

# EPDM Roofing Systems

*THE ULTIMATE UPGRADE*



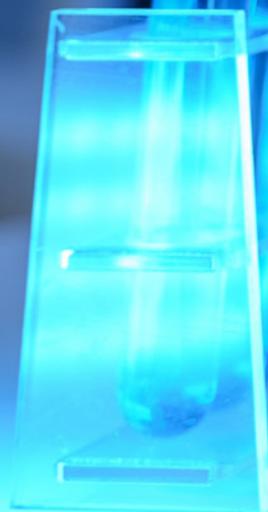
# From the Testing Lab to Your Roof

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Originally developed in the 1950s, EPDM (Ethylene Propylene Diene Terpolymer) is a synthetic rubber known for its **elasticity**, **superior physical characteristics**, and **uncompromising durability**. In 1961, Carlisle revolutionized the commercial roofing industry with the introduction of its **Sure-Seal EPDM** single-ply membrane.

Since then, the Carlisle name has been synonymous with the **most dependable** and **longest-lasting single-ply roof systems** on the market – **the trusted choice** of consultants, contractors, architects, and building owners for both new construction and replacement applications.

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# The **Ultimate** Upgrade

Over the past 60+ years, EPDM has established itself as the **ultimate upgrade among single-ply roofing systems**. Its stellar reputation is backed by decades of proven performance across a variety of building types, climates, and conditions. EPDM's **superior physical characteristics** make it “**The Ultimate Upgrade**” for your commercial roof, whether you’re installing it or having it specified on your building.

**Sure-Seal<sup>®</sup> EPDM**  
Roofing Systems

**Sure-Tough<sup>™</sup> EPDM**  
Roofing Systems

**Sure-White<sup>®</sup> EPDM**  
Roofing Systems

IT OUTPERFORMS ALL OTHER SINGLE-PLY MEMBRANES WITH REGARDS TO:

LONGEVITY



REPAIR AND MAINTENANCE



FLEXIBILITY



ENVIRONMENTAL IMPACT



UV AND OZONE RESISTANCE



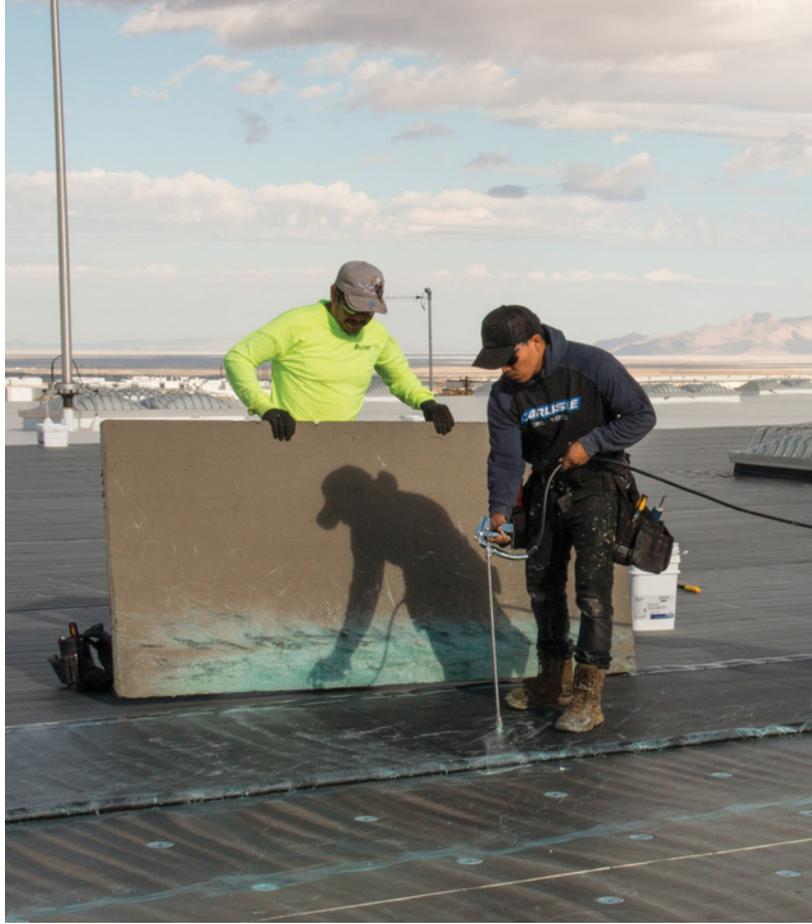
RISK MITIGATION



EASE OF INSTALLATION AND OPTIONS



So, whether you're looking to lower your lifecycle and maintenance costs or just have a membrane that looks new for longer by hiding dirt and pollution, EPDM's value proposition is unparalleled.



## Why EPDM?

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### BUILDING BLOCKS OF SUPERIOR PERFORMANCE

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The key to why EPDM outperforms all other single-ply membranes lies within the molecular structure of the rubber membrane. When EPDM membrane is produced, the rubber molecules are cross-linked, meaning that a reinforced bond is created at the atomic level. This molecular bond gives EPDM membrane its superior strength, elasticity, and weathering performance.

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### WHY DOES WEATHERING MATERIAL MATTER?

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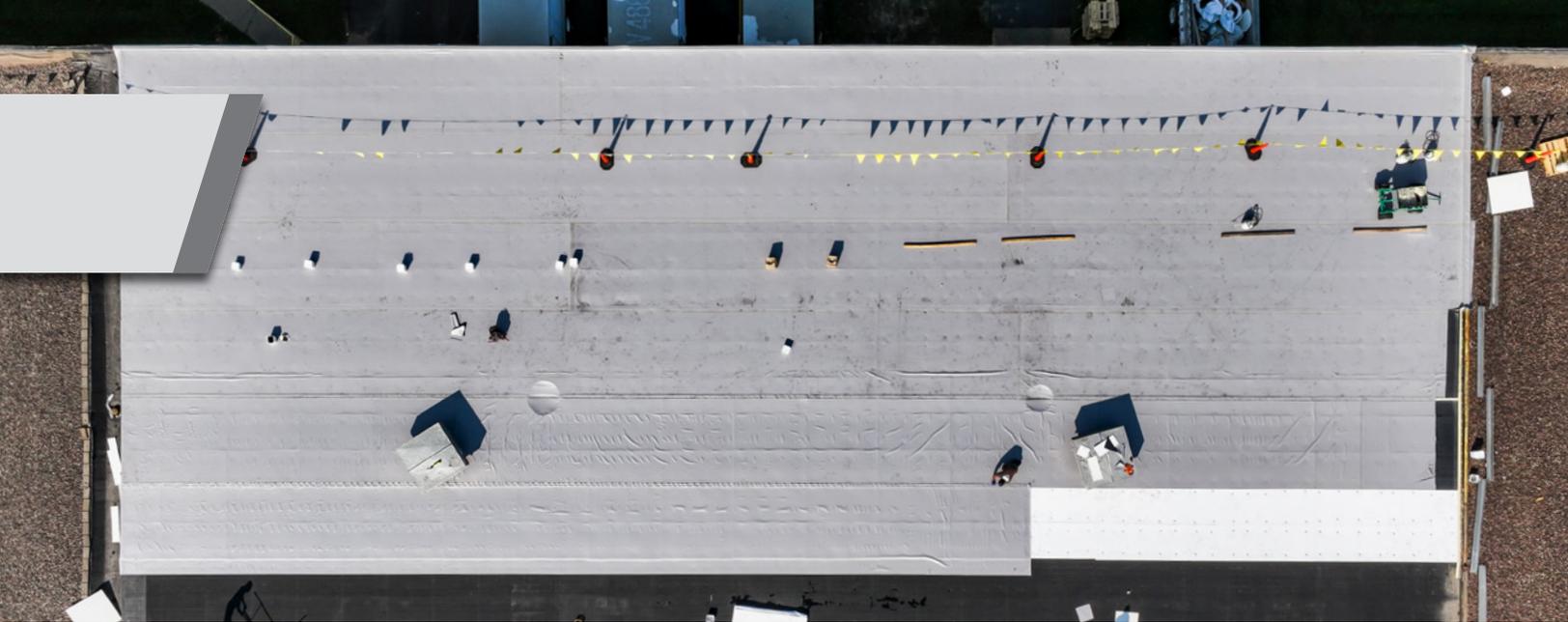
The amount of weathering material over insulation indicates how well your building is being protected from key environmental factors such as UV radiation, temperature fluctuations, and moisture. EPDM non-reinforced membranes have no non-weathering material plies or scrims present in the membrane. With EPDM non-reinforced membranes, you can rest assured that you have the full membrane thickness protecting your building and its occupants.

# The EPDM Difference

While there are many roofing options at different price points for flat and low-slope applications, EPDM stands alone as the **tried and true** industry standard. Considering its **energy efficiency benefits, lower maintenance requirements, performance over time, and need for less frequent replacement** - EPDM rubber membranes deliver more value over its lifespan.

✓	<b>Longevity</b>	An EPDM membrane can last 40 years or more – the longest lifespan of any single-ply roofing membrane. Fewer replacements over time provides better long-term value.
✓	<b>Durability</b>	It's proven durability means less frequent repairs and a lower chance of premature failure.
✓	<b>Ease of Repair</b>	In the event of a puncture or tear, EPDM can be readily repaired with patches or seam tapes.
✓	<b>Energy Efficiency Options</b>	EPDM is the only single-ply membrane to offer white, gray, and black membranes. No matter your climate or building location, there's an EPDM roof that's right for you.
✓	<b>Low Maintenance</b>	EPDM roofs require relatively little maintenance due to their resilience. Over the lifespan of the roof, reduced maintenance and repair costs can lead to significant savings.
✓	<b>Proven Track Record</b>	EPDM has been used in the roofing industry for over six decades and its performance characteristics are well-documented.





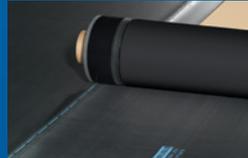
## EPDM The Ultimate Upgrade

✓	<b>Durability of EPDM Membranes</b>	» Not all membranes are the same. EPDM is a cross-linked membrane that doesn't need internal reinforcement, which means it provides a full thickness of weathering material.
✓	<b>Flexibility and Pliability of EPDM</b>	<ul style="list-style-type: none"> <li>» EPDM is highly flexible, even in low temperatures, making it easier to work with than some other materials.</li> <li>» Testing on 30-year-old EPDM roof samples has demonstrated EPDM maintains its flexibility over time and does not lose its ability to expand or contract with building movement or large temperature changes.</li> <li>» EPDM's flexibility and pliability over time help it to withstand hail impacts and fractures, with elongation up to 540%.</li> </ul>
✓	<b>Black EPDM</b>	<ul style="list-style-type: none"> <li>» Can assist with heat gain benefits, particularly in cooler climates.</li> <li>» Helps to melt dew, ice, and snow, making for a safer roof.</li> <li>» Minimizes risk of condensation in the roof assembly.</li> </ul>
✓	<b>Weathering Material</b>	» EPDM non-reinforced membranes have full weathering thicknesses protecting your building and occupants.
✓	<b>Wide-Width Rolls</b>	» With sheet options available up to 30'-wide, EPDM offers the widest-width roll options on the market. Wider rolls reduce the number of seams on the roof, making installation quicker and minimizing risk.
✓	<b>White, Gray, and Black Membranes</b>	» Carlisle is the only manufacturer to offer EPDM membranes in black, gray, and white, making it the perfect membrane for any climate.
✓	<b>Factory Applied Tape™ (FAT) and Pressure-Sensitive Accessories</b>	<ul style="list-style-type: none"> <li>» Our FAT technology results in increased quality, reliability, and seam performance. FAT also provides the fastest and easiest way to create a seam between two single-ply membranes.</li> <li>» Pressure-sensitive accessories are available in black, white, and gray and are perfect for any new installation or regular roof maintenance.</li> </ul>
✓	<b>10% Pre- and Post-Consumer Recycled Content</b>	<ul style="list-style-type: none"> <li>» With a leading 10% pre- and post-consumer recycled content in our black reinforced EPDM products, EPDM is recognized as one of the most sustainable and environmentally friendly membranes in the commercial roofing industry.</li> <li>» Carlisle is the only manufacturer to incorporate post-consumer recycled content in their EPDM membrane products.</li> </ul>

# Innovation Meets Tradition



**Sure-White®**  
**EPDM:** Carlisle becomes the first manufacturer to introduce a white EPDM membrane.



**SecurTAPE™:**  
Double-sided rubber tapes were developed to address challenges with ponding water and splice quality.



**Rooftop Recycling Program:** Carlisle introduces a Rooftop Recycling Program aimed at reducing the environmental impact caused by roof tear offs.

1990s

1996

2000

2005

2013

2017

**FleeceBACK®**  
**EPDM:** Carlisle introduces a fleece-backed EPDM sheet featuring the highest puncture resistance of all EPDM membranes.



**Factory-Applied Tape (FAT™):**  
EPDM sheets with Factory-Applied Tape further reduced workmanship and finished splice issues.



**Low-VOC EPDM Primer:** Carlisle reformulates its Low-VOC EPDM Primer with increased tack and a longer shelf life.



60+ years ago, Carlisle pioneered single-ply roofing - no other manufacturer has a **comparable track record**.



**CAV-GRIP® III Introduced for EPDM:** This VOC-compliant and very low-odor primer/adhesive represented a big leap forward in jobsite productivity.



**Sure-White Reinforced EPDM:** Carlisle becomes the first manufacturer to introduce White Reinforced EPDM.

Each year, we listen to our customers and develop innovative technologies that make roofing membrane installation faster, easier, and more cost effective. Our products are subjected to rigorous testing, field evaluations, and strict quality controls that ensure these technologies continue to perform. You can rest assured that our mission to define the standard will continue to raise the bar for years to come.

2018

2019

2023

2024

TODAY

AND BEYOND

**SAT (Self-Adhering Technology):** SAT EPDM provides up to an 80% productivity increase compared to traditional bonding adhesive.



**Cool Gray EPDM:** Carlisle becomes the first manufacturer to introduce a gray-colored EPDM membrane to the market.

**5% Post-Consumer Recycled Content in Sure-Tough™ EPDM:** Carlisle becomes the first manufacturer to introduce a reinforced membrane featuring 5% post-consumer recycled content.



As the roofing industry continues to evolve, Carlisle will continue to drive innovation that will maintain EPDM's competitive edge by focusing on sustainability, efficiency, and performance. These innovations will provide value to roofing contractors through more efficient products and to building owners by ensuring cost-effective, durable, and environmentally friendly roofing solutions.

# Build a Greener Future **with EPDM**

EPDM is recognized as **more sustainable than other single-ply membranes** because of its **longer lifespan**, its **recyclability**, and its **energy efficiency benefits**.



## **LONGEVITY AND DURABILITY**

The longer a roofing material lasts, the less frequently it needs to be replaced, resulting in fewer resources used over time and less waste generated.



## **RECYCLABILITY**

EPDM can be efficiently recycled and repurposed, maintaining its unique properties after recycling better than other single-ply membranes.



## **ENERGY EFFICIENCY**

While EPDM is traditionally black and absorbs heat, Carlisle has a portfolio of white and gray EPDM membranes that reflect sunlight and heat to improve the energy efficiency of buildings.



## **LOW MAINTENANCE**

EPDM typically requires less maintenance over its lifespan compared to some other roofing materials, resulting in a reduced material usage and reduced costs and labor.



## **COMPATIBILITY WITH ROOF GARDEN SYSTEMS**

EPDM's waterproofing properties and durability make it an excellent choice for use with Roof Garden systems.



## **PERFORMANCE AT END OF LIFE**

Unlike some other roofing materials that can degrade and become less effective over time, EPDM rubber tends to maintain its performance and risk mitigation properties throughout its entire lifespan.

**EPDM membranes offer a range of benefits that can contribute directly to your sustainability and energy efficiency goals.**

# RECYCLING BALLASTED EPDM

## A Sustainable Edge

*Winco Fireworks Distribution Center in Grandview, Missouri*



Scan here to learn  
how this project utilized  
Carlisle SynTec Systems'  
Rooftop Recycling Program.

## 10% Recycled Content in Sure-Tough EPDM

In 2024, Carlisle announced that its Sure-Tough black EPDM membrane now featured an impressive combined 10% pre- and post-consumer recycled content, resulting in:



**Over 110,815**  
used tires out of  
landfills annually



**98% less**  
water used



**61% less**  
electricity used



**97% less**  
CO<sub>2</sub> used



# Engineered for Every Environment, Designed to Last EPDM Systems for Every Application

## CONFIDENCE WITH EVERY TURN



### Mechanically Fastened Roofing System with Sure-Tough EPDM

Carlisle's Mechanically Fastened Roofing System requires insulation being mechanically fastened to the roof deck and membrane being mechanically fastened with fastening plates and bars. Adjoining Sure-Tough sheets are spliced together using Carlisle's Factory-Applied Tape. Mechanically fastened systems provide exceptional performance while being lightweight, cost efficient, and quick to install.

## ROCK SOLID PROTECTION



### EPDM Ballasted Roofing Systems

The ballasted system was the first roofing system introduced by Carlisle in the 1960s. The membrane is not adhered or mechanically attached to the roof but instead held in place by the weight of a ballast. Since the ballast provides a physical barrier between the environment and the roof, this system delivers excellent protection from hail and severe precipitation, excellent UV protection, decreased noise for your inhabitants, and enhanced fire resistance.

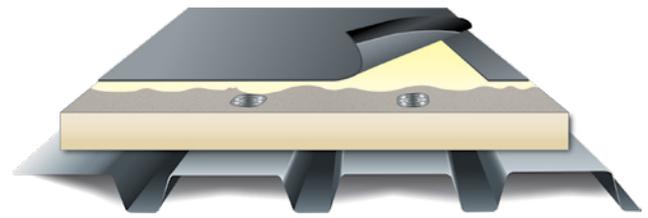
## RE-ROOFING REDEFINED



### VacuSeal Vent Secured Systems

Carlisle's VacuSeal Vent Secured roofing system uses special vents that harness the power of the wind to lock roof membranes in place. With VacuSeal installations, there are no equipment noises or adhesive odors, no adhering to or penetrating through the roof deck, and no cold weather limitations.

## DEFINING THE STANDARD



### EPDM Adhered Roofing Systems

Carlisle's adhered EPDM roofing systems provide several superior qualities that make them an attractive choice for both new construction and re-roofing projects. These systems involve the bonding of an EPDM membrane to the substrate by way of an adhesive. These systems offer excellent wind uplift resistance, fewer potential leak points, and offer relatively quiet and clean installation – great for occupied buildings. The watertight nature of adhered EPDM systems provides reliable protection against leaks, as the use of seam tapes and adhesives creates a monolithic barrier against moisture.



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## THE ULTIMATE UPGRADE'S FINISHING TOUCH

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### Carlisle EPDM Accessories and Tapes

Carlisle's EPDM flashings, tapes, and accessories offer several benefits for roofing and waterproofing applications, including:

**Durability:** Excellent resistance to UV radiation, ozone, and extreme weather conditions.

**Flexibility:** EPDM materials can accommodate building movement and thermal expansion/contraction

**Ease of Installation:** EPDM accessories on difficult-to-flash penetrations can save time and boost rooftop productivity.

**Waterproofing:** Provide excellent water resistance, reducing the risk of water ingress and damage to the building structure.

**Versatility:** The range of accessories and flashing options available means that complex roofing details can be effectively sealed and protected.

**Repair and Maintenance:** EPDM flashings and tapes enable quick and relatively easy repairs to your EPDM membrane, which can extend the life of the roof and reduce overall maintenance costs.

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## PEEL, PLACE, PROTECTED

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### Carlisle SAT (Self-Adhering Technology) EPDM Roofing Systems

The peel-and-stick functionality of SAT EPDM eliminates the need for loading, stirring, applying, and disposing of bonding adhesive. Additionally, this no-VOC option ensures that disruptions to occupied buildings due to fumes or odors are minimized. And with cold weather installation limits down to 20°F (-6°C), you'll have a superior product that can effectively be installed year-round.

### DID YOU KNOW?

**EPDM accessories can be used on TPO systems eligible for 20-year Warranties?**

*EPDM accessories can provide substantial labor savings on projects with hard-to-flash penetrations and are ideal for circumstances in which the use of a generator and hand welder are not practical*



# Versatile Strength, Tailored Fit

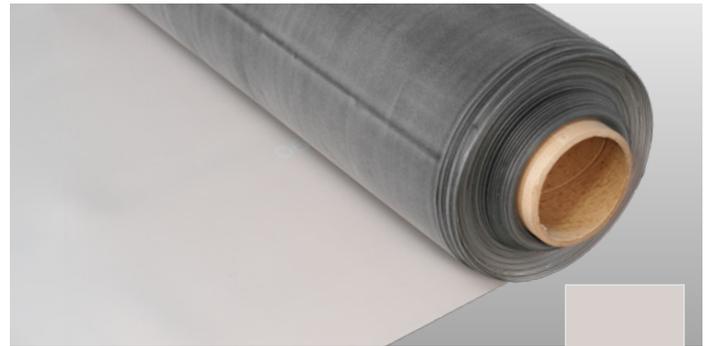
## EPDM Membrane Portfolio

EPDM offers a **diverse range of innovative and energy-efficient options** designed to outperform all other single-ply membranes.



### Sure-Seal EPDM

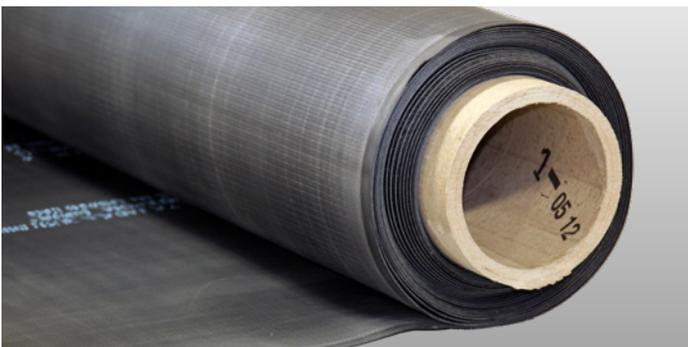
Sure-Seal membranes are composed solely of the EPDM base material, without any additional reinforcing internal structures or materials. This means that the thickness of our Sure-Seal products directly represents the full amount of weathering material that will be protecting your building.



Cool Gray

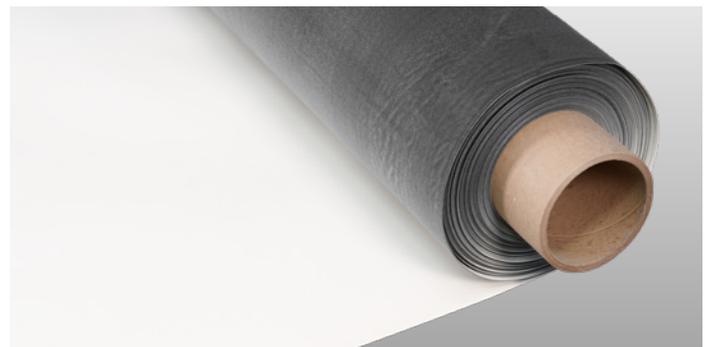
### Sure-Seal Cool Gray EPDM

This new EPDM color option has less glare, dries the roof faster, and hides dirt pick-up better than highly reflective white membranes – all without sacrificing performance. Gray membrane provide a balance between reflectivity for summer cooling needs, while also providing some winter heat gains and a dry-down effect to minimize potential condensation issues within the roofing assembly.



### Sure-Tough EPDM

Sure-Tough EPDM membranes get their strength from a strong polyester reinforcing scrim sandwiched between two plies of Carlisle's time-tested EPDM rubber. This reinforcement more than doubles the puncture resistance compared to non-reinforced membranes.



### Sure-White EPDM

Carlisle's Sure-White EPDM membranes deliver the superior performance and durability of EPDM with the aesthetic and environmental benefits of highly reflective, white cool roofs. This original Carlisle innovation can provide several benefits compared to our black EPDM roofing products.

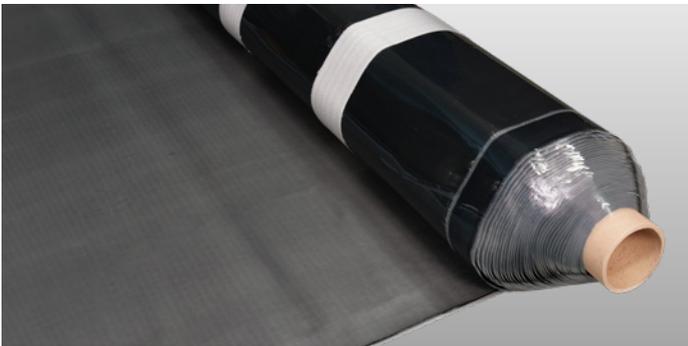
# SURE-WHITE EPDM

## Flexible and Pliable Membrane

*White EPDM Helps Cut Supermarket Cooling Costs*



Scan here to learn how this project utilized Carlisle SynTec Systems' Sure-White EPDM.



### **Carlisle SAT (Self-Adhering Technology) EPDM Membrane**

Carlisle's SAT EPDM membranes deliver the superior weatherability and dependability of non-reinforced EPDM while providing significant labor savings on the rooftop. Our self-adhered adhesive technology provides up to an 80% productivity increase while minimizing disruption to building occupants.



### **FleeceBACK RapidLock (RL) EPDM**

Carlisle's RapidLock (RL) roofing system is a revolutionary method of membrane attachment resulting in a fully adhered membrane performance without the use of adhesives. This innovative system utilizes VELCRO® Brand Securable Solutions to provide up to 80% labor savings over traditional bonding adhesives and the complete elimination of installation equipment and flash-off times.



### **FleeceBACK EPDM**

Carlisle's FleeceBACK EPDM membranes deliver industry-leading toughness and durability with up to 40% greater puncture resistance and 180% greater tear resistance than standard non-reinforced membrane. The fleece backing results in superior wind resistance, increased hail performance, and increased insulation performance.

*EXPERIENCE THE CARLISLE DIFFERENCE*



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