

# The Facts about Tile Roofs



- Most Popular Roofing Product in the World
- Durability Beyond Compare
- Energy Cost Savings
- Protection Like No Other Roofing Material



# Tile Roof Benefits

## for Homeowners, Builders, Contractors and Designers

FEATURES	BENEFITS	CONCRETE & CLAY TILE
<b>Design</b>		
Wide variety of colors	Concrete and clay tiles are manufactured in a wide array of colors, from light shades to dark or multi-colored, making it easy to coordinate your roof with exterior colors.	■
Full range of profiles and styles	Roof tiles can match any architectural style required for the building structure. They are designed to emulate traditional barrel style or other roofing materials such as wood and slate.	■
Increased value	More credits given on appraisal, and houses sell better and faster in direct comparisons to other materials such as asphalt shingle.	■
<b>Durability</b>		
Long term durability	Tile roofs have the lowest life cycle cost of any other roofing material. Centuries old tile roofs are still enduring today.	■
Fire resistance	Class A fire resistant as a product and a system.	■
Built to withstand high winds	Tiles are designed and tested to meet Florida's 150 MPH wind speeds.	■
Hail resistance	Tile roofs have an added layer of protection built in: the tile itself provides a tough, water-shedding outer shell with the underlayment working as an extra shield. Tiles have been tested according to FM4473 for hail resistance ratings. Concrete and clay tiles can resist damage from hailstones as large as 2" - which is larger than a golf ball.	■
Seismic resistance tested	Research performed at USC shows that tile roofs exceed current seismic load requirements for building materials when installed to the current fastening requirements.	■
<b>Green Building</b>		
Sustainability	Tile roofs have the lowest life cycle costs based upon the life of the roofing material and required maintenance which fills LEED and Energy Star requirements.	■
Environmentally friendly	Materials do not deplete limited natural resources and have no chemical preservatives used in the production; all waste can be recycled and does not go into land fills; tile roofs' long life reduces the need for reroofing that clogs landfills unnecessarily.	■
Reflectivity	Independent testing performed at the Department of Energy's Oak Ridge National Laboratory has demonstrated that tiles have the ability to cut the transfer of heat compared to other roofing materials such as asphalt shingles by up to 70%.	■
Natural air flow	Natural air ventilation under the tile creates a heat transfer barrier that can provide the benefit of a cooler house in the summer and a warmer house in the winter.	■
Energy Cost Savings	Natural air flow described above keeps heating costs low in the winter and cool costs low in the summer.	■
<b>Other</b>		
Ease of installation	Tile roofs are one of the simplest systems to install when using trained professionals. Installation and maintenance cost in the long run are much lower than other roofing materials.	■
Easy to maintain and repair	Less maintenance involved – tiles are easiest to repair because they are individually installed.	■
Independent industry testing	TRI sponsors and supports independent studies performed on seismic, wind, hail, fire and cold weather elements.	■
Installer Certification	Contractors go through a rigorous 2 day training program and are then tested on the proper, code approved methods of tile roof installation. Homeowners and builders can search the TRI web site for certified installers in their area to obtain knowledgeable roofers for reroofing and new construction. See the Find the Contractor link at <a href="http://www.tilerooting.org">www.tilerooting.org</a> .	■



# Tile Roof Advantages

## Designed for Long Term Performance

With over a century of proper field performance in other parts of the world, tiles provide the longest track record of performance compared to other roofing materials such as asphalt shingles. Our modern engineering design provides a natural water shedding and ventilation feature allowing tiles to be the primary roof covering in warm and cold climates (even reducing ice damming in cold areas). Our higher weight and strength allows tile to meet the anticipated loads of today's design requirements for all of the climatic regions.

## Available in a variety of colors and styles

Roof tiles come in many colors, shapes, and sizes. In fact, with modern innovations, concrete and clay roof tile manufacturers can produce tiles to suit any architectural style, from authentic Spanish and Mediterranean to New England Colonial, historic, or contemporary. Roof tiles can be flat or round, simulate wood shakes, or seek to replicate centuries-old roofing materials. The possibilities are virtually limitless.

## Maintain their color

Colors in tile come from natural sources such as the color and mixture of the clay used in clay tiles or from iron oxide pigments in concrete tiles, both of which are extremely durable. Tiles may experience varying degrees of color softening after extended exposure to the elements. However, this occurs to a lesser degree with roof tile than with most other roofing materials. Some clay roof tile manufacturers guarantee their tiles against fading for 50 years.

## Long Lasting Protection

To maintain their long-lasting beauty, the weight of tile is important because it provides enduring protection without developing

problems like other roofing materials. Most homes built today are strong enough to support the weight of a tile roof. There are also varieties of lightweight tile offered in certain regions of the country that are ideal for new and re-roofing projects.

Tile is fast becoming the re-roofing product of choice due not only to its durability but also to its ease of maintenance. Single tiles are much easier to repair than other roofing materials.

## Can sustain high winds

Due to its resistance to severe weather, concrete and clay tiles continue to be the preferred roofing material among homeowners in the Southeast. With proper installation, tile roofing is one of a few select roofing systems that is proven to withstand sustained winds of 150 miles per hour found in Florida.

## Economical

Clay and concrete tile roofs are one of the most cost-effective choices due to their long lifespan—50 to 100 years or more. Both concrete and clay tile outlast other roofing materials, with manufacturers offering warranties from 50 years to the life of the structure. In fact, in Asia and Europe, many structures with clay roof tiles have remained intact, functional and beautiful for centuries.

## Require limited maintenance

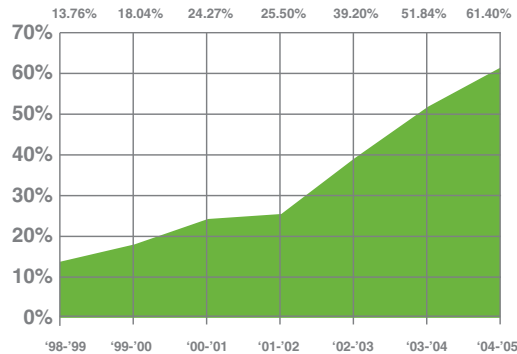
All roofing systems require some maintenance, and certain climates and regions have special issues to address regardless of the type of roofing system. Under normal conditions, tile roofs require minimal maintenance. With tile, maintenance is restricted to gutters, protrusion flashings, and venting. With other roofing systems, maintenance may include coating, painting, cleaning, and/or sealing the majority of the roof surface.



# Tile Roofing on the Rise

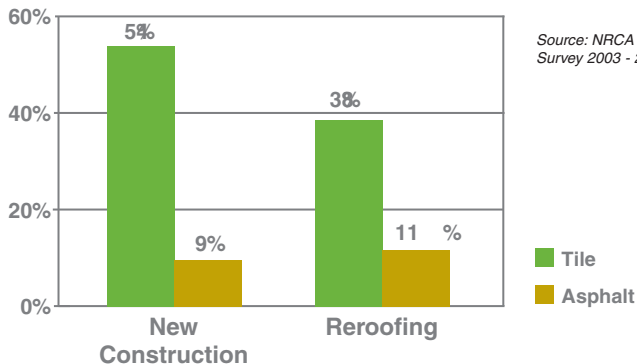
The following charts show data demonstrating the increasing market demand of tile roofs. Historically tile roofs have had strong regional coverage in California and Florida but are now slowly moving to all areas throughout the U.S. due to their durability, style choices, environmental benefits and life expectancy. All of these show that tile roofing systems are soon becoming the roof of choice for home and business owners.

## Percent Growth of Tile Production from 1998 to 2005



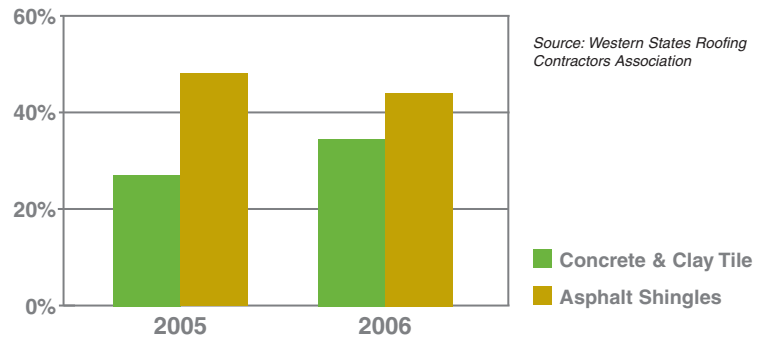
Source: Tile Roofing Institute Annual Industry Survey

## Percent Growth of Roofing Material Sales from 2003 to 2004



Source: NRCA Annual Market Survey 2003 - 2004

## Western Roofing Market Residential Market Share (% Growth)



Source: Western States Roofing Contractors Association

## About the Tile Roofing Institute

The Tile Roofing Institute (TRI) is a non-profit association of producers and associates of concrete and clay tile, and is considered one of the leading experts in the industry. TRI has long been the industry's voice for code development and testing. Since it was founded more than 30 years ago, TRI has received nationwide recognition for its many contributions to tile roofing.

For more information about TRI visit [www.tilerroofing.org](http://www.tilerroofing.org) or call 312.670.4177.

## Study of Life Expectancy of Home Materials

Aluminum Roof Coating	3-7
Fiber Cement	25
Asphalt	20
Modified Bitumen	20
Copper	Lifetime
Simulated Slate	50
Wood	30
Clay/Concrete	Lifetime
Slate	50+
Coal and Tar	30

Source: Gardner-Gibson, Maxitile, National Roofing Contractors Association, GAF Material Corp., Manufacturer's Association, John Manville, Metal Roof Specialties, Nycore, Authentic roof, 208 Shake and Shingle, Northern Roof Tile Sales Co., Universal Marble & Granite, Slave Savers, Koppers, Northern Elastomeric, EcoStar, Metals USA, GAF Material Corp.