Steel Recycling Institute

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TO: Architects, Engineers, Designers, and Specifiers

RE: LEED Version 2.1 Recycled Content Value of Steel Building Products

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The U.S. Green Building Council Leadership in Energy & Environmental Design (LEED™) Green Building Rating System aims to improve occupant well-being, environmental performance and economic returns of buildings using established and innovative practices, standards and technologies.

Materials & Resources Credit 4: Recycled Content intends to increase demand for building products that incorporate recycled content materials, therefore reducing impacts resulting from extraction and processing of new virgin materials. As discussed and demonstrated below, steel building products contribute positively toward earning points under Credit 4.1 and Credit 4.2. The following is required by LEED Version 2.1:

Credit 4.1 (1 point) **"**Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the post-industrial content constitutes at least 5% of the total value of the materials in the project."

Credit 4.2 (1 point) "Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the post-industrial content constitutes at least 10% of the total value of the materials in the project."

"The value of the recycled content portion of a material or furnishing shall be determined by dividing the weight of recycled content in the item by the total weight of all material in the item, then multiplying the resulting percentage by the total value of the item." Since steel (the material) and steel (the building product) are the same, the value of the steel building product is directly multiplied by steel's recycled content, or,

Steel Recycled Content Value = (Value of Steel Product) (Post-Consumer % + ½Post-Industrial %)

The Inherent Recycled Content of Today's Steel fact sheet provides post-consumer and post-industrial recycled content percentages for North American steel building products. These percentages and values of steel building products are easily entered into LEED Letter Template spreadsheet for calculation. To illustrate steel recycled content values, manual calculations are shown below for typical Basic Oxygen Furnace (BOF) and Electric Arc Furnace (EAF) steel building products with nominal $10,000 purchases, using 2002 data from the fact sheet. Steel building products include light gauge steel framing, structural steel framing (wide flange beams, channels, angles, etc.), rebar, roofing, siding, decking, doors and sashes, windows, ductwork, pipe, fixtures, hardware (hinges, handles, braces, screws, nails), culverts, storm drains, and manhole covers.

BOF Steel Recycled Content Value for Typical Product: *Light Gauge Steel Framing*

Value = ($10,000) (22.6 % + ½8.4 %) = ($10,000) (26.80 %) = $2,680 (Exceeds 5% and 10% goals)

EAF Steel Recycled Content Value for Typical Product: *Wide Flange Structural Steel Framing*

Value = ($10,000) (59.0 % + ½31.9 %) = ($10,000) (74.95 %) = $7,495 (Exceeds 5% and 10% goals)