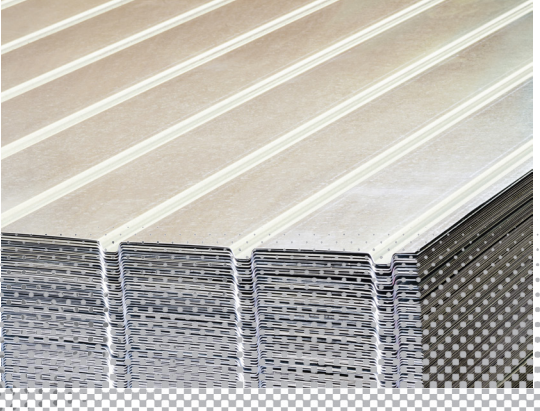

Pre-Engineered Buildings: Low Environmental Footprint

Introduction

Pre-Engineered Metal Buildings (PEMB) are breaking new ground and helping architects and builders construct more eco-friendly buildings for today's environmentally conscious world. Pre-engineered building systems are completely customized to meet the needs of specific projects, regardless of size. The systems involve many interrelated steel components that are cut, engineered, and primarily assembled at the manufacturers plant. All components are designed to work together and it is done best when the manufacturer is brought in at the design stage of a project. PEMB manufacturers work with the project's architects and builders to maximize design and cost benefits, plus take advantage of multiple green features. LEED New Construction Rating System recognizes buildings incorporating design, construction, and efficient operational practices with reduced impacts on environment and the public. Projects are evaluated and earn points across six categories towards LEED certification. PEMB can help builders and architects pick up much needed points in five of these categories.

Greener by design

PEMB have eco-friendly advantages built right in. The green highlights of PEMB are presented below. For more specific information, including prerequisites and available points, please discuss with a LEED consultant.

- ***Recycling means green at the factory floor:*** PEMB components are manufactured from cold formed sheet steel. As the world's most recycled material, every newly manufactured steel product has some component of recycled material in it – anywhere from 27% to 95% – depending upon manufacturing process. At the end of a steel product's life, 100% of it can be recycled again and again without losing its engineering properties. PEMB building components are among the greenest construction materials around because they are reclaimed and recycled.
- ***Faster construction for less site disturbance:*** When building with PEMB, less people are required at the job site than traditional construction methods. This means that the actual impact on the environment and site disturbance is reduced. Components arrive at the job site as needed and with most of the work already completed. Manufactured to precise specifications, PEMB create little or no job site waste and facilitate faster construction and minimising construction schedules. Projects that would have traditionally taken months to complete may be reduced down to just weeks.

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- ***Superior strength, weighs less and conserves natural environments:*** Unlike other building materials, steel is dimensionally stable and not susceptible to rot or chemical breakdowns. Steel's overall durability and longevity can be greatly enhanced by a wide variety of coatings and paints to further extend its life cycle. PEMB buildings are designed to last; however, when the building's overall use has been redefined, PEMB allows for easy expansion by removing an end or sidewall, and even adding floors. New steel framework is easily accommodated and the overall look of the building can be maintained by matching steel wall and roof panels. By their very design, PEMB weigh much less than traditional building materials and have a higher weight to strength ratio. These lightweight structural systems are engineered to have large, clear spans and are designed to reduce a building's load requirements while optimizing the energy performance of HVAC systems. A PEMB building requires smaller or fewer concrete footings, which allows for an overall savings in material use and provides builders the opportunity to use brownfield sites, thereby conserving natural environments.

- ***Energy efficiency and thermal performance:*** When you choose an PEMB manufacturer, you are often choosing a single - source supplier for all of your project's steel needs. They also provide high-performance steel roofing systems complete with vapour barriers and high R-value insulation to minimize thermal transfer and maximize energy efficiency. Combine these benefits with insulated steel interior walls, windows, and doors and the whole system can provide an extremely tight building envelope, which means less air loss, better HVAC performance, and energy conservation.

- ***Green choices close to home:*** PEMB manufacturers are located right across India in strategic locations to easily manufacture, assemble, and ship components to project sites. Whether it's by rail or road, choosing a nearby Indian manufacturer greatly reduces the transportation costs and GHG pollution associated with gathering the building components. If you're starting a new construction project, consider one of the easiest ways to make your building more eco-friendly from the very beginning.

For additional information on Pre-Engineered Metal Buildings and applications, please contact the ISSBG member companies