

# TECHNICAL ADVISORY BULLETIN



Quality You Can Trust...  
From North America's  
Largest Roofing Manufacturer!™

To: GAF Residential Sales, GAF Contractors, GAF Field Services

From: Technical Services Department

**Subject: Asphalt Shingle Recipe For Superior Quality And Performance**

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## What Defines Quality And Performance?

**Weatherproofing Performance...** how long will the roof provide weatherproofing protection? Homes are often the largest investment most people will make and property protection is enhanced with superior roofing materials, which will eliminate the hassles of leaks.

**Appearances...** how long will the roof look great? Superior roofing materials can improve a home's re-sale value.

## Is Shingle Weight Critical To Shingle Quality And Performance?

**Weight does not always mean higher quality...** In fact, weight can even decrease performance if it is not optimized. Historically, the easiest way to determine the quality of asphalt shingles was to weigh them; the more weight, the better. As a result, it used to be easier to distinguish between high and lower quality shingle manufacturers by just weighing their shingle products.

**Technology has advanced...** Now, the relationship of weight to higher quality can be a misconception! GAF and the roofing industry has improved their understanding of fiberglass shingle performance, realizing that it is controlled by many aspects of the shingle formulation as well as advanced process control. However, not all manufacturers recognized these advancements. Some have continued to advance the weight myth, increasing filler (typically limestone) content to add weight. This can actually reduce quality. Too much filler increases the risk that shingles may experience problems such as premature aging over time as they are exposed to seasonal temperature changes, expansion and contraction.

**Weight myths existed in other industries...** These types of myths related to weight once existed in other industries such as automobiles, aircraft, sporting goods and other building products. As technology advanced, heavier designs have been replaced with lighter, more durable products.

## What Physical Properties Are Most Critical To Shingle Performance?

**Core attributes for superior performance...**

- \* tensile and tear strength
- \* fastener pull-through resistance
- \* flexibility
- \* granule adhesion
- \* asphalt compound stability
- \* wind uplift resistance

**Note:** The primary shingle standard ASTM D-3462 sets the minimum requirements for these attributes.

## The Most Important Component In The Recipe...

**The glass mat...** GAF technology investments result in improved glass mat performance and lower weight.

**Improvements include:**

- **Superior binder chemistry...** that holds the fibers together for strength and durability.

**Superior glass technology:**

- **More flexible...** to resist shingle cracking in cool temperatures.
- **Greater tear strength...** exceeds ASTM D-3462, unlike other shingles that may be heavier, but have inferior fiberglass mats and are therefore more prone to cracking.

## Where Is The Asphalt Most Important?

**In the weathering layer...** quality asphalt coating is important in the weathering layer on the fiberglass mat to provide critical protection.

- **Holds Granules...** helps prevent UV (sun) degradation.
- **Waterproofs...** asphalt is the water proofing agent helping prevent water penetration and binds the shingle components when optimally placed in shingles.

GAF shingles differ in warranty lengths, primarily due to the greater amount of asphalt in the weathering layer. GAF shingles will easily outperform lower quality - but heavier shingles manufactured with higher amounts of inexpensive filler, inferior mat and lower quality asphalt.

## Summary: GAF Shingles Represent Quality You Can Trust!

GAF proven results derived from R&D and Engineering investments in state of the art manufacturing, quality materials, technology and statistical process controls, to deliver shingles that should outperform lower quality competitive shingles – even those that are much heavier.

**This confidence allows GAF to provide the best roofing system warranties in North America.**

## Where Can I Get More Information?

**GAF Technical Services Can Assist You...** with these and other questions you may have regarding your new roof installation. GAF Technical Services can be contacted at **800-ROOF-411** (800-766-3411). Also, the GAF website is a great resource for just about any question you may have or for additional information you may require. Please visit [www.gaf.com](http://www.gaf.com) to find the latest information on our products and their installation.

**Important:** This document supersedes any prior GAF Technical Advisory Bulletins on this topic. Please always check [www.gaf.com](http://www.gaf.com) to make sure you have the most up to date information.