

The image is a promotional graphic for GreenScapes. It features a background architectural rendering of a modern building with a prominent green roof. A large, stylized green graphic element, resembling a thick, curved line or a stylized 'G', dominates the left and center of the image. The text is arranged in several layers: a company name at the top, a product name in the middle, and a slogan at the bottom. The overall color palette is green and white, with a touch of brown from the building's facade.

COLLOID ENVIRONMENTAL
TECHNOLOGIES COMPANY

GREENROOF TECHNOLOGIES

GREEN SCAPES™

QUALITY FROM
THE GROUND UP™

CETCO®



QUALITY FROM THE GROUND UP

CETCO GreenScapes are living roof coverings with growing media and plants taking the place of exposed roofing membrane, gravel ballast, shingles or tiles. The number of layers and the layer placement can vary from project to project, but at the very least all GreenScapes include a quality Colloid Environmental Technologies Company waterproofing membrane, root barrier, drainage, growing media and plants covering the roof deck area. There are two main types of GreenScapes greenroofs– extensive and intensive. Some may be designed with features of both and be referred to as semi-intensive.

THE GREENROOF EVOLUTION

As urban development continues, the natural landscape within cities is being replaced with buildings, parking lots and roadways. These structures that make up the cityscape are impervious to water and contribute to the urban heat island effect. The impervious hardscape can result in an overloading of the stormwater drainage capacity which increases the risk of flooding following a heavy rain.

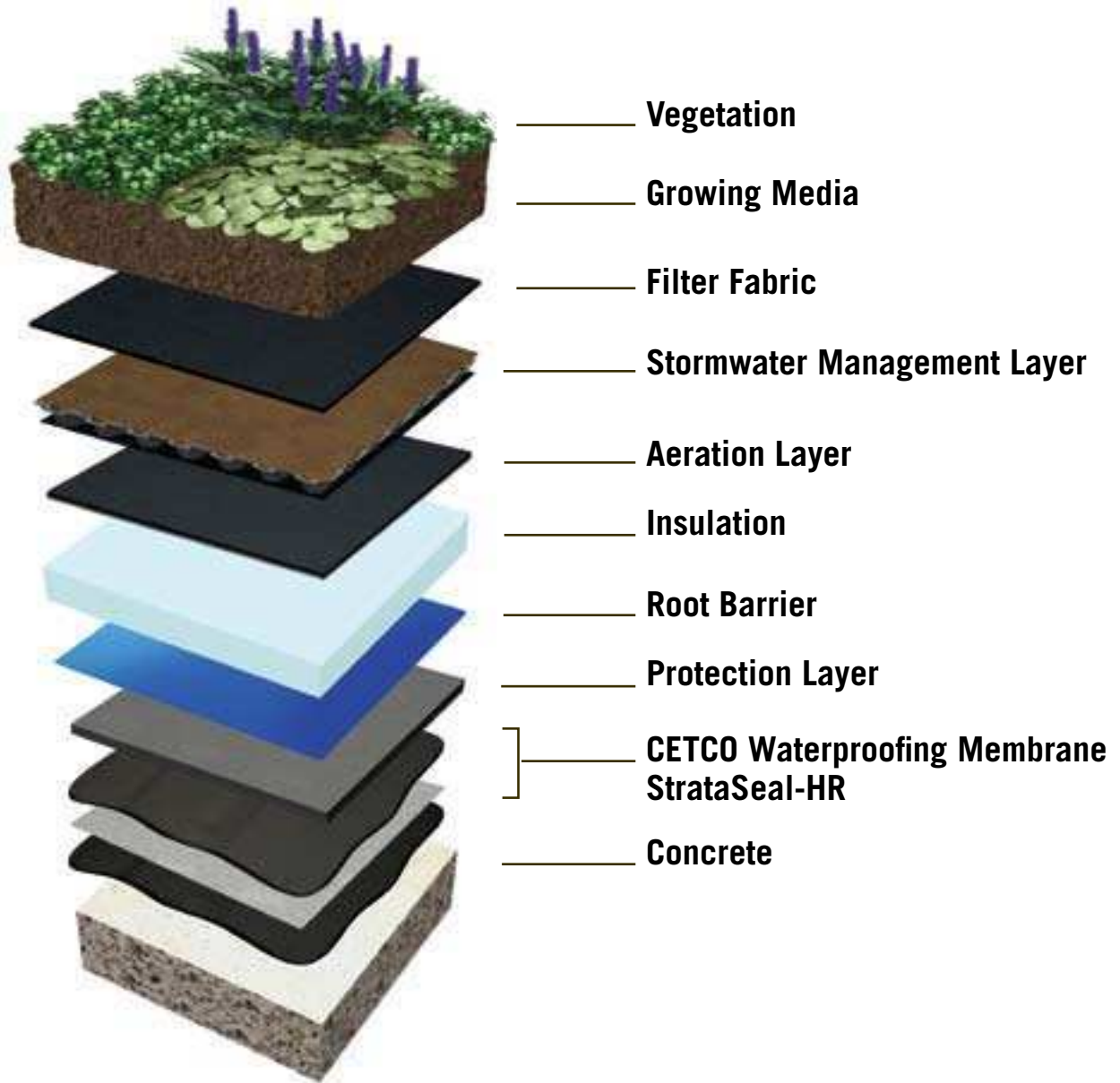
To counterbalance the side effects of urban development, the last several decades have been witness to an evolution in modern greenroof technology and construction. With increasing support from local government, building owners and design professionals, greenroof construction techniques have shown that these structures improve the operating efficiency of a

structure, they can also contribute to the health of the environment. Replacing the impervious surface of a conventional roof with a greenroof can substantially reduce storm water runoff and help to restore the balance with nature in our cities.

The greenroof evolution continues with CETCO GreenScapes program. GreenScapes assemblies combine the performance of our proven waterproofing systems with modern greenroof technology and design. Unlike conventional earth-covered structures, CETCO's GreenScapes assemblies contribute much more to the urban landscape and can be installed on a wider variety of new and existing structures.



EXTENSIVE GREENSCAPES GREENROOF



Designed to be lightweight and support plants tolerant of drought conditions, extensive designs are considered low maintenance with irrigation not required in most climates. This shallow

growing media option is typically used to mitigate the effects of the urban heat island phenomenon and reduce stormwater runoff and provide additional greenspace.

INTENSIVE GREENSCAPES GREENROOF



— Vegetation

— Growing Media

— Filter Fabric

— Stormwater Management Layer

— Aeration Layer

— Insulation

— CETCO Waterproofing Membrane
CoreFlex-60

— Concrete

Intensive GreenScapes support a much wider variety of plants since growing media depths are increased. The growing media starts from about 8"-12" in depth and can range up to several feet deep to support shrubs, bushes and small trees.

This option is often designed to be accessible for recreational use and to add green space for visual pleasure. Hardscape elements, such as pavers, benches and water features, can also be integrated into your design.

The addition of a GreenScapes greenroof to an otherwise impervious roof area is beneficial to the surrounding urban environment. The “loss” of environment and its inherent natural processes – like photosynthesis – can be revitalized. But greenroofs also have other significant benefits that combat the negative side effects of urban development.

THE NATURAL BENEFITS



STORMWATER RETENTION AND MANAGEMENT

During heavy rainfalls, immediate runoff from conventional roof surfaces can add to the serious problem of sewer system overload and subsequent water pollution. By retaining rainwater, greenroofs slow down the water flow, thus alleviating the overburden on stormwater infrastructures.

REDUCED ENERGY CONSUMPTION

GreenScapes greenroofs are great insulators. The natural insulation properties of the vegetation and growing media can reduce energy demand by lowering a building's cooling costs in the summer months and heating costs in the winter months. Extruded polystyrene insulation can be incorporated into the GreenScapes design for additional energy savings.

REDUCED URBAN HEAT ISLAND EFFECT

More greenroofs and fewer conventional roofs equal a cooler city. Conventional roofs retain heat while plants naturally cool their surrounding environments through reflectivity and evapotranspiration cycles. In cities where the ambient temperature is high, greenroofs can help bring the overall temperature down.

IMPROVED AIR QUALITY

Greenroofs filter air by absorbing and converting carbon dioxide to oxygen. Greenroofs can also filter and bind dust and other harmful materials out of the air. Moreover, they can improve the microclimate by cooling and humidifying the surrounding air.

WATERPROOFING MEMBRANE PROTECTION

A greenroof protects the waterproofing membrane from climatic temperature extremes, prolonged exposure to sunlight and physical damage caused by foot traffic, thereby greatly increasing the life expectancy of the roof. Some greenroofs in Europe have lasted more than 40 years - well beyond their original design life.

IMPROVED SOUND INSULATION

Soil and plants are an effective sound dampener. CETCO GreenScapes can help improve urban acoustics with softer plant and earth covered surfaces.

AESTHETICS AND USE OF SPACE

Greenroofs are visually appealing and can offer additional green space for recreation and leisure activities.

LEED POINTS

Under the USGBC LEED™ rating system for the design and construction of sustainable buildings, greenroofs can qualify for LEED points and contribute to more criteria under specific conditions.

NATURAL HABITAT FOR ANIMALS AND PLANTS

Greenroofs improve the biodiversity within an urban environment. Smaller species, such as birds and butterflies, are known to thrive in the environment offered by greenroofs.



ONE PROJECT AT A TIME

GREENSCAPES™

IS HELPING TO
SUSTAIN THE ENVIRONMENT

Urban development can no longer be just about construction and economics. It must consider limiting the impact of development on the environment and natural resources. With these ideals, CETCO's GreenScapes offer sustainable greenroof designs and products that pull nature back into the building design.

One project at a time, GreenScapes is helping to sustain the environment with a wide range of assemblies to suit virtually any design requirement and climate. GreenScapes deliver benefits on all types and sizes of roof structures – from small residential roofs to large commercial and government structures.

When you specify GreenScapes, you get more than a sustainable greenroof project; you get peace of mind knowing that the waterproofing system protecting the structure is backed by the HydroShield™ Quality Assurance Program. With GreenScapes Greenroof Technologies, there are more options from a company whose roots were founded in the earth sciences over 80 years ago. So start today, bring your roof into balance with nature by using GreenScapes Greenroof Technologies from CETCO – the results are natural!



Greenroof under construction with COREFLEX® waterproofing system



Finished greenroof

GREENSCAPES™

2870 Forbs Avenue January 2009 (Supercedes All Previous Versions)
Hoffman Estates, IL 60192 The information contained herein supersedes all previous versions printed prior to
847.851.1800 January 2009, and is believed to be accurate and reliable. CETCO makes no warranty
800.527.9948 of any kind and accepts no responsibility for the results obtained through application

cetco.com

of this information. CETCO reserves the right to update information without notice.

©2009 CETCO Printed in the USA January 2009 - GRN001A

♻️ Printed on Recycled Paper.

CETCO
An AMCOL Company