

Standing Seam Metal Roofs: The “Natural” Solution For LEED Recyclability Credits

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Architects and builders who have adopted sustainable design and the LEED program as their standard know that a standing seam metal roof can also earn LEED credits for its high recycled content and its total recyclability.

Metal is the world's most recycled material. The North American steel industry's overall recycling rate is 71%, according to the Steel Recycling Institute. According to the Aluminum Association, a survey in late 2003 indicated that the recycled content of domestically produced, flat-rolled aluminum for the building and construction market was approximately 80–85%. Aluminum Alloy 3105, the aluminum product used in most standing seam metal roofs, is produced from 99% scrap, 80% of which is from post-consumer sources.

Consequently, the content of steel and aluminum used in standing seam metal roofing material is comprised of substantial amounts of recycled materials, making them excellent candidate for the following LEED credits focused on recycled materials.

First is LEED (Material Recycling) Credit 4.1, designed to increase demand for building products that incorporate recycled materials. Building projects with a standing seam metal roof get one LEED Credit for meeting the qualifications and can pick up an additional credit (Credit 4.2) if the sum of the roof's post-consumer recycled content plus one-half the pre-consumer content constitutes an additional 10% or a total of 20% of the roofing material based on its cost.

Metal roofs also qualify for LEED credits through MR Credit 5.1 for Regional Materials where 10% of the materials are extracted, processed and manufactured regionally. A project can earn a credit for 10% of the material and an additional credit for 20% as along

as the material must be “extracted, harvested or recovered as well as manufactured within 500 miles of the project site....” Anyone seeking a credit for regional materials should ask their metal roofing supplier to provide proof of where the metal substrate was manufactured and if it is within 500 miles of the project location. Metal roofing manufacturers working with LEED-certified architects are aware of this need and have the information, including letters and other forms of verification, from substrate manufacturers. This permits architects and developers submitting LEED projects to include in their spec and bid packages a clear picture of the material’s origin.

These credits represent a direct way for metal roofing to earn LEED credits. There are other LEED credits where recycled products may play an indirect role in qualifying as well.

Material Recycling Credit 1.1 and 1.2 for Building Reuse are intended to extend the lifecycle of existing building stock and reduce waste and the environmental impacts of new buildings as they relate to materials manufacturing and transport. The two credits require that the owner or developer maintain at least 75% and 95% respectively of the surface area of an existing building structure including structural floor and roof decking and the envelope including structural roofing material. Nonstructural roofing material is excluded. The intent is to reuse an existing, previously occupied building. Peak roof structures built with standing seam materials clearly have a much stronger opportunity for reuse than flat roof structures and asphalt.

Ultimately, a metal roof presents architects and builders with a surefire way to collect several credits in designing a LEED accredited project. When amassed with other rating points for various sustainable features, a standing seam metal roof is a cost effective way to meet requirements. The simple act of specifying a metal roof can accumulate LEED credits for material recycling and regional material usage.