

Another Shade of Green



By *Keith Lindemulder*

This week we take a look at the LEED – NC section which Cold-Formed Steel has the most direct impact – Materials and Resources. While other sections of LEED – NC can be affected by material selection, this section looks specifically at the various ways buildings can be built and the materials chosen for their construction.

Regardless of the building type and its use, there are usually several material choices you can make to build that building. A house can be framed using wood or Cold-Formed Steel. Likewise, a 15 story office building can be built using a steel frame or a concrete based structure. The final look of the building, its usage and a host of other factors play a part in the decisions. The MR (Materials and Resources) section rewards those decisions with the lowest environmental impact.

Reusing an existing building is perhaps the most environmentally friendly way to go. Regardless of how the building was previously built, not having to tear it down and start over would likely take the least amount of major materials, energy and time. Since the LEED – NC program is focused on “new construction” and “major renovations”, the MR section rewards building designers with up to 3 LEED points for reusing significant portions of the structure and interior elements of an existing building. Additional points are available for reusing materials used previously in other buildings.

If you can't reuse existing buildings or reuse materials directly, the program offers credits for using products with high recycled content. MR credits 4.1 and 4.2 are where steel has the most noticeable impact. MR credit 4.1 states that one point shall be granted for using 10% recycled content materials. MR credit 4.2 grants an additional point if the total recycled content is over 20%. Some of you realize that steel produced today has a high recycled content. In 2007 the average recycled content for the cold-formed steel products produced by NUCONSTEEL was 68%. Sounds simple enough...slam dunk for two LEED points! Not quite so fast!

The credits are based on the cost of qualifying materials as a percentage of all material cost required for Division 2-10 – such as Concrete, Masonry, Metals, Wood and Plastics, Doors and Windows, and a few other Specialty areas. Not included are the costs of Electrical, Plumbing, Mechanical materials or items like Furniture. And to complicate this even further, only half credit is given for “pre-consumer” recycled content. Pre-consumer waste is defined as materials diverted from the waste stream during the manufacturing process.

What this means is that the more steel with high recycled content that is used to build a building, the more it will have an impact on the credits. The same basic logic is used to determine “Regional Materials” which are MR credits 5.1 and 5.2. Essentially, the closer you can source the materials to the project location, the less energy used to ship them across the country to the jobsite. The hitch is that these materials need to be “extracted, processed AND manufactured” within a 500 mile radius of the jobsite.

Construction waste management goals, rapidly renewable materials and certified wood are other credits available in this section. We'll look closer at construction waste management and certified wood soon.

Next week we'll walk through the recycled content and regional materials.

Have a SAFE and Sustainable week!

Reduce!

Reuse!

Recycle!



STEEL
IS THE NEW GREEN.



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