

THE HISTORY OF ASPHALT SHINGLES*

What Asphalt Roof Manufacturers DON'T WANT You To Know

MAKING CHEAPER ASPHALT SHINGLES

A common perception, promoted by asphalt manufacturers (and asphalt roofers) is that modern "fiberglass" roofing shingles on the market today are vastly superior to the traditional "organic" asphalt shingle design. These new shingles must be better – because they come with 50 year warranties. In fact, the opposite is true.

From the late 1880's until the 1970's, roofing shingles were manufactured by saturating a thick organic mat (cotton, waste paper and wood fiber) with asphalt and then covering the shingle with a protective stone coating. These "organic" shingles normally came with 15-year or 20-year warranties, but would often last over 30 years.

In past years, warranties weren't much of a concern because the organic felt shingles usually lasted longer than the 15 or 20 years for which they were guaranteed. Some organic shingles on roofs today have seen 30 years and are still hanging on. Many roofs with fiberglass shingles, however, aren't fairing as well...[1]

Our company applied a 15-year warranted organic asphalt shingle on one local residence... upon a recent inspection, that 27-year old roof still looked great. Why are today's shingles inferior? In an attempt to keep prices lower than the other guys, shingle manufacturers sacrificed quality. The quality of asphalt has declined...roofers and consumers are being deceived. [2]

The asphalt industry made a dramatic transformation during the 1970's with the conversion from organic to "fiberglass" mats in the manufacture of shingles. Initially it appeared technological advancements would facilitate product improvements. However, with the 1974 oil embargo and economic recessions in the 1980's, asphalt manufacturers focused primarily on lowering production costs...they designed "cheaper" shingles.

The result of lowering material costs was production of shingles of much lower quality – as was demonstrated by the immediate onset of premature failures. The decision by asphalt manufacturers to lower material costs marked the end of traditional organic shingles, and the beginning of a new era of premature shingle failures.

The pressures placed on large public companies to maintain profitability brought forward good old American ingenuity, reduce fiberglass mats (fibers were expensive) and increase filler content (asphalt was also expensive)...Filler was not used to stabilize asphalt so much as it was used to attempt to control profitability and/or market share. [3]

It's a huge market, and it's also incentive for a manufacturer to turn out the lowest priced product possible...and this market will not go away. Welcome to the real world. [4]

The information provided below does, generally speaking, apply to all asphalt shingles manufactured after 1980, both fiberglass and the newer organic. However, since only fiberglass shingles are being sold today, we will focus primarily on how sales of fiberglass shingles impacts uninformed consumers... because, unfortunately, when asphalt manufacturers started making cheaper (and less durable) shingles they also increased warranty periods.

Because cheaper and less durable shingles are now being sold with "inflated" warranty periods of 30, 40, 50 years and "lifetimes," there is no question that consumers are being deceived.

PREMATURE FAILURE OF FIBERGLASS SHINGLES

As manufacturers sought to produce shingles with less asphalt, traditional organic shingles were replaced with the modern "fiberglass" shingle – made of a paper-thin layer (not saturation) of asphalt and a stone coating. The new design contained much less asphalt – and, therefore, was of lower quality than the traditional organic.

Asphalt content was further reduced in the new fiberglass design by adding filler materials. These "fillers" were usually sand and/or fine minerals (often Limestone) and were used primarily to lower the cost of production. However, the addition of filler also resulted in production of even lower quality, and less durable, roofing shingles.

The composition shingle industry has had difficulty with the performance of conventional fiberglass shingles almost since their introduction in the late 1970's...Lack of Asphalt Content: Failed Shingles that we tested contain approximately 30% asphalt by weight. New shingles contain less than 25%. This asphalt is mixed with sand and fine mineral matter and then has granules embedded in it. [5]

There is no separate asphalt mat "coating," there is only asphalt as binder for the filler... No wonder shingles "weep" water after only a few years! [6]

Historically, the premature failure of fiberglass shingles has involved granular loss and brittleness, cracking and splitting, blistering, curling, buckling and "weeping" (water seeping through the shingle). When a thorough inspection reveals ANY of these conditions the roof is beyond the "Re-Sale Window," and normally requires either replacement or negotiation of a "Roofing Allowance" in order to sell the home.

While the common perception, promoted by asphalt manufacturers (and asphalt roofers) is that "fiberglass" shingles are vastly superior to the traditional "organic" design, the fact is – there has been a documented history of premature failure for all asphalt shingles manufactured since 1980, both fiberglass and newer organic shingles. Since only fiberglass are sold today – it's important to know the History of Defective Fiberglass Shingles.

Fiberglass mats are much thinner, and are not saturated with asphalt...Several roofing contractor associations have heard complaints from their members that fiberglass shingles are failing within ten years...[7]

Recently, our company had a roof fail in less than eight years. When removing shingles in leaky areas, it became apparent that the water was going right through the shingles, and had been for some time. [8]

In Central California we have seen shingles split on roofs in less than five years. From what we have seen to date, the problem seems to occur to shingles with a thin or nonexistent back coating...These shingles also seem to have a very high filler content, about 70% and limited tensile strength. [9]

Filler was not used to stabilize asphalt so much as it appeared it was used to attempt to control profitability and/or market share...Buckling, cupping, splitting and poor granular retention problems began to manifest in relatively short time frames. [10]

The premature failure of fiberglass shingles is simply Historical Fact. By the mid-1990's defective fiberglass shingles were reported by consumers and contractors across the country and documented in industry publications. Fiberglass shingles were failing in less than 15 years – but asphalt manufacturers did not

initiate any product recalls. Asphalt manufacturers did not recall defective shingles or even warn consumers about known defects, instead manufacturers started to increase shingle warranty periods in order to sell more (defective) shingles.

Asphalt manufacturers have continued to increase the warranty periods for fiberglass shingles so that now, most conventional shingles come with 30, 40, 50 year and "lifetime" warranties. However, with much less asphalt content, these new fiberglass shingles have a Documented History of Premature Failures – very often 10 to 15 years.

Most inexperienced roof buyers ASSUME warranties provide some indication of shingle quality or durability...they do NOT. Asphalt shingle warranties are designed to sell more shingles – and longer warranties sell more product. That is why traditional 15 year and 20 year warranties were "inflated" to the more marketable 30 year, 40 year, 50 year and..."Lifetime Warranty" periods.

Bottom Line: Asphalt shingle warranties are simply "marketing tools" and DO NOT indicate either product quality or durability.

There is an adversarial relationship between (roof) Buyers and (roof) Sellers because their financial interests are diametrically opposed. Consumers should not EVER expect roofing sellers (either manufacturers or installers) to provide full disclosure of information on the premature failure of shingles they are currently trying to sell.

FIBERGLASS FAILURES BECOME COMMON KNOWLEDGE

Roofing contractor associations across the country became aware of the inferior quality of fiberglass shingles when member contractors complained the shingles didn't contain enough asphalt and were failing within 10 years. Contractor associations presented these concerns to the asphalt manufacturers and, in a short period of time, the inferior quality of fiberglass shingles became common knowledge within the entire roofing industry.

The concerns regarding asphalt shingles began as a result of complaints received from (Western States Roofing Contractors Association) WSRCA member contractors. Following complaints, in 1991, the WSRCA circulated an Asphalt Shingle Problem questionnaire to it's members to determine if there was a problem with asphalt shingles. [11]

The results of the questionnaire showed that many of the 20-year guaranteed asphalt fiberglass shingles were failing as early as six months and continuing to fail up to 12 years. The average failures were occurring at about five years of age. The WSRCA determined that There was a problem. [12]

The failures and problems reported included: blow-offs, buckling, curling, loss of granules, splitting and cracking and seal-down problems. [13]

While many asphalt manufacturers (and roofers) like to pretend that problems with premature failures were limited to the cheaper (post 1980's) organic shingles, the fact is, premature shingle failure has ALWAYS been associated with the fiberglass design. A fact quickly confirmed in cursory examination of trade magazines in the early 1990's which contained numerous articles on the defective fiberglass shingles – and strategies for contractors to eliminate financial liability for selling fiberglass shingles which they expected to fail prematurely.

While the Western States Roofing Contractors Association (WSRCA) is credited with the initial identification of the premature failure of fiberglass shingles, other contractor associations from across the country were also reporting premature failure of fiberglass shingles and expressing their concerns about the financial liability for continuing to sell these defective shingles.

The Midwest Roofing Contractors Association (MRCA), another trade organization, has also received reports from their members of early failure of fiberglass shingles from Connecticut to California...According to Don Berg, of the National Roofing Contractors Association (NRCA) technical department, the cracking is not limited to one or two brands, or one or two types of qualities of shingle. It has occurred in the commodity grade and the architectural grade shingles. Berg has received reports from generally around the country...[14]

As a result of complaints from the contractor associations – in the early 1990's asphalt manufacturers were finally forced to admit that they had been (and were) selling defective fiberglass shingles and that the premature failures of fiberglass shingles were not limited to any particular manufacturer, or any particular type of shingle.

Unfortunately, while asphalt manufacturers were finally forced to acknowledge the sale of defective shingles, they did NOT initiate any product recalls and they did NOT alert consumers to the known problem of premature failure. They simply acknowledged they were aware of the defective shingles and they promised to “study” the problem.

The Asphalt Roofing Manufacturers Association (ARMA) is also aware of the problem, and responding in part to WSRCA test results, has recently formed a task force to study it and find solutions...the cracking problem occurs in a number of different types of shingles, from a number of different manufacturers, in many parts of the country. [15]

The premature failure of fiberglass shingles is simply historical fact. Reports of defective fiberglass shingles were documented by contractor associations and acknowledged by manufacturer associations. By the late-1990's premature failure of "modern" asphalt shingles, both fiberglass and newer organic, was common knowledge within the roofing industry – and had started to become widely known by the general public, finally resulting in several recent Class Action Lawsuits.

Unfortunately, many asphalt manufacturers were very reluctant to even admit shingles were failing prematurely, they NEVER issued product recalls or warned consumers about defective shingles after acknowledging problems and they continue to deny liability – while providing (hundreds of) millions of dollars for class action settlements...

And still, some consumers are SHOCKED by information that manufacturers (and roofers) are currently selling fiberglass shingles with a documented history of premature failures. Consumers should not be shocked that roofers are currently selling products KNOWN to be defective – they have been selling defective shingles for almost 30 years.

The asphalt industry is NOT like the automotive industry.
There are no "recalls" when asphalt shingles are found to be defective.
Recent history has shown defective shingles continue to be sold for decades.

The asphalt industry does NEED to demonstrate the same responsibility (to consumers) as the auto industry because most Americans move every 5 to 7 years – before the premature failure occurs – so they are not affected by sales of shingles known to be defective...The subsequent homeowners must deal with the premature failures. Asphalt manufacturers have admitted, in major trade publications, this Strategy of Planned Obsolescence. [16]

LIFESPAN OF CONVENTIONAL FIBERGLASS SHINGLES

It's important to understand that all asphalt shingle roofs wear unevenly and the determination of "failed" (or "failing") roofing is ALWAYS based on the worst, or weakest, portions of the roofing – never the strongest. It simply does not matter if the North side of the roof is in relatively good condition when shingles on the South side have already failed.

Prospective buyers will expect the (worst areas of) roofing to be able to pass a "Five Year Certification" inspection. When roofs "fail" this Re-Sale Inspection, normally the replacement of roofing or payment of a "Roofing Allowance" will be required in order to sell the home. Therefore, determination of the "Re-Sale Window" for roofing products is related to the condition of the worst area of roofing – even when the worst sections are only a small percentage of the entire roofing area.

Paying \$10,000 to re-roof with asphalt shingles today may just be your initial down payment when it requires replacement costs of an additional \$12,988 (with inflation) in just 12 years. That is a total roof cost of \$22,988 in 12 years – and the cycle continues. Very few (if any) consumers would agree to invest (stocks, bonds, savings, mutual funds, commodities, etc.) \$10,000 with a 12-year guarantee that their return on investment would be \$0.

ASPHALT DURABILITY OF 5 to 10 YEARS

Asphalt shingle manufacturers are notorious for not honoring their warranties, they always have an excuse, and people do not file suit due to high legal costs...Our area, near Chicago...We are tearing off more and more of the so-called "40-year" asphalt shingles that are from 8 to 11 years old. If the homeowner is concerned with how the roof looks (and not just being weather tight) they are usually unhappy at the 6 to 10 year point. [17]

ASPHALT DURABILITY OF 10 to 15 YEARS

Most homeowners are lulled into thinking that, if a 30-year roof shingle is installed on their home (as stated by the roof manufacturer), then that roof will last the suggested life expectancy. Not so! Most roofs fail in 10 to 15 years. Very few roofs last past 15 years! [18]

We have found that most of our asphalt shingle re-roofing in the Seattle area is replacement of fiberglass shingles that are only 10 years to 15 years old and that very few fiberglass shingles have lasted past 15 years. Shingles reaching that age tend to look pretty nasty and often could not pass a Re-Sale Inspection. [19]

Today's asphalt shingles are not the asphalt shingles of 30 years ago. Today, asphalt shingles are only 10 to 30 percent asphalt by weight – and less asphalt means poorer performance...Today's asphalt shingles are so susceptible to damage from heat, cold, thermo-shock, algae and mold that asphalt roofs today most often last only 10-15 years. By that time a good deal of the shingle has washed into the rain gutters. [20]

Most of us have been programmed into thinking that asphalt roofing is the only real option since it's inexpensive and gets the job done, at least in short term. You get what you pay for...The problem is Asphalt doesn't hold up to the requirements that most homeowners have...Asphalt usually protects your home for about 10-15 years...[21]

ASPHALT DURABILITY OF 15 to 20 YEARS

According to the asphalt roofing industry, the average shingle roof lasts 17-19 years. The actual lifetime is dramatically lower than this in hot climates and extreme weather situations. Unfortunately, the warranties on these products do not cover natural wear and tear from weather. Damage resulting from high winds, hail, rain and extreme temperatures are also not covered. [22]

Asphalt can require re-roofing every 12-20 years, with the average age of roofing in the U.S. being only 17 years. That's because asphalt roofing, being made of oil impregnated paper or fiberglass begins to deteriorate as soon as you put it on your roof. [23]

Generally speaking, new shingled roofs should last upwards of 20+ years. However, many Factors, such as proper installation, climate, and ventilation, impact the life of your roof. [31]

NO WARRANTY COVERAGE FOR "SERVICE LIFE" ELIMINATING LIABILITY FOR DEFECTIVE SHINGLES

Many people don't understand – some have a hard time accepting – that asphalt warranties DO NOT actually provide coverage for the durability / lifespan / service life of shingles. Most consumers wonder how manufacturers are able to avoid the financial liability for providing warranties that are DECADES LONGER than the known, and documented, lifespan of the shingles. Manufacturers can, and do, market asphalt shingles with unrealistic warranties because:

- a) What accountability is there?
Most homeowners will not risk \$100,000 in legal costs – to enforce warranty coverage on a \$15,000 roof.
- b) Class Action Lawsuits on asphalt shingles did not begin until the late 1990's. And, to date, class action lawsuits have proven to be very inefficient in bringing reform – paying pennies on the dollar.
- c) Generally speaking, all the premature failures related to the natural "aging" of fiberglass asphalt shingles are NOT guaranteed as part of the specific "Limited" warranty coverage.

The Bottom Line: Even if asphalt warranties DID still cover the Durability / Lifespan / Service Life of shingles, there would still be very little accountability for manufacturers. However, that does not really matter because as the premature failure of modern shingles, fiberglass and organic, became common knowledge, coverage for the "service life" of shingles was REMOVED from warranties.

SERVICE LIFE NOT COVERED

While most consumers naturally assume shingle warranties indicate expected product durability (as in the past) the current strategy of "limiting" warranty coverage to only "production defects" and/or "manufacturing defects" has allowed asphalt manufacturers (and asphalt roofers) to use inflated warranty periods of 30 years, 40 years, 50 years, even "Lifetime," as an effective sales and marketing tool...some claim a very deceptive sales and marketing tool. Many professionals in the building industry refer to this asphalt shingle marketing as blatant deception to the consumer.

In fact, less than 1% of all CertainTeed shingles are found to have manufacturing defects. But they all age...The natural aging process begins as soon as the shingles are installed...[24]

Asphalt warranties are "limited" in the sense they only guarantee "production defects" or "manufacturing defects" and NOT the normal process of aging (the "service life") of the shingle. Asphalt manufacturers admit less than 1% of fiberglass shingles have "manufacturing defects"...but 100% of shingles fail due to the normal process of aging.

We warrant that your Owens Corning Shingles are free from any manufacturing defects that materially affect their performance on your roof...[25]

CertainTeed warrants to the original property owner/consumer that, when subject to normal and proper use, it's shingles will be free from manufacturing defects...[26]

All GAF shingles covered by this warranty...carry a lifetime warranty against manufacturing defects...[27]

In the last two weeks we have heard skepticism about warranties. To many roofing contractors it appears that warranties are now just another marketing tool, and no longer an indicator of the underlying durability and quality of a shingle. [28]

The traditional (historical) warranty coverage of asphalt shingles included coverage for shingle "Service Life"...because traditional – pre 1970's – shingles had a history of lasting longer than the 15 year or 20 year warranties. However, there was a dramatic change in the asphalt roofing industry between 1991 and 1993.

Due to market pressures of other roofing products, asphalt shingle manufacturers further "inflated" their warranties at the beginning of 2011. They have led consumers to believe there is new technology for manufacturing asphalt shingles allowing for considerably longer warranties – many of which are "Lifetime." Are these "new" fiberglass shingles any different from those manufactured in 2010 with considerably shorter warranty "coverage"? THEY ARE NOT.

Is there a DO NOT MIX issue with like products even if the wrappers indicate different Warranty lengths? No, this warranty change in and of itself will not cause a DO NOT MIX Situation. [30]

Unfortunately, many inexperienced consumers continue to assume "limited" asphalt warranties indicate either the quality or durability of shingles...THEY DO NOT. After widespread premature failure of shingles were reported by contractor associations across the country – suddenly all asphalt manufacturers eliminated coverage of shingle "service life." Since that time (early 1990's) asphalt warranties DO NOT indicate the durability or quality of shingles.

In fact, at least one major manufacturer (CertainTeed) has already admitted that it does not even verify the performance or durability of the shingles it produces and sells. And, without any record of shingle performance or durability in the real world, it doesn't have any evidence of the percentage of shingles (if any) that actually last 15 or 20 years. [29]

Since asphalt warranties no longer indicate either the quality or durability of shingles, it's extremely important that consumers are educated in order to avoid purchasing a product that is incapable of the protection they expect.

Although your shingles may exhibit signs of cracking and balding, this does not indicate that your shingles are defective. There are many variables beyond the manufacturers control which can contribute to the premature failure of the roofing shingles. [32]

CONCLUSION

On the issue of failed / failing roofing, it's important to understand that "expert" opinions will reflect the fundamental perspective of those expressing the opinion. And often the difference between the perspective of (roof) Sellers and the perspective of (roof) Buyers can be quite extreme. The perspective of sellers and buyers differs because their financial interests are diametrically opposed.

All roofers claim to have the best product
And all roofers claim to provide the best installation.
Obviously, that cannot be true.

It's unwise to pay too much, but it's worse to pay too little. When you pay too much, you lose a little money...that is all. When you pay too little, you sometimes lose everything, because what you bought was incapable of doing what it was bought to do. The common law of business prohibits paying a little and getting a lot...it can't be done. If you deal with the lowest bidder, it is well to add something for the risk you run. And if you do that, you will have enough to pay for something better."

Do you want to get the BEST VALUE on your roofing project?

You will need Full Disclosure and Unbiased Information.

Are you willing to spend your money on a product that is GUARANTEED TO FAIL?

Do you want to repeat the process every 10-15 years?

Demand roofing products that will protect your investment.

BE AN EDUCATED CONSUMER

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 - [2] Ray Bolt, 'Shingle Problems: 20 Year Asphalt Shingles Are Posing Problems in the West'
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 - [3] Dwain Bouton, 'Return to Basics: Suggestions for Asphalt Shingles'
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 - [4] Mark Dodson, 'Classifying Asphalt Shingles May be the Solution the Industry is Looking For'
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 - [5] Richard Tippett, 'Fiberglass Shingles: More Than You Ever Wanted to Know About Fiberglass Shingles Failures'
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 - [6] ibid
 - [7] Ted Cushman, 'Choosing and Asphalt Shingle'.
 - [8] Ray Bolt, 'Shingle Problems'.
 - [9] Richard Tippett, 'Fiberglass Shingles'.
 - [10] Dwain Bouton, 'Return to Basics'.
 - [11] Charles Frost and Arlene Lawson, 'Seminar to Explore Asphalt Shingle Concerns at NRCA Convention'
Western Roofing Magazine, (Jan/Feb 1993).
 - [12] ibid
 - [13] ibid
 - [14] Ted Cushman, 'Choosing an Asphalt Shingle'
 - [15] ibid
 - [16] Greg Malarkey, 'Cheap Shingles: As with Everything Else in Life, You Get What You Pay For'
Western Roofing Magazine, (Nov/Dec 1991).
 - [17] 'Roofing – CertainTeed Shingles', en.allexperts.com
 - [18] 'What's in a Roof Shingle Warranty', inspectionconcepts.com
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 - [20] 'Problems with Today's Asphalt', chandlermetalroofing.com
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 - [22] 'Homeowner's Guide to Roofing', classicroofing.com
 - [23] 'Benefits of a Metal Roof', metalshingle.com
 - [24] CertainTeed Brochure: The Life Cycle of Your Roof
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 - [26] CertainTeed Limited Warranty Asphalt Shingle Products, 2011
 - [27] GAF System Plus Limited Warranty, 2011
 - [28] CertainTeed Press Release, 2/3/2011
 - [29] CertainTeed Declaration
 - [30] Owens Corning Warranty Upgrade Frequently Asked Questions, January 2011
 - [31] Owens Corning Roofing: Do You Need a New Roof? roofing.owenscorning.com
 - [32] CertainTeed Homeowner's Guide: The Life Cycle of Your Roof
- * Seattle Roof Broker

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