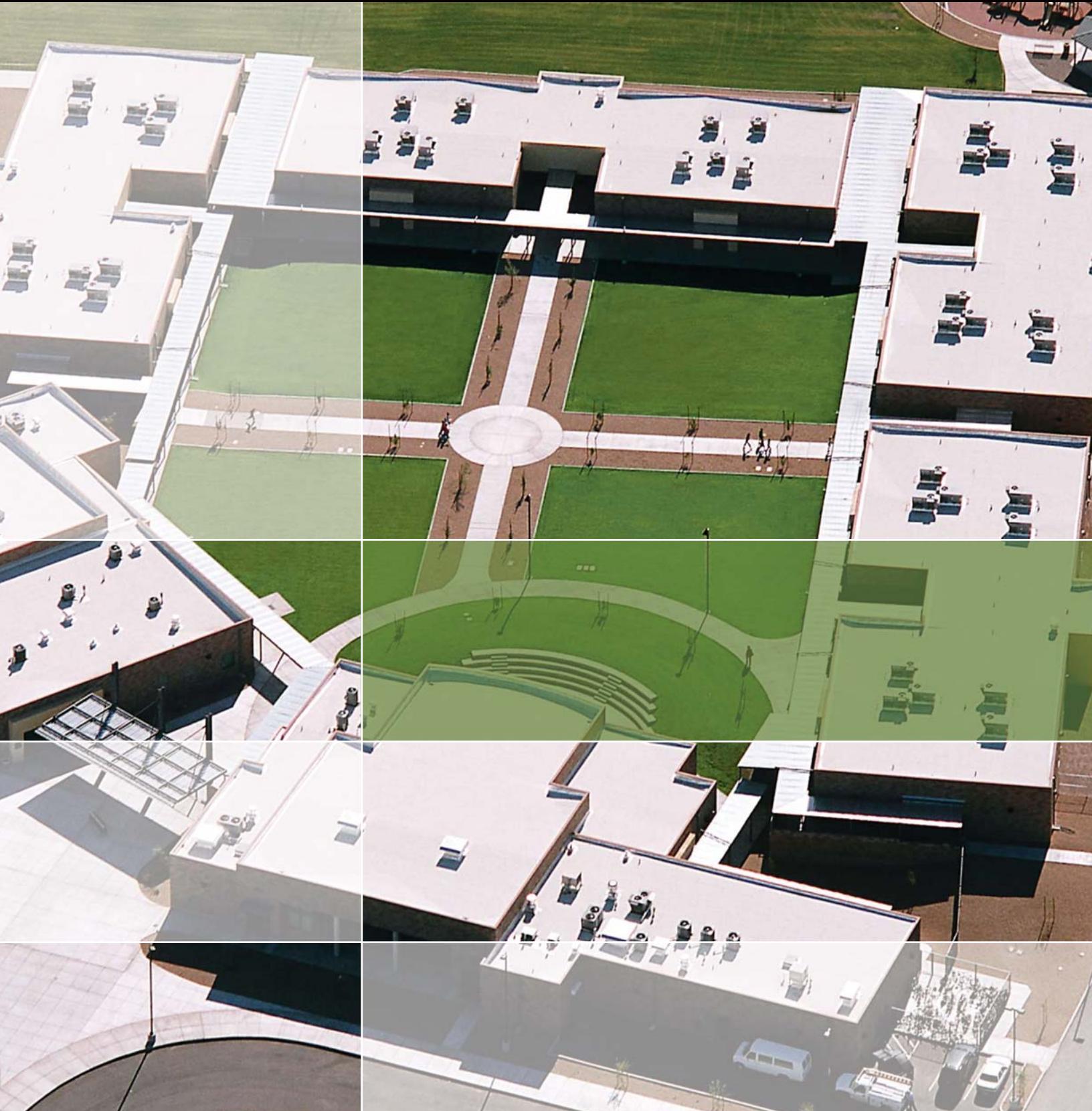




Green and Sustainable Roofing and Waterproofing Products



Providing high performance solutions for green applications for over 30 years.



▲
Parapro 123 Flashing and Parapro Roof Membrane protect this Federal building in New Orleans.

Innovation

Whether it's a green roof system featuring vegetation, a roof system with increased insulation and a reflective surfacing, a white liquid-applied roof membrane, or a sustainable roof deck, the roof can be part of the solution to today's environmental concerns. Issues such as the urban heat island effect, rising energy costs, poor air quality, stormwater runoff, and crowded landfills can all be positively impacted by roofing and waterproofing systems.

Many cities and states are now recognizing the environmental impact of a roof, and are implementing initiatives to maximize the opportunity. But while the initiatives may be new, the concept isn't. At least not to Siplast. We've been engineering products for green roof systems for decades.

Siplast's involvement with green and sustainable solutions began over 30 years ago with our original green product: Teranap. Since then, Siplast's continually growing number of green products has evolved into **siplastgreen** – a full range of environmentally responsible, high performance roofing and waterproofing solutions. **Siplastgreen** includes membranes and accessories for green roofs, cool roof options, sustainable roof insulation systems, and solvent-free adhesives. **Siplastgreen** products meet a variety of criteria established by the U.S. EPA Energy Star program, California Title 24 Part 6, and the United States Green Building Council LEED-NC (Version 2.2) program.

Quality

Siplast products are manufactured consistently to exacting standards. At all Siplast North American manufacturing facilities, stringent quality control tests are performed on every lot of material we produce to ensure Siplast products meet specified criteria. That's because although meeting current reflectivity, emissivity, and insulation standards is important, long term performance is paramount. As the company that developed SBS-modified bitumens in the 1960s, Siplast is committed to the emphasis on quality, long-term solutions that has built our strong reputation as an industry leader and innovator. Additionally, we are committed to the continuous study of product design, product formulation, and application processes to improve performance and identify green opportunities.

Application

Siplast Roofing, Waterproofing, and Insulation Systems are installed exclusively by Siplast Select Contractors. These independent professionals have met the qualifications of the toughest contractor certification program in the industry – ours. Their proven skill and dedication have demonstrated time and again that they regard themselves as members of a team dedicated to installing great systems for their building owner customers.

Products

Siplastgreen represents a range of products – from waterproofing membranes for green roof applications to cool roof membranes – that can help meet environmental initiatives and goals.



Applied over ZIC Lightweight Insulating Concrete, more than 600 squares of Paradiene 20 TG F/Paradiene 30 CR FR TG provide an energy efficient, bright white cool roof solution for this Philadelphia school. Liquid-applied Parapro 123 Flashing was used on the project. The school's green roof area was completed with Teranap.

Cool Roof Options

Paradiene CR

Paradiene 30 CR and Paradiene 40 CR membranes are high performance SBS-modified bitumen finish plies surfaced with patent pending, reflective, bright white synthetic chips – not films or coatings. Paradiene CR finish plies are California Title 24 Part 6 compliant and qualify for LEED-NC (Version 2.2) certification points as defined by the United States Green Building Council. Both Paradiene 30 CR and Paradiene 40 CR are available in FR and torch grade versions.

Parapro Roof Membrane

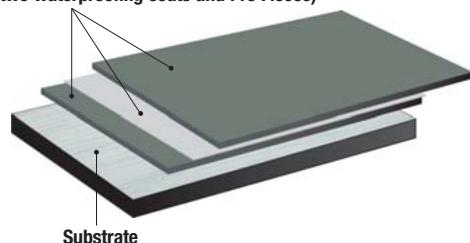
Jobs with difficult access, tight clearances, odd-shaped penetrations, and exposure to certain environmental contaminants can be a challenge for even the best traditional roofing plies. In such cases, a liquid-applied Parapro System is an excellent option.

The Parapro System is built on advanced polymethyl methacrylate (PMMA) technology developed for demanding roofing and

waterproofing applications. Parapro is VOC-compliant, solvent-free, isocyanate-free, and flame-free. It offers significant application advantages over polyester and polyurethane liquid-applied products, including dramatically faster cure times and broader application temperature ranges. The finished application is seamless and fully reinforced. PMMA's properties make Parapro a smart choice for roof areas requiring resistance to foot traffic, UV, environmental contaminants, vegetable oils, animal fats, and other substances. White Parapro Roof Membrane is California Title 24 Part 6 compliant and qualifies for LEED-NC (Version 2.2) certification points as defined by the United States Green Building Council.

Parapro Roof Membrane

**Waterproofing Layer
(two waterproofing coats and Pro Fleece)**



Parapro Roof Membrane was an efficient choice for this Houston hotel's crowded roof.



Over 3800 squares of aluminum Veral provide an energy efficient solution for this convention center in Florida.

Veral Aluminum

A tough, lightweight, long-lasting membrane, the Veral System is composed of two sheet components, Irex and Veral. Irex is the base ply, consisting of a quality high-melt asphalt with fiberglass reinforcement. The finish ply, Veral, combines a glass scrim-reinforced SBS-modified asphalt base with a protective aluminum foil facing. Because metal and asphaltic materials expand at different rates, Siplast uses a patented embossing system to build small control channels into the metal facing. A thin layer of low-melt asphalt is factory applied beneath these channels, allowing the metal to expand and contract independently of the modified asphalt base. The finished assembly provides a strong, flexible, glass-reinforced membrane, completely shielded from the elements.

Veral Aluminum meets the U.S. EPA Energy Star guidelines for energy efficiency and qualifies for LEED-NC (Version 2.2) certification points as defined by the United States Green Building Council.

PC-227 Elastomeric Roof Coating

PC-227 Elastomeric Roof Coating is a 100% acrylic, white coating designed for use over Siplast roof systems. It reduces cooling energy and roof system life cycle costs by combining superior reflectivity with excellent durability, adhesion, and flexibility. Its asphalt bleed-blocking properties retard the leaching of asphalt, making it well suited for SBS-modified bitumen membrane systems. White PC-227 is California Title 24 Part 6 compliant, meets the U.S. EPA Energy Star guidelines for energy efficiency, and qualifies for LEED-NC (Version 2.2) certification points as defined by the United States Green Building Council.



600 squares of Paradiene 30 CR FR, installed in PA-311 M Adhesive, provide a bright white roof for this Arizona school.



◀ **Siplast Extensive Green Systems,** such as the one installed on this manufacturing facility, require minimal plant maintenance after the plants are established.

Green Roof Systems

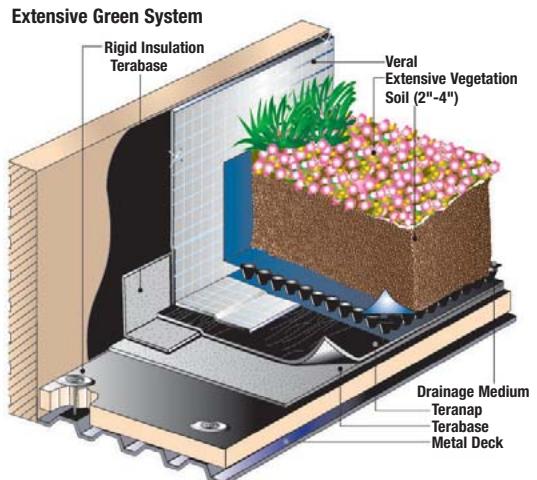
Teranap

Green roofs add a great deal of aesthetic appeal, utility, and environmental friendliness to a building project, but they also create significant waterproofing challenges. For over 30 years, Teranap has met the needs of these demanding applications.

Teranap green roof applications can be specified with many landscape options, including both extensive green and intensive green assemblies. Teranap Extensive Green Roofs are characterized by low weight, low capital cost, and minimal maintenance. The growing medium is typically composed of a mineral-based mix of sand, gravel, crushed brick, leica, and peat organic matter. In an extensive system, soil varies in depth from 2 to 6 inches,

and weighs 13-18 lb/sq ft dry and 20-25 lb/sq ft saturated. Plant selections appropriate for extensive assemblies include sedum, grasses, wildflowers, and other low maintenance vegetation. Plants are watered and fertilized until they are established. At that point, minimal maintenance is required.

Teranap Intensive Green
Systems are used to waterproof elaborately designed roofoescapes that are intended for pedestrian access. In an intensive system, soil depth starts at 6 inches. Therefore, a more diverse plant selection, including trees and shrubs, is possible.

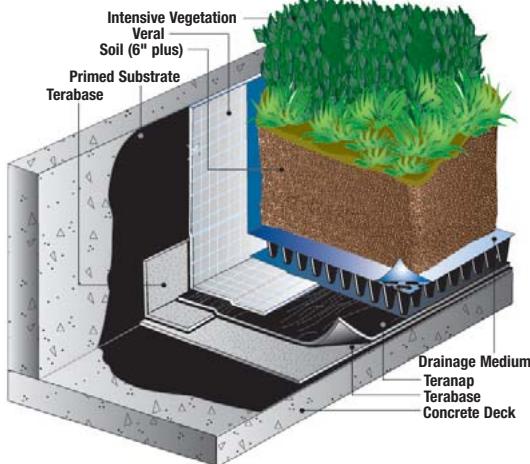


◀ The second floor of the Skokie Library in Illinois features a green roof waterproofed with Teranap.

A Siplast Teranap Green Roof System is being installed on this downtown Houston high-rise.



Intensive Green System



Geofoam Extruded Polystyrene, and vegetated growing systems.

The weight of intensive systems starts at approximately 50 lb/sq ft, so they must be engineered to conform to structural load requirements. Intensive green systems require regular maintenance and watering. Siplast offers all of the components required for green roof installations, including filter fabric, drainage mat, soil, Insulperm

Parapro

Parapro Roof Membrane Systems can be specified for green roofing applications. The built-in root resistant capabilities of Parapro make it an excellent option for both extensive and intensive green assemblies, as well as planter waterproofing.



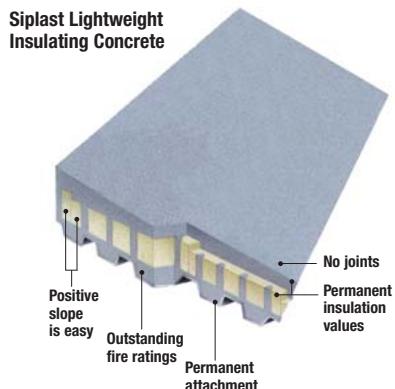
▲ Siplast Teranap was installed on this automobile manufacturing facility in Michigan, creating the world's largest green roof.

Sustainable Insulation

Siplast Lightweight Insulating Concrete

Siplast Lightweight Insulating Concrete Systems combine the unique properties of lightweight insulating concrete and premium expanded polystyrene foam insulation board. The resulting sustainable roof insulation system has a smooth, monolithic surface ideal for roofing application. The system is very effective in moderating roof membrane temperatures, thereby extending the membrane's life. And unlike disposable rigid polyisocyanurate insulation, Siplast Lightweight Insulating Concrete can be reroofed indefinitely, which dramatically reduces both the environmental cost of filling landfills with discarded polyisocyanurate and the life-cycle cost of the roof.

Siplast Lightweight Insulating Concrete Systems provide high performance solutions to industry concerns such as slope-to-drain, moisture resistance, high compressive strength, dimensional stability, and the ability to mechanically fasten the roofing membrane to the insulation. The systems offer solutions to regulatory concerns including fire and wind resistance, code approvals, stable R-values, and environmental safety. Finally, Siplast Lightweight Insulating Concrete Systems



provide solutions to building owners' requirements – they are economical, reroofable, fully guaranteed, and proven.

Siplast Lightweight Insulating Concrete is available in four mix designs: ZIC, NVS, Insulcel, and Zonocel. The four designs represent a range of compressive and tensile strengths, allowing a choice of system based on substrate and project circumstances. Each design encapsulates Insulperm Insulation Board in insulating concrete. This provides fire protection, prevents air infiltration, and bonds the system to the substrate.

Insulperm is a CFC-free expanded polystyrene insulation board of nominal 1 pc^f density designed for use in Siplast Lightweight Insulating Concrete Systems. When installed in a stair-step configuration, it is the base for the system's slope-to-drain capability.



▲
Siplast NVS Lightweight Insulating Concrete and Paradiene 20/30 were chosen for the dormitories on this university in New York. The dormitories are connected by a corridor that features a Teranap Green Roof System.

Solvent-Free Adhesives and Cements

Siplast SFT Adhesive

Siplast SFT Adhesive is a unique liquid adhesive designed for use with Siplast systems. SFT Adhesive is a single-component, solvent-free, moisture-cured, modified asphalt adhesive composed of a blend of proprietary polymers and asphalt. SFT Adhesive meets all roofing adhesive VOC regulations.

Siplast SFT Cement

Siplast SFT Cement is a high strength adhesive designed for use with Siplast SBS-modified bitumen flashing systems. SFT Cement is a single-component, solvent-free, moisture-cured adhesive composed of a blend of proprietary polymers and modifiers engineered to cure completely in a variety of ambient conditions over various substrates. Siplast SFT Cement meets all roofing adhesive VOC regulations.

**Siplast**

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Cover Photo:

**600 squares of Paradiene 30 CR FR, installed in
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