



3-TAB SHINGLE LINE



ALL-WEATHER PERFORMANCE  
NEX® POLYMER  
MODIFIED ASPHALT



RESISTS IMPACT  
CLASS 4  
IMPACT RATING



REDUCES AIR POLLUTION  
3M™ SMOG-REDUCING  
GRANULES



UPCYCLES TIRES & PLASTICS  
REDUCES LANDFILL WASTE

## 3-TAB SHINGLE LINE

Performance Engineered, Sustainably Designed

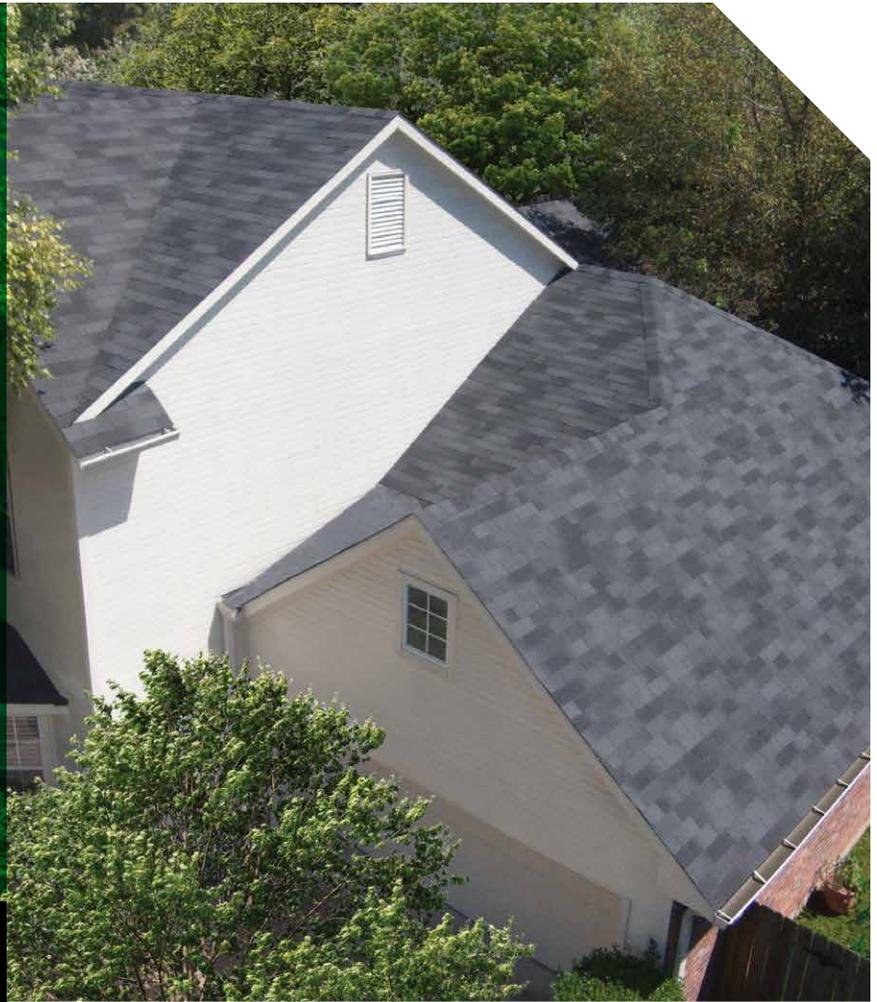
# WHEN IT MATTERS™



## Family Built

“A family business based in Oregon since 1956, we at Malarkey Roofing strive simply to make the best shingle in the least environmentally impactful way.”

Gregory Malarkey  
President, Malarkey Roofing Products®



# PERFORMANCE

## MALARKEY® DURA-SEAL™ 3-TAB SHINGLE

Made with NEX® Polymer Modified Asphalt Technology

### NEX® POLYMER MODIFIED ASPHALT

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

### 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.**<sup>1</sup>

### FIBERGLASS MAT

Provides structural reinforcement, and combined with polymer modified asphalt, **25% greater tear strength than the industry standard [ASTM D3462].**

### 3M™ ROOFING GRANULES

Deeply embedded, ceramic-coated granules protect shingle from weather and UV aging. **65% greater granule adhesion than the industry standard [ASTM D3462].**

### POLYMER MODIFIED ADHESION

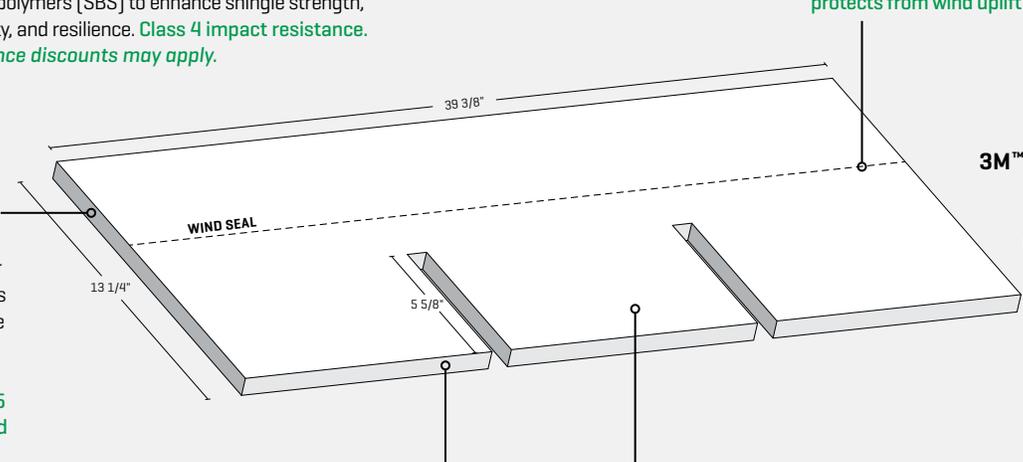
Proprietary synthetic rubber adhesive (SEBS) wind seal **protects from wind uplift and shingle blow-off.**

### 3M™ SMOG-REDUCING GRANULES

Clean the air by reducing air pollution. **Each average-size roof has the smog-fighting potential of ~2 trees.**<sup>2</sup>

### 3M™ COPPER GRANULES

Reduce black streaks caused by algae growth. **5 year Streak Resist™ algae warranty.**





## 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*

# SUSTAINABILITY

## 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 storm debris. Shingles include Class 4 impact protection (highest rating possible), and may be eligible for insurance discounts.

**Resists Wind & Rain** – Proprietary synthetic rubber adhesive (SEBS) wind seal protects against wind uplift and shingle blow-off. Wind warranties from 60-70 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, NO<sub>2</sub>) into water-soluble ions (NO<sub>3</sub>), actively reducing air pollution. Each average-size roof has the smog-fighting potential of ~2 trees.<sup>2</sup>

**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.<sup>1</sup>

**Cools Roof** – Roof-cooling colors reflect the sun’s rays to help reduce solar heat entering the home, supporting efforts by the Cool Roof Rating Council (CRRC) to conserve energy.<sup>3</sup>

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

# 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.

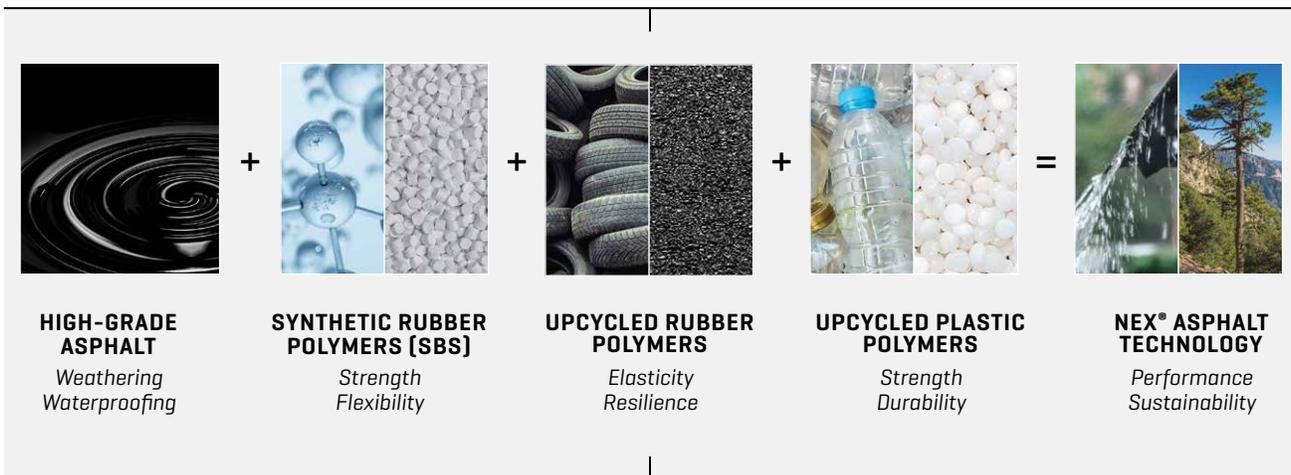
Our unique formulation combines high-grade asphalt with synthetic polymers, rubberizing the shingle for exceptional all-weather responsiveness, superior granule adhesion, and enhanced wind, rain, and impact resistance.

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.

## INNOVATION

### NEX® POLYMER MODIFIED ASPHALT TECHNOLOGY [FORMULATION]



#### 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.<sup>1</sup>**

## 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 is Smog?

Smog is a form of air pollution resulting from the interaction of UV sunlight with chemicals in the atmosphere like nitrogen oxides ( $\text{NO}_x$ ) 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.

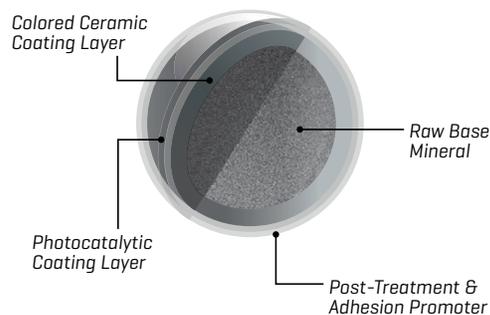
## ENVIRONMENT

### SMOG-REDUCING SHINGLE [HOW IT WORKS]

All Malarkey architectural and 3-tab 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.,  $\text{H}_2\text{O}$  breaks into  $\cdot\text{H}$  and  $\cdot\text{OH}$ ].

The newly formed  $\cdot\text{OH}$  molecule, called a hydroxyl radical, binds to smog molecules ( $\text{NO}$ ,  $\text{NO}_2$ ), chemically transforming them from a dangerous, inhalable *gas* into a water-soluble nitrate salt *solid* ( $\text{NO}_3$ ), a more plant-usable form of nitrogen that is deposited on the roof and washes away with rainwater.

Improving Our Climate  
3M™ Smog-Reducing Granules



#### 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 ( $\text{NO}_x$ ) 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.

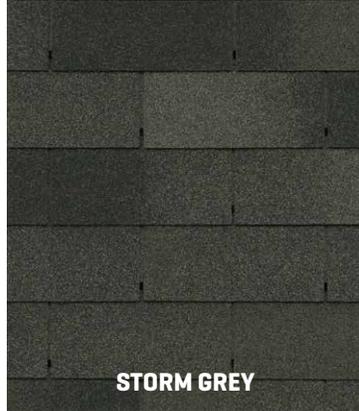
**Each roof has the smog-fighting potential of ~2 trees.<sup>2</sup>**

# CHOICE

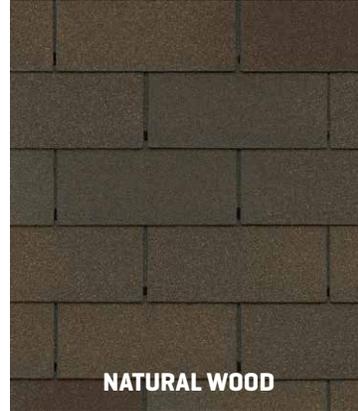
Dura-Seal™ AR Distributed from South Gate, CA



MIDNIGHT BLACK



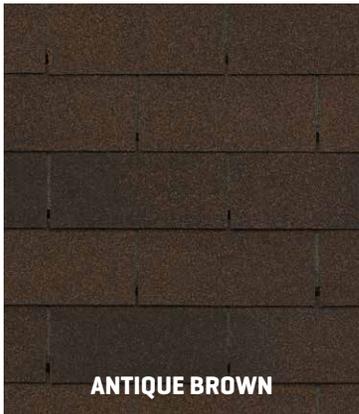
STORM GREY



NATURAL WOOD



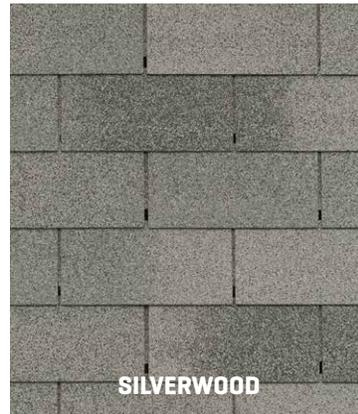
WEATHERED WOOD



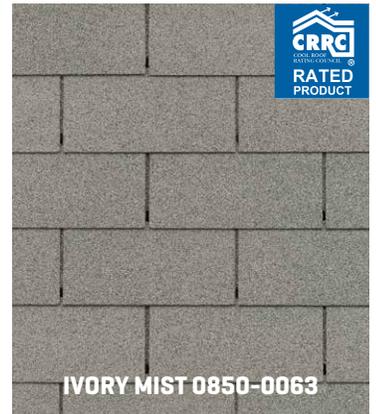
ANTIQUE BROWN



SIENNA BLEND



SILVERWOOD



IVORY MIST 0850-0063



25 YEAR	7 YEAR	'YOUR CHOICE'	CLASS 4	+25%	5 YEAR	60 MPH 7 YEAR	70 MPH 7 YEAR
LIMITED SHINGLE WARRANTY	RIGHT START™ PERIOD	WARRANTY OPTIONS AVAILABLE <sup>5</sup>	IMPACT RATING	GREATER TEAR STRENGTH <sup>4</sup>	STREAK RESIST™ ALGAE WARRANTY	STANDARD WIND WARRANTY	ENHANCED WIND WARRANTY



<sup>1</sup> Approximation assuming standard roof of 30 squares.  
<sup>2</sup> Approximation assuming standard roof of 30 squares. Source: Lawrence Berkeley National Laboratory and 3M.  
<sup>3</sup> CRRC rated colors can be used to comply with California Energy Code (CEC) Title 24, Part 6 Cool Roof Requirements.  
<sup>4</sup> Versus standard shingles, as measured per ASTM D3462.  
<sup>5</sup> Select our transferable Limited Shingle Warranty or one from a competitor - your choice.

+ For complete information on all warranties, including 'Your Choice' Warranty and the Right Start™ non-prorated period against manufacturing defects, please reference Malarkey's Shingle and Accessory Warranty available at [www.malarkeyroofing.com/warranty-center](http://www.malarkeyroofing.com/warranty-center).

This version supersedes all previous versions. Rev. 04/21.

P.O. Box 17217 Portland, Oregon 97217 800-545-1191 [www.malarkeyroofing.com](http://www.malarkeyroofing.com)

TEST COMPLIANCE: ASTM D7158 Class H, ASTM D3462, ASTM D3161 Class F, ASTM D3018 Type I, ASTM E108 Class A Fire Rating, UL 2218 Class 4, and ICC Approval - ESR-3150. CRRC rated colors can be used to comply with California Energy Code (CEC) Title 24, Part 6 Cool Roof Requirements.

DISCLAIMER: Photographs of shingles may not accurately represent their true color or the variations of color blends that will appear on the roof. **Before installation, five or six shingles should be laid out and reviewed for desired color.** Colors and specifications subject to change without notice. Shingle colors not available in all regions or product lines. Scotchgard and Scotchgard Protector, including the 3M logo, are all trademarks of 3M.

