



LEED Points Breakdown Mitrex Solar Facade



1. About LEED (Leadership in Energy and Environmental Design)

LEED (Leadership in Energy and Environmental Design) is a green building certification program developed by the U.S. Green Building Council (USGBC). It provides a framework for designing, constructing, operating, and maintaining environmentally sustainable buildings.

This report is based on LEED v4.1 Building Design and Construction for New Construction but can be interpreted for other LEED criteria.

LEED certification is based on a system where projects earn points for incorporating various design and construction sustainable strategies. The more points a project earns, the higher the level of LEED certification it can achieve.

There are four levels of certification:

- Certified: 40-49 points
- Silver: 50-59 points
- Gold: 60-79 points
- Platinum: 80+ points

LEED evaluates building performance across eight categories, known as LEED credit categories. Each category addresses specific aspects of building sustainability.

Category	Description	Maximum Points Available	Points Mitrex Can Contribute
Location And Transportation	This category encourages projects that are located in sustainable sites, promote alternative transportation options, and minimize the impact on ecosystems and water resources.	16	0
Sustainable Sites	This category focuses on the design, construction, and maintenance practices that minimize the impact on the site and its surroundings. It addresses issues such as site selection, storm water management, and landscaping.	10	0
Water Efficiency	This category promotes strategies for reducing water consumption, improving water efficiency, and using alternative water sources. It covers areas such as water-efficient fixtures, irrigation systems, and water metering.	11	0
Energy And Atmosphere	This category emphasizes energy performance, energy efficiency, and the use of renewable and clean energy sources. It includes criteria for building systems, equipment, and energy modeling.	33	Up To 23
Materials And Resources	This category focuses on sustainable material selection, waste reduction, and recycling practices. It addresses issues such as construction waste management, recycled content, and life-cycle assessments.	13	Up To 6
Indoor Environmental Quality	This category promotes a healthy and comfortable indoor environment by addressing factors such as indoor air quality, lighting, and thermal comfort. It includes criteria for ventilation, low-emitting materials, and occupant comfort.	16	Up To 3
Innovation	This category recognizes innovative strategies and practices that go beyond the existing LEED requirements. It encourages projects to push the boundaries of sustainability and environmental performance.	6	Up To 5
Regional Priority	This category allows regions to identify and prioritize specific environmental issues that are unique to their location. It encourages projects to address these priorities and earn additional points.	4	Up To 4
Mitrex Solar Cladding Contribution			Up To 41 Points

2. Mitrex And LEED Points

The Mitrex solar cladding product can contribute to the following categories: Energy & Atmosphere (EA), Material & Resources (MR), Indoor Environmental Quality (EQ), Innovation (IN), and Regional Priority (RP).

2.1 Energy and Atmosphere (EA):

Renewable Energy (Up to 5 Points):

Intent: This credit encourages the use of clean and renewable energy sources to reduce the environmental impact associated with building energy consumption.

Requirements: Points are awarded based on the total energy offset by renewable sources.

- 1 point: 2%
- 2 points: 5%
- 3 points: 10%
- 4 points: 15%
- 5 points: 20%

Solution: Mitrex BIPV is a seamless way to integrate solar into your building and offset the energy consumption. By combining your building materials with your photovoltaics, you can turn your building into its own power plant. Every square foot of Mitrex BIPV can generate up to 18W or 14.4 kWh annually. With the average household consuming 10,600 kWh annually, just 150 square feet can offset 20% of the annual energy use.

Optimize Energy Performance (Up to 18 Points):

Intent: Optimize Energy Performance credit is aimed at promoting energy efficiency in building design and operation. The number of points awarded for this credit depends on the percentage improvement in energy performance achieved compared to a baseline building.

Requirements: Points are awarded based on two metrics. This is the percentage improvement in energy performance based on cost (9 points) and based on green house gas emissions (GHG) (9 points). Generally, higher levels of energy efficiency lead to more points.

For Cost:

- 1 point: 5% improvement
- 2 points: 10% improvement
- 5 points: 25% improvement
- 9 points: 45% improvement

For Greenhouse Gas Emissions (GHG):

- 1 point: 5% improvement
- 2 points: 10% improvement
- 5 points: 32% improvement
- 9 points: 80% improvement

Solution: The flexible cladding system with thermal breaks can accommodate varying thicknesses of insulation to improve the energy performance of the building and thereby grant additional credits.

2.2 Material and Resources (MR):

Environmental Product Declarations (Up to 2 Points):

Intent: To encourage use of products with documented life-cycle information and positive environmental, economic, and social impacts, while rewarding selection of manufacturers with verified sustainability improvements.

Requirements: For 2 points, use products sourced from three different manufacturers which meet at least one of the responsible sourcing and extraction criteria for at least 30% by cost of the total value of permanently installed building products.

Solution: A typical 2" honeycomb panel will help qualify for 2 point as the recycled content is at least 45%.

Aluminum Weight: 100%

Post Consumer Recycle Content: 12.5%

Pre-Consumer Recycle Content: 65%

Total (100% post consumer + 50% pre consumer recycle content): 45%

Construction and Demolition Waste Management (Up to 2 Points):

Intent: The purpose of this is to reduce construction and demolition waste disposed in landfills and incineration facilities.

Requirements: Two points can be achieved by diverting at least 50% of all renovation and demolition waste and generating less than 10lbs/ft² or 50kg/m² of waste from all construction activities.

Solution: The Mitrex solar cladding is a pre-finished product which generates minimal construction waste. This cladding is predominately made of aluminum, glass and silicon which can all be recycled.

Sourcing of Raw Materials (Up to 2 Points):

Intent: To encourage the use of products and materials for which life cycle information is available and that have environmentally, economically, and socially preferable life cycle impacts.

Requirements: One point can be achieved by using products sourced from at least three different manufacturers that meet one of the responsible sourcing and extraction criteria for at least 15% of the total value of installed building products. Two points can be achieved by using products sourced from five different manufacturers that meet one of the responsible sourcing and extraction criteria for at least 30% of the total value of installed building products.

Solution: Responsibly sourced and recycled content of aluminum honeycomb could allow for an additional two points.

performance in projects to enhance human and environmental health, equity, and foster LEED expertise across building design, construction, and operation while encouraging collaboration to address project priorities.

Requirements: There are two ways to acquire points. Three points can be awarded for innovation. This is by achieving a significant, measurable environmental benefit using a strategy not addressed in LEED. Exceptional performance from existing categories can contribute two points.

Solution: The integration of high solar power generation and enhanced thermal performance through Mitrex BIPV qualifies for the innovation credit. Mitrex BIPV incorporates solar components directly into the structure, eliminating the need for additional mounting structures. This approach minimizes environmental impact and reduces net carbon embodiment, further promoting renewable energy utilization.

2.5 Regional Priority (RP)

Regional Priority (Up to 4 Points):

Intent: To provide an incentive for the achievement of credits that address geographically specific environmental, social equity, and public health priorities.

Requirements: Four points can be achieved through credits identified by USGBC regional councils or chapters as having regional importance for the project's area.

Solution: If BIPV, renewable energy, or sustainable materials are a regional priority, Mitrex materials qualify for this category.

3. Conclusion

In total, **Mitrex Solar cladding can contribute up to 41 points** to LEED certification.

2.3 Indoor Environmental Quality (EQ)

Daylight (Up to 3 Points):

Intent: To connect building occupants with the outdoors, reinforce circadian rhythms, and reduce the use of electrical lighting by introducing daylight into the space.

Requirements: Provide manual or automatic (with manual override) glare-control devices for all regularly occupied spaces.

Solution: While BIPV primarily contributes to the building's exterior, it also has attributes that improve daylighting without compromising thermal comfort. This includes the use of semi-opaque solar glass or fins that provide glare reduction.

2.4 Innovation (IN):

Innovation (Up to 5 Points):

Intent: The objective is to promote exceptional or innovative

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