All-Weather Performance
NEX® Polymer Modified Asphalt
Cools Roof
CRRC Rated Colors
Reduces Air Pollution
3M™ Smog-Reducing Granules
Reduces Landfill Waste
Upcycles Tires & Plastics
Resists Impact
Up to Class 4

Solar Reflective Shingle Lines
Performance Engineered
Sustainably Designed
Roofing Shingles
MALARKEY® SOLAR REFLECTIVE SHINGLE
Made with NEX® Polymer Modified Asphalt Technology

UPCYCLED TIRES & PLASTICS
Polymers from recycled rubber tire and plastics improve shingle durability while diverting the equivalent of ~5 rubber tires and ~2,000 plastic water bottles from the landfill per average-size roof.¹

NEX® POLYMER MODIFIED ASPHALT
Asphalt core of shingle is rubberized with virgin synthetic rubber polymers (SBS) to enhance shingle strength, flexibility, and resilience. Up to Class 4 impact resistance. Insurance discounts may apply.

POLYMER MODIFIED ADHESION
Up to 50% more adhesion bonds and twice the number of rain seals than standard shingles. Proprietary synthetic rubber adhesion (SEBS) resists dry-out and delivers extreme protection from high winds, wind-driven rain, and delamination.

3M™ SMOG-REDUCING GRANULES
Clean the air by reducing air pollution (all shingle lines). Each average-size roof has the smog-fighting potential of ~2 trees.²

THE ZONE® NAILING AREA
Up to 2x wider nailing and common bond area, with a tapered shim, helps ensure shingle is properly fastened (nails penetrate both shingle layers), lays flat, and effectively sheds water to prevent troughing.

FIBERGLASS MAT
Provides structural reinforcement, and combined with polymer modified asphalt, 10-55% greater tear strength than the industry standard [ASTM D3482].

3M™ ROOFING GRANULES
Deeply embedded, ceramic-coated granules protect shingle from weather and UV aging. Up to 65% greater granule adhesion than the industry standard [ASTM D3482].

3M™ COOL ROOFING GRANULES
Reflect sun’s rays to reduce roof heat. SRI Ratings up to 21 [Ecoasis® NEX® shingle line].

*SHINGLE SHOWN IS AN ARCHITECTURAL DESIGN. DURA-SEAL AR 3-TAB SHINGLES ARE 39 3/8" LONG BY 13 1/4" WIDE, AND DO NOT INCLUDE THE ZONE®.
SUSTAINABILITY

Clean Air

“Along with planting more trees, we view smog-reducing technology, embedded into mainstream roofing materials, as a great step forward in addressing air quality.”

Jonathan Parfrey
Executive Director, Climate Resolve

PERFORMANCE ENGINEERED

All-Weather Performance – Shingles are in a constant state of expansion and contraction caused by changing temperatures. Unlike standard shingles, which prematurely become brittle and crack from the stress, NEX® Polymer Modified Asphalt Technology rubberizes shingles for enhanced all-weather strength, flexibility, and resilience to better withstand temperature swings and weather extremes.

Resists Impact – Synthetic (SBS) and upcycled rubber and plastic polymers add durability, tear strength, and industry-leading impact protection from hail and debris. Our Class 3 and Class 4 (highest impact rating possible) shingles may be eligible for insurance discounts.

Resists Wind & Rain – Six bonds [3 laminate, 2 rain, 1 wind] of proprietary synthetic rubber adhesive [SEBS], coupled with The Zone®, our patented wider nailing area, seal shingles and block out wind and wind-driven rain. Wind warranties from 60-130 mph.

Resists Algae – Blend of algae-resistant 3M™ Copper Granules helps prevent unsightly black streaks.

Resists Fire – Shingles meet highest fire rating (Class A).

SUSTAINABLY DESIGNED

Lasts Longer – Granules are a shingle’s primary line of defense. Polymer rubberization enhances asphalt’s natural thermo-cycling resilience and grip, resulting in up to 65% greater granule adhesion than the industry standard (ASTM D3462), and longer product life.

Reduces Air Pollution – 3M™ Smog-Reducing Granules harness sunlight to photocatalytically convert smog (NO, NO₂) into water-soluble ions [NO₃⁻], actively reducing air pollution. Each average-size roof has the smog-fighting potential of ~2 trees.

Upcycles Tires & Plastics – Polymers from recycled tires and plastic bottles improve shingle strength and durability while reducing landfill waste. Anti-aging technology inherent in these materials adds even more protection from damaging UV sunlight. Each average-size roof diverts the equivalent of ~5 rubber tires and ~2,000 plastic water bottles from the landfill.

Cools Roof – Roof-cooling colors reflect the sun’s rays to help reduce solar heat entering the home, helping counteract the Urban Heat Island Effect and supporting efforts by the Cool Roof Rating Council (CRRC) to conserve energy.

Cleaner Manufacturing – NEX® Technology results in much lower emissions than the highly-pollutive oxidation process used to make traditional shingles.
INNOVATION

NEX® POLYMER MODIFIED ASPHALT TECHNOLOGY
Rubberized Asphalt Performs Better, Lasts Longer & is More Sustainable

Shingles are in a constant state of expansion and contraction caused by temperature changes and weather extremes. This constant movement stresses the shingle. Standard shingles struggle to keep up.

The reason is standard shingles are made with 100-year-old technology called oxidized asphalt, which uses oxygen and extreme heat to deliberately age (harden) the asphalt core of the shingle to raise its softening point so it doesn’t melt on hot roofs.

This process is highly pollutive (TONS of annual air pollution) and has the adverse effect of significantly degrading asphalt’s natural pliability, causing standard shingles to prematurely become brittle, crack, and lose hold of their protective granules.

Malarkey Roofing pioneered a better way. Instead of oxidation, we use polymers [molecular chains commonly found in rubber and plastic products] to create polymer modified asphalt (PMA). This process not only retains but enhances asphalt’s natural weathering characteristics, chemically altering the asphalt core of the shingle to deliver the best properties of asphalt and rubber.

Our unique formulation combines high-grade asphalt with synthetic polymers, rubberizing the shingle for exceptional all-weather responsiveness, superior granule adhesion, and enhanced wind, rain, and impact resistance.

We also promote sustainable product design by incorporating ‘upcycled’ rubber and plastic polymers from used tires and water bottles to further improve shingle strength, durability, and resilience, greatly extending shingle life, and helping prevent these materials from entering our landfills and oceans.

The result – NEX® Polymer Modified Asphalt – is a better, cleaner, more sustainable technology which fortifies every Malarkey shingle.

What is Upcycling?
Automobile tires are highly engineered for all-weather performance and durability – attributes also desired in shingles. By incorporating used tires, as well as post-consumer hard plastics, not only do we make our shingles more environmentally friendly by recycling these products, we also benefit from the advanced technology inherent in the products themselves, ‘upcycling’ these products to improve our own.

Each roof diverts the equivalent of ~5 rubber tires and ~2,000 plastic water bottles from the landfill.³
A standard roof requires over 6,000 properly placed nails. Even one out of place can lead to leaks, which is why we invented The Zone® for our architectural shingles. The Zone® has up to a 2x wider nailing area than standard shingles, and includes an extended shim on the back of the shingle. The larger shim improves the accuracy of each nail hitting and penetrating both shingle layers, critical for preventing shingle uplift, blow-off, and leaks. Double rain seals (twice that of standard shingles) add even more protection in this leak-prone area.

**THE INDUSTRY’S FIRST WIDER NAILING AREA**

_The Zone® Improves Installation Accuracy & Reduces Risk of Leaks_

CRAFTSMANSHIP

**THE ZONE® NAILING AREA [SIDE VIEW]**

<table>
<thead>
<tr>
<th>MALARKEY NAILING AREA</th>
<th>STANDARD NAILING AREA</th>
<th>‘LARGER’ NAILING AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wider Nailing Area</td>
<td>Potential for Troughing &amp; Leaks</td>
<td>Potential for Troughing &amp; Leaks</td>
</tr>
<tr>
<td>Longer &amp; Tapered Shim</td>
<td>Shorter &amp; Blocked Shim</td>
<td>Shorter &amp; Blocked Shim</td>
</tr>
</tbody>
</table>

Wider nailing target, with an extended and tapered shim, helps ensure nails hit and penetrate both shingle layers, and shingles lay flatter to more effectively shed water without interruption.

Narrow nailing target, with short and blocked shim that leaves a bump, increases the likelihood that nails fail to penetrate both shingle layers, and elevates risk of troughing and ice damming.

Claiming a ‘larger’ nailing area by simply widening the paint line without equally extending the shim at the common bond, defeats the point of creating a larger target for nails to accurately hit and penetrate both shingle layers.

**What is troughing and ice damming?**

Troughing is when water runs sideways under shingles and then down a misplaced nail, resulting in leaks. Ice damming occurs when snow melts and refreezes at the roof edge forming a dam which prevents additional snow melt (water) from draining off the roof, instead creeping under the shingle and leaking into the house.

Misplaced nails are the most common reason for roof leaks and voided warranties.
In the recent *Hail Impact Study* by the Insurance Institute for Business and Home Safety (IBHS), Malarkey accounted for not one but two (Vista®, Legacy®) of only three shingles in the country to achieve a score of Excellent or Good in every performance category (Overall, Dents/Ridges, Granule Loss, Tears).

Our Vista® and Legacy® shingles are also Class 3 and Class 4 impact rated (highest rating possible), respectively, by UL.

**How are Shingles Classified for Impact Resistance?**

Shingles are classified for impact resistance in two ways – the IBHS *Hail Impact Study* and by UL (Underwriters Laboratories). UL classifies shingles’ impact resistance by dropping different-sized steel balls at various heights to simulate hail. Class 3 and 4 rated shingles can withstand a 1 ¾” and 2” ball dropped from 17’ and 20’, respectively, without showing visible cracks on the back of the shingle.

*Our Vista® & Legacy® shingles often qualify for insurance discounts* [contact your insurance agent].
The Industry’s First SMOG-REDUCING SHINGLE

FEATURING 3M™ SMOG-REDUCING GRANULES

TIME MAGAZINE TOP 50 INVENTIONS OF 2018

Air quality is a concern for us all, which is why we created the industry’s first smog-reducing shingle, using 3M™ Smog-Reducing Granules.

These granules, which blend inconspicuously into every shingle, harness sunlight to convert smog into water-soluble ions, actively reducing air pollution.

What Do Trees Have to Do with It?

Trees are nature’s filters. Not only do they clean particulates out of the air by trapping them on leaves and bark, they also absorb pollutant gases like nitrogen oxides (NOx) through leaf stomata. Stomata are small windows on green leaves that let carbon dioxide and other gaseous pollutants in and oxygen out. Like trees, Malarkey shingles also help fight air pollution by incorporating 3M™ Smog-Reducing Granules which convert smog gases into water-soluble ions that settle on the roof and wash away with rainwater.

Each roof has the smog-fighting potential of ~2 trees.²

SMOG-REDUCING GRANULE [HOW IT WORKS]

All Malarkey shingles include 3M™ Smog-Reducing Granules. These granules contain a photocatalytic coating which, when activated by the UV rays of the sun, creates the energy needed to break apart airborne water molecules (ex. humidity) into their component parts (i.e., H₂O breaks into -H and -OH).

The newly formed -OH molecule, called a hydroxyl radical, binds to smog molecules, chemically transforming them from a dangerous, inhalable gas (NO₂) into a water-soluble nitrate salt solid (NO₃), a more plant-usable form of nitrogen that washes away with rainwater.

What is Smog?

Smog is a form of air pollution resulting from the interaction of UV sunlight with chemicals in the atmosphere like nitrogen oxides (NOx) that get into the air primarily from the burning of fuel (ex. vehicle emissions).

As a gas, smog is easily inhaled, making it extremely hazardous to humans and animals, and can lead to severe health risks including lung tissue damage, bronchial infections, and heart problems.

ENVIRONMENT
COLOR

Distributed from South Gate, CA:


COLOR

BURLWOOD: E
CEDAR CASK: E
SANDY SHALE: E
STERLING MIST: E
WILLOW WOOD: E
CRRC rated colors can be used to comply with California Energy Code (CEC) Title 24, Part 6 Cool Roof Requirements. SRI of 20 or more also meets LA County requirements.

One Roof at a Time

"Granted, it’s just one roof, but if everyone starts choosing a shingle that reduces landfill waste and also fights air pollution, who knows what the end result will be."
- James Martinez, Homeowner

*CRRC rated colors can be used to comply with California Energy Code (CEC) Title 24, Part 6 Cool Roof Requirements. SRI of 20 or more also meets LA County requirements.
Ultraviolet Rays

When solar energy hits a roof surface and is absorbed, it raises the temperature of the shingles. This can lead to heat entering the home as well as premature aging of the shingle itself.

Roof cooling colors reflect ultraviolet (UV) rays to help reduce solar heat entering the home, as well as help offset the Urban Heat Island Effect, supporting efforts by the Cool Roof Rating Council, Climate Resolve, and the State of California to conserve energy and improve air quality.

REFLECTIVITY

ROOF COOLING GRANULES

Reflective Granules Help Cool the Roof

Shingles are assigned an SRI (Solar Reflective Index) rating by the Cool Roof Rating Council (CRRC). The higher the SRI, the greater the reflectivity. CRRC rated colors of at least SRI 16 can be used to comply with California Energy Code (CEC) Title 24, Part 6 Cool Roof Requirements. SRIs of 20 or more also meet LA County requirements.

SOLAR-REFLECTIVE TECHNOLOGY [HOW IT WORKS]

Shingles can cool roofs in one of two ways – granule color or granule coating. Light colors naturally reflect more solar energy than dark colors. For darker colored shingles, we utilize 3M™ Cool Roofing Granules which include a special coating that enhances solar reflectivity. These granules enable darker colored shingles to achieve SRI ratings up to 21, and are used in our Ecoasis™ NEX® product line.

What is the Urban Heat Island Effect?

The Urban Heat Island Effect describes the elevated temperature differential between urban and rural environments due to the larger number of heat-absorbing surfaces like roads, roofs, and buildings. According to the EPA, heat islands can affect communities by increasing summertime peak energy demand, air conditioning costs, air pollution, and greenhouse gas emissions.

CRRC rated colors can be used to comply with California Energy Code Title 24 Part 6 Cool Roof Requirements.
Heritage

“We will value fair and honest dealings with our customers, will commit ourselves to the highest quality standards, and will take care of the communities in which we operate.”

Herbert Malarkey
Founder, Malarkey Roofing Products

GOING STRONG SINCE 1956

Built by Family, Installed by Experts

Malarkey is a family business based in Portland, Oregon since 1956, with 3 manufacturing plants located in Oregon, California, and Oklahoma. We make the shingles we want on our own homes, and we’re proud to lead the industry in innovation and sustainability.

Cleaner Energy
Malarkey received the Governor’s Award for Outstanding Achievements in Energy Conservation for diverting methane gas from the water treatment plant to power our manufacturing facility.

Cleaner Manufacturing
Malarkey pioneered polymer modified shingle making – a much cleaner technology that also results in a longer lasting (more sustaining) product. Malarkey is GreenCircle Certified for Waste Diversion from Landfill & Recycled Content.

Cleaner Land
By incorporating upcycled rubber and plastic polymers into our asphalt formulation, Malarkey has diverted the equivalent of 2M tires and 217M plastic bottles from the landfill.

Cleaner Air
By integrating smog-reducing granules onto our shingles, Malarkey has ‘planted’ the equivalent of 885K trees to help clean the air of emission pollutants.

Shingles made cleaner, greener, and to last longer. That’s the goal…one roof at a time.

Industry Innovations

1986
First Polymer Modified [SBS] Shingle in North America

1993
First to Meet Miami Dade County Wind Requirement

2001
First Wider Nailing Area [The Zone™]

2003
First 3M Scotchgard™ Protector Algae Designation

2016
First Use of Recycled Polymers in Polymer Modified [SBS] Shingles

2018
First Smog-Reducing Shingle
### Asphalt Technology

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<th>Impact Rating</th>
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### Cost

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### Warranties

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<td>70/113/7</td>
<td>130/209/10</td>
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</tbody>
</table>

*VERSUS STANDARD SHINGLES, AS MEASURED PER ASTM D3462.*

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**Testimonials**

“As one of the largest roofing companies in Alaska, we know extreme weather, which is why Malarkey has been at the core of our product offerings for over 30 years.”
– Pat Reilly, Owner, Rain Proof Roofing

“Last week, with winds up to 68 mph, we had over 100 calls for shingles blown off of roofs in our area yet didn’t lose a single shingle from our Malarkey shingle line. They are made for these conditions.”
– Jeremy Nowak, President, Bob’s Roofing

“Through our work with Malarkey Roofing Products, we have been able to upcycle hundreds of tons of recycled polymers, creating value from materials like plastic containers, bottle caps, and drinking straws, diverting these plastics from our landfills and oceans.”
– Jodie Morgan, CEO, GreenMantra® Technologies