



Garden Roof[®] Assembly



GREEN ROOFS FOR THE LIFE OF THE STRUCTURE

HYDROTECH'S HISTORY

Since 1963, Monolithic Membrane 6125® waterproofing and roofing membrane has been used in numerous parking structures and plaza applications where large areas of planting were part of the overall design. These earth covered structures were engineered to accept the heavy loads because several feet of soil and various hardscape components were incorporated into the design. These installations were not

referred to as "green roofs" back then, but are today by many. The difference between those early applications and the current green roof market is weight. Advancements in drainage/water retention technology and lightweight engineered growing media have greatly reduced the weight of a green roof, allowing it to be used on a wider range of structures.

THE HYDROTECH ADVANTAGE

Hydrotech's first Garden Roof® Assembly (Mashantucket Pequot Museum) was installed in 1996; the first "single source" green roof assembly (everything from the deck up) in America. Since that time, Hydrotech has expanded its

product offerings to include a wide array of domestically sourced components, including growing media and extensive plants for our Garden Roof Assemblies.

A QUALITY GREEN ROOF STARTS WITH THE MEMBRANE



Hydrotech's flagship product Monolithic Membrane 6125 (MM6125®), a fluid applied rubberized asphalt, has been keeping buildings watertight for over 45 years. Monolithic Membrane 6125-EV®

(environmental grade), that can be formulated with up to 25% post-consumer recycled content, is the membrane of choice for Hydrotech's Garden Roof applications. MM6125-EV has been used in fountains, pools, reflecting ponds, planters and other applications where contact with water is to be expected. In addition to MM6125-EV's ability to perform in a wet,

submersed condition, MM6125-EV has many other unique features that make it the best choice for green roof applications...

- There are no seams to fail; the membrane is completely monolithic
- Bonded directly to the substrate - restricts lateral water movement if damaged
- Can be installed on substrates with little or no slope
- Easy to detail all critical penetrations and terminations
- Resistant to fertilizers and other mild acids
- No VOC restrictions; contains no PVCs
- Installed ONLY by authorized, trained applicators

experience matters...

12 years, more than **1,200** projects ...



1996...

Mashantucket Pequot Museum - Mashantucket, CT



901 Cherry - San Bruno, CA



North Park 400 - Atlanta, GA

GARDEN ROOF® ASSEMBLY ADVANTAGES

Besides being aesthetically pleasing, a green roof can provide numerous ecological, technical and owner benefits.

Owner Incentives

- Increased Life Expectancy of the Roof
- Additional Usable Space
- Create a Therapeutic Environment
- Financial Incentives (Government)
- Contribute Toward LEED® points
- Image / Prestige

Technical Benefits

- Storm Water Retention
- Additional Thermal Resistance
- Reduced Noise Levels

Ecological

- Mitigates the Urban Heat Island Effect
- Natural Habitat for Plants and Animals
- Reduction of Dust and Smog Levels
- Oxygen Producing / Carbon Dioxide Sink

RESOURCES

Hydrotech's experienced sales representatives and staff work closely with your design team, and can offer assistance in the early design stage, through specification and detail development. Each project is unique, therefore each Garden Roof® Assembly is designed to meet specific objectives. Hydrotech has a variety of tools and resources that are

available which may assist you in meeting your project goals. Visit our website www.hydrotech.usa.com to access our specifications, details, Garden Roof Planning Guide and more. In addition, stormwater management information can be provided based on actual project conditions.



OWNER ASSURANCE

The Garden Roof Assembly consists of proven components from the deck up, including the following; waterproofing/roofing membrane, insulation, architectural pavers (hardscape), green roof components, growing media and even the vegetation for extensive applications. Hydrotech offers a range of warranty

options to an owner providing long term assurance and peace of mind from the watertightness of the membrane, up to and including the plants, as well as "removal and replacement" of the overburden. *Contact Hydrotech for specifics.*

... and over **5,500,000** square feet



LDS Conference Center - Salt Lake City, UT

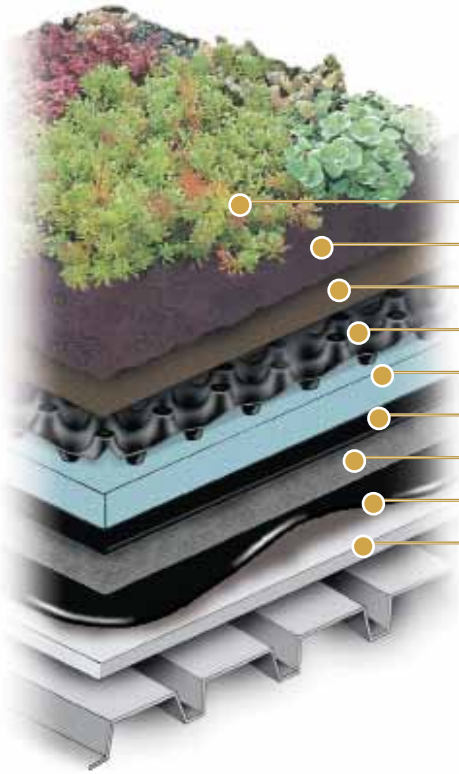


ASLA Headquarters - Washington, DC Photo Credit: ASLA



Optima Old Orchard Woods - Skokie, IL Photo Credit: Optima ...2009

EXTENSIVE

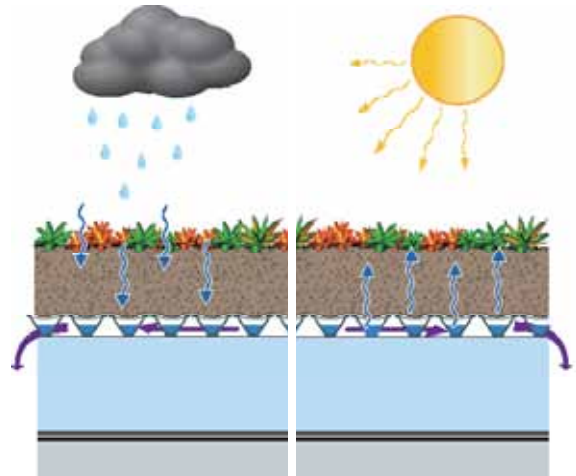


- Vegetation
 - LiteTop® Growing Media
 - Systemfilter
 - Gardendrain GR15® or GR30®
 - STYROFOAM®
 - Root Stop
 - Hydroflex 30®
 - MM6125 EV-FR®
 - Approved Substrate
- (typical components depicted)*



Features...

- Depth (2" - 6" of growing media)
- Weight (17 - 41 lbs / s.f. wet weight)
- Reduce and delay stormwater runoff
- Help to mitigate the urban heat island effect
- Requires minimal maintenance
- Can be used on flat or sloping roofs
- Garden Tray GT15™ available for modular applications
- Vegetation options - plugs, cuttings, InstaGreen™ sedum carpet



Typical Application

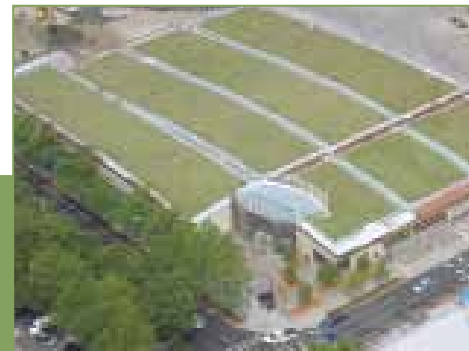
An extensive Garden Roof® Assembly uses a select range of hardy plants, making it attractive to look at while requiring little maintenance after the establishment period. Extensive roofs are typically lightweight and can be installed over a variety of structures including metal roof decks. They are not intended for recreational use and are usually installed to minimize stormwater runoff and help reduce the "urban heat island" effect.



Georgian Court University - Lakewood, NJ

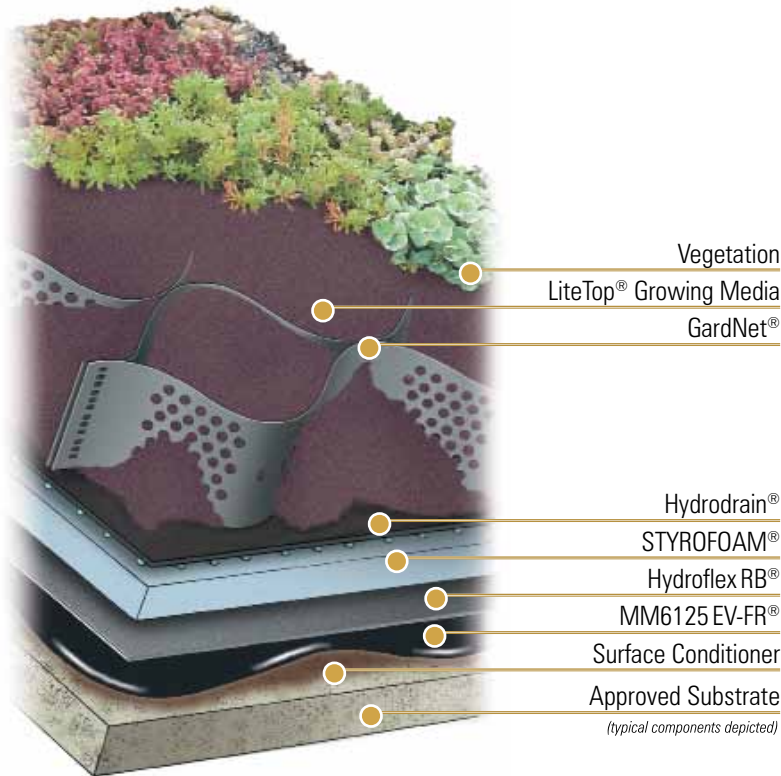


Institute for Advanced Studies - Princeton, NJ



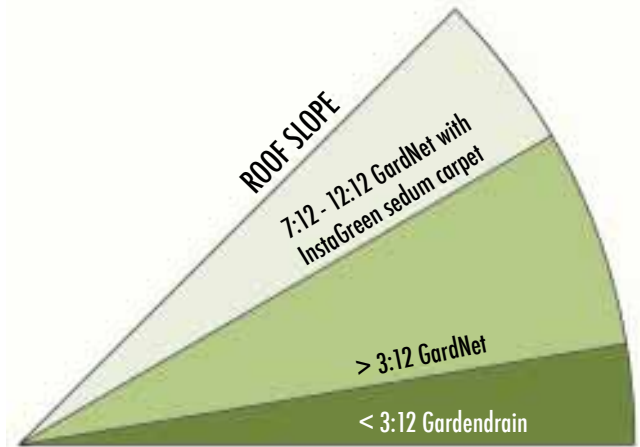
Gates Foundation Garage - Seattle, WA

SLOPE



Features...

- Depth (3.5" - 13" of growing media)
- Weight (26 - 82 lbs / s.f. wet weight)
- Visibility can be an architectural design feature
- Suitable for convex, concave and other complex slopes
- Accomodates up to 12:12 pitch (45°)
- Beyond 3:12 requires special engineering
- Vegetation options - plugs with GardMat® or InstaGreen™ sedum carpet
- Requires minimal maintenance



Typical Application

Architects and owners are no longer limited to designing for flat green roof applications. Hydrotech's Garden Roof® Assembly can be applied to sloping roofs with a pitch of up to 12:12 (45°), provided the appropriate measures are taken to cope with the shear forces and soil retention. For roof slopes greater than 3:12 and with soil depths of 3½ to 13 inches, a GardNet® soil confinement system must be utilized.



Ballard Library - Seattle, WA

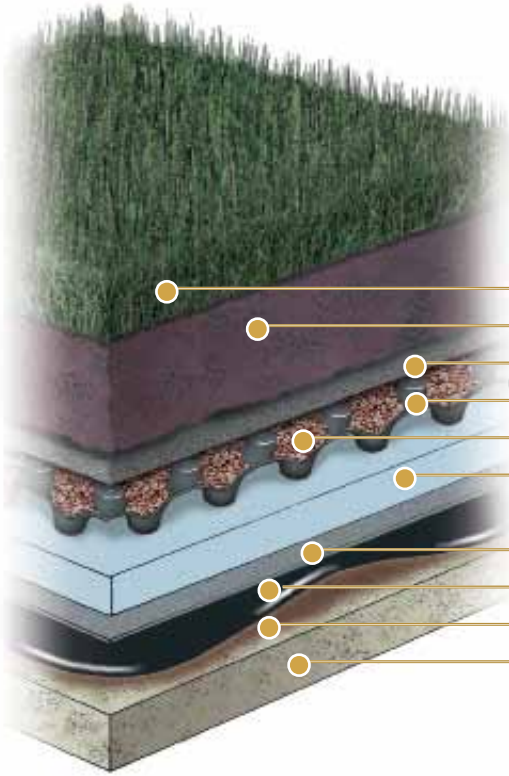


Macallen Building - South Boston, MA



Tyrner Interpretive Center - Glenview, IL

LAWN

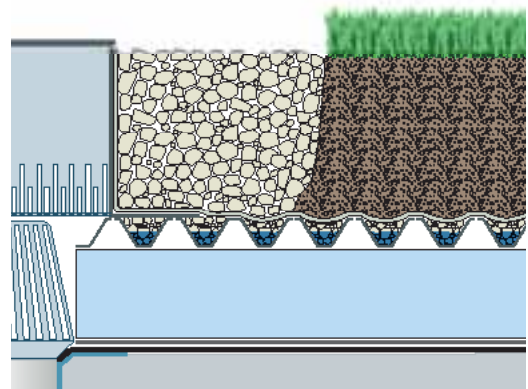


- Vegetation
 - LiteTop® Growing Media
 - Systemfilter
 - Gardendrain GR30® or GR50®
 - LiteTop® Aggregate
 - STYROFOAM®
 - Hydroflex30®/Root Stop HD or Hydroflex RB®
 - MM6125 EV-FR®
 - Surface Conditioner
 - Approved Substrate
- (typical components depicted)*



Features...

- Depth (8" - 12" of growing media)
- Weight (53 - 78 lbs / s.f. wet weight)
- Ideal for increasing usable space
- Integrated hardscape options
- Must be irrigated
- Requires regular maintenance



Typical Application

A Garden Roof® Assembly can expand the livable space of a building through the integration of hardscaped areas with lush landscaped areas of lawn and other vegetation. The maintenance required for these spaces is similar to the care that would be required to maintain this space at grade.



Sherman Plaza - Evanston, IL



Patewood Hospital - Greenville, SC Photo Credit: Design Strategies



Millennium Park - Chicago, IL

INTENSIVE



Vegetation
LiteTop® Growing Media

Systemfilter
Gardendrain GR30® or GR50®

LiteTop® Aggregate

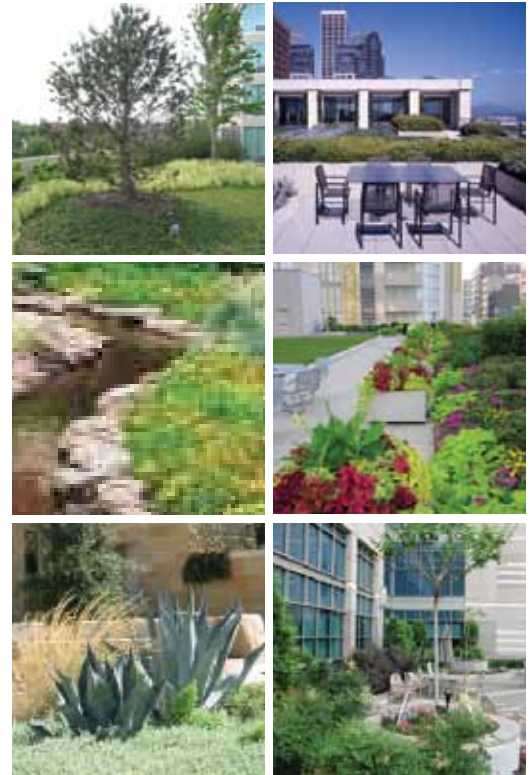
STYROFOAM®
Hydroflex 30®/Root Stop HD
or Hydroflex RB®

MM6125 EV-FR®

Surface Conditioner

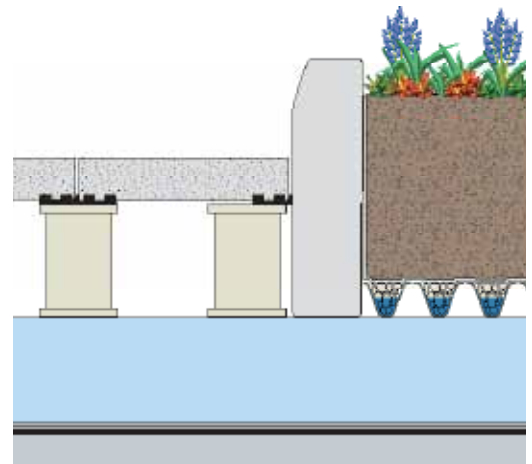
Approved Substrate

(typical components depicted)



Features...

- Depth (8" - 36" of growing media)
- Weight (53 lbs and greater per s.f. wet weight)
- Unlimited design possibilities
- Accommodates a wider variety of plants/shrubs/trees
- Hardscape options, site amenities and water features
- Must be irrigated
- Requires regular maintenance



Typical Application

The landscape possibilities with an intensive Garden Roof® Assembly is virtually limitless. Intended for recreational, sporting and leisure purposes, they are often indistinguishable from natural gardens in appearance. It is not uncommon to see water features, significant topography changes, trees and other large plantings that add character and interest to the roof.



Trump International Hotel & Tower - Chicago, IL



Optima Biltmore - Phoenix, AZ



The Solaire - New York, NY



LDS Conference Center - Salt Lake City, UT



California Academy of Sciences - San Francisco, CA

Winston Churchill said "We shape our dwellings and afterwards they shape our lives". Hydrotech has long embraced the idea of sustainable building practices, products and assemblies that help our customers achieve their goals of corporate stewardship for the environment. Our Garden Roof® Assembly, where we are the market maker and leader, contributes to the long term health of our planet and its people.

Much has changed in our industry since I began my career over 40 years ago, but the values that underpin our success have not: integrity, quality, trust, accountability and relationships based on respect for each other. At American Hydrotech we have talented and energetic people who have a passion for their work and who are committed to providing value at a fair price.

Our thanks to all of you who have supported us over this great journey. Our goal is to continue to serve our customers with creativity and consistency to generate growth across all channels. May we assist you on your next project?

Please give us a call.

David F. Spalding
President

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Cover Photo – Church Street Station - Evanston, IL

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2009-BR-1-GR-DY



STYROFOAM is a registered trademark of The Dow Chemical Company

The management system governing the manufacture of MM6125 is ISO 9001:2000 certified