Moving Toward Transparency

SJI and the Steel Deck Institute (SDI) share several member companies, so it made sense to move ahead as a team in the development of EPDs for these products. UL-Environment (UL-E) was selected as the Program Operator, and thinkstep was chosen as the Life Cycle Assessment Practitioner.

The first step in the process was determining which data should be collected from the steel joist and steel deck manufacturers, and which plants would supply the information based on processes that could be found at any SJI or SDI member plant. This was necessary for the resulting EPD to reflect an industry average.

Thinkstep collected the data and conducted the LCA study, which covers everything from materials and energy to paint, chemicals, and packaging. The results include quantities of waste and materials for recovery, emissions for air and water, ozone depletion potential effects, and potential global warming contributions. The collected data represents more than 85% of the products manufactured in North America by SJI and SDI member companies.

After the LCA study had been completed, an independent review was conducted. When the study had passed the review process, thinkstep created the EPDs, titled Environmental Product Declaration: Open Web Steel Joists and Environmental Product Declaration: Steel Roof Deck and Steel Floor Deck. The documents were sent to UL-E for third-party verification. The final step was registering the EPDs with UL-Environment.

The resulting EPDs for both steel joists and steel deck are available for free download. Open Web Steel Joists can be downloaded from the Steel Joist Institute website (www.steeljoist.org), and Steel Roof Deck and Steel Floor Deck can be downloaded from the Steel Deck Institute website (www.sdi.org). Both EPDs are also included on the UL website (www.ul.com). To download from the UL site, scroll down to the bottom of the page. In the Resources column, click on Sustainable Product Guide and then look for the Steel Deck Institute and the Steel Joist Institute under the Manufacturers/Brands tab. This new data is also included in thinkstep's GaBi databases (www.thinkstep.com) and the Tally database (http://choosetally.com).

Construction professionals interested in viewing and using steel industry EPDs and other transparency resources in their building projects can visit www.buildusingsteel.org for a list of steel product EPDs and updates on other sustainability resources.

LEED v4 Benefits for Building Construction Professionals

The EPDs enable engineers, architects, designers, specifiers, and other construction professionals to include steel joists and steel decks as separate products toward the achievement of one point in LEED v4, using the Materials and Resources credit titled Building Product Disclosure and Optimization – Environmental Product Declarations.

Open web steel joists, and steel floor and steel roof deck, have always been environmentally responsible products. With the development of Environmental Product Declarations voluntarily undertaken for these products, scientific data and results now exist to assist design professionals in the materials selection process. Through this process, the steel industry continues to demonstrate its commitment to transparency in sustainability reporting methods.

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