



STRUCTURAL CONCRETE FORMS®

LEED Construction and EBS

Although relatively new, the Leadership in Energy and Environmental Design (LEED) is quickly becoming the most responsible standard for commercial and residential construction in the United States. This standard promotes high performance green building design that recognizes the life cycle costing of construction both economically and environmentally. As the green building sector grows exponentially, more and more building professionals, owners, and operators are seeing the benefits of green building and LEED certification. Green design not only makes a positive impact on public health and the environment, it also reduces operating costs, enhances building and organizational marketability, potentially increases occupant productivity, and helps create a sustainable community. LEED fits into this market by providing rating systems that are voluntary, consensus-based, market-driven, based on acceptable energy and environmental principals, and they strike a balance between established practices and emerging concepts.

LEED for New Construction & Major Renovation (LEED-NC):

The four levels of LEED-NC version 2.2 certification and the required points:

<u>Certification Level</u>	<u>Required Points</u>
Certified	26-32
Silver	33-38
Gold	39-51
Platinum	52-69

There are six categories for design and performance, *sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation & design process*, which are evaluated for a minimum of 26 and a maximum of 69 possible points.

E-Wall attains high points in the last four LEED categories which are;

Energy & Atmosphere- Whole building energy simulation (1-10 points). By demonstrating a percentage improvement in the proposed building performance as compared to a baseline building performance per ASHRAE/IESNA Standard 90.1-2004, you will be able to attain 8 points for 35% or 10 points for 42%. E-Wall's R-14 insulation and reduction in air infiltration contribute to the achievement of the maximum points in this category.

Materials & Resources-

Construction Waste Management (2 points) - One point is earned if 50% of the job site waste material is recycled, and two points are earned if 75% of the job site waste material is recycled. EBS' Structural Concrete Forms are manufactured off site, there is little to no jobsite waste.

Recycled Content (2 points) - You will be able to attain 1 point if 10% of the materials and products used, based on value, use recycled content. You will be able to attain 2 points if 20 % of the materials use recycled content. The following is a list of building material used in a standard EBS' Form

<u>Material</u>	<u>Recycled Content</u>	<u>Travel Distance</u>
USG Fiber Rock	95 %	under 500 miles
20 Gauge Structural Steel Studs	90%	over 500 miles
Steel Re Bar	99%	under 500 miles
Dow Extruded Polystyrene Insulation	40%	under 500 miles
3000 PSI Concrete	30-60% of the Portland is replaced with Fly ash	under 500 miles

Local/Regional Materials (2 points) - LEED encourages the construction industry to increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the regional economy and reducing the environmental impacts resulting from transportation. As you can see from the above table the majority of materials that are used in manufacturing the EBS' Forms fall within the 500 mile LEED Regional limit. Our product is manufactured in our plant in Sarasota, Florida and shipped to jobsites within the Regional limit as well. There are opportunities, depending on the scale of the project, to have a plant at the job site thereby eliminating all shipping of the panels. This dramatically decreases both bottom line cost and the impact on the environment.

Indoor Environmental Quality –

Construction IAQ Management Plan during Construction (1 point) – Problems encountered during the construction or renovation process can contribute to indoor air quality concerns. EBS' Forms are built using extruded polystyrene limiting the transmission of moisture through the building envelope. Because of the inert materials used, these Forms also reduce the potential for mold and mildew. By building offsite in a controlled environment, EBS dramatically reduces typical construction dust and airborne contaminants.

Thermal Comfort (1 point) - When moisture laden air meets a surface cooler than the dew point temperature it condenses into liquid water. This is common in cavity walls and under the roof where ambient temperature is warmer than a wall surface. EBS' Structural Concrete Forms are an insulated concrete wall system that provide edge to edge insulation with no cavity, thus eliminating convective looping and thermal bridging, while reducing air infiltration and increasing the overall effective R-value of the building envelope.

Innovation & Design Process (4 points)-

The LEED Green Building Rating System encourages the construction industry to provide design teams and projects the opportunity to be awarded points for exceptional performance above the requirements set by this rating system and/or innovative performance in Green Building Categories not specifically addressed in the LEED Green Building Rating System. Certainly the strength inherent in the E-Wall system plays a role in the environmental performance of the structure. You will be constructing your project with recycled materials that are able to withstand wind speeds in excess of 250 M.P.H., and impact in excess of 150 M.P.H., while still providing a lifetime of consistent energy efficiency and structural performance unmatched by conventional construction materials.

EBS' Structural Concrete Forms offer you a cost competitive way to attain up to 23 points of a minimum of 26 points required to obtain LEED-NC Certification.

Responsible Architects, Engineers, Developers, Builders, and Owners have begun to realize that it is the economic and environmental *whole* life cycle of a project and not the initial bottom line that truly matters. Local and national governments continue to improve building codes, and offer major tax credits, incentives, grants, and fast tracking through permitting for building "Green". The national trend towards "Green Building" awareness is gaining popularity exponentially, so much so that real estate organizations have adopted a "Green Home" certified category. There is documented proof that environmentally friendly projects command a higher market price and demand. Operating costs are reduced from the first month through the life of the project. This has prompted national mortgage companies to offer "Green Mortgages", qualifying more clients and increasing their purchasing power. E-wall's certified "Fortified Construction" also reduces the increasing cost of homeowner insurance, commercial insurance, and builder insurance. By stopping water intrusion, mold, and mildew, EBS' Forms contribute to the overall health of families, and employee's productivity. EBS' speed of construction reduces cycle time thereby reducing the increasing cost of construction loans.

When looking at all of these factors, building your project with EBS' Structural Concrete Forms not only costs less monetarily, protects your family and/or employees, but is a significant start to saving the environment for future generations.