

## METAL ROOFS AND WALLS

Promoting the Future of “Green” and Sustaining the Environment

**M**etal roofs and walls come in a variety of colors, but it’s the “green” makeup of metal that is prompting many building owners and architects to sit up and take notice. For building owners and architects committed to preserving natural resources, metal roof and wall panels offer a unique, environmentally friendly solution to their building’s requirements. Metal roofs and walls can contribute considerably to the “green” building movement because of their high recycled content, recyclability, sustainability and energy efficiency.

Recycled metals protect the environment by reducing the need for raw materials. The recycled content for steel used in metal roofs and walls, for example, is at least 25 percent. This level of recycled content reduces both the cost and environmental impact of making new steel, as it conserves energy and other natural raw materials. In addition to their recycled content, metal roof panels offer the added benefit of being recyclable at the end of their “useful” life. For example, while other old roofing materials are dumped by the ton in landfills, the steel, aluminum, copper and zinc used in metal roof panels is 100 percent recyclable, contributing to future products’ recycled content.

Building owners and architects have long recognized metal roofs and walls for their strength and functionality. Metal roofs and walls are extremely durable, thereby lowering the demand for raw materials needed to produce replacement systems. Metal roofing, for example, is unaffected by the hot-cold/wet-dry weather cycles and weather extremes that can break down other roofing materials. Metal roof and wall panels are also low in weight. This means there is less of a structural load on a building, helping extend the life of the facility.

In addition to their other environmentally friendly attributes, metal roofs and walls can also help reduce energy consumption. Currently, buildings consume one-third of all energy and two-thirds of all electricity generated in the U.S. Metal roofs, for example, can be finished with heat-deflecting coatings to lower energy usage by reducing cooling loads. Available with baked-on finishes or granular-coated surfaces, “cool metal roofs” can reflect up to 70 percent of the sun’s rays, in the process saving building owners up to 40 percent in heating and cooling energy costs.

### THE METAL INITIATIVE Where Metal Really Shines

*The Metal Initiative is an industry-wide program designed to educate building owners, architects and contractors about the use and selection of metal roofs and walls in commercial, industrial and institutional buildings. Today virtually all facets of metal in construction are addressed to meet the varied needs of the owner and the building team, including return on investment, maintenance cost, life cycle cost, environmental impact, recyclability, recycled content, cool roofing, useful life and aesthetics.*

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## Increasing Your Savings with Metal

Increasingly, building owners and architects are now also recognizing another of metals attributes...a long, sustainable service life. Metal roofs have a significantly longer expected service life than either asphalt or single-ply roofs. The expected roof life of a metal roof is 40 years, considerably longer than the 23 year expectancy of asphalt and 20 years of a single-ply roof. This means that there is greater savings over the long term as a result of less maintenance and a longer life cycle. The ex-

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pected life cycle cost of metal roofs is 30 cents per square foot per year, versus 37 cents per square foot for asphalt and 57 cents per square foot for single-ply per year. This allows greater savings over the long term.

Additionally, owners and property managers report performing little or no regular maintenance on their metal roofs. A comparison of maintenance costs over the life of the roof for metal versus asphalt and single-ply shows that owners of metal roofs spent approximately 3.5 percent of total installed costs on maintenance, versus 28.5 percent for asphalt roofs and 19 percent for single-ply roofs.

## Design Flexibility

No other product has done more to change the profile of architecture than steep slope metal roofing. Metal roofs and walls have now added a new design element to a building that separates them from non-descript flat terrain. Unlimited color, a wide range of standing seam profiles, 40 years of useful life, and a design that actually sheds water; makes metal roofs and walls the best choice for your projects.

Designing with metal offers perhaps the widest array of choices within the construction industry. Coated with some of the most advanced technology in the world, a virtually unlimited palette of long lasting colors is available.

Bold design that inspires and creates a lasting impression is made possible with metal. From flowing curves to precision flatness, metal is easy and economical to install. This freedom of design provides the architect and owner the opportunity to build within a wide range of styles and create an image that will endure.

## Learn More about “Where Metal Really Shines”

We welcome owners, architects and contractors to peruse [www.themetalinitiative.com](http://www.themetalinitiative.com) site, register their firms and learn how the benefits of metal products can positively affect their building construction and management plans.

If you are an owner who has always thought that metal exterior materials were:

- not “ Green “
- too expensive
- did not come in many design options

Then ask your architect about the modern metal exterior skins for walls and roofs!

*Rick Mowrey*

*Chairman, The Metal Initiative*

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*The Building Owners and Managers Association (BOMA) International is an international federation of more than 90 local associations and affiliated organizations. BOMA’s 16,500-plus members own or manage more than 9 billion square feet of commercial properties in North America and throughout the world. The mission of BOMA International is to enhance the human, intellectual and physical assets of the commercial real estate industry through advocacy, education, research, standards and information. Founded in 1907, BOMA International celebrates 100 years of commercial real estate in 2007.*

### 3 CASE STUDIES

#### *Peakview Office Tower—Englewood, Colorado*

The Metal Initiative helped the Peakview Office Tower in Englewood, CO develop an aesthetically pleasing building while saving money and time on the completion of the building. The architect originally specified architectural precast for the exterior design of the Peakview Office Tower, however, it was soon realized that there was a better solution—metal. In addition to the incorporation of Architectural Precast having a lengthy lead time of one year, it is also relatively expensive at \$35 sq. ft. A Metal Initiative Member Company stepped in offering insulated metal panels at \$25 sq. ft and a minimal lead time of only 16 weeks. The features of implementing insulated metal panels into the structure offered many benefits including flexibility in the design to accentuate the details, accents and profiles of the building.



*Before*

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*After*

*Alberici Headquarters—St. Louis, Missouri*

The architects designing the Alberici Headquarters struggled to decide on exactly what materials to use for the façade and building envelope while at the same time qualifying as a LEED Certified Building. They turned to metal for its flexibility and durability to fulfill the façade design necessity. The choice was simple. Metal profiled panels and aluminum composite panels easily fulfilled the requirement for the Alberici Headquarters to receive its LEED certification. On similar buildings, insulated metal panels have eliminated the need for separate vapor barriers, insulation, and sheathing air barriers. The high performance coatings provide long life without the need for high maintenance costs that build up over the years.

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Before



After



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### *Edgetowne Square—Pittsburgh, Pennsylvania*

*Before*

In order to increase the rent ability, refresh the dated exterior and overall aesthetic and appeal of the Edgetowne Square, a major renovation would be necessary on the 22 year old building. Before the renovation, the Edgetowne Square was a Class B classification space with occupancy hovering around 70% at any given time.

The building was renovated with metal standing seam roof panels, profiled walls panels and insulated foam panels. The old brick building was now on its way to receiving a complete face-lift! Once the renovation and modernization was complete the Edgetowne Square was a Class A building. Immediate returns were realized as the occupancy reached 100% occupancy, increasing the annual lease revenue by 40%.

The renovation also helped cut fixed costs such as a 20% reduction in HVAC expenses. Furthermore, the entire cost of the retrofit was recovered in 2.1 years.



*After*

