

The Steel Network, Inc. (TSN) is committed to producing the highest quality light steel framing construction products that assist designers and installers in building greener and more sustainable structures. We proudly support the efforts of the US Green Building Council (USGBC) and their commitment to transform the way buildings and communities are designed, built and operated, enabling an environmentally and socially responsible, healthy, and prosperous environment that improves the quality of life.

Cold Formed Steel (CFS) / Light Steel Framing (LSF) is one of the most sustainable construction materials in the world. It can be easily recycled and not land-filled when its useful life is completed. CFS exhibits a minimum recycled content of 25% which aids in qualifying your project for LEED® points as defined in the LEED rating system. In 2014, The Steel Recycling Institute announced that the current recycling rate for steel has reached a record high of 86%!

SUSTAINABLE STEEL

Steel is one of the world's most sustainable construction materials. Its strength and durability coupled with its ability to be endlessly recycled without ever losing quality make it truly compatible with long-term sustainable development. The steel industry is one of the few industries that can claim to have truly embraced the benefits of reducing energy to manufacture its products. Since 1990 the steel industry in North America has reduced the energy use per ton of steel produced by 31%.

An authentic solution for sustainable building construction

Each year, more steel by weight is recycled in North America than paper, plastic, aluminum and glass, combined. In 2012 alone, 88 million tons of steel were recycled in North America.

- Recycling steel saves the energy equivalent to power 20 million homes for one year.
- All North American steel products have a significant amount of recycled content, including some products with more than 90 percent.
- While other building materials can only be recycled into a lower quality product, steel can be recycled repeatedly and remade into new products without any loss of quality.
- It's the only true cradle-to-cradle building material.
- Steel is durable. It doesn't rot or serve as food for termites. Coated cold-formed steel used in construction has built-in corrosion resistance that will last hundreds of years beyond the life of a building. Cold-formed steel framing doesn't need maintenance or replacement like other materials.
- Steel used in buildings produces little to no construction waste, unlike other structural materials. Cold-formed steel is typically delivered to building sites in pre-manufactured or cut-to-length products to minimize costs and waste.

LEED® & GREEN BUILDING WITH CFS

CFS is well suited to meet the highest sustainability standards in all major green building standards and rating programs, including the National Green Building Standard (ICC-700) for residential buildings, the ASHRAE Standard 189.1 for commercial construction, the International Green Construction Code (IgCC), and the US Green Building Council's LEED program, which covers all types of buildings.



LEED is one of the most popular sets of criteria for scoring the sustainability of a building. Developed by the U.S. Green Building Council, LEED is known as Leadership in Energy & Environmental Design. LEED aims to improve occupant well-being, environmental performance, and economic returns of buildings using established and innovative practices, standards, and technologies. CFS can play a role in any high-performance building designed to meet LEED requirements.

LEED requirements have been evolving over time. As new versions are introduced, older versions are phased out. Determining which version of LEED you can use depends on when your project was registered, which differs from the date you "start" the certification with an initial application for design or preliminary review. Projects that were registered with the USGBC before October 31, 2016 are eligible to use the LEED 2009 rating system. Projects registered on or after October 31, 2016 must use LEED v4. For projects registered under the 2009 system, June 30, 2021 is the last date any project can start the certification process with an initial application.

CFS can help earn over a dozen points under both the LEED V4 and 2009 programs. However, the use of CFS or any other single framing material doesn't automatically qualify a project for points under any of the credits. Rather, framing materials can contribute to specific points in various categories. The LEED process is complex and requires consideration of multiple variables including material characteristics, qualities, and other products in an assembly.

It is always recommended to work closely with your design team and not assume a credit or points are applicable. In addition, not all points can always be earned on the same project because LEED prohibits some credits with similar impacts from being applied simultaneously to avoid double counting.

The CFS industry should be aware that LEED® requirements are gradually minimizing the impact of structural materials. For example, material credits now limit the amount that structure and enclosure materials can contribute to earning points for items such as recycled content. More importance is being placed on what goes into a product. Thus, the emphasis seems to be turning toward items such as product declarations (ingredients and their impacts) and similar base characteristics of materials. This is evident in LEED V4 when compared to prior LEED versions. This trend will similarly affect other structural products.

LEED 2009® (LEED-New Construction and Major Renovation)

For those opting to use the LEED® 2009 version, CFS contributes to earning points in the following credits:

Credit MR 1.1: Building reuse (up to 3 points)

This credit is designed to encourage the use of existing buildings and their components. CFS is used routinely in rehabilitation/remodeling projects, for example, in reconfiguring a building for a new tenant, while allowing the main building structure and dividing walls to remain intact.

CFS has also been used as a method for expanding upward on older existing buildings as opposed to a teardown and rebuild. Its light weight often makes it feasible to add new stories to existing buildings, especially in older urban areas.

Credit MR 2 Construction Waste Management (up to 2 points)

Credits are awarded based on recycling and recovery rates for construction products. Steel is 100% recyclable. Because it plays a key role in diverting construction debris from the waste stream, steel is eligible for Credits MR 2.1 and 2.2. The specific contribution will vary by project and must be determined by the contractor and/or design team.

Credit MR 4 Recycled Content (up to 2 points)

Cold-formed steel framing contains a high percentage of recycled content, earning one point for recycled content that constitutes 10% of the total value of construction materials and a second point when recycled content is 20% of the total cost.

The Steel Network's steel complies with industry procedures for the manufacturing of cold-formed steel products produced by the Basic Oxygen Furnace (BOF) process. BOF uses 25% to 35% old steel to make new steel. Typical recycled content for steel studs manufactured by the BOF process is outlined in Steel Takes LEED® with Recycled Content, October 2012 issue (see attached).

1. Post-Consumer Recycled Content: 19.8%
2. Pre Consumer Recycled Content: 14.4%
3. Total Recycled Content: 36.9%
4. Recycled Content Information Resource: Steel Recycling Institute

Additional points for the Innovation in Design (ID) credit are available if a project's overall recycled content exceeds 30% or higher. See the section on Credit ID: Innovation in Design.

Credit MR 5 Regional Materials (up to 2 points)

Credit MR 5 requires the jobsite to be within a 500-mile radius of the manufacturing facility and the location where raw materials are extracted. One hundred percent of the material does not have to be extracted and manufactured within the 500 miles. The requirements allow for a percentage of the product to qualify. The Steel Network's steel is obtained from various mills across the United States, with its manufacturing facility at 2012 TW Alxander Drive, Durham, NC 27709, frequently satisfying the requirement for raw materials to be harvested within 500 miles from the project site.

Credit IEQ 3.2: Construction Indoor Air Quality Management Plan – Before Occupancy (1 point)

Option 2 under this credit awards one point for air testing before occupancy. Because of its inert nature, steel will not contribute any emissions identified in the requirements. CFS framing is a key strategy used to obtain this point.

Credit ID 1: Innovation in Design (up to 3 points)

Path 2 under this credit awards up to three points for exemplary performance above and beyond the basic levels for other LEED® credits. By reaching the next incremental thresholds (30%, 40%, etc.) for a credit, a building will receive up to a maximum of three credits.

CFS is a natural for helping to achieve these points given the minimum default rate for recycled content reported by the Steel Recycling Institute is 34.9%.

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