

## WHAT IS LEED®?

Leadership in Energy and Environmental Design (LEED) is an internationally recognized certification system established by the U.S. Green Building Council (USGBC) whose goal is to promote integrated, whole-building design practices and standards for green, sustainable building and community designs emphasizing energy savings, water efficiency, CO2 emissions reductions, improved indoor environmental quality, and stewardship of resources and their impacts on the environment.

LEED® 2009 for New Construction and Major Renovations is one component of LEED v3 and is the latest version of the USGBC's green building certification program. It recognizes seven key areas:

- Sustainable Sites (SS)** - 26 Possible Points
- Materials & Resources (MR)** - 14 Possible Points
- Water Efficiency (WE)** - 10 Possible Points
- Energy & Atmosphere (EA)** - 35 Possible Points
- Indoor Environmental Quality (IEQ)** - 15 Possible Points
- Innovation in Design (ID)** - 6 Possible Points
- Regional Priority (RP)** - 4 Possible Points

Points are awarded to each category listed above depending on building performance on certain requirements and standards set forth by LEED® 2009. Points are then totaled and LEED® 2009 certification is granted based on the total point levels shown below:

- LEED Certified** - 40 to 49 points
- LEED Silver** - 50 to 59 points
- LEED Gold** - 60 to 79 points
- LEED Platinum** - 80 points and above

## Summary

The use of Berridge Manufacturing metal roofing products can directly contribute up to 3 LEED® 2009 credits for Heat Island Effect and Recycled Content, but when a “whole-building design” approach is implemented, metal roofing combined with other concerted efforts, products and building systems can contribute to other LEED® 2009 credits mentioned herein as well as others credits not listed.

While every effort has been made to provide accurate information, applicants for LEED® Certification should verify compliance with a LEED® expert. For more information on LEED® 2009 certification visit [www.usgbc.org](http://www.usgbc.org).

## HOW CAN USING BERRIDGE PRODUCTS CONTRIBUTE TO A LEED® CERTIFICATION ON NEW CONSTRUCTION OR MAJOR RENOVATIONS?

**Sustainable Sites** - Berridge Manufacturing Company cool metal roofs have Solar Reflectance Index values that meet or exceed LEED® 2009 criteria for the SS Credit 7.2 as detailed below.

### SS Credit 7.2: Heat Island Effect - Roof (1 Point)

**Intent** - To reduce heat islands to minimize impacts on microclimates and human and wildlife habitats.

**Requirement** - Use roofing materials with a solar reflectance index (SRI) equal to or greater than the values shown below for a minimum of 75% of the roof surface.

**For low-sloped roofs ≤ 2:12**  
SRI must be 78 or greater

**For steep-sloped roofs > 2:12**  
SRI must be 29 or greater

Refer to the chart of SRI values for information on solar reflectance, thermal emittance and Solar Reflectance Index (SRI) values for all Berridge cool metal roof colors.

### Berridge SRI Values

For steep-slope roofs greater than 2:12, all Berridge colors (except Award Blue) meet or exceed LEED® 2009 requirements. For low slope roofs less than or equal to 2:12, Almond and Natural White meet or exceed LEED® 2009 requirements.

**Disclaimer:** Due to different testing methods employed by various laboratories and paint suppliers these values may vary slightly. Refer to [www.berridge.com](http://www.berridge.com) technical bulletins for the most up-to-date information or contact BMC directly.

BERRIDGE COLORS	SOLAR REFLECTIVITY	EMISSIVITY	SRI
Almond	67.10	0.90	82
Aged Bronze	29.66	0.86	30
Antique Copper Cote	29.30	0.85	29
Award Blue	17.20	0.83	12
Bristol Blue	30.30	0.86	31
Buckskin	39.71	0.86	43
Burgundy	30.05	0.85	30
Champagne	34.95	0.85	36
Charcoal Grey	29.64	0.87	30
Colonial Red	33.03	0.85	34
Copper Brown	29.57	0.87	30
Copper-Cote	45.24	0.87	51
Dark Bronze	28.20	0.91	30
Deep Red	38.54	0.84	41
Forest Green	29.08	0.85	29
Hartford Green	28.20	0.90	30
Hemlock Green	30.92	0.83	30
Lead-Cote	32.90	0.90	35
Matte Black	28.70	0.91	30
Medium Bronze	31.39	0.85	32
Natural White	75.93	0.84	93
Parchment	51.72	0.83	58
Patina Green	34.42	0.86	36
Preweathered Galvalume	33.61	0.80	32
Royal Blue	29.90	0.90	32
Shasta White	60.00	0.84	70
Sierra Tan	34.81	0.84	36
Teal Green	28.10	0.89	29
Terra-Cotta	31.66	0.83	31
Zinc-Cote	52.45	0.87	61
Zinc Grey	37.88	0.84	40
Satin Finish Galvalume	74.00	0.14	67
Acrylic Coated Galvalume	67.00	0.06	55

### BERRIDGE MANUFACTURING COMPANY

6515 Fratt Road, San Antonio, TX 78218 | 800-669-0009 | Fax 210-650-0379

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All information herein subject to change without notice. For technical assistance please contact Berridge.

**Materials & Resources** - Berridge Manufacturing Company's metal products are made from 32.3% recycled content and are 100% recyclable at the end of their life. Reusing, recycling or salvaging Berridge metal products can help contribute to the following LEED® 2009 credits:

## **MR Credit 1.1: Building Reuse:**

### **Maintain 55%, 75% or 95% of Existing Walls, Floors & Roof (1-3 Points)**

**Intent** - To extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

**Requirement** - Maintain the existing building structure (including structural floor and **roof decking**) and envelope (the exterior skin and framing, excluding window assemblies and non-structural roofing material). The minimum percentage building reuse for each point threshold is as follows:

**Building Reuse 55% (1 Point)**

**Building Reuse 75% (2 Point)**

**Building Reuse 95% (3 Point)**

Hazardous materials that are remediated as a part of the project must be excluded from the calculation of the percentage maintained. If the project includes an addition that is more than 2 times the square footage of the existing building, this credit is not applicable.

## **MR Credit 2: Construction Waste Management (1-2 Points)**

**Intent** - To divert construction and demolition debris from disposal in landfills and incineration facilities. Redirect recyclable recovered resources back to the manufacturing process and reusable materials to appropriate sites.

**Requirement** - Recycle and/or salvage nonhazardous construction and demolition debris. Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or commingled. Excavated soil and land-clearing debris do not contribute to this credit. Calculations can be done by weight or volume, but must be consistent throughout. The minimum percentage debris to be recycled or salvaged for each point threshold is as follows:

**Recycled or Salvaged 50% (1 Point)**

**Recycled or Salvaged 75% (2 Points)**

## MR Credit 3: Materials Reuse (1-2 Points)

**Intent** - To reuse building materials and products to reduce demand for virgin materials and reduce waste, thereby lessening impacts associated with the extraction and processing of virgin resources.

**Requirement** - Use salvaged, refurbished or reused materials, the sum of which constitutes at least 5% or 10%, based on cost, of the total value of materials on the project. The minimum percentage materials reused for each point threshold is as follows:

**Reused Materials 5% (1 Point)**

**Reused Materials 10% (2 Points)**

## MR Credit 4: Recycled Content (1-2 Points)

**Intent** - To increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.

**Requirement** - Use materials with recycled content such that the sum of post consumer recycled content plus 1/2 of the preconsumer content constitutes at least 10% or 20%, based on cost, of the total value of the materials in the project. The minimum percentage materials recycled for each point threshold is as follows:

**Recycled Content 10% (1 Point)**

**Recycled Content 20% (2 Points)**

### *Berridge Recycled Steel*

Post-consumer\* steel recycled content 25.5%

Pre-consumer\* steel recycled content 6.8%

**Total 32.3%**

\*These values are based on data from the Steel Recycling Institute (November, 2009).

## MR Credit 5: Regional Materials (1-2 Points)

**Intent** - To increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.

**Requirement** - Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% or 20%, based on cost, of the total materials value. If only a fraction of a product or material is extracted, harvested, or recovered and manufactured locally, then only that percentage (by weight) can contribute to the regional value. The minimum percentage regional materials for each point threshold is as follows:

**Regional Materials: 10% (1 Point)**

**Regional Materials: 20% (2 Points)**

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## Primary Steel Mills:

*Processing Location:* Indiana Harbor West Plant, East Chicago, IN 46312

*Extraction Locations:* United Taconite, Ishpeming, MI 49849  
Northshore Mine, Silver Bay, MN 55614

*Processing Locations:* Fairfield Works, Fairfield, AL 35064

*Extraction Locations:* Minntac, Mt. Iron, MN 55768  
Keetac, Keewatin, MN 55753

## Manufacturing Locations:

*Painted:* Berridge Manufacturing Company, San Antonio, TX 78218

*Manufactured:* Berridge Manufacturing Company, Seguin, TX 78155

*Alternate Manufacturing Location:* Location of Berridge Portable Roll Former used to site-form panels

All Berridge Manufacturing Company's architectural metal products are made from AZ-55 Galvalume or G-90 Galvanized steel extracted, harvested or recovered from various mines in the United States as noted above. Documentation from Berridge's steel providers is inconclusive in regards to the exact extraction locations for all raw materials and recycled content. Therefore it is not possible for Berridge to verify or document a primary extraction, harvesting or recovery location. As such, Berridge recommends verifying compliance with a LEED® expert.

**Water Efficiency** - Berridge Manufacturing Company cool metal roofs can be used as a surface for non-potable rainwater collection and thus can contribute LEED® 2009 criteria for water efficiency when integrated with rainwater collection systems.

## WE Credit 1: Water Efficiency Landscaping (2-4 Points)

**Intent** - To limit or eliminate the use of potable water or other natural surface or subsurface water resources available on or near the project site for landscape irrigation.

**Requirement** - Reduce potable water consumption for irrigation by 50% from a calculated midsummer baseline case. Reductions must be attributed to any combination of the following items:

- Plant species, density and microclimate factor
- Irrigation efficiency
- Use of captured rainwater
- Use of recycled wastewater
- Use of water treated and conveyed by a public agency specifically for non-potable uses

**Reduce by 50% (2 points)**

**No Potable Water Used for Irrigation (4 points)**

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## **WE Credit 2: Innovative Wastewater Technologies (2 Points)**

**Intent** - To reduce wastewater generation and potable water demand while increasing the local aquifer recharge.

**Requirement** - Reduce potable water use for building sewage conveyance by 50% through the use of water-conserving fixtures (e.g., water closets, urinals) or non-potable water (e.g., **captured rainwater**, recycled graywater, on-site or municipally treated wastewater).

## **Indoor Environmental Quality**

### **IEQ Credit 4.1: Low-Emitting Materials—Adhesives and Sealants (1 Point)**

Berridge Manufacturing Company recommends using Tremco Spectrum I, Dow Corning 790, Pecora 890NST, DuraLink or Titebond Metal Roof Sealant with Berridge architectural metal products. When Berridge metal products are used for indoor product applications, the aforementioned sealants meet or exceed LEED® 2009 criteria for IEQ Credits as indicated below.

**Intent** - To reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

**Requirement** - All adhesives and sealants used on the interior of the building (i.e., inside of the weatherproofing system and applied on-site) must comply with South Coast Air Quality Management District (SCAQMD) Rule #1168 stating VOC contents of indoor sealants must be less than the maximum limit of 250 grams/liter.

**Tremco Spectrum I contains 0 g/L of VOC**

**Dow Corning 790 contains 50 g/L of VOC**

**Pecora 890NST contains 98 g/L of VOC**

**DuraLink contains less than 19 g/L of VOC**

**Titebond Metal Roof Sealant contains 9 g/L of VOC**