



Thermoplastic Single Ply and Multi-Ply Roofing Systems

2670 Leisch's Bridge Road, Suite 400, Leesport, PA 19533 Phone (610) 916-9500 Fax (610) 916-9501

FLEX GREEN ROOF SYSTEMS

DESCRIPTION

Green Roof Systems or Roof Gardens are sometimes referred to as eco or living roofs. They are complete roof systems of vegetation, soil, drainage and a high quality waterproofing membrane. Green roofs are a continuous hydrological system across the surface of a roof that is designed to absorb and slowly release rainwater. They can be paired with systems to infiltrate or capture remaining runoff, creating a complete on site storm water management system. Layers making up the roof garden system can be a combination of the following components: vapor barrier, insulation board, recover board, waterproofing membrane, protective sheet membrane, drainage mat, geotextile fabric, engineered growing medium and the plant material. As with any roof the most important aspect of a green roof system is its ability to keep water out. Flex relies on its PVC waterproofing membranes for long term watertight protection. The ability to hot air weld the seams are recognized throughout the roofing industry as the strongest most watertight method available. The chemical ingredients of the Flex PVC membrane are inherently root resistant making it an ideal choice for the waterproofing membrane in a roof garden system.

BENEFITS

- Retention of Storm Water reduces burden on overstressed sewer systems
- Considerable Heat Reduction to Roof Surface
- Reduces Utility costs
- Reduces Heat Island Effect
- Extends lifetime of the waterproofing system
- Increases Green Space and provides Urban Habitat
- Reduces airborne and waterborne pollution
- Qualifies for points under the LEED™ system

SYSTEMS

An extensive roof garden may weigh from 40 pounds to 100 pounds per square foot. They typically have lightweight growing mediums and low succulent plantings.

An intensive roof garden could range from 130 pounds to 340 pounds per square foot. They have much heavier growing mediums and larger plantings such as shrubbery and trees.

Structural decks must be capable of supporting the additional weight of the saturated garden.

COMPONENTS

Insulation: Layers are optional and prevent water stored in the green roof system from extracting heat in the winter or cool air in the summer. High compressive strength polyisocyanurate insulation board, extruded polystyrene or Foamglass cellular glass block may be installed under the waterproofing membrane. An alternate method is to install extruded polystyrene insulation board can be installed on top of the protected waterproofing membrane similar to a Protected Membrane Roof (PMR) assembly.

Recover Board: Flex's supplies Georgia-Pacific's, DensDeck recover board for installation over the approved insulation boards.

Waterproofing Membrane: Flex PVC thermoplastic membrane is installed as the top layer of waterproofing membrane.

Protective Layer: A sacrificial layer of Flex MF/R PVC membrane or an alternate approved protection membrane is installed over the waterproofing membrane to protect the waterproofing membrane from damage during the construction process.

The Flex 1120N or Flex 1160N Geotextile a non woven geotextile fabric composed of polypropylene fibers is installed as a separation or protection layer in Flex PMR Systems.

Drainage Layer: Flex G100N is designed for use in high-flow, high compressive strength, horizontal or vertical applications where a single-sided subsoil drainage filter layer is needed. The panel is installed as a drainage and filter panel between the Flex waterproofing system and the soil fill. Provides a method of controlling storm water runoff and prevents saturation of the growing medium.

Filter Fabric: Flex 140N non woven geotextile to prevent soil or particle clogging of the drainage panel.

Growing Medium: A specially formulated soil mixture designed to absorb and retain water in a controlled manner to nourish the plant life.

Plantings Selected: Based on the climate, type of system and the owners desired appearance.

Alternate method: A LiveRoof, LLC, LiveRoof®Modular Green Roof Systems supplied by Flex may be installed directly over the approved protection layer.

INSTALLATION

The waterproofing system is assembled in much the same way a conventional Flex roof system is installed. Current Flex Details and Specifications for PVC Roof Systems would apply to the roof garden specification. Flashing heights require extending 8" above the finished height of the garden.

WARRANTY

The installation is first inspected by Flex Technical Services to determine compliance with Flex's current details and specifications. The Applicator is required to arrange for an electronic leak detection testing or an alternate flood test performed in accordance with ASTM D 5957. When it is determined that the system is watertight and has been completed in accordance with current Flex Details and Specifications a Flex Green Roof System Warranty would be issued.