

LEED v4 & EPDs

I) What's new in the new LEED v4:

- a) New LEED v4 replaces LEED 2009 and will be mandatory for all new project registrations as of November 1, 2016.
- b) LEED v4 introduces a series of system goals designed to raise the bar for achieving different levels of green building certification within LEED.
- c) The ultimate goal is to accelerate market transformation and buildings that go from net zero environmental impacts to generating positive environmental outcomes.
- d) New, completely rewritten Materials and Resources (MR) section



Credit: USGBC

II) Materials and Resources (MR) Credits:

- a) The Materials and Resources (MR) credit category focuses on minimizing the embodied energy and other impacts associated with the extraction, processing, transport, maintenance and disposal of building materials using a life cycle approach.
- b) The MR credit category offers the building materials industry the greatest opportunities to earn points within LEED v4.

Below are the specific credits that apply to Structural Steel:

1. MRc Building Product Disclosure & Optimization: Environmental Product Declarations

- EPDs from 20 products from at least 5 different manufacturers used in the building = 1 point
- 50% better than industry average by cost of products = 1 point

2. MRc Building Product Disclosure & Optimization: Sourcing of Raw Materials

- Source and extraction reporting for 20 products from at least 5 manufacturers = 1 point
- 25% of products (by cost) meet criteria including recycled content = 1 point
- Products sourced within 100 miles of the project are valued at 200% of base contributing costs

3. MRc Building Product Disclosure & Optimization: Material Ingredients

- 20 products from at least 5 manufacturers with Inventory or Health Product Declaration = 1 point
- Reports ingredients and hazards to 1000 ppm
- 25% of products (by cost) meet criteria for optimization of ingredients or supply chain = 1 point

Environmental Product Declarations (EPDs)

I) An Environmental Product Declaration (EPD) is a summary document that provides verified and comparable environmental information about goods and services.

- a) Developed in accordance with the ISO 14025 standard
- b) Source of third party verified environmental information
- c) Enables environmental profile comparison between products but does not make comparative claims
- d) Based on life cycle assessment (LCA)
- e) Uses well defined environmental impact indicators

Environmental Impact Indicators

Global warming (ton CO ₂ eq.)
Ozone depletion (ton CFC 11 eq.)
Acidification of land and water (ton SO ₂ eq.)
Eutrophication (ton N eq.)
Smog (ton O ₃ eq.)
Depletion of abiotic resources (elements) (ton Sb eq.)
Depletion of abiotic resources (fossil) (MJ net cal. value)

II) LEED Credit requirement: Environmental Product Declaration (1 point)

Use at least 20 different permanently installed products sourced from at least five different manufacturers. There are three options that earn a full or partial credit, including two types of EPDs: Product specific, and industry average.

- Product-specific LCA: (counts as ¼ product)
- Industry-average EPD: (counts as ½ product)
- Product-specific EPD: (counts as 1 product)

III) CISC EPDs

Six Industry average Environmental Product Declarations (EPDs) are available (Painted & Unpainted) for:

- a) Fabricated Hot Rolled Structural shapes
- b) Fabricated Hollow Structural Sections (HSS)
- c) Fabricated Structural Plates

Structural steel can contribute to multiple points in the MR Credit categories in LEED 4.

