

STEVENS  
**GardenTop™**  
Roof Systems



**ROOFING SYSTEMS**



### What is Green Roofing?

Simply put it is a green space on top of a building structure developed from soil and plantings. Unlike a roof garden that utilizes plantings in containers scattered over the roof area, today's green roof covers the waterproofing system entirely with soil and vegetation.

Vegetated roofs, or green roofs as they are frequently called, have been in existence for centuries. Sod roofs have kept many homes warm in the winter and cool in the summer with their grass or plant layer placed atop of the sod base. This natural, environmentally friendly roof provided the basis of construction for the green roof assemblies used on commercial buildings and homes throughout the world today.



Front cover photo courtesy of Emory Knoll Farms

### Benefits of Green Roofing

A green roof delivers many benefits to the building owner and surrounding community. Studies worldwide have clearly demonstrated that these roofs make a positive impact on their local environment that ripples through the larger eco and economic systems they affect. The results show vegetative roofs help to clean the air of particulate matter; create habitat areas for indigenous wildlife; provide aesthetic appeal to surrounding locations; reduce the urban heat island effect prevalent in many metropolitan areas and control storm water run-off. These last two benefits cannot be understated.

Realizing this, governments and utility companies have created incentive offerings for building owners to spur the construction of green roofs. In addition to these incentives, an owner can gain energy savings, outside noise reduction and increased life of the roof's waterproofing system by investing in a green roof.

### Our Background in Vegetated Roof Systems

Stevens entered the construction industry as a manufacturer of Hypalon® geomembranes thirty years ago. Our environmental liners were primarily used for projects that contain fresh water in man-made reservoirs, as well as to contain hazardous materials and line municipal solid waste landfills. Remaining engaged in the below grade geomembrane liner business, we soon turned to the commercial low-slope roofing market and has become a world leader in the design and production of innovative hot-air weldable single-ply roofing systems.

Europe has led the world in refining and modernizing green roof technology and has thousands of green roofs installed throughout the continent. Together with our European partners, we have been active in the vegetated roof business for over a decade.

Many of our European installations would not be possible without conformance to government standards for green roof applications. One of them is the German "FLL" test for evaluating a waterproofing membrane's ability to resist vegetative root growth. Stevens EP™ membrane has successfully passed the stringent criteria of that program.



### Stevens GardenTop™ System for the US Market

Dow Roofing Systems brings its vast experience in containment membranes, roofing construction and European green roofs to the United States with the introduction of the Stevens GardenTop™ System. The Stevens GardenTop™ System combines superior roofing membrane, insulation components and water management technology to deliver maximum performance, design flexibility and installation efficiency.

There are two Stevens GardenTop™ System options: intensive and extensive. The difference between the two is the depth of growing medium contained in the system. An intensive system, or “deep” system, has soil depth greater than six inches. The extensive system uses less growing medium, between two and six inches, to support its plant life. Both systems provide a wide variety of benefits. The deeper soil

depth of the intensive design supports a greater variety of plant life but demands increased structural load carrying capacity and greater sophistication in design, construction and maintenance. By using less soil in the extensive design, more building structures with modified “conventional” roofing assemblies and simple drainage systems can be fitted with vegetated roofs. Dow Roofing Systems has designed both systems for installation with our Stevens EP™ or Stevens EV® membranes, complimented by a full line of accessory products that complete the Stevens GardenTop™ assembly.

### Stevens Membrane Technology

Stevens EP is the world’s first reinforced TPO roofing membrane and represents some of the most advanced waterproofing membrane technology today. It is environmentally friendly during manufacture, installation and can be safely disposed of in a landfill. Stevens EV derives its superior physical properties and performance characteristics from DuPont’s HP (High Performance) Elvaloy® polymer. Elvaloy® is a solids phase, non-migrating flexibilizer that imparts durability, flexibility and weatherability to the membrane without the drawbacks and risks associated with liquid phthalate plasticizers.

#### Stevens GardenTop Components

##### Membranes\*:

- 60 mil Stevens EP™
- 60 mil Stevens EP-Fleece
- 80 mil Stevens EP-XL
- 60 mil Stevens EV®
- 60 mil Stevens EV-Fleece
- 80 mil Stevens EV®

##### Insulation:

- Stevens XPS
- Stevens ISO 2000
- DensDeck® Prime

##### Adhesives:

- Stevens Bonding Adhesive
- Stevens Insulation Adhesive
- Stevens-Olybond 500

##### Water Management:

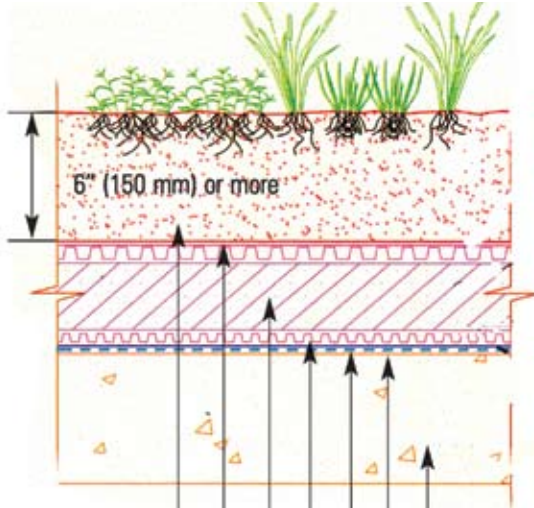
- Stevens GardenTop™ Drain 650
- Stevens GardenTop™ Drain 200
- Stevens GardenTop™ Drain 50RS
- Stevens GardenTop™ Drain 100RS

Membrane selection is guided by the substrate type and condition and warranty duration.

Stevens EP is a trademark for TPO membrane manufactured by Dow Roofing Systems. Stevens EV is a registered trademark of Dow Roofing Systems. Elvaloy is a registered trademark of Dupont.

**Stevens GardenTop™ Intensive System**

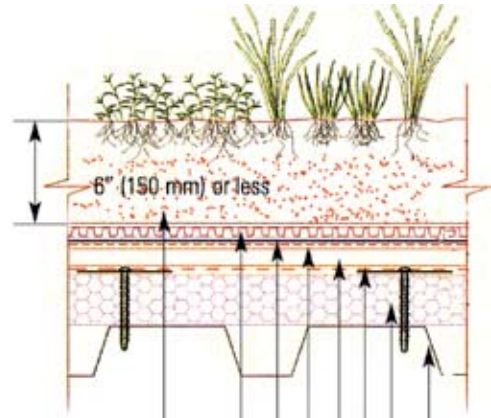
The intensive system places the waterproofing membrane directly over a high load capacity roof deck and the remaining system components, such as the insulation and drainage system, between it and the growing medium. High density, closed cell insulation is used. A Stevens GardenTop™ Drain multi component drainage system facilitates the vertical and horizontal flow of water through the roof assembly to the roof drains and provides air movement across the membrane surface.



- Growth Medium and Plantings
- Stevens GardenTop Drain 650
- Stevens XPS 40
- Stevens GardenTop Drain 200H
- Stevens EP or EV Membrane (60 mil minimum)
- Stevens Protective Fabric or Stevens Bonding Adhesive
- Structural Concrete Roof Deck

**Stevens GardenTop™ Extensive System**

An adhered roof assembly is the basis of the extensive system. High density DensDeck® Prime Roof Board provides a durable substrate for the membrane. Stevens GardenTop™ Drain is placed on the membrane to provide: a high volume exit for water, reservoirs for water retention and an EPA certified fabric that protects against root intrusion. The shallow growing medium and plantings complete the extensive system.



- Growth Medium and Plantings
- Stevens GardenTop Drain 50RS or 100RS
- Stevens EP or EV Membrane (60 mil minimum)
- Membrane Bonding Adhesive
- DensDeck Prime Roofing Board
- Stevens Insulation Adhesive or Stevens Olybond
- Stevens ISO 2000 Insulation
- Steel or Structural Concrete Roof Deck

Post Industrial Recycled Content for Stevens GardenTop™ Drains	
Drain 650	88%
Drain 200V	85%
Drain 200H	74%
Drain 50RS	84%
Drain 100RS	79%

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**Dow Roofing Systems is an ISO 9001 Certified Facility.**

[www.dowroofingsystems.com](http://www.dowroofingsystems.com)



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