



# UNIVERSAL

## TEXTILE TECHNOLOGIES

### **Universal Textile Technologies Outlines LEED Certification for BioCel™ and EnviroCel™ Polyurethane Synthetic Turf Backing**

Demand has grown rapidly for building materials that fulfill the requirements of the non-profit U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED). The benchmark certification program for green building projects and buildings that carry the LEED seal of approval are a statement of environmentally-conscious practices. In addition, studies show that energy-efficient LEED buildings cost less to operate, have higher occupancy rates, enhance occupant health and well-being and increase investment returns compared to their non-LEED counterparts.

A project's **total** LEED point score determines whether the project qualifies for LEED, and if so, which of the three levels of certification it will achieve. Out of a possible 69 elective points, buildings that earn 26 qualify for the standard LEED certification. Silver level requires 33 points, 39 are needed for Gold, and Platinum projects must earn at least 52 points.

#### **Earning LEED Points for Synthetic Turf Backed with BioCel™ and EnviroCel™ Polyurethane Cushion**

Architects and designers can utilize synthetic turf backed with Universal Textile Technologies' (UTT) BioCel and EnviroCel Polyurethane cushion on commercial, industrial and residential projects in obtaining up to 18 points toward LEED certification. Falling under categories of Water Efficient Landscaping, Recycled Content and Innovation in Design, synthetic turf manufactured with Universal Textile Technologies backing has several green features incorporated into its base materials. Both the turf's content and its utilization in water conservation qualify for LEED points in new and existing construction projects.

UTT's BioCel and EnviroCel turf backings contain polymers produced from soybeans, a rapidly renewable resource. Scientific Certification Systems (SCS) verified UTT's turf backing is certified for at least 60 - 63% recycled and bio-based content.

Synthetic turf backed with UTT's green technology can be utilized for LEED credits on rooftop landscapes, playgrounds, sports fields, golf courses, resort and residential landscapes and more. This document outlines LEED credit categories listed in the 2009 Version 3 edition of the USGBC LEED Reference Guide for Green Building Design and Construction. The categories, contributing characteristics, and point values are described below.

## **WATER EFFICIENT LANDSCAPING**

**WE Credit 1.1:** Reduce by 50% 2 Points

**WE Credit 1.2:** No Potable Water Use or Irrigation 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.

### **Requirements**

OPTION 1 Reduce by 50% (2 Points)

Reduce potable water consumption for irrigation by 50% from a calculated mid-summer 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

OR

Option 2: No Potable Water Use or Irrigation (4 points)

Meet the requirements for Option 1

AND

Path 1 Use only captured rainwater, recycled wastewater, recycled graywater or water treated and conveyed by a public agency specifically for nonpotable uses for irrigation.

OR

Path 2 Install landscaping that does not require permanent irrigation systems. Temporary irrigation systems used for plant establishment are allowed only if removed within one year of installation.

Note: If the percent reduction of potable water is 100% AND the percent reduction of total water is equal to or greater than 50%, both Option 1 and Option 2 are earned.

## **MATERIALS AND RESOURCES**

### **Construction Waste Management**

**MR Credit 2.1:** Divert 50% from Disposal 1 Point

**MR Credit 2.2:** Divert 75% from Disposal 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.

### **Requirements**

Recycle and/or salvage at least 50% (1 point) or 75% (2 points) of non-hazardous 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.

## **Materials Reuse**

**MR Credit 3.1:** Materials Reuse: 5%                      1 Point

**MR Credit 3.2:** Materials Reuse: 10%                      2 Points

### **Intent**

To reuse building materials and products in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

### **Requirements**

Use salvaged, refurbished or reused materials, the sum of which constitutes at least 5% (1 point) or 10% (2 points), based on cost of the total value of materials on the project.

## **Recycled Content**

**MR Credit 4.1:** Recycled Content: 10% post-consumer + ½ pre-consumer   1 Point

**MR Credit 4.2:** Recycled Content: 20% post-consumer + ½ pre-consumer   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.

### **Requirements**

Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% (1 point) or 20% (2 points) based on cost of the total value of the materials in the project.

The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.

Recycled content shall be defined in accordance with the International Organization of Standards document, ISO 14021-Environmental labels and declarations-Self-declared Environmental claims (Type II environmental labeling)

Post-consumer material is defined as waste material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose.

Pre-consumer material is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

## **Regional Materials**

**MR Credit 5.1:** 10% Extracted, Processed & Manufactured Regionally   1 Point

**MR Credit 5.2:** 20% Extracted, Processed & Manufactured Regionally   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.

**Requirements**

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% (1 point) or 20% (2 points) based on cost of the materials value. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

**Rapidly Renewable Materials****MR Credit 6.1: Rapidly Renewable Materials Use 1 Point****Intent**

To reduce the use and depletion of finite raw materials and long-cycle renewable materials by replacing them with rapidly renewable materials.

**Requirements**

Use rapidly renewable building materials and products for 2 – 5% of the total value of all building materials and products used in the project, based on cost; Rapidly renewable building materials and products are made from plants that are typically harvested within a 10-year or shorter cycle.

**INNOVATION IN DESIGN****ID Credit 1.0-1.5****1-5 Points****Intent**

To provide design teams and projects the opportunity to achieve exceptional performance above the requirements set by the LEED Green Building Rating System and/or innovative performance in Green Building categories not specifically addressed by the LEED Green Building Rating System.

**Requirements**

Credit can be achieved through any combination of the paths below:

Path 1: Innovation in Design (1-5 points for NC and CS, 1-4 points Schools)

In the LEED 2009 for New Construction and Major Renovations, LEED 2009 for Core and Shell Development, or LEED 2009 for Schools Rating Systems, one point is awarded for each innovation achieved.

Identify the following in writing:

- The intent of the proposed innovation credit.
- The propose requirement for compliance.
- The proposed submittals to demonstrate compliance.
- The design approach used to meet the requirements.

Path 2: Exemplary Performance (1-3 points)

Achieve exemplary performance in an existing LEED 2009 for Schools prerequisite or credit that allows exemplary performance as specified in the LEED Reference Guide for Green Building Design & Construction 2009 Edition. An exemplary performance point may be earned for achieving double the credit requirements and/or achieving the next incremental percentage threshold of an existing credit in LEED.

## **Leadership in Energy and Environmental Design**

The Leadership in Energy and Environmental Design (LEED®) Green Building Rating System™ represents the U.S. Green Building Council's effort to provide a national standard for what constitutes a "green building". It is utilized as a design guideline and certification tool for architects and designers seeking to develop high-performance, sustainable buildings.

LEED Version 3 is an updated version of the rating system for New Construction, Major Renovations, and Water Efficiency. It is designed to guide and distinguish high-performance commercial and institutional projects.

The rating system defines the requirements, by category, to achieve each prerequisite and voluntary point. Projects earn one or more points toward certification by meeting or exceeding each credit's technical requirements. Points compute to a final score that relates to one of the four possible levels of certification.

### **Universal Textile Technologies Background**

Dalton, Georgia based Universal Textile Technologies (UTT) is a pioneer in green technology. The manufacturer supplies the carpet and turf industries with multiple eco-friendly backing systems for commercial, hospitality, healthcare and residential use.

Recent rulings from the United States Department of Agriculture qualify high-performance Universal Textile Technologies' BioCel™ and EnviroCel™ polyurethane carpet backing systems for Federal purchasing preference as designated biobased items under the USDA's BioPreferred program.

For more information visit [www.universal-textile.net](http://www.universal-textile.net).

### **Summary**

According to the USGBC, LEED certified buildings represent just 1% of the total U.S. commercial building stock, and the current demand for green buildings is outstripping the available supply. As environmentally responsible building becomes more and more important, not only to the environment, but to the long-term value of commercial property, LEED certification will become more widespread, and the complex vocabulary of codes and credits associated with LEED will work its way into the general contracting lexicon.

This document explains Universal Textile Technologies' role in contributing towards LEED project totals as it applies to synthetic turf backings and coatings. Further information about Universal Textile Technologies' products and LEED is available at [www.universal-textile.net](http://www.universal-textile.net), or [www.usgbc.org/LEED](http://www.usgbc.org/LEED).