposites  <b>Model:</b> Microstrand Wheat</p> <p>Agricultural fiber core material for cabinet frames is stronger and lighter weight compared to traditional wood-based particleboard and contains no off-gassing resins or finishes.</p>	MR 5 (Rapidly Renewable Materials); EQ 4.4 (Low Emitting Materials)
<p><b>ARCHITECTURAL COATINGS:</b> PPG  <b>Model:</b> Pure Performance 9-500/9-100</p> <p>Complete system of zero-VOC coatings helps maintain healthy indoor air without sacrificing performance, including hide, adhesion and wear. More than 1,890 colors available.</p>	CQ 4.3 (Low-Emitting Materials)
<p><b>CEILING PANELS:</b> Tectum  <b>Model:</b> Various</p> <p>Asbestos-free acoustical ceiling panels help control noise between units; lay-in panels contain recycled content to reduce resource demand.</p>	MR 4 (Recycled Content)
<p><b>INTERIOR DOWNLIGHTS:</b> Halo  <b>Model:</b> H1499T-1470P</p> <p>Small aperture low voltage recessed fixture provides efficient accent and task lighting, reducing energy demand for ambient lighting.</p>	EA 1 (Optimize Energy Performance)
<p><b>INTERIOR LIGHTING:</b> Lightolier  <b>Model:</b> Lytecaster (1004ICN-11772)</p> <p>Recessed downlighting fixtures are designed to minimize air leakage through the housing and convert easily from incandescent to CFL lamps.</p>	EQ 7.1 (Thermal Comfort)
<p><b>WATER TREATMENT:</b> Dolphin WaterCare  <b>Model:</b> TowerCare Program</p> <p>Ultrasonic-based technology enables control of cooling tower bacteria without the need for toxic chemicals, helping maintain healthy indoor air quality and extending the life of the cooling system.</p>	Innovation 1.2

**SKYLIGHTS:** OpenAir, www.openaire.com or Circle 306.

**CURTAIN WALL:** VistaWall, www.vistawall.com or Circle 307.

**GLASS:** Viracore, www.viracore.com or Circle 306.

**ROOF FLASHING:** Carlisle Synthetic, www.carlisle-synthetic.com or Circle 305.

**ROOFING:** American Hydrotech, www.hydrotechusa.com or Circle 304.

**INTERIOR DOORS:** Marshfield Door Systems, www.marshfielddoors.com or Circle 303.

**CABINET FRAMES:** Environ Biocomposites, www.environmentbiocomposites.com or Circle 302.

**ARCHITECTURAL COATINGS:** PPG, www.corporateportal.ppg.com or Circle 301.

**CEILING PANELS:** Tectum, www.tectum.com or Circle 300.

**INTERIOR DOWNLIGHTS:** Halo, www.halotg.com or Circle 379.

**INTERIOR LIGHTING:** Lightolier, www.lightolier.com or Circle 378.

**WATER TREATMENT:** Dolphin WaterCare, www.dolphinwatercare.com or Circle 377.