

EPDM

Roofing Technology

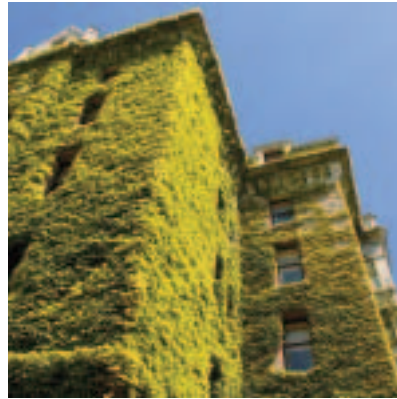
For every building that matters

Firestone
BUILDING PRODUCTS

MDPE



Hospitals & healthcare



Colleges & universities



Municipal & governmental



Commercial & cultural

For every building that matters

For all seasons and for many other reasons, if your building is important, it deserves a Firestone EPDM roofing system.



Did you know?

In 1980, Firestone's first EPDM installation covered the Albo Corporation Building in West Bend, WI—and is still in service today.

EPDM: When **proven performance** matters.



Firestone EPDM roofing systems represent modern technology from the global leader in rubber since 1900.

Only Firestone EPDM roofing systems are backed by the world's most trusted name in rubber technology for more than 100 years. Technology that's been used in everything from tank treads and radiator hoses to temporary landing strips.

And since the very first Firestone RubberGard™ EPDM roof was installed in 1980, Firestone roofing systems have consistently delivered the performance demanded for buildings that matter.

Firestone EPDM roofing systems currently cover about 15 billion square feet worldwide (enough to cover every square inch of New York City *and* Los Angeles). That's because EPDM provides outstanding long-term performance in all climates, including unmatched resistance to:

- UV radiation
- Ozone
- Heat aging
- Thermal cycling
- Hail damage

EPDM: When **sustainability** matters.

How can something so flexible and easy to maintain last so long? That's one of the unique attributes of EPDM, which, according to studies, can perform dependably for as long as 50 years.^{1,2}



Firestone EPDM is the roofing choice of Martin Luther College in New Ulm, Minnesota...

And because Firestone stands behind all its EPDM roofing systems, product warranties remain in full force without requiring routine maintenance.



...Pixar Animation Studios in California...

With simple remediation and repairs, the lifespan of EPDM roofing systems can be extended even after the warranty has expired. This means:

- Lower life-cycle cost
- Less impact on landfills
- Less cost than a complete re-roof



...and the Denver International Airport.



Did you know?

An EPDM roofing membrane can last 50 years,^{1,2} and the cost to remediate and extend its life can be as little as 5% of the cost of a new roof. A remediated roof can also include an acrylic coating to further extend its life.

¹ EPDM Roofing Association. Available at http://www.epdmroofs.org/faqs/faq_general.shtml as of October 2, 2007.

² SKZ. Würzburg, Germany. Life expectancy of EPDM roofing membrane over 50 years; a scientific approach.



Did you know?

EPDM has been named the #1 choice of architects, roofing consultants and contractors.³

EPDM: When **total product life-cycle cost** matters.

All buildings that matter have one thing in common: They're going to be around for a long time.

That's why it's important to know that using equivalent uniform annual cost calculations,⁴ a 30-year adhered EPDM roofing system can actually **cost up to 25% less** than other roofing systems.

With proper insulation, heating and cooling costs can be greatly reduced—and, over time, can offset most of the cost of the roofing system.



- Adhered EPDM roofing system (30-yr original installation)
- Other available roofing systems (20-yr original installation followed by re-roof for additional 10 years)
- Other available roofing systems (15-yr original installation followed by re-roof for additional 15 years)

³ 2002 - 2003 market survey data reported in *Building Design and Construction* magazine and by the National Roofing Contractors Association.

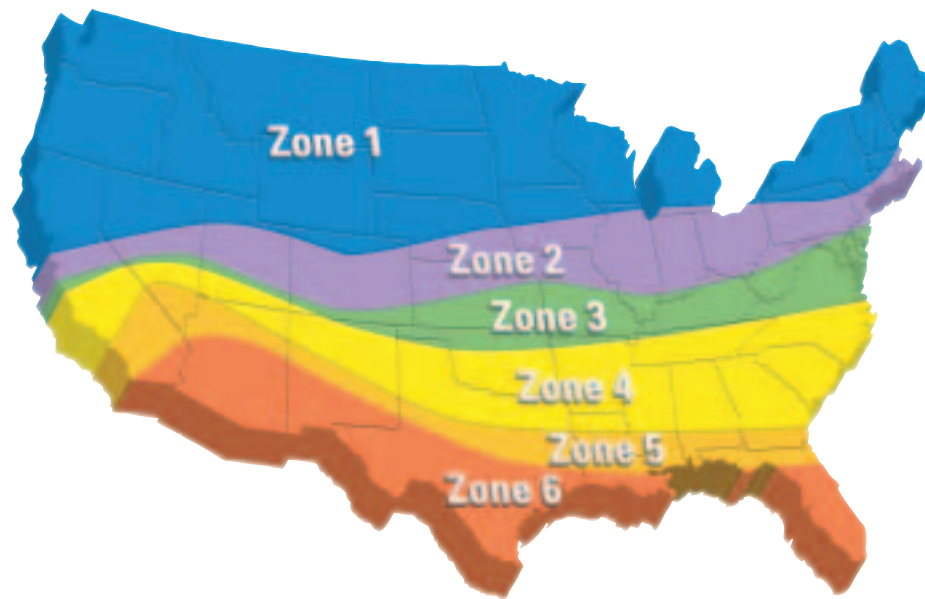
⁴ Source: Hoff, J. Equivalent Uniform Annual Cost: A new approach to roof life cycle analysis. *RCI Interface*, January 2007.

EPDM: When **energy savings** really matters.



If your building matters, choosing an EPDM roofing system makes sense regardless of climate zone.

That's because the surface reflectivity of a Firestone EPDM roof and the R-value of insulation can be varied to optimize your energy savings in *any* zone.⁵



Did you know?

A recent three-year study by the U.S. Department of Energy found that ballasted EPDM roofing systems can provide the same level of thermal performance as a rated ENERGY STAR[®] product.⁶

ALL EPDM SYSTEMS SHOWN FOR EACH ZONE GENERATE THE SAME ENERGY SAVINGS

Zone	Standard Firestone RubberGard EPDM (Min. 5% Reflective)	Ballasted Firestone RubberGard EPDM (Min. 20% Reflective)	Firestone RubberGard EPDM with Firestone AcryliTop™ Coating (Min. 50% Reflective)	Firestone EcoWhite™ EPDM (Min. 50% Reflective)
1	Use R-22.5 Insulation	Use R-22.5 Insulation	<i>Not recommended</i>	<i>Not recommended</i>
2	Use R-22.5 Insulation	Use R-22.5 Insulation	Use R-20 Insulation	Use R-20 Insulation
3	Use R-25 Insulation	Use R-22.5 Insulation	Use R-20 Insulation	Use R-20 Insulation
4	Use R-27.5 Insulation	Use R-25 Insulation	Use R-20 Insulation	Use R-20 Insulation
5	Use R-30 Insulation	Use R-27.5 Insulation	Use R-20 Insulation	Use R-20 Insulation
6	<i>Not recommended</i>	Use R-30 Insulation	Use R-20 Insulation	Use R-20 Insulation

⁵ The table above is for example purposes only, using a baseline R-20 insulation. Changing R-values may change results. The R-values shown are not meant to be considered the proper R-value for a particular building and are intended only to compare varying reflectivity levels and corresponding R-values to obtain equivalent energy consumption.

⁶ Calculation method: Comparison of Energy Star-approved reflective roof cover (minimum 50% long-term reflectivity), a ballasted, semi-reflective roof (20% reflectivity), and a non-reflective EPDM roof (minimum 5% reflectivity), using the U.S. Department of Energy Cool Roof Calculator. Assumed energy inputs: Building is heated in winter and cooled in summer in accordance with ASHRAE 90.1 guidelines; 2.5 air conditioning Coefficient of Performance, 85% Heating System efficiency and .90 emissivity were used. Local energy costs were used and based on commercial rates by state as reported by the Energy Information Administration for the month of June 2004.



Did you know?

EPDM has been used since the 1950s to line manmade ponds, reservoirs and similar applications, and is still being used today.

EPDM: When **what's inside the building** matters.

Because Firestone EPDM is so strong and flexible, it's exceptionally resistant to punctures.



For decades, Firestone EPDM products have been protecting people...

It's second to none in protecting people and high-value assets from damage caused by water, wind and hail.



...priceless and irreplaceable assets...

After all, no building, regardless of its purpose, will ever matter more than those who walk within its walls.



...and the most valuable asset of all: our future generations.

EPDM: Because **the environment** matters.

EPDM roofing systems are environmentally responsible for many reasons. First, choosing a ballasted system or simply applying an ENERGY STAR-approved coating can make them even more energy efficient and help builders earn valuable LEED points.

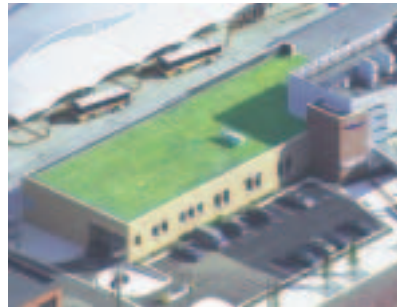


Firestone EPDM roofing systems can be made more reflective to help save even more energy...



Second, they deliver superior performance for roof garden applications that:

- Increase energy efficiency year-round.
- Help reduce "urban heat island" effects.
- Provide storm water runoff management.
- Add valuable, usable outdoor space for building occupants.



...be used in roof gardens that help beautify urban environments...

Finally, at the end of its service life, a Firestone EPDM roof membrane can be recycled into walkway pads, roofing tiles or other useful products.



...and can be recycled instead of discarded at the end of their service life.



Did you know?

EPDM requires significantly less energy and petroleum to produce than asphalt-based products.



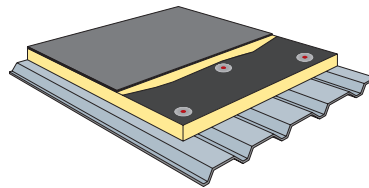
When should you invest in an EPDM roofing system?

When you:

- Own or manage your building.
- Want maximum sustainability for decades.
- Need optimum protection for assets residing in your building (patients, students, costly technology, priceless materials, etc.)
- Are concerned about our environment.

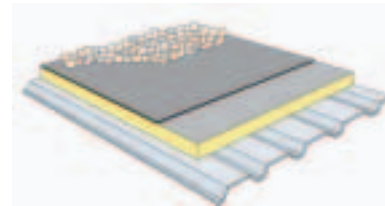
EPDM: When **alternatives** matter.

Firestone EPDM roofing systems are available in different sizes and configurations suitable for almost every type of roof.



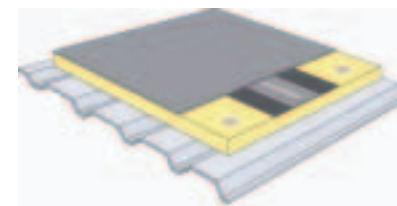
Fully Adhered RubberGard EPDM

- Available in black or white
- Popular choice for new construction and re-roofing
- Ideal where ease of inspection and maintenance are important
- Can be installed on high-slope roofs (e.g., barrels and vaults)



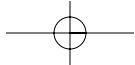
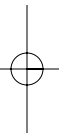
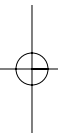
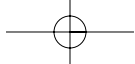
Ballasted RubberGard EPDM

- Features large roofing panels (up to 50' x 200') covered with pavers or smooth, washed stone
- Fast coverage and economical installation
- Ideal for stores, offices and warehouses
- Aesthetically pleasing appearance



Mechanically Attached RubberGard EPDM

- Accommodates a wide variety of roof configurations
- Popular choice for re-roofing
- Can be designed to meet special requirements by increasing wind uplift resistance





Note: This brochure is meant only to highlight Firestone's products and specifications. Information is subject to change without notice. All products and specifications are listed in approximate weights and measurements. For complete product and detail information, please refer to the appropriate Technical Manual.

Firestone takes responsibility for furnishing quality materials which meet Firestone's published product specifications. As neither Firestone itself nor its representatives practice architecture, Firestone offers no opinion on, and expressly disclaims any responsibility for, the soundness of any structure on which its products may be applied. If questions arise as to the soundness of a structure or its ability to support a planned installation properly, the Owner should obtain opinions of competent structural engineers before proceeding. Firestone accepts no liability for any structural failure or for resultant damages, and no Firestone Representative is authorized to vary this disclaimer.

For more information, consult your Firestone Representative or visit firestonebpc.com

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