



# Garden Roof<sup>®</sup> Assembly



BEAUTY MEETS PERFORMANCE

## 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 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 vegetated

or green roofs back then, but are today by many. The difference between those early applications and the current vegetated roof market is weight. Advancements in drainage/water retention technology and lightweight engineered growing media have greatly reduced the weight of a vegetated 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. With more than 20 years of experience with all kinds of vegetated roofs, Hydrotech is in a unique position

to assist you with all aspects of your project. Whether you are faced with a flat or steep slope roof, need to address stormwater retention as part of the project's BMP/LID requirements, or need assistance in choosing the right vegetation...Hydrotech can help.

## 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 50 years. Monolithic Membrane 6125® is

formulated with up to 40% post-consumer recycled content and is the membrane of choice for Hydrotech's Garden Roof applications. MM6125 has been used in fountains, pools, reflecting ponds, planters and other applications where contact with water is to be expected. In addition to MM6125's ability

to perform in a wet, submersed condition, MM6125 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...*

**20+** *years, thousands of projects around the world...*



1996...

Mashantucket Pequot Museum - Mashantucket, CT



Bellevue City Hall - Bellevue, WA



Tri-City Wastewater - Oregon City, OR

## GARDEN ROOF® ASSEMBLY ADVANTAGES

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

### Owner Benefits

- 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 / Detention
- Additional Thermal Resistance
- Reduced Noise Transmission

### Ecological Benefits

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

## 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 available

which may assist you in meeting your project goals. Visit our website [www.hydrotechusa.com](http://www.hydrotechusa.com) to access our specifications, details, Garden Roof Planning Guide and more. In addition, Hydrotech's Hydrology Tool (HHT) can provide stormwater management information 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 reinstallation of the overburden. **Contact Hydrotech for specifics.**

*...10's of millions of square feet installed*



LDS Conference Center - Salt Lake City, UT

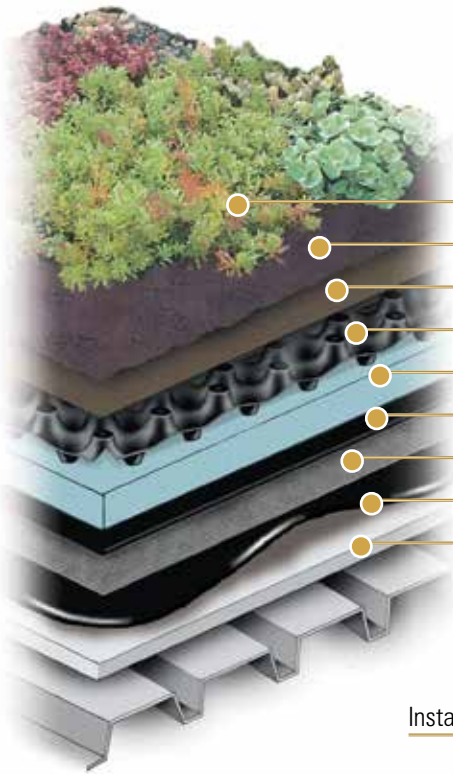


Optima Old Orchard Woods - Skokie, IL Photo Credit: Optima



1101 Dexter - Seattle, WA

# EXTENSIVE



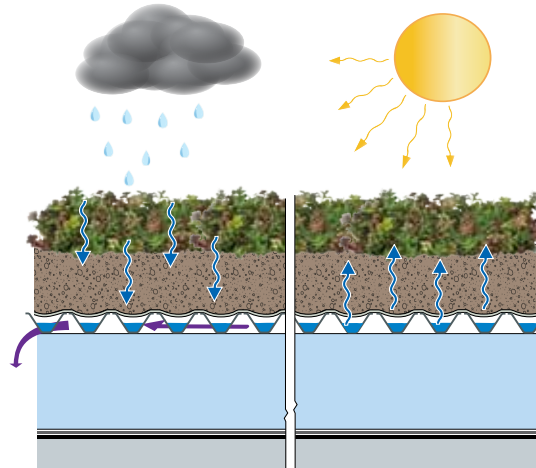
- Vegetation
  - LiteTop® Growing Media
  - Systemfilter
  - Gardendrain GR15® or GR30®
  - STYROFOAM®
  - Root Stop
  - Hydroflex 30®
  - MM6125®-FR
  - Approved Substrate
- (typical components depicted)*



InstaGreen® GT-4 Tray

## Features:

- Typical depth (3" - 6" of growing media)
- Depths and related weights are regionally dependent (in warmer climates, greater growing media depth is required)
- Reduce and delay stormwater runoff volumes and rates
- Can be used on flat or roofs with max. 2:12 slope
- InstaGreen® GT-4 Tray available for modular applications
- Permanent irrigation is highly recommended (sufficient water is required for establishment and maintenance)
- Requires minimal maintenance once established
- Rock Wool can be added for increased water holding\*\* capacity



Stores water for plant use while freely draining

## 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.



550 W. Adams - Chicago, IL

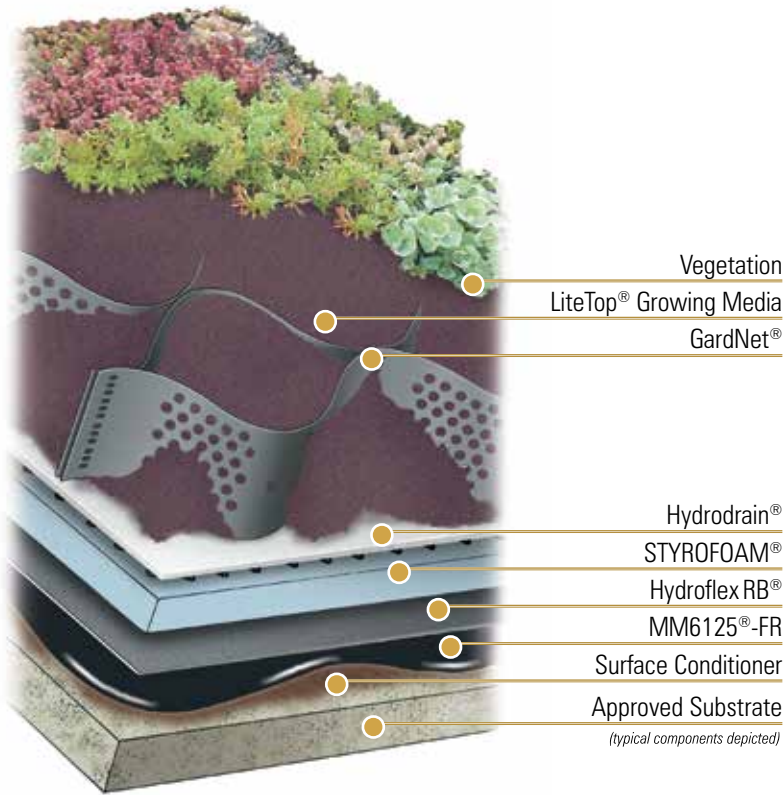


Dow Headquarters - Midland, MI



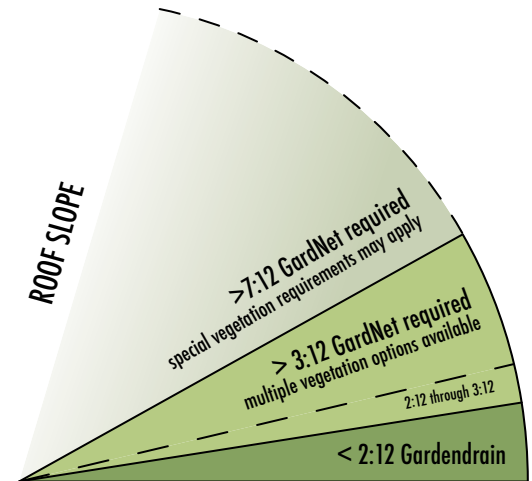
Gates Foundation Garage - Seattle, WA

# SLOPE



## Features:

- Depth: 3.5" - 13" of LiteTop® growing media; stackable for greater depth
- Weight dependent upon local and regional media blends
- Visibility can be an architectural design feature
- Easily conforms to complex roof slope shapes involving convex, concave and other compound surfaces
- Permanent irrigation is highly recommended (sufficient water is required for establishment and maintenance)
- Requires maintenance depending on vegetation selection
- **Project specific engineering is required, contact Hydrotech** \*\*



\*\* Gardendrain may be acceptable, contact Hydrotech for specifics.

## Typical Application

Architects, designers, and owners are no longer limited to designing flat or low sloped vegetated roofs. Hydrotech's GardNet Garden Roof Assembly can be installed on steep sloped or undulating roof structures to create a dynamic architectural statement. GardNet, a soil confinement system which ensures soil and plant retention can easily accommodate slopes up to 7:12 and beyond.



ASLA Headquarters - Washington, DC Photo Credit: ASLA



Hypar Pavilion at Lincoln Center - New York, NY



h2hotel - Healdsburg, CA

# INTENSIVE



Vegetation  
LiteTop® Growing Media

Systemfilter  
Gardendrain GR30® or GR50®

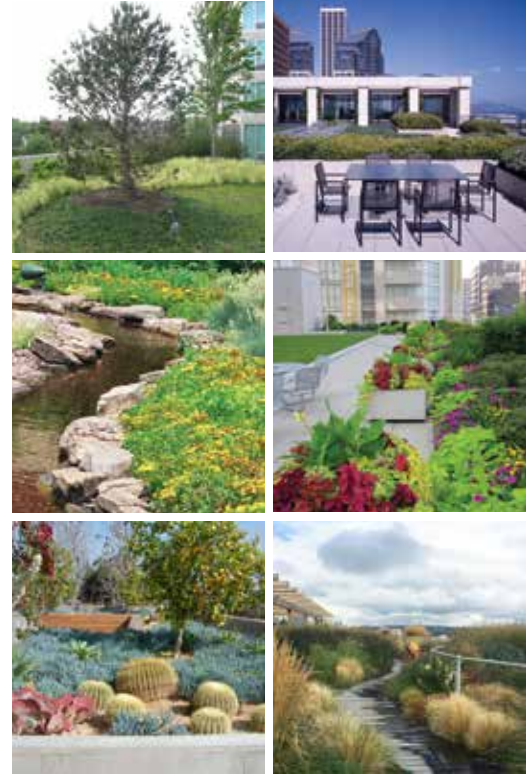
LiteTop® Aggregate

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

MM6125® EV-FR  
Surface Conditioner

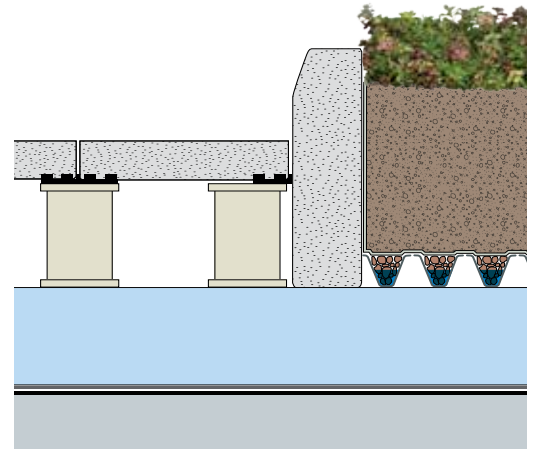
Approved Substrate

*(typical components depicted)*



## Features:

- Requires greater LiteTop growing media depths: 6" - 36" or more of growing media)
- Depths and related weights are regionally dependent
- Accommodates a wider variety of plants/shrubs/trees
- Hardscape options, site amenities and water features are possible
- Unlimited design possibilities
- Irrigation is strongly recommended
- Requires regular maintenance
- Required Root Stop HD or Hydroflex RB II to resist woody plant root intrusion



## 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.



Millennium Park - Chicago, IL

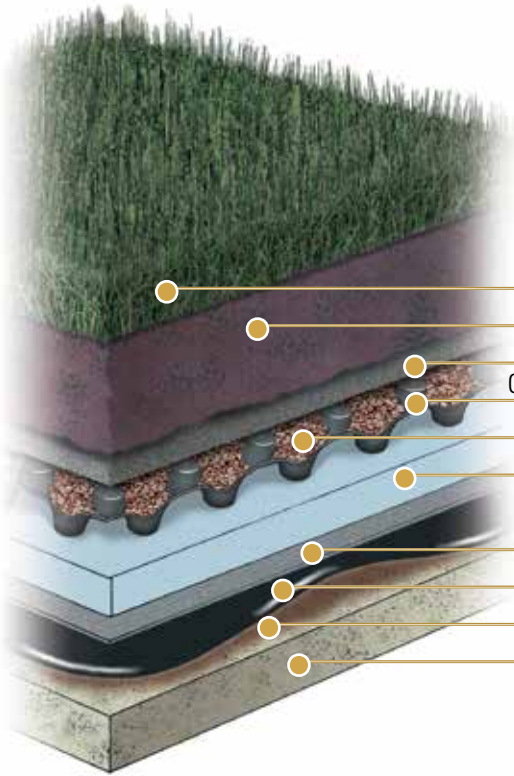


Optima Biltmore - Phoenix, AZ



The Solaire - New York, NY

# LAWN

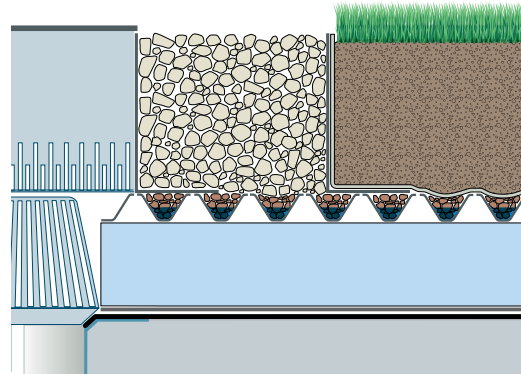


- Vegetation
  - LiteTop® Growing Media
  - Systemfilter
  - Gardendrain GR30® or GR50®
  - LiteTop® Aggregate
  - STYROFOAM®
  - Hydroflex30®/Root Stop HD or Hydroflex RB®
  - MM6125®-FR
  - Surface Conditioner
  - Approved Substrate
- (typical components depicted)*



## Features:

- Typical depth: 8" - 12" or more of LiteTop® Lawn growing media
- Depths, related weights and types of grass used are regionally dependent (in warmer climates, greater growing media depth is required)
- Ideal for increasing usable space
- Can be used on flat or sloping roofs
- Hardscape options can be integrated into assembly
- Irrigation is strongly recommended
- Requires maintenance similar to at-grade lawn areas



## 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



Patwood Hospital - Greenville, SC Photo Credit: Design Strategies



Memphis Bioworks - Memphis, TN



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

Cover Photo – Church Street Station - Evanston, IL



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STYROFOAM is a registered trademark of The Dow Chemical Company

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