

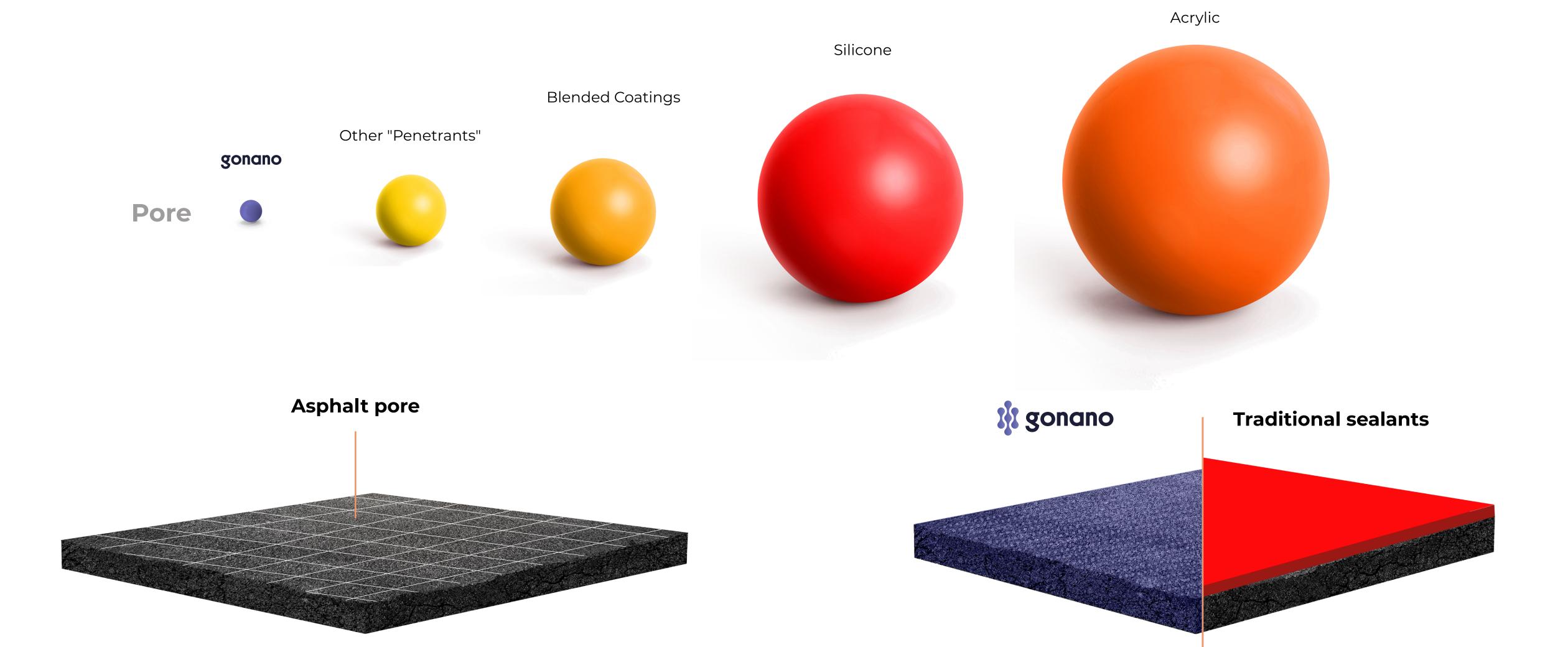
US RESIDENTIAL SALES PRESENTATION

TECHNOLOGY FOR SHINGLES

Add 10 to 15 years of additional lifespan to your roof

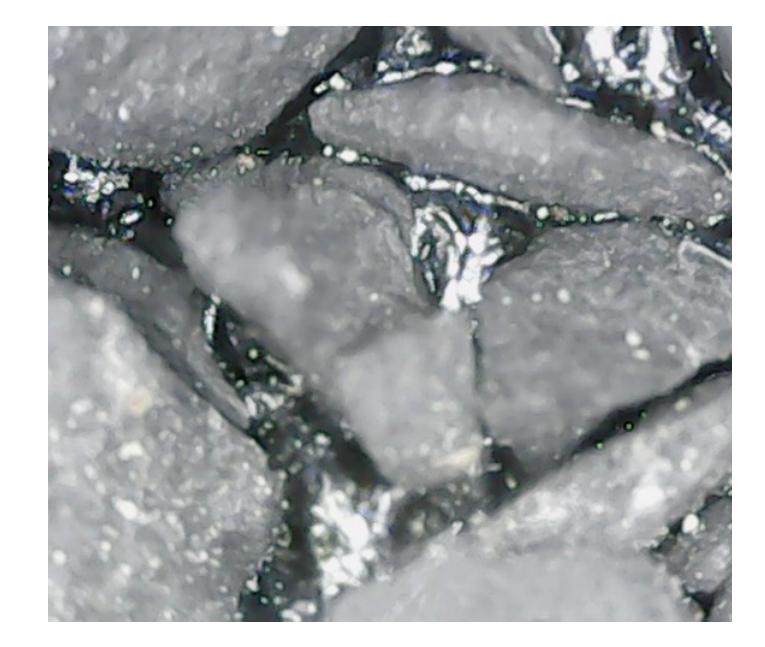


gonano vs traditional sealants



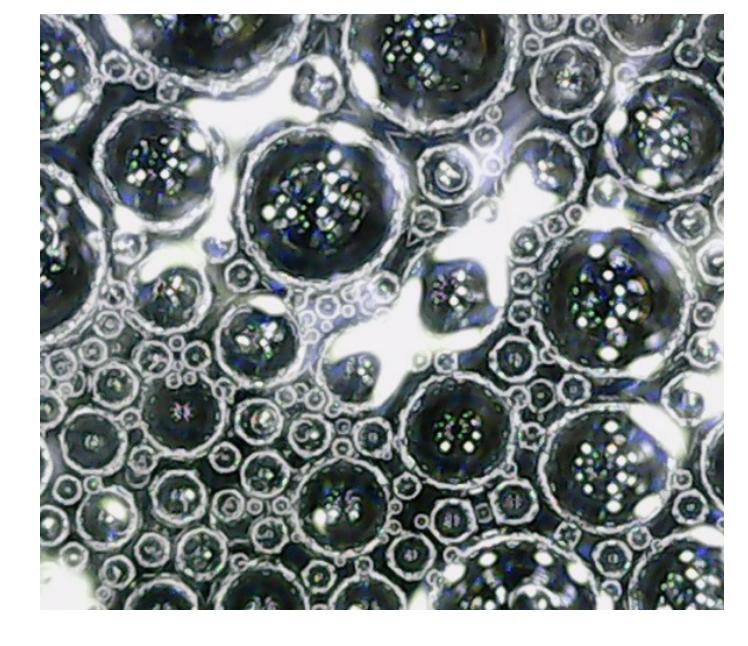
Permanent structure modification

Before



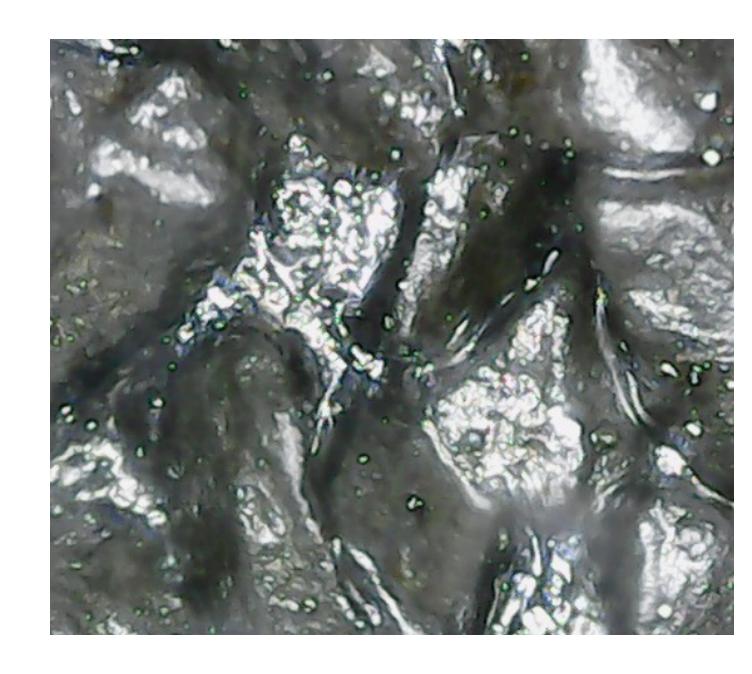
Regular shingle

During



A modification reaction takes place everywhere in the shingle

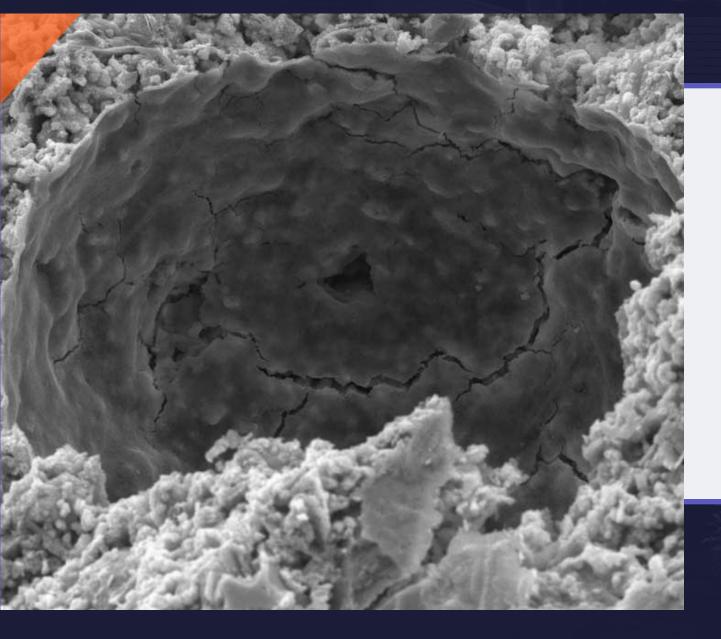
After



GoNano modified shingle

Before and after

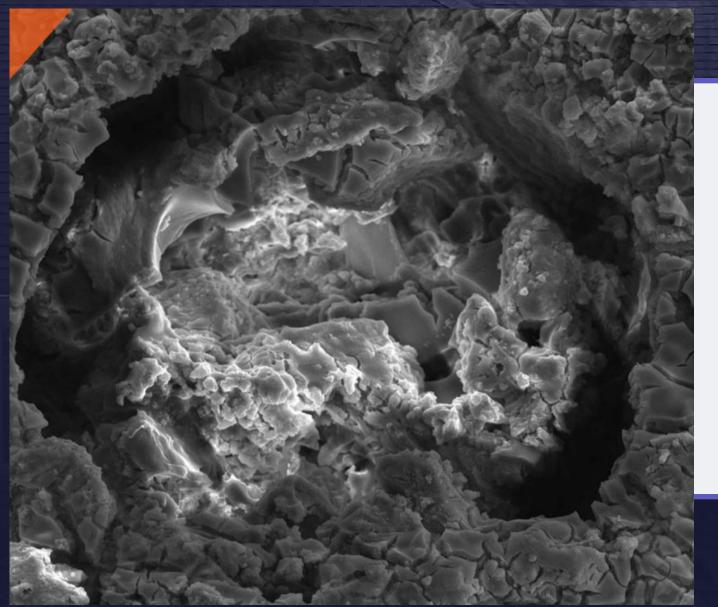
Before modification



Regular shingle:

- Asphalt naturaly whitens quickly
- Micro-cracks
- Porous pattern

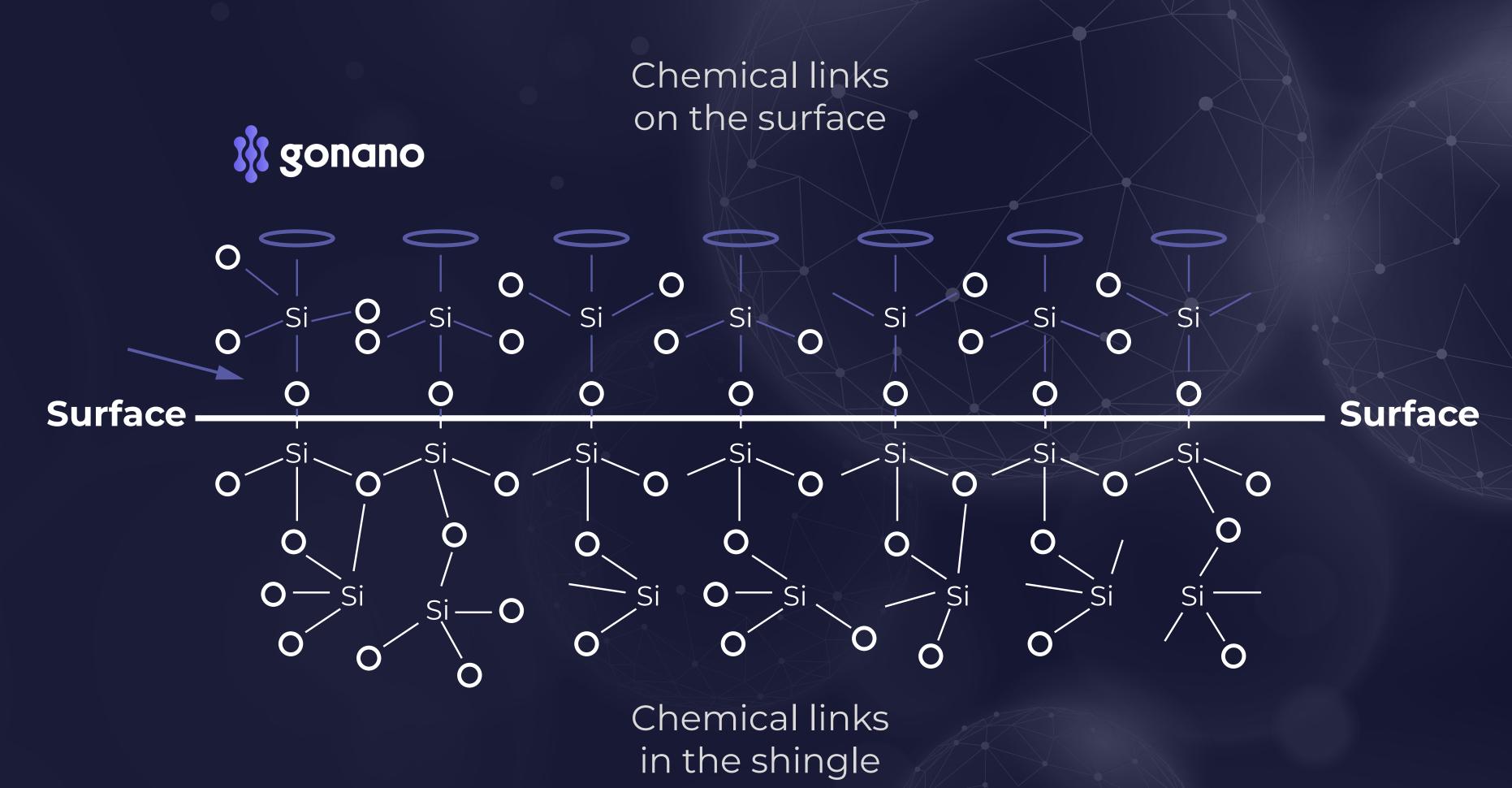
After gonano



Modified shingle:

- Color
- Density
- Tissue patern

Complete modification



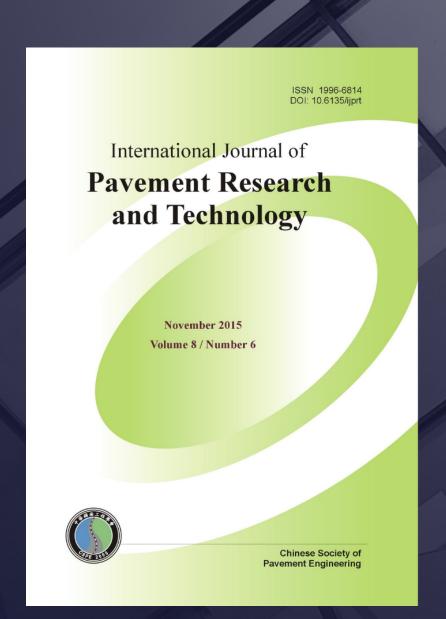
GONANO SCIENCE

The science is settled



"(...) that the antiaging property and rutting and fatigue cracking performance of nanosilica modified asphalt binders are enhanced (...)"

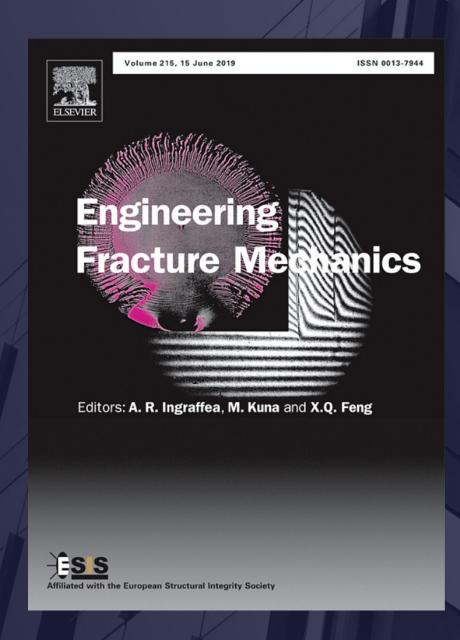
David Wingard, Ph.D., M.ASCE Research Assistant Professor, Dept. of Civil Engineering, Clemson Univ., Clemson, SC



"(...) has a positive influence on different properties of the asphalt binder and mixture and can be used to construct durable pavements, thereby reduce the life-cycle costs of the pavement"

Mahmoud Enieba, Aboelkasim Diabb, Department of Civil Engineering, Assiut University, 71516, Egyp GONANO SCIENCE

The science is settled



"(...) the nanomaterials also gave good indications regarding an enhanced aging resistance."

João Crucho CERIS, Instituto Superior Técnico, Universidade de Lisboa, Av. Rovisco Pais, 1049-001 Lisboa, Portugal GONANO SCIENTIFIC STUDY

Independent scientific study



National Center in Environmental Technology and Electrochemistry

"Asphalt shingle samples treated with the technology commercialized by GoNano demonstrated several improvements over untreated samples, including a marked improvement in anti-aging properties."

Antonio Avalos Ramirez - Ph.D., Ing.

Environmental Technology Researcher

"Study showed that molecular aging processes are slowed by minimum 68% and up to 100%, depending on the age and state of shingles."

GONANO IMPACTS

Technological impacts

New properties

Flexbility

Hydrophobic

Increased resistance to

Heat

Oxydation

UV

Anti Moisture

Advantages

Increased resistance to hailstorms and High Winds

Cleans and prevents algae

Reduces/prevents water infiltration

Preserves and regenerates original colour

Stops loss of granules

More effective evacuation of ice and snow

UL STANDARDS IMPACT RESISTANCE RESULTS (UL 2218) (ENGINEERING REPORT + TESTING VIDEO)

UL Standards impact resistance results (UL 2218)

GONANO CLASS

Class 1 Shingle vs Class 4 Shingle



Class 1

- 1. No impact resistance
- 2. High loss of granules
- 3. Lifespan: 12 to 15 years
- 4. Cost: \$5-6 a S/F



Class 4

- 1. Highest impact resistance
- 2. Low loss of granules
- 3. Lifespan: 22-25 years
- 4. Cost: \$9-10 a S/F

IMPACT RESISTANCE TESTING

Hail size (in.) 1 1/4" 1 1/2" 1 3/4" 2"

UL Standards and IBHS & Insurance companies

What are impact-resistant

roofing materials?

Impact-resistant shingles and other roofing materials are designed to resist damage from hall and flying depris — abuse trial might shingles and shingles and other roofing materials are designed to resist damage and have a Class 4 rating (see below).

Shingles on an impact-resistant roof are designed to withstand high winds and hall damage and have a Class 4 rating (see below). Hailstorms are responsible for more than \$10 billion in annual property damage, and they are particularly hard on roofs. That's because hailstones can form up to

And while the average life span of some roofs is 20 years, roofs in severe hail-prone areas often must be replaced every seven to 10 years, according to the Aria wrille the average life span of some roots to years, roots in severe main-profile areas of terminated by replaced every sever to be years, according to the research ending State Farm. Which has an in-house laboratory in Insurance Institute for Business and Home Safety (IBHS). The IBHS is one of the organizations — including State Farm. Which has an in-house laboratory in Insurance Institute for Business and Home Safety (IBHS). The IBHS is one of the organizations — including heil and testing the materials designed to be paid it. The IBHS is one of the organizations — including the materials designed to be paid it. Insurance Institute for Business and Home Safety (IBHS). The IBHS is one of the organizations — including State Farm, which has an in-nouse laboratory in Bloomington, Illinois — whose researchers have devoted years to field and lab research studying hail and testing the materials designed to handle it. (The IBHS has a newly instituted rating evetern for impactance standard shingles that includes reviews of denting there and graphile less.)

ituted rating system for impact-resistant shingles that includes reviews of denting, tears and granule loss.) You can choose impact-resistant shingles such as asphalt or a metal roofing material in a variety of popular styles, including individual shingles and other roofing You can choose impact-resistant shingles such as asphalt or a metal rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting material in a variety of popular styles, including multiplies and other rooting m

How are impact-resistant roofing materials rated?

Two companies — Underwriters Laboratories (UL) and FM Approvals — are typically used to rate the impact resistance of roofing materials, according to Mark

In UL testing, steel balls of different sizes are dropped from varying heights onto newly manufactured roof coverings. In FM Approvals testing, premolded ice balls in various sizes are launched onto newly manufactured material.

"Hailstorms are responsible for more than \$10 billion"

"Insurance Institute for Business and Home Safety (IBHS)"

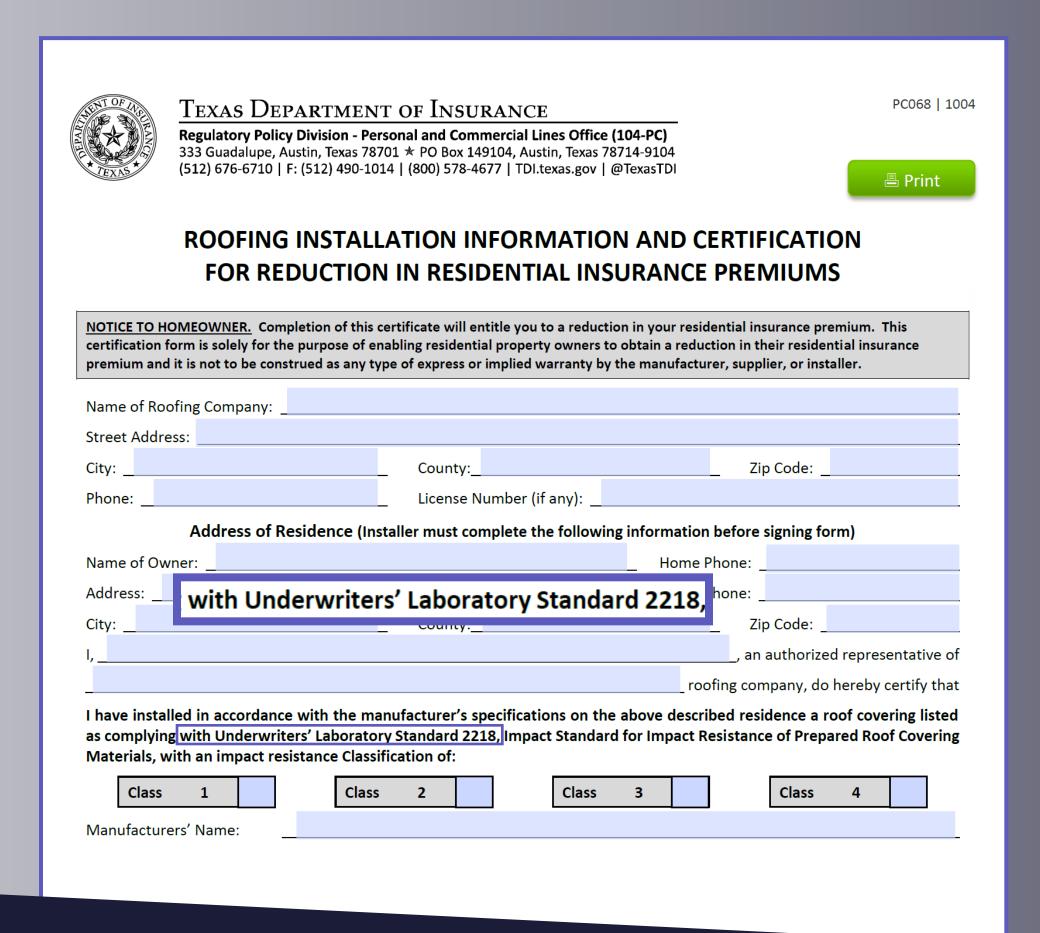
"Underwriters Laboratories (UL)"

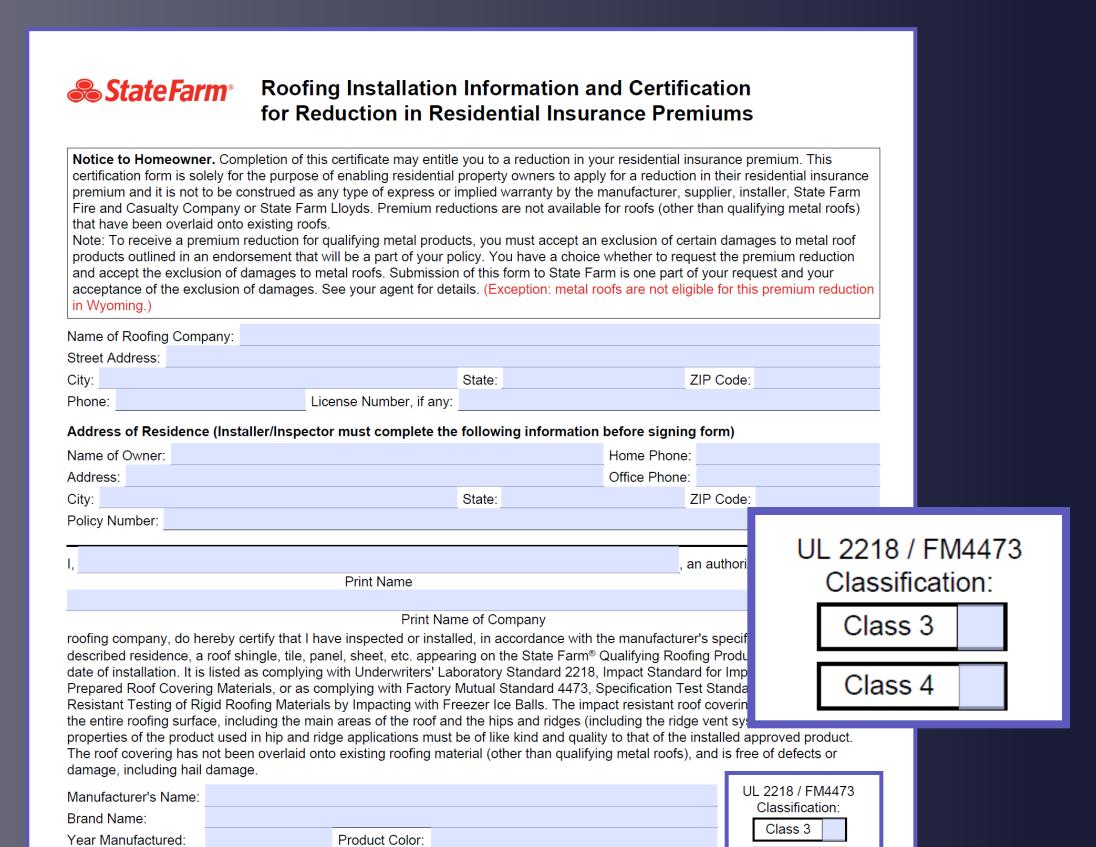
"are typically uswed the impact resistance of roofing materials"

GONANO INSURANCE

Insurance companies: Class 3 and 4 insurance reduction

Date of Installation:





Class 4

GONANO INSURANCE

Insurance companies: Class 3 and 4 insurance reduction



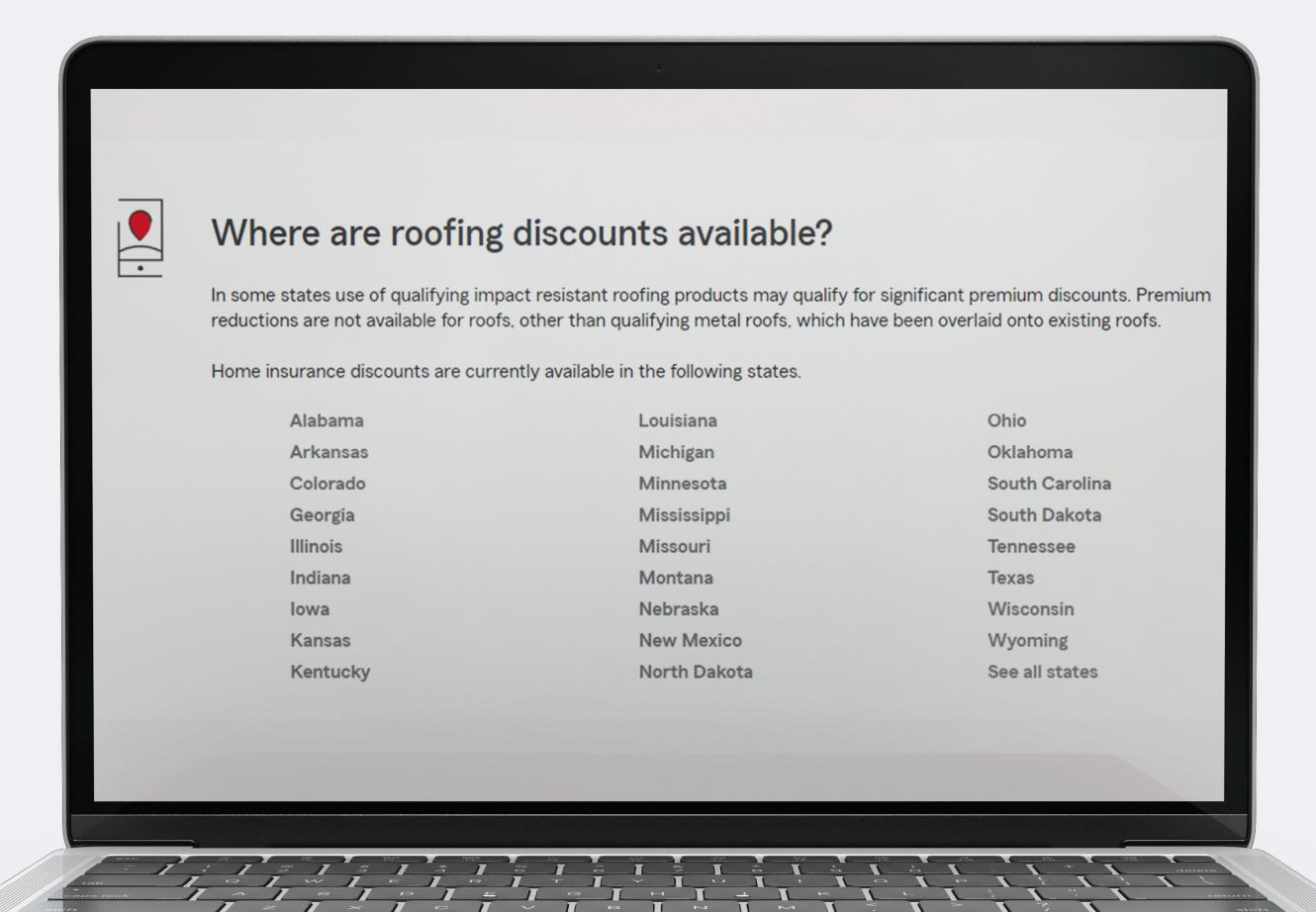
ROOFING INSTALLATION INFORMATION AND CERTIFICATION FORM

NOTICE TO INSURED: Completing this certificate may entitle you to a reduction in your residential insurance premium. This certification form is solely for the purpose of enabling residential property owners to apply for a reduction in their residential insurance premium and it is not to be construed as any type of express or implied warranty by the manufacturer, supplier, installer or United Services Automobile Association. Premium reductions are not available for roofs that have been overlaid onto existing roofs. To receive a premium reduction, for qualified roofing products, you must also sign an endorsement (Cosmetic Damage Exclusion to Roof Coverings Caused by Hail).

| Installer or Inspector must complete and | certify all the following information k | pelow before signing this form: |
|--|---|--|
| Name of Roofing or Inspection Company | : <u> </u> | |
| Street Address: | City: | County: |
| Zip Code: | Phone: <u>(</u>) | |
| License Number, If Any: | | |
| Residence Information: | | |
| Name of Dwelling Owner: | | Phone: _() |
| Dwelling Street Address: | City: | County: |
| Zip Code: | State: | |
| above-described residence, roof shingle, (UL) Standard 2218, Impact Standard for Standard 4473 Specification Tes dwelling, including the main area used in hip and ridge application | tile, panel, sheet, etc. All roof covering Impact Resistance of Prepared Roof Co. 2218 / FM 4473 | led, in accordance with the manufacturer's specifications on the materials are listed as complying with Underwriters' Laboratory overing Materials, or as complying with Factory Mutual (FM) surface of the primary all properties of the product that the roof covering has not |
| been overlaid onto existing roofing mate Select the UL 2218 / FM 4473 classifi | | |
| Class 1 | Class 2 | Class 3 Class 4 |
| Qualify for discount in Te | xas only Qualifies | s for discount in all other states (<u>including Texas</u>) |

GONANO INSURANCE

Insurance companies: Class 3 and 4 insurance reduction



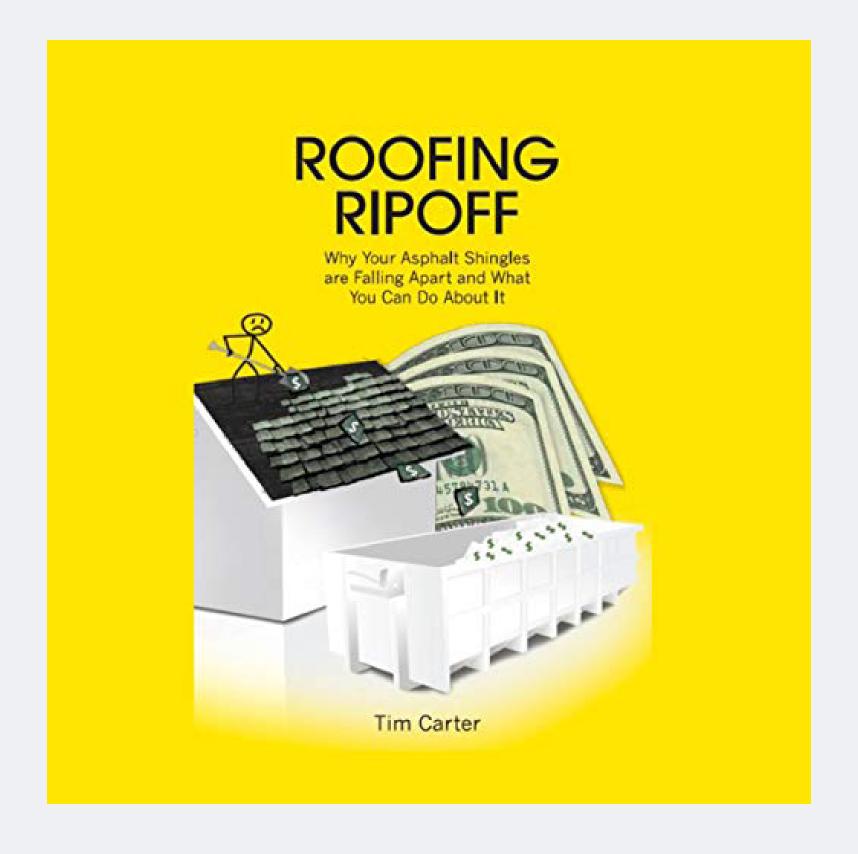
"resistant roofing products may qualify for significiant prenium discounts."

www.statefarm.com

ROOFING RIPOFF

A Roofer Investigates the Issue

"He decided to discover why his 30-year-warranty shingle roof started to crumbled after just 10 years. What he discoverd is going to make your blood boil"

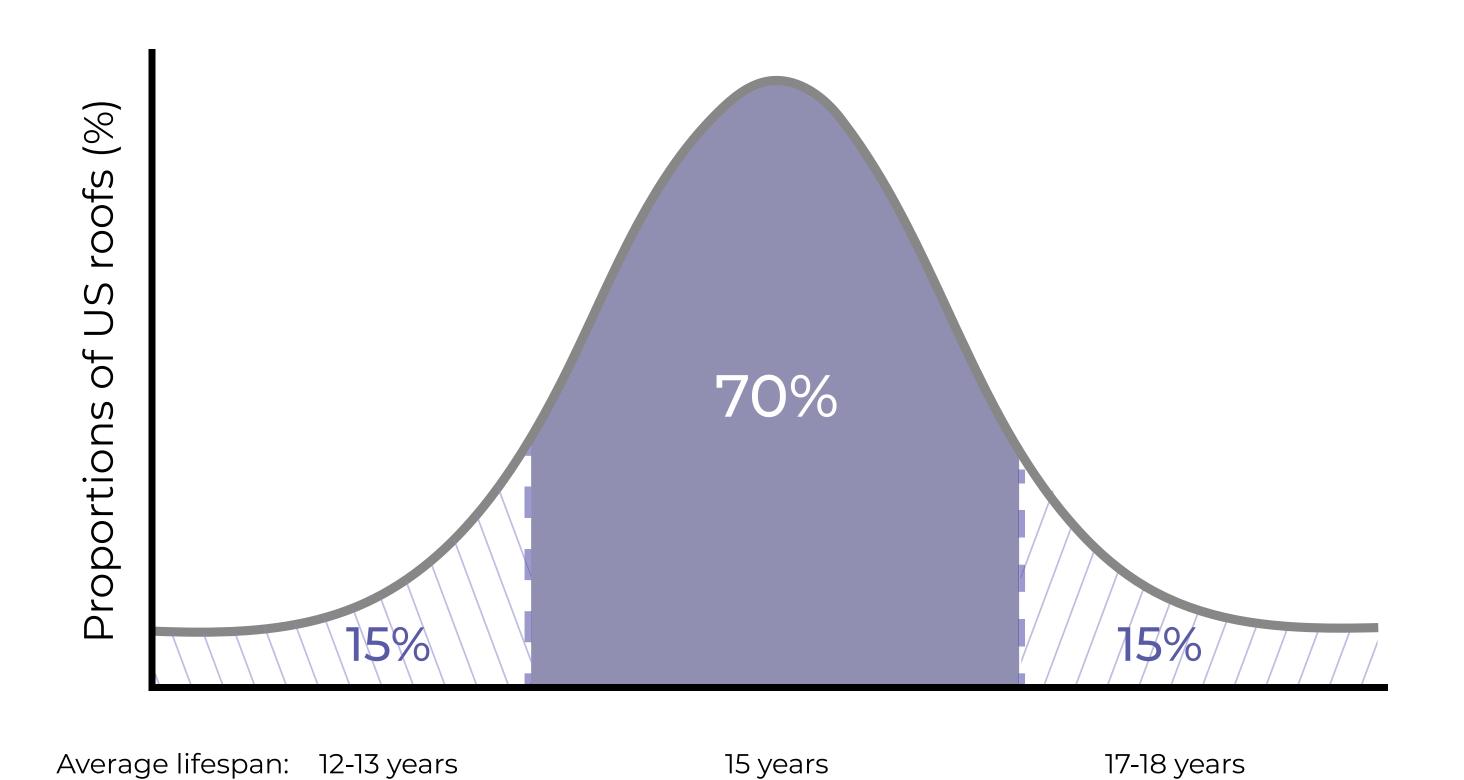




Give your shingles 10 to 15 years of life.

EFFECTIVE - SIMPLE - PERMANENT

30 years warranty shingles' average lifespan





GAF Roofing System Limited Warranty



Congratulations! Thank you for purchasing asphaltic shingles and accessories (the "GAF Roofing System") from GAF, North America's largest roofing manufacturer — your best choice. While many factors can affect how long your GAF Roofing System will last, this GAF Roofing System Limited Warranty covers your asphaltic shingles and accessories, including GAF Ridge Cap Shingles, GAF Starter Strip Shingles, GAF Leak Barrier Products. GAF Roof Deck Protection Products, and GAF Cobra® Attic Ventilation Products (the "GAF Products"), in the unlikely event that they contain a manufacturing defect It provides great coverage that is "non-prorated" during the crucial up-front period of your ownership (the "Smart Choice® Protection Period") with continued coverage for extended periods of time afterwards. Note: This limited warranty does not cover low-slope membranes or Master Flow® Ventilation Products. Please go to gaf.com for a copy of the limited warranties covering these products.

Eligibility Requirements for This Limited Warranty

In order to qualify for this limited warranty, you must meet the following eligibility requirements:

- 1. Install Required Products: You must install GAF Asphaltic Roofing Shingles which carry a Lifetime[†] limited warranty term **and** at least three (3) qualifying GAF Accessory Products (GAF Roof Deck Protection, GAF Starter Strip Shingles, GAF Ridge Cap Shingles, GAF Leak Barrier, and GAF Cobra® Attic Ventilation Products). In order to qualify for **WindProven™ Limited Wind Warranty** coverage, you must install GAF **LayerLock™-labeled** Asphaltic Roofing Shingles **and** at least four (4) qualifying GAF Accessory Products, including GAF Ridge Cap Shingles, GAF Starter Strip Shingles, and a GAF Roof Deck Protection Product, plus your choice of either a GAF Leak Barrier Product or GAF Attic Ventilation Product. Visit gaf.com/LRS for a complete list of qualifying GAF Shingles and Accessory Products.
- 2. **Documentation:** You must retain proof of purchase which shows the date the GAF Asphaltic Roofing Shingles and qualifying GAF Accessory Products were installed.

 If you do not qualify for this limited warranty, your GAF asphaltic shingles and accessories are covered by the GAF Shingle & Accessory Limited Warranty in effect at the time of installation. Please go to gaf.com for a copy of that limited warranty.

How Long Your Warranty Lasts

| | Manufacturing Defect Coverage | | Wind Warranty Coverage | | Algae Warranty Coverage | |
|--|-------------------------------|--------------------------------------|--------------------------|---|----------------------------------|--------------------------------------|
| GAF Shingles | Limited Warranty Term | Smart Choice® Protection Period** | Limited Warranty Term | Wind Speed Coverage (mph / km/h) | Limited Warranty Term | Smart Choice® Protection Period** |
| LayerLock [™] -labeled Shingles | Lifetime [†] | 10 Years | 15 Years | WindProven™ Limited Wind Warranty***: No maximum wind speed | StainGuard Plus™: 25 Years | StainGuard Plus™: 10 Years |
| | | | | For all other installations: With Special Installation****: 130/209 | StainGuard®: 10 Years | StainGuard®: 1 Year |
| | | | | Without Special Installation****: 110/175 | | |

"It provides great coverage that is "non-prorated" during the crucial up-front period of your ownership (the "Smart Choice® Protection Period")"

| | Manufacturing Defect Coverage | | | |
|---|-------------------------------|--------------------------------------|--|--|
| GAF Shingles | Limited Warranty Term | Smart Choice® Protection Period** | | |
| LayerLock™-labeled Shingles | Lifetime [†] | 10 Years | | |
| All Other GAF Lifetime [†] Roofing Shingles | Lifetime [†] | 10 Years | | |

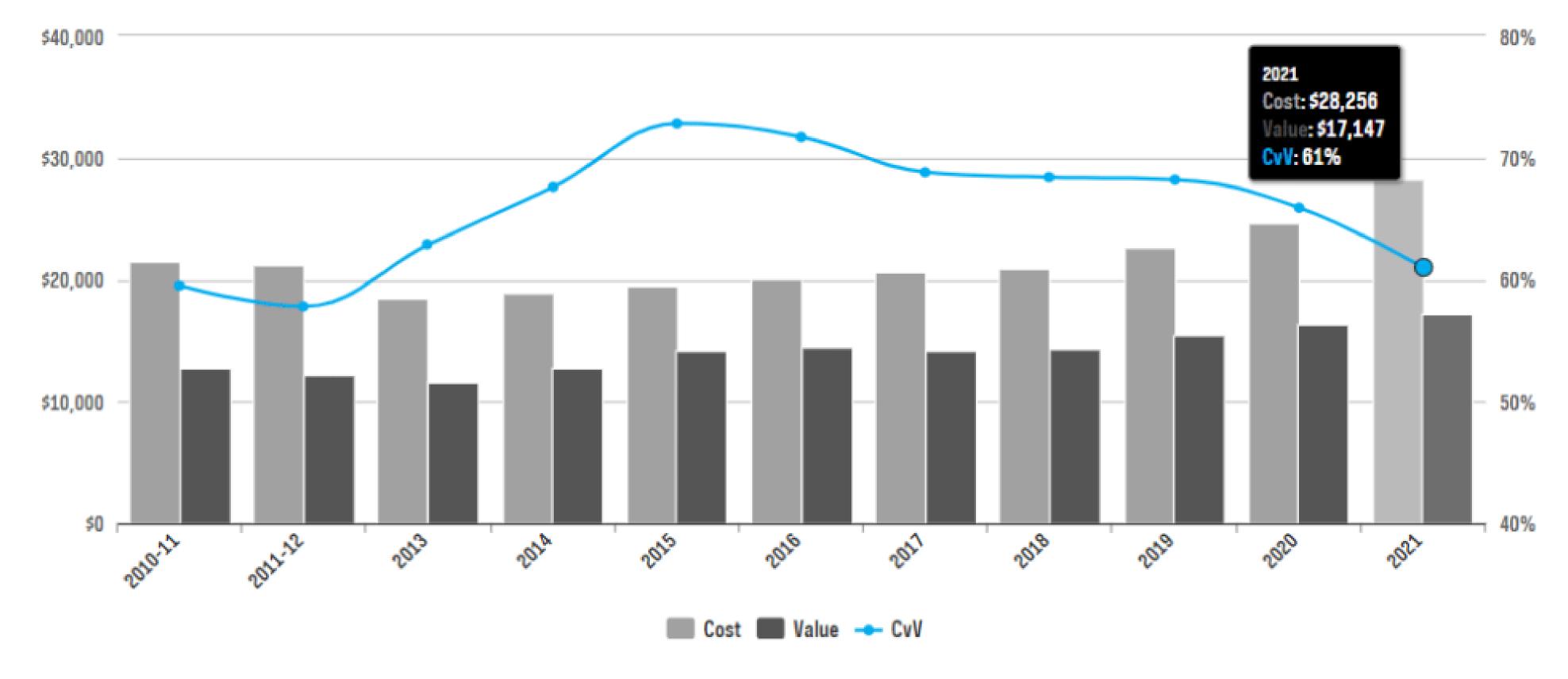
Manufacturing Defects: What Is Covered/Sole and Exclusive Remedy

GAF Warranty Company, LLC, a subsidiary of GAF, warrants that your GAF Poofing Shingles will remain free from manufacturing defects that adversely affect their performance during the applicable Smart Choice® Protection Period: GAF will pay you the full reasonable cost of labor products will remain free from manufacturing defects that adversely affect men performance during me applicable warrants that your GAF Poofing Shingles will remain free from manufacturing defects that adversely affect men performance during me applicable warrants remain free from manufacturing and Angue warrants and the covered separately below.

- (1) During the Smart Choice® Protection Period: GAF will pay you the full reasonable cost of labor to repair or re-cover any defective GAF Products (excluding non-GAF accessories, metalwork, or flashing) and will provide replacement GAF Products or the reasonable cost of obtaining replacement GAF Products, at GAF's option. GAF will not pay to tear off your GAF Products, or to dispose of them.
- (2) After the Smart Choice® Protection Period: Labor will no longer be covered. GAF's contribution to you will be based on either providing you with replacement GAF Products, or, at GAF's choice, reimbursing you for the reasonable cost of replacement GAF Products. The amount of replacement GAF Products or reimbursement provided to you will be reduced to reflect the use you have received from your GAF Products. The amount of use will be calculated by dividing the number of months which have elapsed since installation to the date of claim by the number of months in the warranty term. For a Lifetime[†] warranty, the number of months in the warranty term is deemed to be 600 for years 11–40 of the warranty term. For years 41 and beyond of a Lifetime[†] warranty, GAF's contribution is 20%. For example, if you make a claim for Lifetime[†] Shingles installed on a single-family home after your shingles have been installed for 25 years (300 months), GAF's contribution will be reduced by 300/600 or 50%.

Average US roof replacement cost





GONANO HEALTH

Environment and human health



LES PRODUITS GO NANO INC.

Material Safety Data Sheet

MSDS No:1003 Version: 1.3

Page: 5/6

Date: 2020/04/16

6965 GONANO WATER PROOF AGENT

12. ECOLOGICAL INFORMATION

12.1 Environmental effects

Acute effects: No harm to aquatic organisms.

Chronic effects: No harm to aquatic organisms.

12.2 Biodegradation: Quickly biodegradable.

12.3 Bioaccumulation: No bioaccumulation potential.

GoNano's technology has been categorized in accordance with the Occupational Safety and Health Administration standards (OHSA) as being:

- 1. "Quickly biodegradable"
- 2. "No bioaccumulation potential"
- 3. "No harm for aquatic organisms"

GoNano is completely safe for the environment and for human health.

GoNano Technologies VS Competition

| Terms | GoNano | Competition |
|--|------------------------------------|---------------------------|
| Technology | Nanotechnology | Plant base oil substitute |
| What it does | Modifies permanently the structure | Replaces lost oil |
| Cost | \$1.00 - \$1.30 / sqft | \$1.00 - \$1.30 / sqft |
| Additional lifespan | 10 to 15 years | 5 years |
| Warranty | 10 to 15 years money back | 5 years |
| Rejuvenates | Yes | Yes |
| UL Standards tested | Yes | No |
| Insurance companies | Soon recognized | No |
| Insurance discounts | Yes | No |
| Transforms Class 1 into 3 and 4 | Yes | No |
| Prevents algae | Yes | No |
| Increases resistance to water infiltration | Yes | No |

