

# Roofing Solutions for Mission Critical Structures

Siplast single-ply and SBS-modified bitumen membrane systems deliver the durability and resilience needed to help defend data centers against outages and downtime.



With you every step of the way

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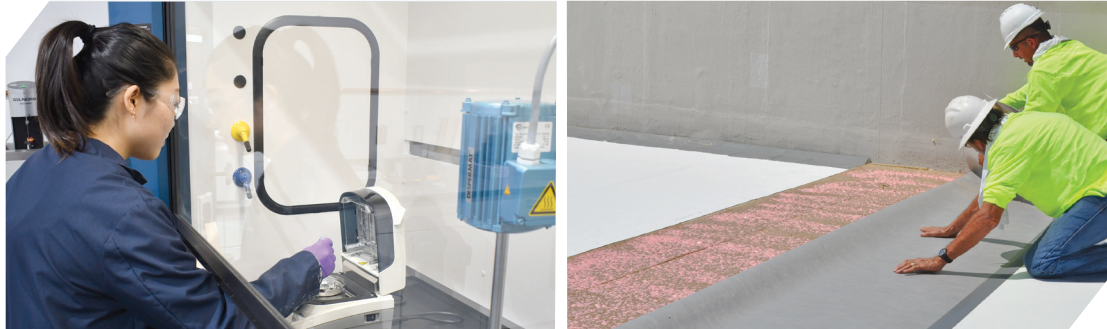
With you every step of the way

# Where innovation meets infrastructure

At Siplast, we believe that mission critical facilities demand more than a standard roofing solution — they require armor against chemical exposure,\* fire risks, extreme weathering, and other vulnerabilities to help ensure continuity of operations. Siplast roofing systems are engineered to protect critical use facilities such as data centers and perform under extreme conditions.

Our Parasolo® PVC KEE and PVC systems are the culmination of years of research, testing, and innovation, designed specifically to meet the rigorous demands of challenging environments. By integrating advanced chemical resistance,\* Class A fire performance, and outstanding thermal reflectivity, we ensure that while you manage critical assets, we help manage the elements that threaten them.

For mission critical infrastructures requiring multi-ply redundancy, our premium SBS-modified bitumen systems set the standard for roofing resilience. As the pioneer of SBS technology, our Paradiene®, Paratech, Parafor®, and Veral® membranes are engineered with exceptional elongation and recovery properties, delivering a longer service life with lower lifecycle costs.



Our data center protection is three-fold: third-party product testing, systems installed by Siplast contractors trained in complex Data Center roofing applications, and comprehensive coverage under our Mission Critical Structure NDL Roof Guarantee.

Siplast is your trusted partner in critical infrastructure resilience. *With you every step of the way.*

\* Siplast warranties and guarantees do not provide coverage against exposure to chemicals, oil and grease. Refer to [siplast.com](https://www.siplast.com) for more information on warranty and guarantee coverage and restrictions.

# Engineered to outperform

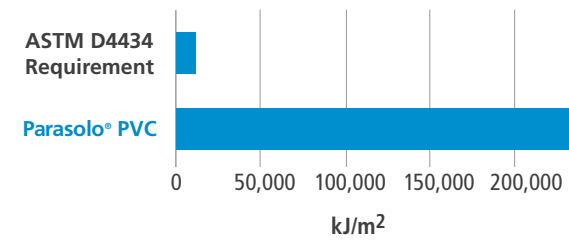
Parasolo® PVC KEE and PVC are engineered with precision for high-performance environments. Internal testing shows that Siplast proprietary formulations surpass industry standards.

## Predictable protection for unpredictable climates

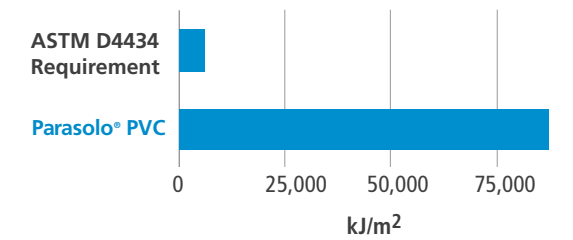
Parasolo® PVC offers excellent long-term weathering and UV resistance in accelerated weathering testing, with internally tested value over 19 times higher than required by ASTM D4434 for the G154 Standard.\* This exceptional toughness helps ensure your facility remains protected for decades, reducing the need for disruptive repairs and downtime.

To evaluate the membrane's durability against real-world environmental exposure, the effects of UV, sunlight, heat, and moisture are simulated in an accelerated weathering test using fluorescent ultraviolet light (ASTM G154) or a xenon arc lamp (ASTM G155).

### ASTM G154 Accelerated Weathering

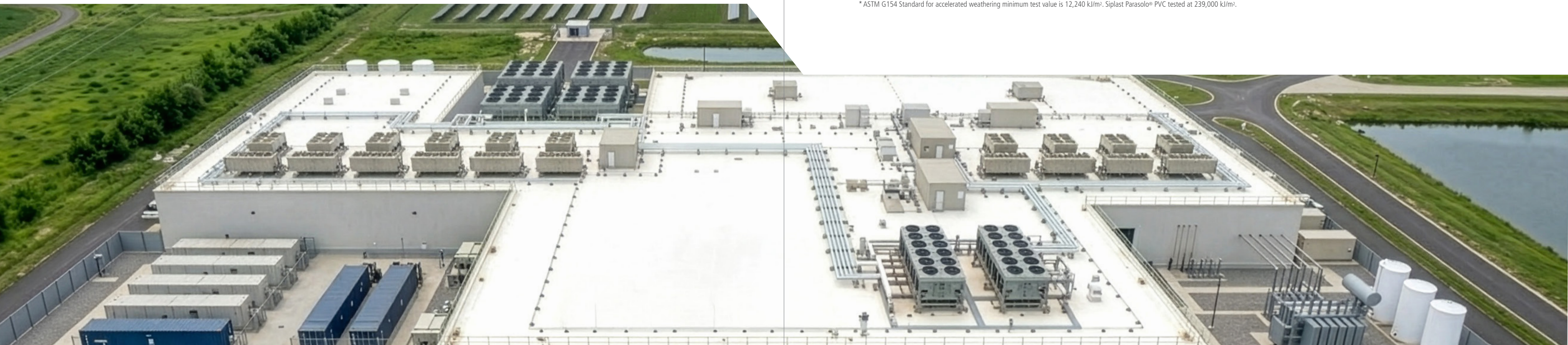


### ASTM G155 Accelerated Weathering



Based on Siplast's internal testing. Values stated are approximate and subject to normal manufacturing variation. These values are not guaranteed and are provided solely as a guide.

\* ASTM G154 Standard for accelerated weathering minimum test value is 12,240 kJ/m². Siplast Parasolo® PVC tested at 239,000 kJ/m².



## Contamination deflected. Integrity maintained.

Due to the complex cooling and electrical systems often utilized by data centers, roofing materials can be exposed to harsh substances that may compromise their integrity. Our advanced formulation harnesses PVC's inherent protection against chemicals, oil, and grease,\* resulting in a membrane that's made to endure more.

Parasolo® PVC KEE combines PVC with a high percentage of ELVALOY™† HP661 terpolymer, a non-migrating solid flexibilizer, to achieve exceptional results that exceed ASTM D4434 PVC Type III and Type IV standards. The KEE polymer structure has a high molecular weight, which helps maintain stability within the membrane, yielding increased protection against chemical exposure.\*

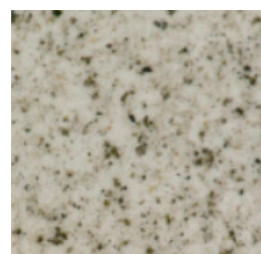
With a high level of biocide added to the cap, the membrane is also resistant to mold and algae,‡ which helps preserve membrane integrity while helping to prevent staining and discoloration. Three-year test results for Siplast Parasolo® PVC KEE and PVC membranes show that our integrated biocide significantly helps resist mold/fungi growth.‡ The images to the right show how easy it is to clean the Siplast Parasolo® PVC KEE membrane and restore it to reflective effectiveness.

The chart below shows Parasolo® PVC KEE's weight loss from exposure to specified chemicals for 30 days. The ASTM D4434 values represent the average of five top competitors (all 60 mil membranes). Lower weight loss indicates higher resistance to chemical exposure.

### Reflectivity that lasts

In 2020, Siplast and a third-party testing agency exposed several industry membranes to 3-year outdoor exposure testing. Once wiped clean, the Parasolo® PVC KEE membrane had no visible dirt or mold.

#### Parasolo® PVC KEE 60 Mil

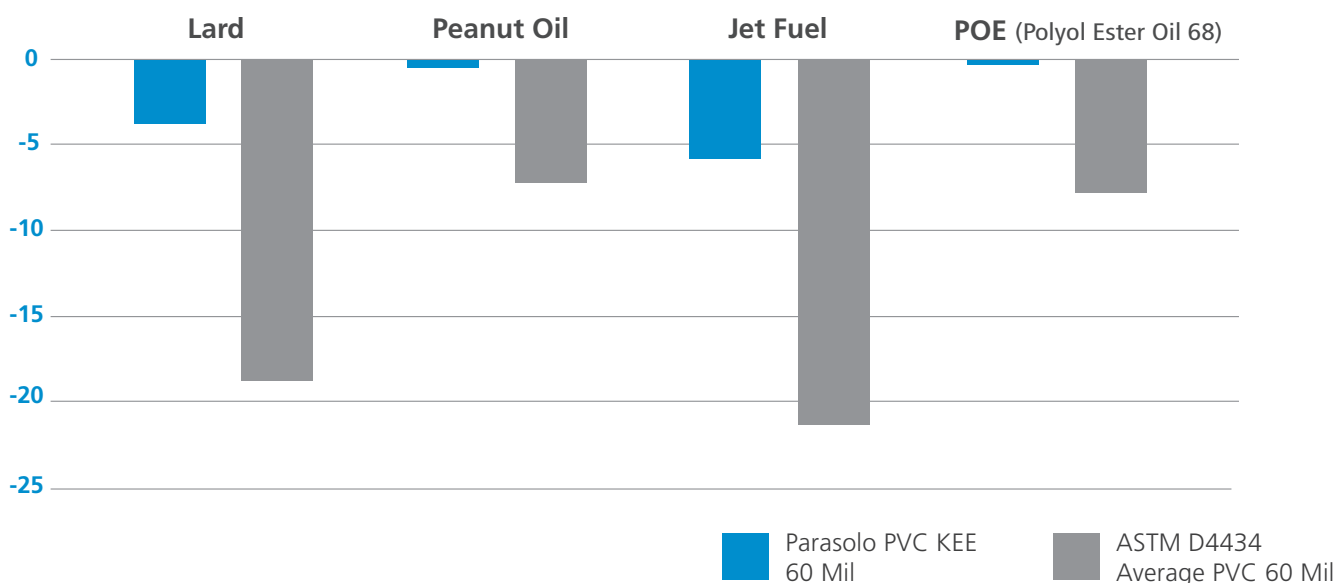


Dirty



Cleaned

### % Weight loss due to chemical exposure



\* Siplast warranties and guarantees do not provide coverage against exposure to chemicals, oil and grease. Refer to [siplast.com](http://siplast.com) for more information on warranty and guarantee coverage and restrictions.  
 † ELVALOY™ is a trademark of Dow.®  
 ‡ Siplast warranties and guarantees do not provide coverage against mold or other biological growth. Refer to [Siplast.com](http://siplast.com) for more information on warranty and guarantee coverage and restrictions.

## Self-extinguishing fire defense

Fire safety is non-negotiable in high-density electrical environments. In Class A E108 testing, specific Parasolo® PVC KEE and PVC roofing assemblies have demonstrated the capability to self-extinguish, even when the flame source remains applied to the assembly. This provides a crucial added layer of protection for data center personnel and equipment.



## Cooling costs, optimized

Siplast can help support operational sustainability with highly reflective and emissive white PVC KEE or PVC membrane systems that are rated by the Cool Roof Rating Council (CRRC) for solar reflectance and thermal emittance, and contribute to LEED credits.

According to published CRRC data, Siplast Parasolo® membranes offer industry-leading 3-year aged Solar Reflectance Index (SRI) values and solar reflectance. By absorbing less solar energy, a highly reflective roof acts as a thermal guard that can help lower the amount of energy needed to keep the building interior cool and potentially reduce cooling costs.\* This is an essential advantage for data centers, which operate continuously and require stable temperature control.



Connect with a Siplast specialist to optimize your roofing system. By integrating insulation, air barriers, and liquid flashing for complex detailing, a Siplast roofing system can help ensure thermal continuity throughout the entire building envelope.

UV Reflectivity and Thermal Emittance						
Parasolo® PVC KEE						
	Initial			3-Year Aged		
Color	Solar Reflectance ASTM C1549	Thermal Emittance ASTM C1371	Solar Reflectance Index ASTM E1980	Solar Reflectance ASTM C1549	Thermal Emittance ASTM C1371	Solar Reflectance Index ASTM E1980
White	0.86	0.86	109	0.78	0.87	96
Gray	0.57	0.88	67	0.50†	0.88†	58†
Tan	0.73	0.88	89	0.62†	0.88†	74†
Parasolo® PVC						
	Initial			3-Year Aged		
Color	Solar Reflectance ASTM C1549	Thermal Emittance ASTM C1371	Solar Reflectance Index ASTM E1980	Solar Reflectance ASTM C1549	Thermal Emittance ASTM C1371	Solar Reflectance Index ASTM E1980
White	0.87	0.87	110	0.70	0.88	86
Gray	0.58	0.00	69	0.53†	0.88†	61†
Tan	0.74	0.88	91	0.66†	0.88†	61†

\* Energy cost savings are not guaranteed and the amount of savings may vary based on climate zone, utility rates, radiative properties of roofing products, insulation levels, HVAC equipment efficiency and other factors.  
 † CRRC Rapid Rating

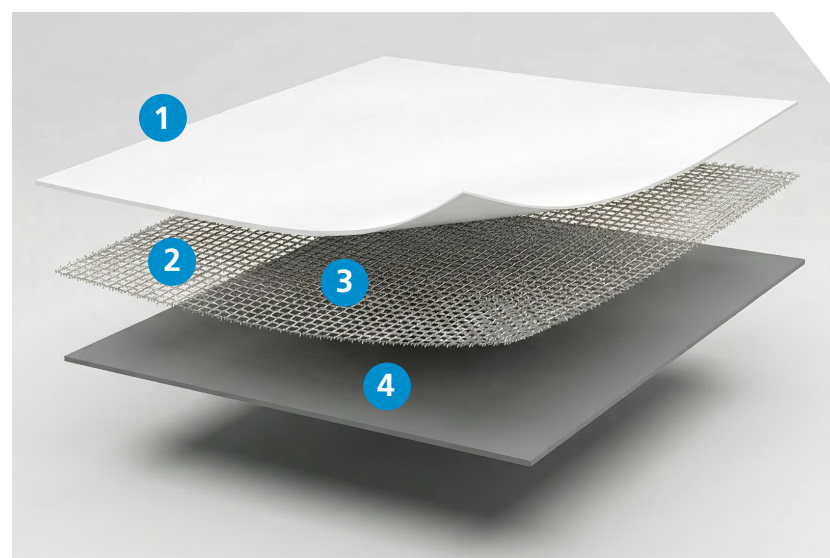


## Enhanced impact protection

Our PVC KEE and PVC membranes have a non-PFAS coated, non-wicking polyester reinforcing scrim that helps enhance tensile and tear strength, elongation, and protection against punctures.\* This reinforcement is engineered to prevent minor impacts from becoming major vulnerabilities, providing a level of physical resilience that surpasses industry standards.

	ASTM D4434 Type III Requirement	Parasolo® PVC 60 Mil Smooth	% Over Type III Requirement	Parasolo® PVC KEE 60 Mil Smooth	% Over Type III Requirement
Breaking Strength	200 lbf	300 lbf	50% More	305 lbf	52% More
Seam Strength†	150 lbf† 75%	300 lbf† 100%	33% More	300 lbf† 100%	33% More
Tear Strength†	45 lbf	123 lbf	173% More	111 lbf	146% More
Elongation	15%	30%	100% More	30%	100% More

Based on Siplast's internal testing. Values stated are a running average and subject to normal manufacturing variation. These values are not guaranteed and are provided solely as a guide.



- Proprietary PVC KEE cap ply formulated to provide:
  - UV protection & reflectivity
  - Resistance to mold & algae‡
  - Chemical§ & fire defense
- 1000 x 1000 denier polyester reinforcement
- PFAS-free non-wick coating
- PVC KEE core layer formulated to provide:
  - Wide heat welding window
  - Excellent seam strength
  - Versatile flexibility

\*Siplast warranties and guarantees do not provide coverage against hail or punctures except where additional puncture resistance coverage is purchased for eligible systems. Contact Siplast for more information. Refer to applicable warranty or guarantee for complete coverage and restrictions.

† ASTM D4434 type III requires seam strength to be 75% of breaking strength. Seam strength met or exceeded breaking strength.

‡ Siplast warranties and guarantees do not provide coverage against mold or other biological growth. Refer to Siplast.com for more information on warranty and guarantee coverage and restrictions.

§ Siplast warranties and guarantees do not provide coverage against exposure to chemicals, oil, and grease. Refer to Siplast.com for more information on warranty and guarantee coverage and restrictions.



## Our versatile product portfolio to meet a range of needs

While our PVC KEE and PVC roof systems are commonly specified for mission critical structures, we recognize that every data center presents unique structural and environmental challenges. To achieve full-spectrum facility protection, we offer a versatile range of high-performance solutions designed to adapt to your specific requirements, including TPO and SBS-modified bitumen solutions.

### Parasolo® TPX™ — The TPO that redefines the standard

Parasolo® TPX™ is the advanced TPO (thermoplastic polyolefin) membrane engineered by Siplast to deliver outstanding heat-weldability, reflectivity, protection against punctures, tears, and impacts,\* and fungal resistance.† With robust weathering capabilities up to **5.5 times higher** than the required ASTM G155 Standard‡ and performance under high-temperature conditions, Parasolo® TPX™ transcends industry standards.

	Industry Standard TPO ASTM D6878	Parasolo® TPX™§	% Over Requirement
Seam strength	66 lbf	134 lbf	203%
Elongation	15%	30%	200%
Dimensional stability	1%	<0.4%	40%
Breaking strength	220 lbf	385 lbf	175%
Weather resistance (ASTM G155)	10,080 kJ/m²	>56,000 kJ/m²	>555%

Based on Siplast's internal testing. Values stated are approximate and subject to normal manufacturing variation. These values are not guaranteed and are provided solely as a guide.

The highly reflective, emissive white membrane with 3-year age reflectance of 0.72 and 3-year thermal emittance of 0.91 can help reduce rooftop surface temperatures, help mitigate urban heat island effect, and help reduce cooling costs.\*\*

UV Reflectivity and Thermal Emittance*							
Color	Rated Product ID #	Initial			Aged		
		Solar Reflectance ASTM C1549	Thermal Emittance ASTM C1371	Solar Reflectance Index ASTM E1980	Solar Reflectance ASTM C1549	Thermal Emittance ASTM C1371	Solar Reflectance Index ASTM E1980
White	0742-0027	0.83	0.84	104	0.72	0.91	90

Data is based upon typical product performance, and is subject to normal manufacturing tolerance and variation.

\*Based on CRRC data. CRRC listing 0742-0027.

\* Siplast warranties and guarantees do not provide coverage against hail or punctures except where additional puncture resistance coverage is purchased for eligible systems. Contact Siplast for more information. Refer to applicable warranty or guarantee for complete coverage and restrictions.

† Meets ASTM G21. Siplast warranties and guarantees do not provide coverage against fungi or other biological growth.

‡ In ASTM G155 testing, Siplast Parasolo Smooth-Surface 60 mil membranes achieved 56000kJ/m2 vs. the Test Standard of 10,080kJ/m².

§ Values for Parasolo TPX 60 Mil Smooth stated are approximate and subject to normal manufacturing variation. These values are not guaranteed and are provided solely as a guide.

\*\* Energy cost savings are not guaranteed and the amount of savings may vary based on climate zone, utility rates, radiative properties of roofing products, insulation levels, HVAC equipment efficiency and other factors.

## Siplast SBS — Decades of reliability built into every sheet

When critical infrastructure requires the reliability of multi-ply redundancy, Siplast SBS-modified bitumen is a proven solution. Having pioneered SBS roofing decades ago, we continue to drive its innovation — providing systems that surpass evolving industry standards and are trusted to protect mission critical facilities.

We combine premium bitumen with optimized polymer levels to maintain a quality standard that has remained uncompromised for over 40 years. This precision engineering ensures consistency in tensile strength, ultimate elongation, and cyclic fatigue recovery.

By conducting more than 150 QC tests on every batch, we ensure optimal performance from the lab to the roof — providing data centers with decades of service life, minimal maintenance, and significantly reduced lifecycle costs.

Our SBS membranes — Paradiene®, Paratech, Parafor®, and Veral® — are offered with a versatile range of thicknesses, reinforcements, and application methods to meet your mission critical project's unique demands.



[View SBS Brochure](#)

## The Siplast SBS difference



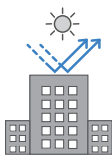
### Lower lifecycle costs

Due to its exceptional durability, flexibility, and weather resistance, a Siplast SBS roofing system can have a long service life. And its inherent durability means it's less susceptible to damage, which can help reduce maintenance and repair costs over the roof's lifespan.



### Eco-Activ™ roof membranes

Our SBS membranes can be surfaced with Siplast Eco-Activ™ depolluting Noxite™ granules that can help clear the surrounding air of harmful nitrous oxides (NOx). Siplast has achieved a UL Environment claim validation for Eco-Activ™ Roof Membrane's ability to remove an estimated 417-4,143 g NOx (nitrous oxides) per roofing square over 20 years.



### Cool roof options

Siplast SBS roofing systems that are surfaced with AW (Arctic White) or BW (Bright White) granules are listed by the Cool Roof Ratings Council and our BW (Bright White) roofing granules exceed cool roof standards, including California Title 24 and LEED.



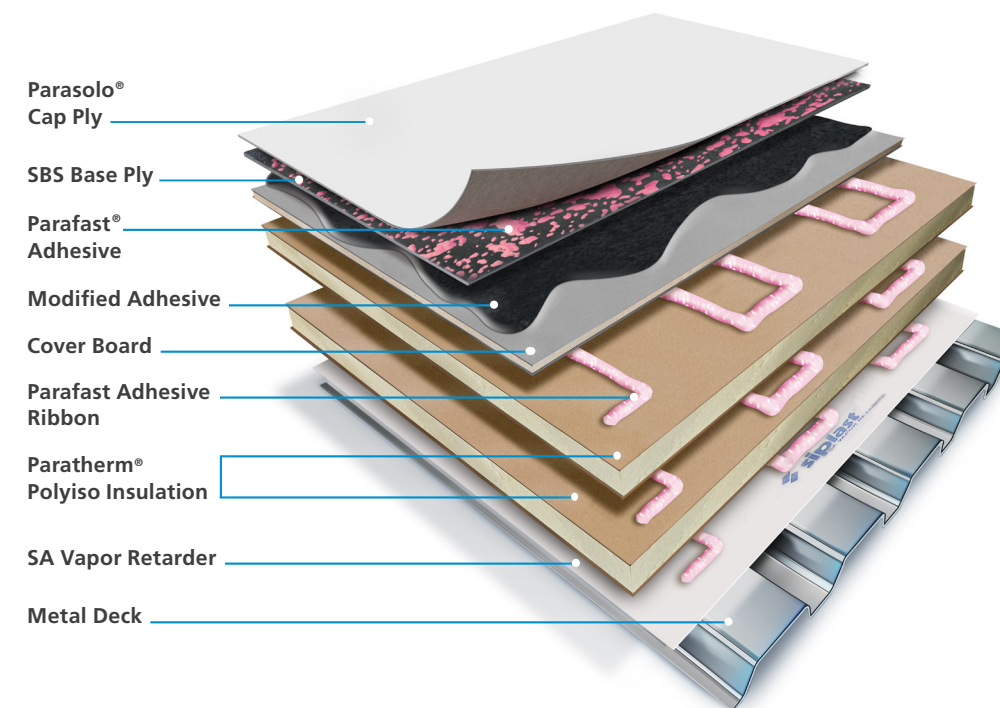
### Siplast RoofTag

SBS membranes can be embedded with Siplast RoofTag roof asset identification. RoofTag RF chips are factory-embedded in the sheets, allowing easy access to Certificate of Analysis data, product information, and job information by simply scanning the installed roof membrane.

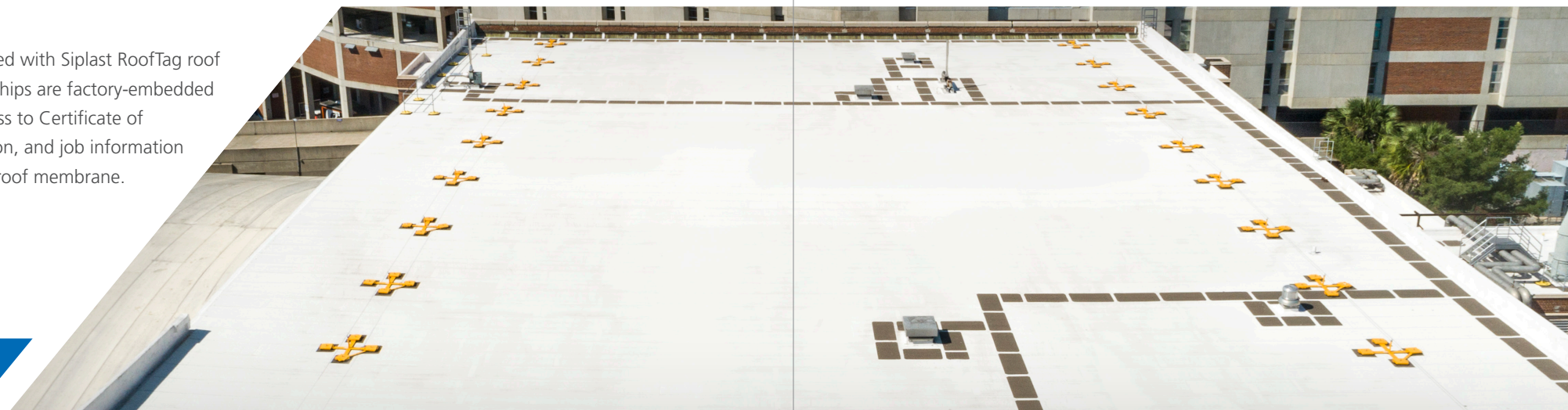
## Hybrid roof system — Performance isn't added. It's multi-ply'd.

Siplast offers a hybrid roof assembly that combines the exceptional elongation and recovery properties of a Siplast Paradiene® SBS-modified bitumen base ply with the advanced chemical formulation of a Parasolo® single-ply cap sheet. The result is a system with multi-layer redundancy and increased impact and puncture resistance.\*

The elastomeric SBS base ply absorbs roof stresses while the Parasolo® cap sheet shields the system from the elements and provides exceptional reflectivity. Another advantage is that a hybrid assembly allows for phased construction, providing greater flexibility for your project timeline.



\*Siplast warranties and guarantees do not provide coverage against hail or punctures except where additional puncture resistance coverage is purchased for eligible systems. Contact Siplast for more information. Refer to applicable warranty or guarantee for complete coverage and restrictions.



## Guaranteed for critical structures

### Mission Critical Structure NDL Roof Guarantee

The **Siplast Mission Critical Structure NDL Roof Guarantee** was developed specifically to protect data centers and the critical assets they contain. This limited guarantee offers extended coverage up to 35 years\* and protection against weather conditions that could result in outages and downtime. It covers leak repairs from defects, wear, and workmanship, hail damage for hail **up to 3" wide and 120 MPH wind gusts**, and more, plus scheduled inspections and no dollar limit on covered repairs.

- ✓ No dollar limit on repairs
- ✓ Up to 3" hail coverage
- ✓ Up to 120 MPH wind gusts
- ✓ Puncture repairs included
- ✓ Scheduled Siplast inspections
- ✓ 25-year base guarantee\*



### Installed by critical infrastructure – trained contractors

In a facility where there is zero room for error, installation quality is as vital as the assembly itself. To qualify for our Mission Critical Structure NDL Roof Guarantee, systems must be installed by Siplast Contractors who have completed a specialized **Critical Infrastructure Data Center Training**. These contractors have undergone specialized training to meet the hyper-specific structural and operational demands of data center environments.

\*For qualified systems only. Additional requirements apply. Contact Siplast for more information. Refer to our sample guarantees and warranties, available at [siplast.com](http://siplast.com), for complete coverage and restrictions.

## Sustainability. Transparency. Performance.

Siplast provides high performance solutions that contribute to sustainable building practices, along with documentation transparency to help you meet your sustainability goals. We provide product-specific Environmental Product Declarations (EPDs), and other product sustainability documentation that contributes to green building rating systems. Optimize your building's environmental footprint beyond the roof and partner with Siplast for sustainable solutions that cover the full enclosure.



- Solar reflective single-ply membranes
- Eco-Activ™ depolluting roof membranes
- TCPP-Free and Red List-Free NH polyiso
- Vegetated roofing
- Stormwater management systems
- Redundant SBS systems

**E-A**  
Eco-Activ®

## Your mission critical specialist

Every critical facility has its own unique demands. Connect with our dedicated Data Center Specialist for guidance tailored toward your critical infrastructure project.



**siplast**® With you every step of the way

