



ROOFING  
GREEN ROOF SOLUTIONS  
WITH Sarnafil®

BUILDING TRUST





# “GREEN ROOFS ARE HEALTHY, SUSTAINABLE AND REGENERATIVE ROOF LANDSCAPES THAT CAN HELP PROTECT OUR ENVIRONMENT

BY DIMINISHING THE DEVELOPMENTAL IMPACTS ON OUR COMMUNITIES.”

## Sarnafil®. THE ADVANTAGES ARE GROWING.

As you can imagine, the addition of a green roof to an otherwise unused area on a building, is beneficial for the surrounding environment. Initial loss of “green” space and its inherent natural processes like photosynthesis are restored; now just a few stories higher. But green roofs also have **other benefits that you might not be aware of.**

### **STORM-WATER RETENTION:**

During heavy rainfalls, runoff from surfaces such as pavements and rooftops can cause serious problems such as sewer overflow and water pollution. Green roofs slow down the water flow by retaining up to 75% of the rainwater, thus alleviating the pressure on storm-water infrastructures.

### **REDUCING ENERGY CONSUMPTION:**

Green roofs are great insulators. They can reduce peak energy demand by lowering a building’s cooling costs in the summer months and heating costs in the winter months.

### **REDUCING THE URBAN HEAT ISLAND EFFECT:**

More green roofs and fewer dark colored roofs equal a cooler city. Dark roofs retain heat while plants naturally cool their surrounding environments through evapotranspiration cycles. In cities where the ambient temperature can be up to 10 degrees hotter than the surrounding areas, green roofs can help bring the overall temperature down.

### **WATERPROOFING MEMBRANE PROTECTION:**

A green roof protects the waterproofing membrane from damaging UV rays, freeze-thaw cycling and repeated foot traffic, extending its lifespan. Some green roofs in Europe have lasted more than 40 years without being replaced.

### **IMPROVED AIR QUALITY:**

Green roofs filter air by absorbing and converting carbon dioxide to oxygen.

### **SOUND INSULATION:**

Soil and plants are an effective sound insulator.

### **AESTHETICS:**

Green roofs are visually stimulating and can make great areas for recreation and pleasure.

### **INCREASED PROPERTY VALUE:**

Installing a green roof can increase property value by providing a valuable building asset.



Furka Oberalp Rail, Switzerland



Phoenix Zeppelin, Czech Republic



Dingshan Garden Hotel, China

**LEFT:**

**Project:** The Pulitzer Foundation for the Arts, St. Louis, USA

**Design Architect:** Tadao Ando Architect and Associates, Osaka, Japan

**Landscape Architect:** SWT Associates, St. Louis, USA

**Waterproofing Installer:** Bartch Roofing Company, Inc., St. Louis, USA

**Sika Sarnafil Waterproofing System:** Loosely Laid System

**Project Size:** 338 m<sup>2</sup>

**Owner:** Emily Rauh Pulitzer



“WHEN YOU SPECIFY A SIKA  
SARNAFIL GREEN ROOF, YOU  
GET MORE THAN WATERTIGHT  
SECURITY,  
YOU GET PEACE OF MIND KNOWING YOU MADE THE RIGHT CHOICE.”

## Sarnafil®. BECAUSE PERFORMANCE IS MANDATORY.

### WHY CHOOSE Sarnafil®?

Performance over time is the only true test of a waterproofing system's quality. Sika Sarnafil has been waterproofing green roofs and other landscaped areas across Europe for over 40 years and in the United States for over 25 years. With close to 4 hundred million square metres of roofing and waterproofing membrane installed worldwide, architects, specifiers and building owners know they can depend on Sika Sarnafil for proven products and system performance.

When you specify a Sika Sarnafil Green Roof, you get more than watertight security; you get peace of mind knowing you made the right choice. The Sika Sarnafil G410 membrane is specially designed for sub-grade environments, compounded to remain watertight in extreme conditions including constant dampness, ponding water, high and low alkaline conditions and exposure to plant roots, fungi and bacterial organisms.

### EXTENSIVE AND INTENSIVE

There are two Green Roof categories: Extensive and Intensive.

Extensive green roofs are generally lower in weight and cost and require less plant maintenance. With only a few centimetres of soil, extensive green roofs typically support plants that are tolerant of high heat, drought, wind and frost like grasses, wildflowers and moss. Extensive roofs are often used in areas that will not be subject to regular traffic.

Intensive green roofs are generally heavier, cost more and require more maintenance. However, because the soil is deeper, intensive green roofs can accommodate trees, shrubs, bushes and vegetable gardens. It is not uncommon to see an intensive green roof used for recreational purposes.



European Investment Bank, Luxemburg

**PROJECT**

St. Louis Children's Hospital,  
St. Louis, USA

**ARCHITECT**

Cannon Design,  
St. Louis, USA

**LANDSCAPE ARCHITECT**

Edaw Inc.,  
Fort Collins, USA

**GREEN ROOF CONTRACTOR**

McGrath and Associates Inc.,  
St. Louis, USA

**WATERPROOFING INSTALLER**

Bi-state Roof Systems Inc.,  
St. Louis, USA

**SIKA SARNAFIL WATERPROOFING SYSTEM**

Adhered and Grid System,  
G476 Membrane

**PROJECT SIZE**

743 m<sup>2</sup>

**OWNER**

BJC Health Systems



Sarnafil Asia Shanghai Building, China

**EXTENSIVE**

Growth medium 2.5-15 cm  
Lightweight 59-244 kg/m<sup>2</sup>  
Low growing plants  
Low maintenance  
Low water requirements  
Usually non-accessible  
Slopes up to 30 degrees

**INTENSIVE**

Growth medium 15 or more cm  
Heavier weight 244 or more kg/m<sup>2</sup>  
Trees, shrubs, gardens, and more  
Higher maintenance  
Irrigation usually necessary  
Designed for human recreation  
Only used on low slopes



“SIKA SARNAFIL PROVIDES THE FLEXIBILITY TO CHOOSE THE GREEN ROOF APPLICATION THAT BEST FITS YOUR BUILDING’S DESIGN CRITERIA.”

## Sarnafil®. DESIGNED TO MEET YOUR NEEDS.

Sarnafil has green roof systems for use on both concrete and metal deck applications. Sarnafil provides the flexibility to choose the application that best fits your building’s design criteria.

### **MORE SIKA SARNAFIL BENEFITS**

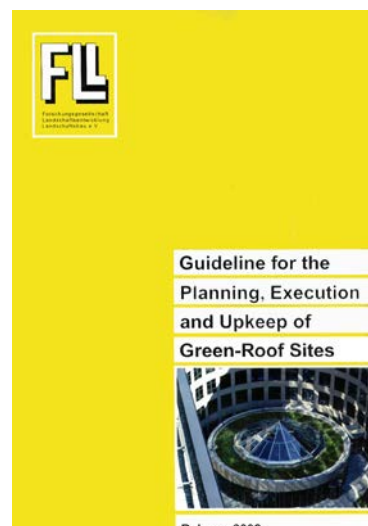
Sarnafil’s waterproofing membrane is specially designed for sub-grade environments. The G476 membrane is available to match your application, overburden type and specific project requirements. Highly puncture resistant, its bright orange color makes it easy to identify and inspect to maintain high levels of quality assurance and control during installation.

### **ROOT RESISTANCE**

Many waterproofing membranes are not resistant to root penetration. They fail, often in five years or less, due to root infiltration into the field seams and flashings. Sarnafil membranes are inherently root and algae resistant and require no additional barriers to be added to the system. Sarnafil membranes have passed the most stringent European tests (German FLL Standards) for root resistance. The FLL standard test exposes the waterproofing membrane to 4 years of accelerated root growth.

### **HEAT WELDED SEAMS AND FLASHINGS**

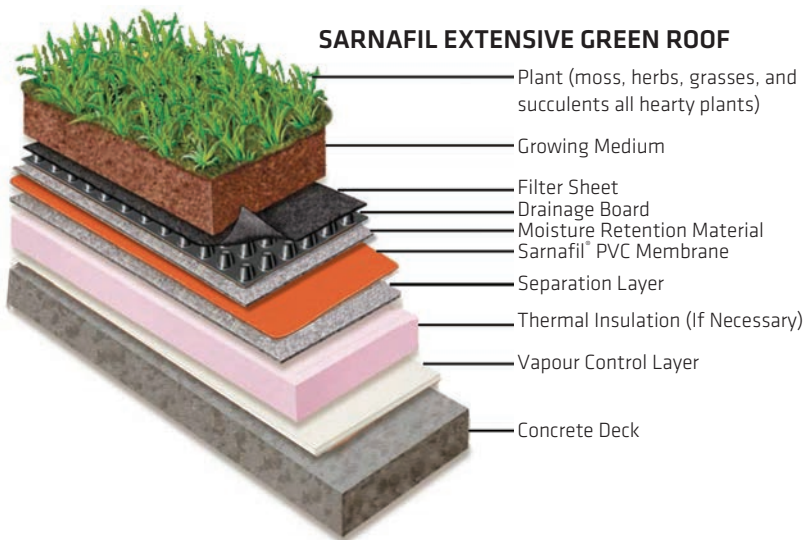
Faulty seams and details are a common source of leaks in green roofs. Some waterproofing membranes use sealants, adhesives or tapes to secure the seams, but because Sika Sarnafil’s membrane is thermoplastic, seams and flashings are welded together using Sika Sarnafil’s automatic hot-air welder, the Sarnamatic. When welded together, the sheets become one monolithic layer of material impervious to moisture infiltration.



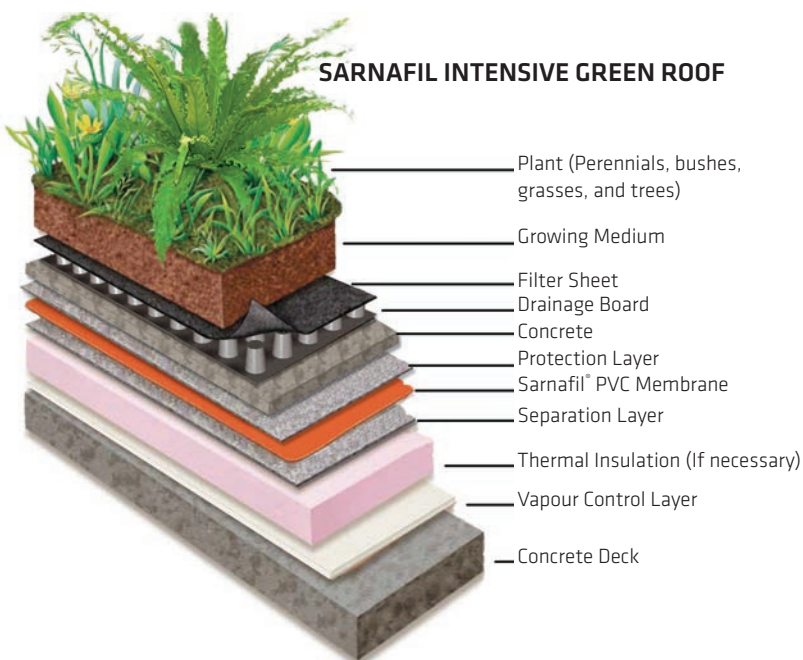


Oaklyn Branch Library, USA

**SARNAFIL EXTENSIVE GREEN ROOF**



**SARNAFIL INTENSIVE GREEN ROOF**



# SARNAFIL MANAGEMENT

**PROVEN MATERIALS**

A high quality membrane is the key to any successful roofing or waterproofing project that demands absolute system integrity. With that in mind, Sarnafil's manufacturing process uses only the highest quality materials to produce a monolithic, nonlaminated membrane that offers excellent weatherability and dimensional stability.

**EXPERT ASSISTANCE**

Our skilled technical experts make Sarnafil stand apart from other manufacturers. We're involved at each major milestone – offering design assistance to architects and specifiers if needed, and training authorized applicators in the classroom and at the job site.

**SKILLFUL WORKMANSHIP**

Sarnafil is only installed by a select group of trained, Certified Contractors – only the best are invited to join our team. Maintaining strict control over the installation process means that Sarnafil quality is carried through from start to finish.

# Sarnafil® - WORLD CLASS ROOFING & WATERPROOFING

Sarnafil was created by the merger of Sika and Sarnafil. Now in New Zealand, Sika Sarnafil is active in around 20 countries across the Asia Pacific region, providing total roofing & waterproofing solutions. Sika Sarnafil, your reliable partner.



Today's green roofs are modern versions of centuries old roofing practices. From the hanging gardens of Babylon, to the sod roofs in Iceland during the Viking era, adaptations of earthcovered roofs have been around for many years.

In Europe, extensive research and testing on how to waterproof green roofs started in the early 1970's. This work resulted in today's time-proven waterproofing solutions, allowing durable and sustainable green roofs to "grow" in popularity.

Green roofs can now be found throughout Europe, as well as in North America and across the world.

Green roofs are becoming a common roofing option, turning some of our cities, into a living habitat for nature.

With the increased desire for high-performance buildings and sustainable building products, green roofs have become a "growing" roofing option in the world. A "green roof," also known as a garden roof, vegetated roof, or eco-roof, is simply a planted area on a flat or sloped roof. While conventional gardens on a rooftop usually consist of a few pots and planters, a green roof system can cover the whole roof area with the cultivation of plant life.

And depending on the type of green roof, you can have everything from low growing grass and moss to trees, shrubs, ponds and more.

## FOR MORE Sarnafil® INFORMATION:



Scan the QR code  
for further Sarnafil  
roofing information

### WHO WE ARE

Sika AG, Switzerland, is a globally active specialty chemicals company. Sika supplies the building and construction industry as well as manufacturing industries (automotive, bus, truck, rail, solar and wind power plants, façades). Sika is a leader in processing materials used in sealing, bonding, damping, reinforcing and protecting loadbearing structures. Sika's product lines feature high quality concrete admixtures, specialty mortars, sealants and adhesives, damping and reinforcing materials, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.

Our most current General Sales Conditions shall apply.  
Please consult the Data Sheet prior to any use and processing.

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