

Boral **Roofing**
Build something great™



Reroof with Tile

CLAY AND CONCRETE ROOF TILE



Process Recommendations

We understand what a tremendous undertaking it can be to build or replace a roof, it is also an exciting opportunity to upgrade the appearance, durability and energy efficiency of your home. You may be remodeling your home, have a roof that has achieved its life expectancy, or be experiencing roofing problems. As you know, it's important to take the time needed to research the products available, source a qualified roofing contractor and select the right manufacturer to help you through the process. Here are a few guidelines to assist you going forward:

1. Investigate Roofing Options

Today there are many roofing choices to protect one of your largest investments – your home. The internet, local home shows, roofing/building distributors and roofing contractors can all be valuable assets to have in developing your education.

It's also important to understand the overall value of your roof investment. Be sure to consider the lifecycle cost of your roofing product – which is the cost of your roof each year over its entire lifespan.

A tile roof can:

- Provide reduced home insurance premiums
- Reduce energy bills
- Increase your home value when it comes time to sell
- Become your most affordable option
- Improve the curb appeal of your home



Choose a roof that pays for itself

Energy Efficient

Tile has inherent insulation properties due to its high thermal mass. This helps reduce peak energy demand and energy costs – making your home more comfortable to live in and less costly to heat and cool.

Green – Not a Petroleum Based Product

Tile is made from naturally occurring, locally-sourced, plentiful raw materials.

Strong Product Warranty

Your investment in your new tile roof is protected with our exclusive limited product warranties.¹

Durable and Permanent – Long Lifecycle

A tile roof is your best option when you consider its durability against other types of roofing materials.

¹ Please refer to Boral Roofing Product Warranties; details found on our website at www.BoralRoof.com.

2. Select a Professional Tile Roofing Contractor

All roofing contractors are not alike. Many may not have the knowledge and experience necessary to provide you with a quality tile installation. Your local sales representative can provide you with strong roofer options that you can consider.

When researching roofing contractors consider the following:

- Customer referrals
- Proven track record in your area
- Proper licensing and proof of insurance
- Industry association memberships/accreditations
- Call the Better Business Bureau to check on if there are any complaints filed against them
- Thorough and professional presentations, estimates, schedules and payment plans
- On-site supervision of project and crews
- Disposal of installation debris, noise, inconveniences
- Warranty and guarantees

3. Make Your Product Selection

Now that you have selected your contractor and investigated your options, it's time to finalize your choice of tile profile, color and installation options. As the nation's leading tile roofing manufacturer, Boral has a variety of Reroof products available for your review.

Be sure to ask about our Cool Roof System, which enhances your roof to provide even greater longevity, durability and energy savings.

We encourage you to obtain a product sample, to verify your color and profile selections. These are easily available through your roofing contractor – or can be ordered directly from our website www.BoralRoof.com.

Please review this reroofing brochure for additional explanations about the benefits of reroofing with clay or concrete tile. As you'll soon discover a Boral roof is probably the last roof your home will ever need.

Unmatched Beauty and Curb Appeal

A beautiful home starts with a beautiful roof. Boral Roofing will provide you with a myriad of products in colors and styles to complement your architectural style and enhance your curb appeal.

Protection From The Elements

Our tiles have been tested against elements of nature: fire, hail, blizzards, high winds and seismic activity.² Visit our website at www.BoralRoof.com to see how our tiles withstand such elements, and for complete testing results.

Reduce Insurance Costs

If you are in a region prone to fire or hail activity, a tile roof may actually help reduce your insurance premiums.

Improves Your Resale Value

Differentiate your home with a roof that adds curb appeal, reduced maintenance, improved energy efficiency and improved protection from the elements.



² Install products using the Tile Roof Institute's Regional Installation Guide

Considerations

A big decision that pays big dividends

Reroofing your home is a significant and important investment. There are many costs that should be taken into consideration beyond the price of initial installation.

Q. *When will I have to replace it?*

A. While many other roofing options require full replacement in a relatively short period of time, clay and concrete roof tiles are a long-lasting solution and are intended to last the life of the structure the tiles protect. In fact, a tile roof has the longest lifecycle of any roofing product. When you amortize your final costs over this life span – the costs for a tile roof are actually less than most other options. Add the energy savings from your roof over this same time period and your lifecycle cost gets even lower.



Q. *Can my roof provide savings in energy or insurance costs?*

A. A tile roof is extremely energy efficient, and when combined with our Cool Roof System, can save up to 22% on your energy costs.¹ And if you are in a region prone to fire or hail, our rated products can help lower your insurance costs. Some areas may have new building codes that are requiring energy efficient products, in addition to certain fire and hail ratings.



¹ Steep-slope Assembly Testing of Clay and Concrete Tile with and without Cool Pigmented Colors, Oak Ridge National Laboratory, 2005. Results vary based on profile of tile installed, location, weather and other factors.

Over the life of the roof, tile is the most cost effective roofing material

Standard Weight Concrete Tile	\$6.00 per year	Life expectancy 50 + years
Lightweight Concrete Tile	\$7.00 per year	Life expectancy 50 + years
Three Tab Shingle	\$8.00 per year	Life expectancy 15-20 years
Clay Tile	\$9.00 per year	Life expectancy 50 + years
Laminated Shingles	\$10.00 per year	Life expectancy 25-40 years
Fiber Cement	\$10.00 per year	Life expectancy 25-50 years
Treated Wood Shake	\$38.00 per year	Life expectancy 10-15 years

Source: Committee for Firesafe Dwellings www.Firesafedwellings.org. Report BRG.02



Q. *How much will it cost to maintain?*

A. Boral's foremost goal is to provide our customers with a superior tile roof. We provide all our customers with guidelines on the proper maintenance of their new roof to help provide a lifetime of worry-free protection and performance. Routine inspections are a good idea for any roof, and will ensure your roof performs optimally. If your roof is still under warranty from the original installation, contact your contractor for all inspections.

Q. *Will it help me sell my home when it comes time to move?*

A. Your home can achieve greater curb appeal, higher resale value and unmatched longevity with a tile roof. And the new owners will benefit from more energy efficiency, and possible insurance reductions.

Q. *Will it qualify for any rebates?*

A. You may want to check with your roofer, or local public utilities and municipalities who may offer rebates for Cool Roofs and energy efficient products. Some sources are:

Database of State Incentives for Renewables and Efficiency
www.dsireusa.org

Pacific Gas and Electric Company (PG&E)
www.pge.com

Southern California Edison (SCE)
www.sce.com

Florida Power and Light
www.fpl.com

Added peace of mind comes with our industry-best warranty

Protect your investment of a new roof with the most comprehensive warranty in the industry. All our Boral tile products are covered under our limited product warranties.² You also have peace of mind in knowing Boral Roofing is the nation's leading manufacturer of clay and concrete tile roofs; and has been in business for over 40 years.

² Please refer to Boral Roofing Product Warranties; details found on our website at www.BoralRoof.com.



Choose from one of our many cool roof rated tiles that will improve the energy efficiency by reflecting sunlight and heat away from your roof. When these are combined with our Elevated Batten System, they will provide further reduced cooling costs and they may even qualify for local rebates.



Boral's clay and concrete products meet the requirements for a wide variety of LEED³ point credits ranging from high recycled content to cool roof rated colors to 100% recyclability and more. Points may vary based on the location, colors and products used. Please visit our web site www.BoralRoof.com for more details.

³ Developed by the U.S. Green Building Council (USGBC), the Leadership in Energy and Environmental Design (LEED) Green Building Rating System encourages and accelerates global adoption of sustainable green building and development practices.



Raise the quality of your tile roof installation while you lower your energy costs

Q. How does it work?

A. Tile roofs are highly insulating and prevent much of the sun's heat from penetrating the building. Boral offers tiles in a wide range of profiles in highly reflective colors and certain tiles meet Energy Star and U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) rating.

In addition to tile's thermal mass, the air space between the tile and the roof deck provides a layer of insulation. Boral roof tiles go a step further by naturally ventilating this air space. Nearly all the heat that penetrates through the tiles is vented through the ridge. This keeps the building cooler, reducing your energy bills every year with no electrical or mechanical parts. Letting your roof system breathe will also make it last longer than traditional tile roof construction.

The most common reason for reroofing is deterioration of the roof system beneath the tiles when tiles or flashings are damaged or installed incorrectly.

Boral roof systems allow moisture that may get under the tiles or flashings to flow down and off the roof deck and quickly dry out, keeping the roof system in good condition to last longer.

Q. How much could you save?

A. A family in a typical single family house could save up to 22% per year on heating and cooling costs compared to the standard asphalt shingle roof.¹ A single family house with a Boral's Cool Roof System could save an average of \$15 to \$20 per month immediately compared to a standard asphalt shingle roof and as energy rates rise year over year, your savings could increase as well and could amount up to \$20,000 over 30 years.²



Calculate how much you could save by visiting www.BoralRoof.com and clicking on the **Energy Calculator** button.

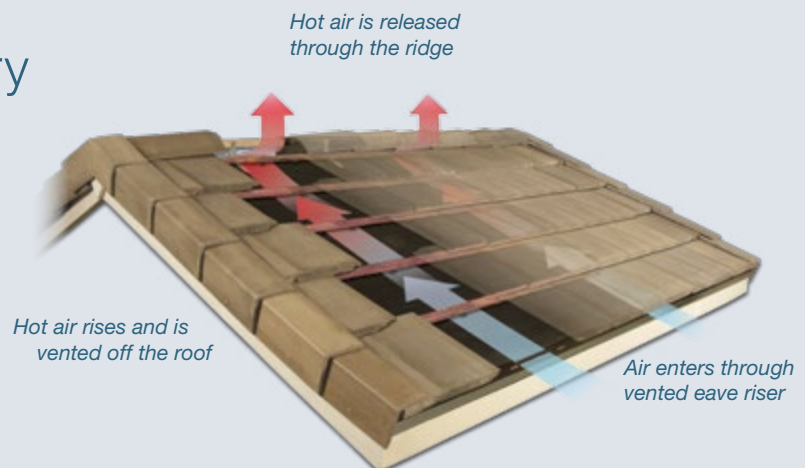
¹Steep-slope Assembly Testing of Clay and Concrete Tile with and without Cool Pigmented Colors, Oak Ridge National Laboratory, 2005. Results vary based on profile of tile installed, location, weather and other factors.

²Results based on a 22 square roof in Southern California with no additional energy efficient upgrades during an average annual weather pattern, annual inflation rate of 3%, and annual energy cost increase of 3.5%. Savings may vary based on location, weather and other factors. Savings estimates are based on comparison to similar size asphalt shingle roof.

The numbers tell the story

50% Reduction in the amount of heat penetrating the conditioned space versus direct-to-deck installations¹

22% Reduction in energy consumption¹



"...venting offers a significant 50% reduction in the heat penetrating the conditioned space compared to direct nailed roof systems that are in direct contact with the roof deck."

William A. Miller, Ph.D.

Buildings Technology Center, Oak Ridge National Laboratory

Boral™ Cool Roof Systems

Premium	Preferred	Contractor's Choice
<p>A SUPERIOR SYSTEM WITH BETTER PROTECTION AGAINST THE ELEMENTS AND SIGNIFICANT ENERGY SAVINGS</p>	<p>A BETTER TILE ROOF SYSTEM - MORE PROTECTION PLUS ENERGY EFFICIENCY</p>	<p>AFFORDABLE SYSTEM FOR THE COST-CONSCIOUS</p>
<p>Premium quality components and construction methods provide superior durability and energy efficiency.¹ The Elevated Batten System® provides natural air insulation and ventilation while eliminating thousands of perforations through the water proofing underlayment. Boral TileSeal® underlayment has a cool white surface and adheres to the deck without nails or staples for better protection against leaks.</p>	<p>Better quality components installed correctly provide better quality results. The Elevated Batten System® provides natural air insulation and ventilation while eliminating thousands of perforations through the water proofing underlayment. GatorSeal® HT adheres to the deck without nails or staples for better protection against leaks.</p>	<p>This is an affordable energy saving¹ roof with better quality and more security than the code minimum standard. This system upgrades a few code required components to create a roof that breathes with the innovative roof ventilation developed by Boral Roofing along with a durable, high performance underlayment at a modest price.</p>
		

Being green - our tradition and promise

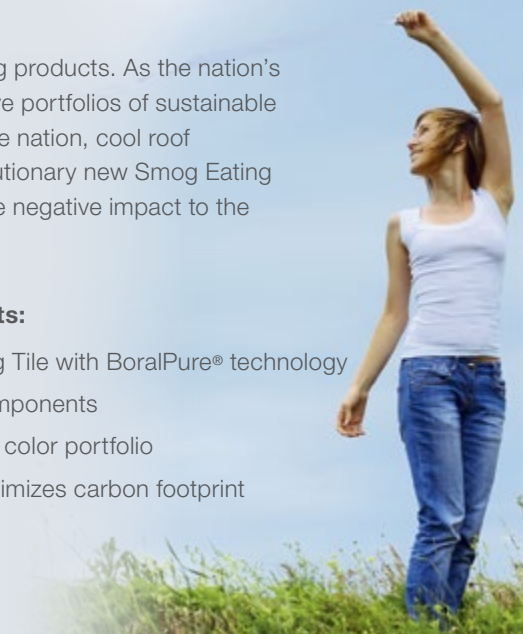
Boral Roofing leads the industry in environmentally sustainable clay and concrete roofing products. As the nation's largest concrete and clay roof tile manufacturer, we lead the industry with comprehensive portfolios of sustainable product features that include the only Cradle-to-Cradle Gold certified clay roof tiles in the nation, cool roof reflective colors, recycled contents of up to 59%, Energy Star certification and the revolutionary new Smog Eating Tile. Boral Roofing is committed to using naturally available materials which mitigates the negative impact to the environment and emphasizes conservation and energy efficiency.

Clay Roofing Products:

- Cradle-to-Cradle Gold Certification
- Recycled content up to 59%
- Energy Star Certified
- Vibrant portfolio of Cool Roof certified products

Concrete Roofing Products:

- Revolutionary Smog Eating Tile with BoralPure® technology
- Cool Roof System and components
- Comprehensive Cool Roof color portfolio
- Low embodied energy minimizes carbon footprint



Tile Advantages

The durability of a tile roof is unsurpassed

For thousands of years, tile roofs have stood the test of time in some of the world's more inclement climates. You'll have peace of mind knowing our tiles have been tested against elements of nature: hail, blizzards and high winds. Visit our website for complete testing results at www.BoralRoof.com. And if you live in areas prone to extreme weather, you'll be pleased to know that Boral® roof tiles are tested for superior protection that could even reduce your insurance costs.



Hail Rated
Concrete
Tile Roofs
May
Provide
Insurance
Reductions

Class 4 Hail Rated Tile

With the cost of hail damage reaching all-time highs, Boral Roofing is proud to offer our new Class 4 Hail Rated Impact concrete roof tile, awarded the highest hail performance certification recognized in the industry.

Specially designed to perform better in hail storms, the Class 4 Rated tile has undergone severe impact resistance testing in accordance with the FM 4473 standard, withstanding sequential 2-inch ice ball impacts at speeds of up to 104 feet per second. Boral Roofing's Class 4 tile is now certified through the "Roof Covering Impact Certification Program" sponsored by Architectural Testing.

With this performance certification and recognition, homeowners can have even greater peace of mind in their homes and potentially be eligible for even greater insurance reductions by choosing a participating insurance provider and requesting their roofing contractor to verify that Boral Roofing's Class 4 concrete tile was installed.

Class 3 Hail Rated Tile

Boral Roofing has a complete offering of Class 3 Hail Rated concrete tile. In the Class 3 hail test, 1-3/4 inch ice balls are shot at 104 feet per second (approx. 70 mph) impacting the tile.¹

¹Architectural Testing "Roof Covering Impact Certification Program" listing www.architecturaltesting.com



Fire Tested:

Standard Weight & Lightweight Tile

Class A rated per ASTM E108 and UBC Standard 15-2



Freeze/Thaw Tested:

Standard Weight Tile

Passes freezing and thaw test of ASTM C67



Hail Tested:

Standard Weight Tile

Tested for hail impact resistance per FM 4473



Seismic Resistance Tested:

Seismic Performance of Clay and Concrete Roofing Tiles

USC Structural Engineering Research Study, 1996
No. USC-SERP-96/03

A closer look at installation

Some local ordinances may require permits to be obtained prior to starting any new roof or reroofing work, depending on your location. Most contractors will handle this for you, but it is a good idea to understand your local building codes, and make sure you know whether or not your home needs to be inspected by a licensed engineer or building inspector. This will ensure your home is compliant to local codes and ready for the reroof installation. Many homeowners also have questions about the ability of their home to accept the weight of roofing materials – whether it is another layer of asphalt shingles or a tile roof.



This picture shows 3 different methods of reinforcement, shown in red, blue and black bracing systems

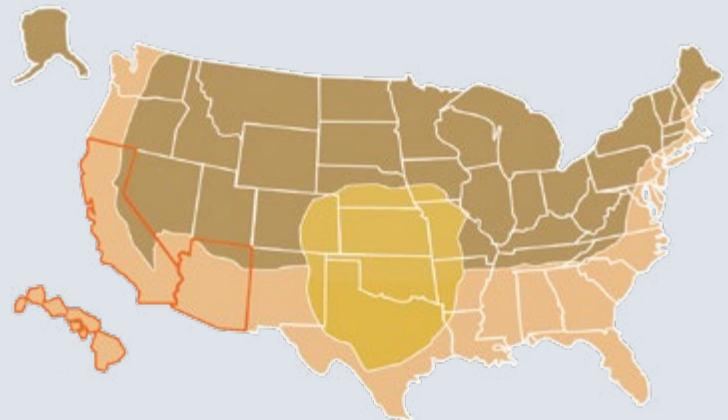
- Most homes in America are constructed in accordance with the Conventional Light-Frame Construction section of the building codes and will support a wide range of roofing materials.
- Most building codes allows the installation of 2-3 layers of asphalt shingle, which would result in a weight comparable to that of a tile roof.
- While the basic framing of the house will typically support the weight of a tile roof, rafter/truss systems may vary in construction. Boral offers practical guidelines for determining roof framing needs for all of our products and will assist in finding experienced service professionals where needed.

If any structural reinforcement is necessary, most bracing procedures are simple and can be done quickly, without disruption to your living areas, and typical cost is only \$350.

The right roof for the right climate

Q. Which Boral Roofing products are right for you?

A. It depends on where you live. If you're in a climate that experiences full winter weather or produces severe hail damage, our Standard Weight products are the recommended choice. If you live in a warmer climate, then either our Standard Weight or Lightweight products will provide adequate protection.



Dark Brown	Winter Zone
Yellow	Hail Zone
Light Orange	Moderate Zone

Red Outline: Lightweight & Standard Weight Collection
 White Outline: Standard Weight Collection

This map is only intended as a general guideline. Consult your local building official or local Boral Representative to find out precisely what tile roofing materials are recommended for your area.

History

The company that crafted tile roofing

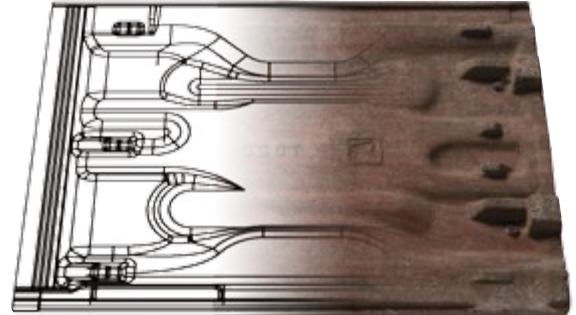
Boral Roofing is a division of Boral USA, the country's largest premium provider of complete roofing and re-roofing solutions for architects as well as commercial and residential builders. Boral Roofing operates 14 clay and concrete tile manufacturing plants throughout the U.S.

At Boral Roofing, we don't just think of ourselves as a roof tile company. We're a tile roofing company. What's the distinction? It's more than just semantics. It's an unyielding drive to develop and provide the industry and our customers with the most innovative tile roofing products, energy-saving solutions and advanced installation techniques.

It's the art of creating the widest selection of clay and concrete roof tile colors, profiles and finishes. And it's the science of the industry's most advanced tile roofing technology, product testing and manufacturing techniques.

And Boral Roofing is an active contributor and member of the Tile Roofing Institute, which promotes quality and safety standards throughout the tile roofing industry; as well as state and local code bodies.

So what does this mean to our customers? We deliver a complete spectrum of roof tile and component products designed to work together to enhance your roof's functionality, performance and integrity.



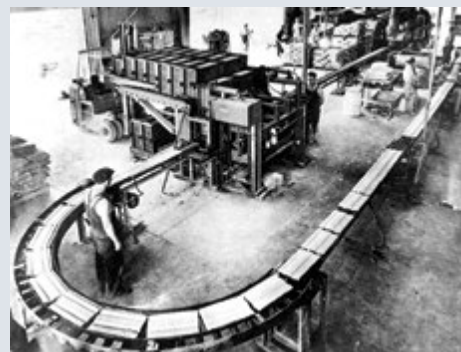
Our tile is specifically engineered to allow greater airflow between the underside of the tile and the roof deck

Clay and concrete tile helps to protect your home from fire, high winds and blistering heat. It's also environmentally friendly. In addition to these practical reasons, Boral makes sense from an aesthetic perspective – which is ultimately what makes your house a home. Our palette of colors and choice of styles are the broadest in the industry.

So, whether your home's architecture is that of a Mediterranean Villa, a rustic homestead or anything in between, there's a Boral product that can make it look its best. For all these reasons and more, clay and concrete tile is the world's roofing product of choice and Boral Roofing has worked hard to become your first choice in roofing.

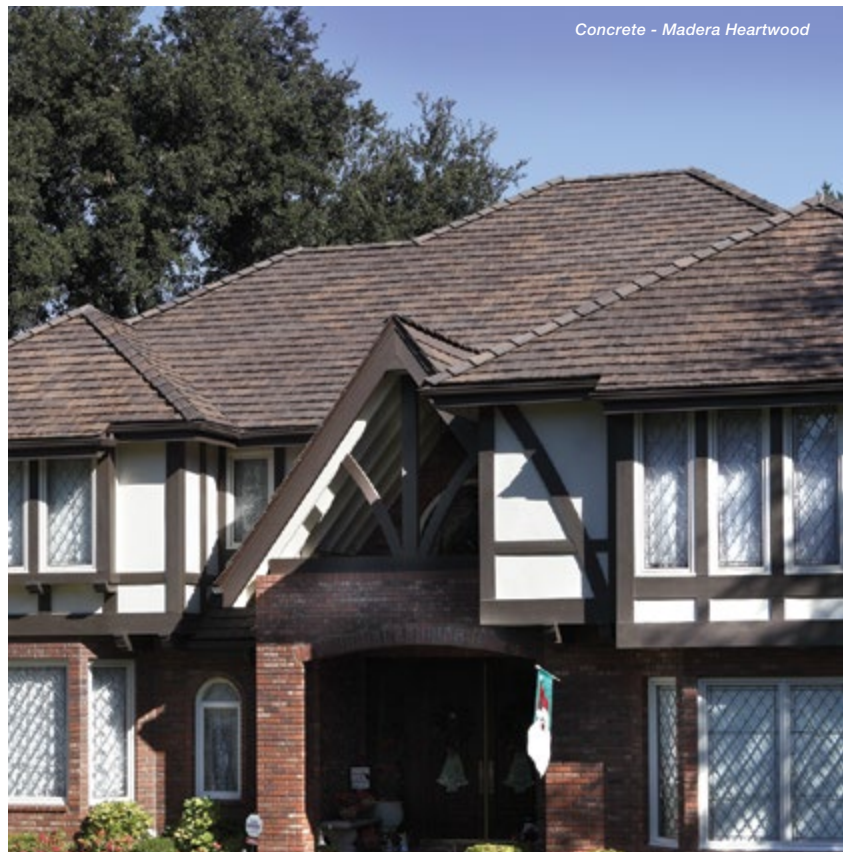


Boral's Lake Wales plant opened in early 2007 - it's a state of the art concrete tile plant in U.S.



1962: Fremont, California plant begins tile production

Photo Gallery



GO WITH THE BEST



Boral® Products are featured in the VISION House® at INNOVENTIONS presented by Green Builder® Media. This green home exhibit is located in INNOVENTIONS at Epcot® at the Walt Disney World® Resort.

Popular Mechanics' Winner



2011 Breakthrough Award for Home and Hardware
BoralPure® Technology
Smog Eating Concrete Tile

Edison Gold Award Winner



2012 Best New Product in Safety & Sustainability
BoralPure® Technology
Smog Eating Concrete Tile

ABOUT BORAL ROOFING

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ABOUT BORAL USA

Headquartered in Roswell, Georgia, Boral USA is the holding company for Boral's US operations which include leading manufacturers in the building material industry. Boral USA's subsidiaries include Boral Bricks; #1 manufacturer of clay brick in the United States, Boral Roofing; the nation's leading manufacturer of clay and concrete roof tiles, Boral Stone Products, manufacturer of Cultured Stone® the most recognized brand of manufactured stone veneer, and Boral Composites Inc; manufacturer of Boral TruExterior® Trim, the #1 brand of poly-ash exterior trim products.

Build something great™ with Boral®

Stone | Bricks | Trim | Roofing

www.BoralAmerica.com

TileVision. Imagine The Possibilities



Use our online design tool to visualize tile designs and colors that best match your home design and architecture. Save your favorites to a cart and share your vision with your family and friends on Facebook!

Sales Offices

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Corona, CALIFORNIA
Gilroy, CALIFORNIA
Lathrop, CALIFORNIA
Stockton, CALIFORNIA
Rialto, CALIFORNIA
Denver, COLORADO
Pompano Beach, FLORIDA

Lake Wales, FLORIDA
Atlanta, GEORGIA
Kapolei, HAWAII
Kansas City, MISSOURI
Henderson, NEVADA
Katy, TEXAS
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Download a QR Code reader app for your smartphone, then take a photo to visit our website www.BoralRoof.com

