

LEED Program and DECRA Metal Roofing

The term **‘Green Building’** continues to resonate with building owners and designers. It describes a variety of building and roofing practices that are growing in popularity. LEED (**Leadership in Energy and Environmental Design**) is a worldwide program that encourages green building by providing a structured strategy for overall building efficiency. All buildings – even residential homes – can earn LEED points and gain LEED certifications. In the LEED program, a building project is awarded points in compliance categories with established sustainability standards.

The advantage: Green buildings save money.

- Reduced electricity needed to heat and cool
- Less water required to build them
- Fewer released greenhouse emissions
- High recycle content in many of the building materials used

Both the building owner and the environment win. It’s also a win for architects, designers and builders. Energy efficiency, lower maintenance costs, and reduced environmental impact of any building continue to grow in popularity. Building familiarity with green building practices and LEED certification offers solutions to satisfy green building goals.

A building’s roof significantly impacts all of these green ideals. DECRA provides sustainable roofing systems that support LEED certification.

LEED Certification

The LEED Certification program was launched by the **United States Green Building Council** (USGBC) to encourage redesign and construction of green buildings. The LEED program provides third-party verification that a building project has reached one of four LEED certification levels by meeting a given number of point-based credits within the rating system. Points are awarded to a building project being constructed with environmentally friendly actions taken during construction, building use and even renovation.

Here are the LEED certification levels:

- **Certified:** 40 to 49 points
- **Silver:** 50 to 59 points
- **Gold:** 60 to 79 points
- **Platinum:** 80 to 110 points

LEED has evolved significantly since it began in 1998. The latest LEED version is known as **LEED version 4**, which focuses on different building types and renovation types. The **LEED Building Design and Construction** (BD+C) reference guide focuses on eight building types, one of which includes new construction.

DECRA Metal Roofing LEED Certification Benefits

DECRA metal roofing reduces negative environmental effects. Metal is recyclable; at the end of its lifetime, all DECRA roof panels and accessories can be recycled. Further, DECRA metal roof materials are made with recycled steel content – up to 30% – making it an environmentally friendly option. DECRA metal roofs also can provide positive solar reflectivity and emissivity attributes that reduce energy costs to cool the building. In particular, a DECRA metal roof with a cool roof surface can further enhance the reflectance of solar heat energy back into the atmosphere. Buildings with cool roofs help reduce the impact of urban heat islands – where roofs heat up in close proximity, causing air temperatures to rise in the immediate surrounding area.

DECRA metal roofs are durable, providing excellent building protection lasting 60 years or more. This reduces maintenance costs, while also making the building attractive to potential buyers who know they will not have to replace the roof.

The following provides a brief summary of potential metal building project LEED points in the LEED v.4 BD+C rating system; new construction only:

Credit Name	Points	DECRA Metal Roof Application to Credits
Heat Island Effect	Up to 2	A DECRA metal roof is ideal for reducing heat island effects (i.e. cool roofs) with stone coated granules that can achieve LEED target SRI reflectance target number.
Optimize Energy Performance	Up to 18	A DECRA metal roof with added roof deck insulation and cool color coating can optimize the energy performance as validated thru energy models. HVAC systems may then be downsized with a thermally efficient roof contributing to reduce electrical loads.
Renewable Energy Production	Up to 3	Photovoltaic (PV) panels and solar thermal units attached to a DECRA metal roof provides a platform for renewable energy production.
Sourcing of Raw Materials	Up to 2	The recycled content of a DECRA metal roof is a strong point. Steel is the only material with the approved default recycled content of 25%.
Low-Emitting Materials	Up to 3	VOC emissions off of DECRA metal roof panels and components is virtually absent with the use of acrylic water-base products to adhere roof granules. Coating is applied off-site and does not affect the VOC calculations within this credit.
Daylight	Up to 3	Skylights incorporated into a DECRA metal roof can help achieve this credit. Light transmitting skylights on a DECRA metal roof may also include diffusers to enhance the interior lighting area.

Rainwater Management	Up to 3	A DECRA metal roof provides an excellent platform to collect quality rainwater for non-potable uses. Rainwater from a DECRA metal roof is cleaner than water collected other common steep slope roof types.
Outdoor Water Use	Up to 2	By way of the Rainwater Management program, the quality non-potable water may be implemented to reduce municipality water use for landscaping, toilet and urinal flushing, along with custodial uses.
Indoor Water Use	Up to 6	
Construction and Demolition Waste Management	Up to 2	Shop fabricated DECRA metal roof panels and accessories generate limited on-site construction waste, thereby helping to keep waste per square-foot of building area to not more than 2.5 lbs.
Building Lifecycle Impact Reduction	Up to 5	With a 50+ year life span, a DECRA metal roof can be a great asset to capture this credit. Point earning potential can be based on re-use of existing material or a whole building life-cycle assessment.

Note:

The information shown is intended to be only a synopsis. LEED requirements are based on all materials utilized under the project contract, where DECRA metal roof panels and accessories are only a portion. Credit values shown above reflect those points available, and are not a guarantee of credits to be issued. Check your local energy code regarding the use of cool color roofs. It is possible in colder climates that darker roof colors may provide optimal energy performance. For more information about LEED and LEED Certification program requirements, go to: www.usgbc.org/LEED

Summary

A DECRA metal roofing system ultimately presents architects and builders with an opportunity to use the products' sustainable attributes in a LEED Certification project. When accumulated with other LEED rating points for various sustainable features, a DECRA metal roof can be a straight-forward and cost-effective way to meet program requirements – especially when extrapolated over the potential long project life-cycle.