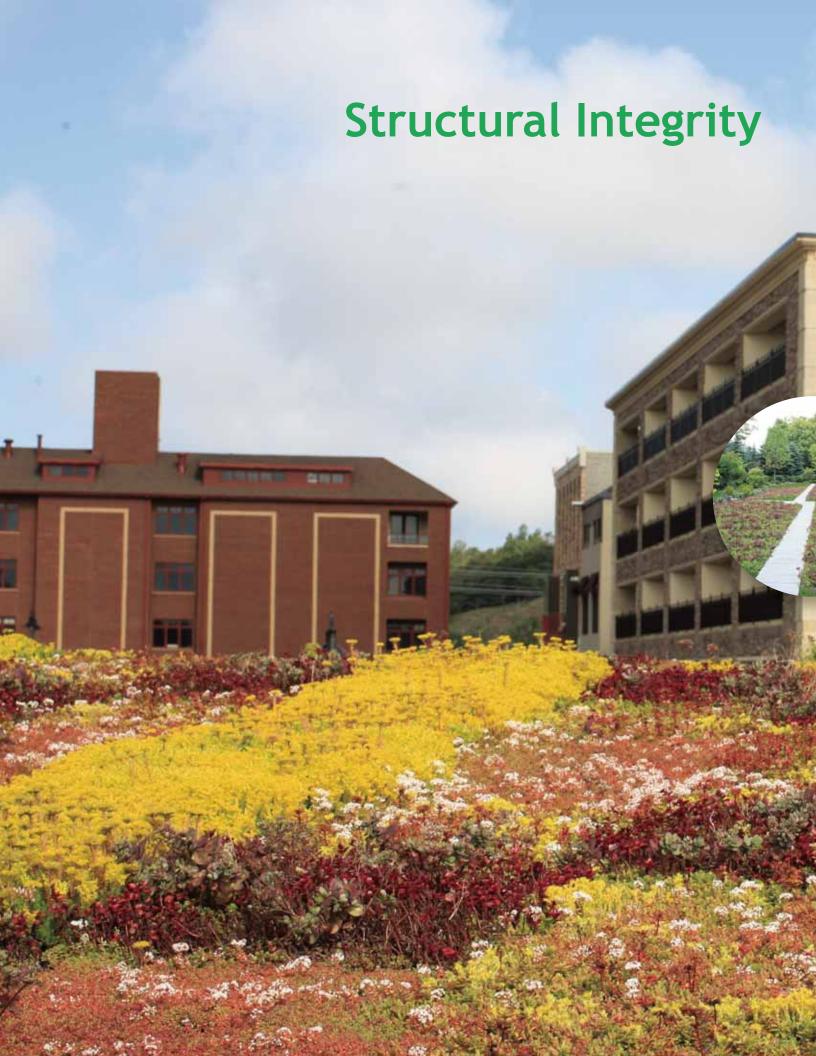


Natural Function. Natural Beauty.
Natural Partnership with
CertainTeed Roofing... Naturally





### **CHANGING OLD HABITATS**

CertainTeed Roofing and LiveRoof® have partnered to create and distribute innovative new roofing systems that are structurally and environmentally sound.

LiveRoof® is an integrated green roofing system designed by growers and construction engineers. Compared to site-built green roofs, which are time-consuming and costly to install and maintain, LiveRoof is a turnkey alternative.









Green roofs deliver significant energy savings, particularly during the summer cooling season. They can reduce airconditioning costs 20-25 percent in a single story building.

LiveRoof® is the natural answer to modern building questions. The lush organic surface cools air temperatures, reduces wind pressure, and detoxifies pollutants to maximize structural and environmental benefits.

To meet the changing demands of architectural innovation, **CertainTeed Roofing** is on the cutting edge of design with LiveRoof® pre-vegetated modular roofing systems. There is no roof 'greener' than LiveRoof®.



# **Building Excitement**

LiveRoof® green roofing is aesthetically pleasing, creating natural views that actually enhance worker productivity. And LiveRoof® green roof systems expand the usefulness of buildings with patios and gardens.



## FROM THE GROUND UP

# IP \



#### **ENVIRONMENTAL BENEFITS**

#### **Urban Heat Island Mitigation**

The urban heat island effect is the difference in temperature among urban areas and rural surroundings. The temperature differential causes air currents and dust, and contributes to violent weather in urban settings.

Green roof vegetation cools the air in urban settings, slowing air movement and acting as a substrate for pollution to settle out and detoxify.

#### **Noise Reduction**

Plants and soil – and air trapped in soil – are premium acoustic insulators. Tests indicate that green roofs reduce indoor sound by as much as 40 decibels, which is a benefit to the occupants of buildings affected by airports, industry, trains or traffic.

#### **Water Conservation**

The soil in green roofing systems acts as a sponge and absorbs excess rain water. Research has shown that green roofing can reduce runoff by up to 90+ percent annually (varies with climate, soil and pitch of roof).

Green roofs reduce the need for on-site storm water management systems, and filter toxins to redistribute non-polluted runoff into the watershed.

#### **Fire Prevention**

Succulent green roof plants can help reduce the spread of fire.

#### **Habitat Restoration**

Plants and soil recreate habitats for butterflies, insects and songbirds.

### FINANCIAL BENEFITS

#### **Political Correctness**

With an emphasis on recycled components, energy conservation, sustainability, and minimal environmental impact, green roofs are met with approval by city planners, tenants and members of the community. And environmental stewardship may be rewarded with zoning opportunities that allow for more intensive development and higher selling and rental prices.

#### **Conservation of Municipal Septic Systems**

Absorbing and filtering rainwater saves municipal septic systems from continued expansion, and reduces overflows accompanied by pollution and associated costs.

#### **Extension of Roof Life**

Plants and soil act as a protective shield from the elements.

- No ultra-violet radiation/photo degradation of roofing components
- Minimal thermal contraction and expansion green roofs reduce temperature fluctuations by as much as 90 percent
- Protection from drying winds
- Protection from mechanical damage
- Reduction or elimination of cracks and leaks

#### **Energy Conservation**

The evapotranspirative effect of plants and four inches of growing medium typically reduces indoor temperatures by 6 to 8 degrees during warm weather and can reduce air conditioning costs by 25 to 50 percent in single story buildings. The result is a decrease in ongoing costs, as well as the initial reduction in the size of air conditioning equipment.

# A Natural LEEDer **GETTING TO THE POINTS**

LiveRoof® maximizes LEED Certification Points by accessing categories not applicable to typical 'green' roofing systems. LiveRoof® has the potential to contribute more than 20 LEED Certification Points to a building design.

#### Sustainable Sites:

#### 1 Point

Vegetated roofing systems promote biodiversity by reclaiming green space. LiveRoof® provides a habitat for songbirds, butterflies and a host of invertebrate species.

#### **Storm Water Management:**

#### 1-2 Points

LiveRoof® prevents excess storm water discharge, and filters and detoxifies by removing suspended solids and other pollutants.

#### **Urban Heat Island Effect:**

#### 1 Point

By reducing roof temperatures during the summer months, LiveRoof® is a highly effective means of mitigating urban heat island effect.

#### Water Efficiency/ Water-Efficient Landscaping:

#### 1-2 Points

LiveRoof® requires little irrigation, and excess rainwater runoff can be channeled into a cistern for reuse by LiveRoof® or landscaping.

LiveRoof® green roofing significantly reduces the need for air conditioning, which translates into smaller cooling systems and lower operating costs.

#### Materials and Resources:

**Energy and Atmosphere:** 

#### 1-3 Points

1-8 Points

By acting as a cover over the roofing membrane, LiveRoof® substantially extends the life of a roof.

#### **Local Sources:**

#### 1-2 Points

Modules are manufactured within a 15-mile radius of distribution. Since plants are obtained at local nurseries, LiveRoof may contribute to the 50% extracted regional credit.

#### **Recycled Content:**

#### 1-2 Points

LiveRoof® modules are constructed of 100 percent recycled polypropylene.

### **Rapidly Renewable Materials:**

LiveRoof® plants are harvested within a 10-year cycle.

#### Innovation in Design:

#### 1- 2 Points

By contributing to a calm and relaxed environment featuring beautiful views, LiveRoof® is beneficial to health and state of mind.

### CertainTeed H

### Back to **OUR ROOTS**

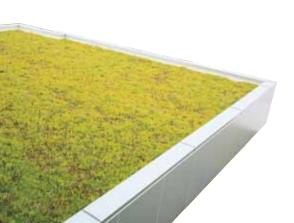
CertainTeed Roofing requires the use of a 20-year, modified bitumen specification under the LiveRoof system.

#### Recommended systems include:

- Flintlastic™ UltraGlass SA Flintlastic™ GTA / GTA-FR / FR-P / GMS or other polyester-based cap sheet
- Flintlastic™ Ultra Poly SMS Flintlastic™ GTA / GTA-FR / FR-P / GMS or other polyester-based cap sheet

#### Recommended root barriers / surface protection:

- DiamondDeck™ synthetic roofing underlayment, or equivalent
- 10 mil. polyethylene film Unsealed overlaps of 5 feet minimum or sealed laps of 1 foot minimum
- \*Overburden warranty available
- \*CertainTeed does not practice engineering or architecture. Roof designs, construction plans, or installation of the roof system should be approved by building owner or owner's professional. Owner should consult with design professional concerning structural weight load.





# Simple. Effective. NATURAL.

STEP

The grower inserts the LiveRoof Soil Elevator into the LiveRoof module.



STEP

Installer sets LiveRoof modules tightly in place on the roof within LiveRoof recommended edge treatments. Modules act as ballast to hold edging in place.



STEP

LiveRoof module is filled to the top of the Soil Elevator with LiveRoof engineered soil.



STEP

LiveRoof Soil Elevator is removed for a beautiful, seamless and instantly mature green roof.



STEP

LiveRoof plants are grown to maturity approximately 1 inch above the LiveRoof module.



STEP

Water in thoroughly to settle any loose soil and to get LiveRoof off to a great start.





# buildingresponsibly™

#### Everyday, CertainTeed makes a commitment to sustainability.

CertainTeed Roofing recycles, reuses and re-envisions our environment. Here are 5 ways we put ideas into action with green as our goal.



### Recycling and the road to success.

We recycle nearly 90% of our manufacturing production waste into asphalt materials for road construction.



#### Bring nature back.

Our Oxford facility, the world's largest roofing plant, has its own wetlands and a water management system where wildlife thrives.



#### Use it (don't lose it).

We use recycled content including slag, stone granules, corrugated mixed paper and sludge, reducing landfill waste and carbon emissions.



### We believe in leading by example.

We belong to the U.S. Green Building Council and champion their Leadership in Energy and Environmental Design (LEED) Green Building Rating System™. And we also strongly support the National Green Building Standards™ of the National Association of Home Builders.



#### Reaching for the ENERGY STARS.

As the 2009 ENERGY STAR Partner of the Year for Energy Management, we are proud of our commitment to designing high quality, sustainable roofing products.

#### **ASK ABOUT OUR OTHER CERTAINTEED® PRODUCTS AND SYSTEMS:**

EXTERIOR: ROOFING • SIDING • WINDOWS • FENCE • RAILING • TRIM • DECKING • FOUNDATIONS • PIPE INTERIOR: INSULATION • GYPSUM • CEILINGS

CertainTeed Corporation P.O. Box 860 Valley Forge, PA 19482 Professional: 800-233-8990 Consumer: 800-782-8777 www.certainteed.com

