

MEMORANDUM

Date: December 7, 2007

Subject: UNISTRUT[®] Metal Framing & LEED[®] Recycled Content

From:



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The US Green Building Council's Leadership in Energy and Environmental Design (LEED[®]) rating system has 6 categories each with a unique number of attainable credits. The maximum number of attainable LEED[®] credits is 69, while the minimum number of credits required to be LEED[®] certified is 26. The category "Materials & Resources" has two credit sections (Credit 4.1 and 4.2) for materials with recycled content each with an attainable credit of 1.

- Credit 4.1 - Recycled Content, 10% (post-consumer + ½ pre-consumer)
- Credit 4.2 - Recycled Content, 20% (post-consumer + ½ pre-consumer)

As a steel product, UNISTRUT[®] Metal Framing has a recycled steel content. However, the amount (percentage) of recycled steel depends on the steelmaking process used. There are two different steelmaking processes. These processes and the calculation for LEED[®] credit are discussed in the documents "2006 The Inherent Recycled Content of Today's Steel" and "Steel Takes LEED[®] with Recycled Content – June 2006" as published by the Steel Recycling Institute (www.recycle-steel.org).

The steelmaking processes are the Basic Oxygen Furnace (BOF) and Electric Arc Furnace (EAF). According to the Steel Recycling Institute, BOF uses 25% - 30% recycled steel, while EAF uses more than 80%. The table below provides more detailed information from 2006.

Process	Recycled Content		
	Total	Post-Consumer	Pre-Consumer
BOF	28.9%	22.3%	6.1%
EAF	82.8%	46.2%	31.1%

Based on this 2006 data, the Recycled Content % of UNISTRUT[®] Metal Framing for LEED[®] is:

BOF Process

$$\begin{aligned} \text{Recycled Content \%} &= \text{Post Consumer \%} + \{ \frac{1}{2} (\text{Pre-Consumer \%}) \} \\ &= 22.3 \% + \{ \frac{1}{2} (6.1\%) \} \\ &= 25.3\% \end{aligned}$$

EAF Process

$$\begin{aligned} \text{Recycled Content \%} &= \text{Post Consumer \%} + \{ \frac{1}{2} (\text{Pre-Consumer \%}) \} \\ &= 46.2\% + \{ \frac{1}{2} (31.1\%) \} \\ &= 61.7\% \end{aligned}$$

Both of the Recycled Content % values exceed the 10% and 20% LEED[®] goals. Therefore, if UNISTRUT[®] Metal Framing was the only steel in the building, the LEED[®] applicant would get a total of 2 credits (1 each for meeting the 10% and 20% goals) towards the 26 point minimum required for certification. Most likely there are other steel products in addition to UNISTRUT[®] in the building, so the LEED[®] applicant must consider all steel products in the building when evaluating for Credits 4.1 & 4.2.

UNISTRUT[®] does not specify the steelmaking process when ordering steel. Therefore, when applying for LEED[®] credits, the applicant should use 25.3% Recycled Content for UNISTRUT[®] Metal Framing.