



GREEN BUILDING AND LEED

The **U.S. Green Building Council (USGBC)**, was co-founded in 1993, and is a private 501(c)3, membership-based non-profit organization that promotes sustainability in how buildings are designed, built, and operated. USGBC is best known for its development of the Leadership in Energy and Environmental Design (LEED) green building rating systems.

Green building (also known as **green construction** or **sustainable building**) refers to a structure and using process that is environmentally responsible and resource-efficient throughout a building's life-cycle: from siting to design, construction, operation, maintenance, renovation, and demolition. In other words, green building design involves finding the balance between homebuilding and the sustainable environment. This requires close cooperation of the design team, the architects, the engineers, and the client at all project stages. The Green Building practice expands and complements the classical building design concerns of economy, utility, durability, and comfort.

United States Green Building Council (USGBC) was established to promote sustainable building practices. To market their concept of “building green”, they had to create a system to introduce their ideas to the industry – one that has measurable performance standards and strategies to create sustainable buildings. Thus, LEED was born. LEED is essentially a rating system to measure the sustainable performance standards of different kinds of buildings.

LEED is a measurement tool for green building in the United States and it is developed and continuously modified by workers in the green building industry.

LEED is also not energy-specific. Since it only measures the overall performances, builders are free to choose how to achieve points under various categories.

In a nutshell, LEED certification works like this:

Projects apply for LEED certification under a particular rating system (LEED for Building Design & Construction, LEED for Interior Design & Construction, LEED for Building Operations & Maintenance, Homes, etc.). Projects achieve points by satisfying various requirements, which are geared toward different methods of green building practice.

If a project earns enough points, it gets a ranking (certified, silver, gold or platinum) and is then dubbed a “LEED certified” project



Buildings can qualify for four levels of certification:

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

Why go LEED?

In addition to government incentives, the expanded client potential and better building performance, there is the bigger picture of the need to reduce our carbon footprint on the environment. (Our future) If we consider what it takes to produce anything from the pen you use to an entire building, it is no wonder that the net return to the environment is negative. Following LEED criteria is an effort to build our awareness of the impact to the environment we cause through our actions. It is just a good starting point

As a member of the USGBC Crown respects the LEED rating system and everything the USGBC stands for because it's ultimately in place to help our environment. In addition to helping the environment, LEED is quickly becoming a standard in the design and construction industry. So, as you can see, this "green" movement is definitely a LEED movement too. Don't miss out on it.

Some criteria's that Crown supports that may qualify for LEED points;

- Use materials that have been *extracted, harvested, recovered or manufactured* within **500 miles** of the site (2 LEED points)

Raw Materials: (Recycling)

- Sand, Cement, iron oxide, and water are all basic components of roof tile. They are produced from natural materials, available locally. Production of these products generates minimal waste as all ingredients are recyclable back into the production process. Portland cement production facilities are also used for hazardous material processing. The ultra-high temperature kiln that is used is the most safe and efficient way to dispose of contaminated materials.
- Steam is often generated with the heat from concrete production, which then turns a turbine for electricity production.
- Concrete admixtures Crown uses are all non-hazardous and are completely consumed into the product, no by products, waste, or odors (VOC) are released by the Crown facility.
- Any scrap material developed by the Tile manufacturing process is in the form of concrete or a sand / concrete mixture. This material is purchased by an outside source and crushed for use in road building and repair.



Physical Engineering: (best use of less material)

- Crown Tile is designed to give maximum coverage per piece by employing an efficient interlocking system and a tight fit design that prevents water intrusion under the tiles.
- Crowns mold design allows for ventilation of ambient air over the roof deck while allowing for all types of installation methods. In the event that urethane foam is used, Crown Tile will require less foam per piece resulting in savings of material because Crown's design positions the tile closer to the deck and has an ideal surface for foam contact.
- Crown Tiles are self-aligning for ease of installation. There is no requirement for vertical lines on the roof deck as the interlock system makes it easy to position each piece straight. This feature saves time and materials during the installation.

Longevity and recyclability: (Sustainability)

- Crown Roof Tile is produced under the Industries strictest Quality Control requirements; our stronger product has fewer damaged pieces resulting in less waste for the project.
- Concrete Tiles are not damaged by weather or sun exposure, a high quality installation will last many decades.
- Damaged tile has no hazardous component so it is recyclable. It can be used for landfill or crushed and reused to produce concrete products.
- Our "Tite Pack System" helps to reduce breakage.
- We repair and reuse wooden pallets.

Understanding Life Cycle Assessment

Green building components can play a critical role in reducing the environmental footprint during the entire life cycle of a building. Increased demands for building materials and products that are *extracted* and *manufactured* within the region reduce the environmental impact from transportation. Also concrete Roof Tile has a far greater life span than any other roofing material.