

Boral **Roofing**
Build something great™

Warranty & Maintenance Guide

FOR CONCRETE ROOF TILE



Congratulations!


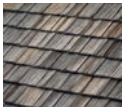



You are a proud owner of a new Boral® concrete tile roof!

You have purchased a roof that with proper maintenance, may very well last the life of your structure. You are also supported by an industry best warranty – Boral's exclusive Non-Prorated Fully Transferable Limited Lifetime Warranty.

Boral's foremost goal is to provide a superior roof. We are committed to educating our customers about the proper maintenance of their new roofs to provide a lifetime of worry-free protection. This document was created to answer frequently asked questions and provide maintenance guidelines. Please read this important information, and keep this document with your warranty for future reference.

If you have additional questions, please feel free to contact us at 800.669.TILE (8453) or visit our website at www.BoralRoof.com for a comprehensive list of frequently asked technical questions.

Table of Contents

	Mildew, Algae and Moss	1
	Cleaning, Re-Coating & Painting.....	1
	Efflorescence.....	1
	Weathering Effects	1
	Choosing a Contractor	1
	Confidence and Security	2
	Avoid Walking on Your Roof.....	3
	Replacing Broken Tiles.....	4
	Warranty	5
	Homeowner Notice	7
	Online Warranty Registration	7

Maintaining Your Tile Roof

Mildew, algae and moss

We recommend that a professional cleaning company be used, so that you avoid the dangers associated with walking on a wet tile roof.

Many climates across the country are conducive to mildew, algae and moss growth on everything from glass, stucco, siding and driveways, to roofing products including concrete tiles. While this growth can result in a dirty surface appearance, it can be treated to restore the original look.

Mildew, algae and moss do not grow directly on the tile, but grow on the accumulation of dust and other organic materials that settle on the tile. When enough cycles of heat, moisture and light are present, these spores start to grow.

Many environmental variables effect the potential for this organic growth. The location of the house, the direction the house is facing to the sun, and the quantity of trees, canals and lakes in the area can contribute to mildew growth.

While research continues, currently there is no known manufacturing procedure or job site coating that would have any long-term preventative effect on this condition.

Fortunately, mildew, algae and moss can be removed or treated. If the growth returns, the treatment can be repeated as necessary.

Cleaning, re-coating & painting

Boral Roofing recommends that you hire an experienced professional to clean your tile roof.

The following method is recommended to properly pressure clean the surface of your roof to remove dirt, algae, mildew or moss. Different methods may be required depending on whether your tile is slurry coated or color-thru. In most applications though, a pressure cleaner set at approximately 1200 psi should be used. The tip of the nozzle of the pressure cleaner should be kept approximately one to two feet from the tile. The limited pressure and distance from the tile is used to prevent damaging the surface. Most modern pressure cleaners have an induction system to deliver a 10% solution of chlorine to water. This will help to temporarily remove the mildew, algae or moss when using the recommended reduced pressure.

If you want to coat the tile after the roof has been pressure cleaned, it is recommended that the roof be primed with a clear alkyd primer following the manufacturer's recommendations for application and curing.

If you would also like to change the color of your roof by painting it, the surface should be painted with a good quality 100% acrylic paint, after the pressure cleaning and priming is completed and dried.

If you don't want to change the color of your roof tile, you should coat the surface with a 100% clear acrylic sealer after the pressure cleaning and priming is performed.

Efflorescence

Efflorescence is a temporary surface condition which is common to all concrete products. The process is caused by the chemical nature of cement. It is superficial and in no way affects the quality or functional properties of the tile.

Manufactured cement contains free lime, and when water is added, a series of chemical reactions takes place. These reactions are accompanied by the release of calcium hydroxide that can form a white chalky crystalline salt deposit on the tile surface when reacting with carbon dioxide.

This reaction can appear as an overall chalky white bloom (a softening of color) or in more concentrated patches.

It is difficult to predict how long the effects of efflorescence will last. It depends on the type and amount of deposit as well as local weather conditions.

The action of carbon dioxide and rainwater will gradually remove the deposit, in most cases, leaving the original color of the roof intact without further efflorescence occurring.

Weathering effects

Boral Roofing concrete roof tiles will be subjected to the worst nature can offer. The combination of elements that destroy most other roof coverings will not, however, seriously affect the protective properties of concrete tile. Over time, the surface of any product left unattended will show signs of aging, and concrete roof tiles are no exception.

Tiles are normally colored by either adding pigment into the body of the tile during the mixing stage or by applying a concentrated slurry coat of cementitious pigment to the top surface following extrusion and forming.

Slurry coated tiles are usually selected when high contrast, bright colors are desired while integral colored tiles provide a more subtle appearance. Slurry coated tile can oxidize and turn chalky before gradually wearing down to the concrete base.

The integral colored tile on the other hand, may experience some surface lightening, but will retain its base color indefinitely. This lightening can be the result of surface erosion that essentially exposes the grains of aggregate.

When integral colored tiles are formed, the colored cement will be drawn to the surface of the tile, giving it the initial color shade. This layer is slightly softer than the body of the tile and will typically erode away within the first twenty years, depending on the climate. This erosion will expose a larger percentage of the sand aggregate resulting in an overall lightening of color. After this initial change, future erosion occurs at a dramatically slower pace and will never reach a point where the physical properties of the tile are affected.

Periodic cleaning and resealing can rejuvenate and prolong the surface finish of either type of tile. Also, if the color coat of a slurry finish tile wears down over time, you have the option of re-coating your roof with a 100% acrylic paint.

Maintaining Your Tile Roof

Choosing a contractor

Regardless of whether you just want your roof inspected, (which should be done every couple of years), or have specific repair needs, you should take some precautionary steps in selecting a roofing contractor.

If your roof is still under warranty from the original installation, contact that contractor for all inspections or repairs so that your original contractor's warranty is not voided.

Ensure that your contractor secures permits before any work begins, or you will be responsible for any code violations.

Even considering its unsurpassed durability, a concrete tile roof does require regular maintenance to continue to perform optimally. Replacing broken tiles, removing algae, mildew and moss, or cleaning and re-coating your concrete tile roof are all vital steps in maintaining its aesthetic and protective qualities for years to come.

Choosing a professional roofing contractor for repairs and maintenance is the best method to ensure your safety and the longevity of your roof.

If your roof is no longer under installation warranty, take the following steps to find a contractor:

- Check online for contractors they have had success with.
- Check with the yellow pages for contractor listings. Contact the Better Business Bureau in your city for any complaints logged against contractors before contacting them.
- Get 2 or 3 bids in writing.
- Select a contractor that has specific experience with concrete tile roofing.
- Check the licensing and insurance coverage of the contractor you are considering.

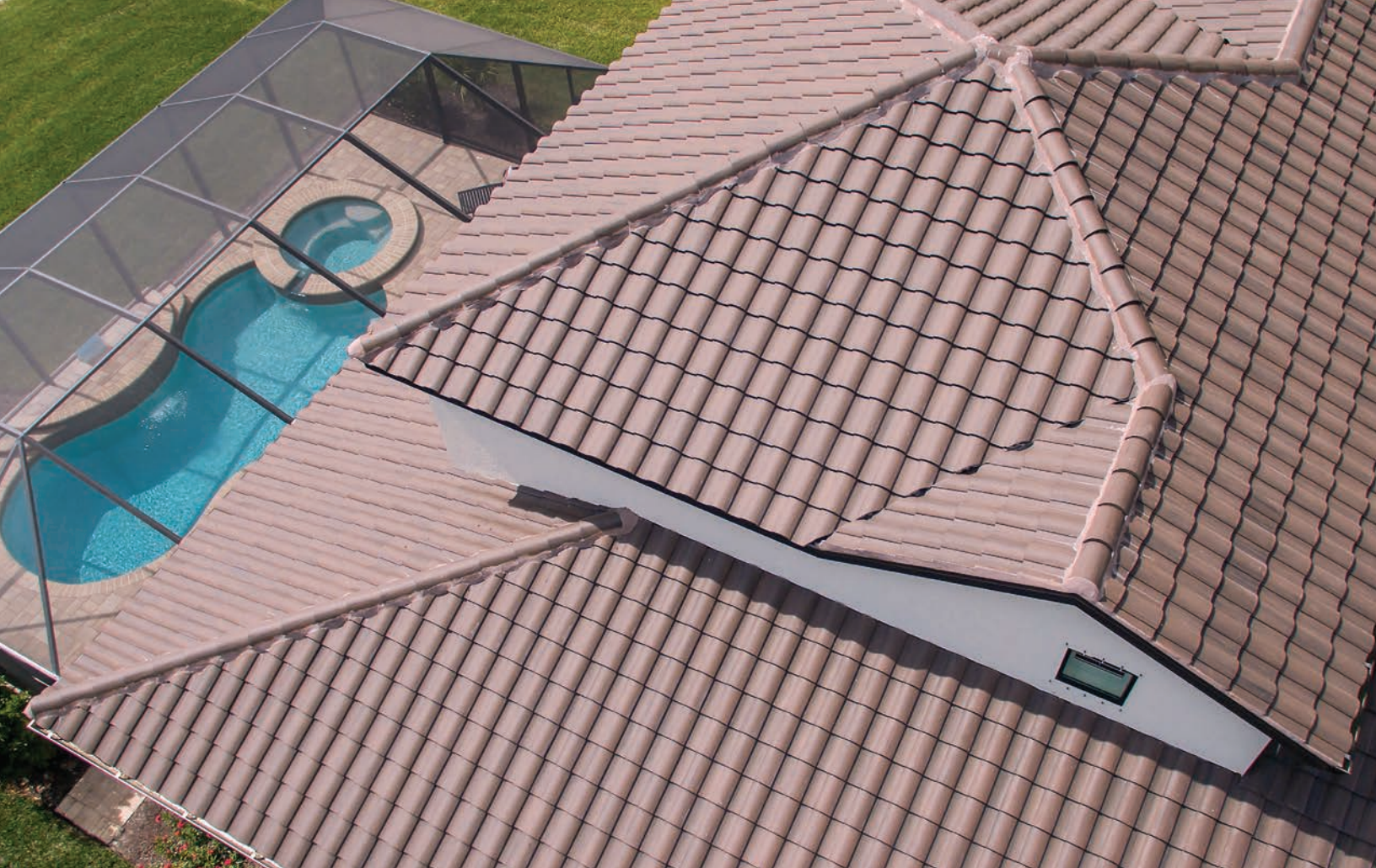
Confidence and security

Boral concrete tile products offer:

- Class A Fire Rating.
- Some tiles are resistant to hail, sleet, snow and freeze-thaw (see Warranty for specifics).
- An Exclusive, Non-Prorated, Fully Transferable Limited Lifetime Warranty (the "Warranty").
- Makes your home more energy-efficient year-round.
- Designed to withstand high wind and rain (see Warranty for specifics).
- Available in a full range of colors and styles that harmoniously complement the design of your home.
- A practical investment that adds substantially to the value of your property.
- Limited maintenance translates into lower product life cycle costs.
- Insurance reductions are possible for hail certified tiles (see Warranty for specifics).



Enjoy your new concrete tile roof - you've made a great investment!



Avoid walking on your tile roof unless it is absolutely necessary

Do not walk on your roof unless you have adequate fall protection, caution should be exercised to ensure your personal safety and prevent damage to roof tiles that may void your warranty. Roof traffic is specifically mentioned in the Special Exclusions section of your warranty. Roof tiles broken by foot traffic should be replaced as soon as possible. The broken tiles may cause problems by allowing water and UV rays to penetrate through to the underlayment and damage it.

There are certain methods of traversing the roof that may minimize damage. It is recommended you step at the bottom three inches of the installed tile. This section is supported by the lapped tile beneath it and the weight is then transferred through it to the deck below.

Keep in mind that activities such as gutter cleaning and holiday light hanging can be accomplished from a ladder rather than walking on your roof. Ladder braces may be attached to avoid damage to your gutters and tile.

Remember the following tips:

- Orient your feet in a horizontal direction. Try to distribute your weight evenly, and walk as softly as possible.
- On high profile - Barcelona, Tejas España, and Mission “S” tiles, distribute your weight on the high points of the adjacent tiles.
- A great option is to use walk pads to distribute your weight over a larger area. Pads may be fabricated in a number of ways, but are typically made from sheets of plywood cut into 2” x 2” sections. The underside of these pads should be fitted with softer material such as carpet or rigid foam that will help distribute the weight and prevent slippage.
- Avoid walking on hips or valleys to prevent damage to specially cut tiles that are more difficult to replace.
- Valleys are ideal access paths – if the tiles are separated wide enough to allow foot traffic on the valley flashing instead of the tile. Take special care when walking on valley flashing, as the metal can be slippery.

Replacing Broken Tiles

Boral Roofing strongly recommends that you contact a professional roofing contractor to repair broken tiles.

The following provides a guideline of how broken tile should be replaced:

- When replacing an individual broken tile, break the tile into smaller pieces with a hammer or similar tool. This will minimize disturbance to surrounding tiles.
- Once the broken tile is removed, clear any remaining fasteners. The underlayment surrounding the broken tile should be sealed, cleaned and patched with roofer's mastic at the old nail/screw hole(s).
- For roof slopes over 7:12 that were installed using battens, wedge surrounding tiles upward, apply roof tile adhesive, and slide the new tile into place. (Figure 1)
- For roof slopes 7:12 and below that were installed in a direct deck installation, nail an approximately 12 x 6" piece of 1/2" plywood to the deck in position to act as a batten. Next, insert a new tile, or apply mastic to overlapping areas of the new tile and put into place. (Figure 2)
- Position tiles fastened with adhesive to an adjacent tile. Do not apply adhesive to the interlocking water channel, it must be placed above the headlap to avoid water damming. (Figure 3)
- Remove any shims used to wedge surrounding tiles during the repair process. Ensure surrounding tiles are replaced and properly fit and seated.

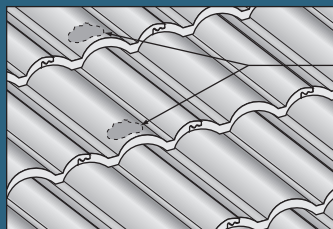


Figure 1
For applications with battens

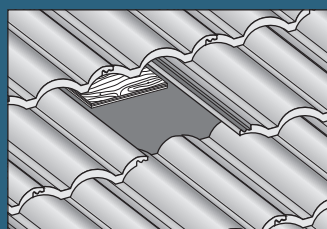


Figure 2
For applications without battens

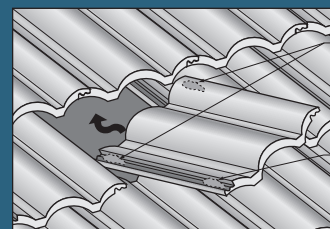


Figure 3
For applications without battens

YES
(PROPER
LOCATION)

NO
(IMPROPER
LOCATION)





Limited Lifetime, Fully Transferable, Non-Prorated Concrete Product Warranty

This express limited Warranty covers performance of individual concrete roof tiles only manufactured by Boral Roofing LLC ("Boral"). Boral does not warrant accessory materials or any product manufactured by or installation labor provided by others.

Boral warrants that each Boral concrete roof tile will be free from the specific manufacturing defects which would result in the damages specified below for the life of the building to which the tile is applied and will meet or exceed all moisture absorption and transverse break strength tests established by the International Code Council ("ICC") as such tests are in existence as of the date of manufacture and which are applicable to its product. Boral specifically warrants that its roof tiles: 1) will not burn; 2) will not be damaged by vermin; 3) will not allow passage of water due to decomposition or decay; 4) will not delaminate as a result of temperature change or weathering (excluding slurry coated tiles); 5) will not warp, lift or curl; and 6) will withstand all design wind uplift loads (but damage from hurricanes, tornadoes and other acts of God are specifically excluded as set forth in exclusion (d)) when installed in accordance with the applicable local code. Certain standard weight tile products have been tested and meet certain requirements of FM 4473 (as such tests exist at the date of manufacture and as such tests are applicable to these products) so that such products have been given specific class designations for hail impact resistance. A specific listing of such products and their respective class designations for hail impact resistance as of the date of manufacture is on the Boral website (www.BoralRoof.com). Boral only provides the hail coverage described herein for products which at the date of their manufacture have been given a class designation on our website for hail impact resistance.

If any of your Boral concrete roof tiles are found to exhibit the specified defects covered under this Warranty, do not meet the ICC tests described above or if your Boral concrete roof tiles (as applicable and as described above) do not meet the testing requirements for their specific class designation for hail impact resistance ("Hail Damage"), Boral will furnish at its option a new concrete roof tile, free of charge, to replace each defective roof tile or refund the purchase price of each defective tile. Boral reserves the right to remove sufficient undamaged tiles for testing purposes and to test any such tile before providing a replacement tile or reimbursement. In the event of "Hail Damage," testing under this limited Warranty shall consist of obtaining not less than five (5) undamaged tiles from the damaged area and submitting them for testing to the certified level at a laboratory of Boral's choice and selection. If a majority of the undamaged tiles withstand penetration by hail up to the certified level, then Boral shall have no responsibility under this limited warranty and it shall be conclusively established that hail of a size that is in excess of the certified level caused the "Hail Damage."

Specific Exclusions: This Warranty does not cover (a) damage to the tile caused during installation; (b) concrete tile not installed in accordance with appropriate local building codes and acceptable trade practices in that specified area; (c) damage to the tile caused by roof traffic or foreign objects falling on the roof; (d) damage to concrete tile

or structure caused by hurricanes, tornadoes or other acts of God; (e) color fading, color changes or variations of the color hue or physical deterioration of the color for any reasons including, but not limited to weathering, oxidation or air pollutants; (f) color surface fading, cracking, chipping or delamination of slurry coated tiles and (g) freeze/thaw damage to 600 weight series tiles and 700 weight series tiles installed in regions subject to freeze/thaw conditions.

THE FOREGOING IS THE ENTIRE EXPRESS LIMITED PRODUCT WARRANTY OF BORAL FOR CONCRETE TILES. BORAL HEREBY DISCLAIMS ALL OTHER EXPRESS, IMPLIED AND STATUTORY WARRANTIES WHERE ALLOWABLE BY LAW FOR THIS PRODUCT INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. BORAL SHALL IN NO EVENT BE LIABLE UNDER ANY CIRCUMSTANCES FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR ANY DAMAGES TO ANY STRUCTURE OR ITS CONTENTS OR ITS OCCUPANTS. No other person either employee, agent or otherwise, is authorized to vary or change the terms of this Warranty either orally or in writing, and any statements contained in Boral's general advertising pamphlets or other printed materials do not constitute a warranty and shall not be binding on Boral except as expressly set forth in this document.

This express limited product warranty excludes all labor costs. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not be applicable to a registered owner who is deemed a consumer under local statutes.

Claims under this Warranty will be honored only if the following conditions are met: (1) The registration certificate shown here-in has been properly completed and registered online at www.BoralRoof.com, within ninety (90) days of installation or original ownership. IN THE EVENT THIS WARRANTY CERTIFICATE HAS NOT BEEN PROPERLY REGISTERED, THE DURATION OF THIS EXPRESS LIMITED WARRANTY SHALL BE LIMITED TO TWO (2) YEARS FROM THE DATE OF ORIGINAL INSTALLATION; (2) the registered owner notifies Boral thirty (30) days after the facts on which the claim is based became known; and (3) Boral has an opportunity to investigate and approve the claim.

This Warranty is automatically transferred to the subsequent owners through the sale or transfer of the individual structure.

This Warranty gives the registered owners of the structure covered by this Warranty specific legal rights, and they may have other rights which may vary from state to state. If the laws of a particular state require terms other than or in addition to those contained in this Warranty, this Warranty shall be deemed modified so as to comply with the appropriate laws of such state, but only to the extent necessary to prevent the invalidity of this Warranty or any provision of this Warranty or to prevent the imposition of fines, penalties or any liability.

**For further information concerning your warranty, contact:
askcustomerservice@boral.com
or call Boral Roofing at 1-800-669-8453 (TILE)**

Roofing Contractor _____

Date of Installation _____

Effective: February 2015



Homeowner Notice

~Please post in the garage~

To assure maximum benefits from your concrete tile roof, minimize walking on the roof to avoid damaging tiles.

Please take the following precautions:

- Use a long stick or rope to retrieve items lodged on the roof.
- When necessary to paint or repair vertical walls which adjoin the roof, make a protective walkway for tradesmen by fastening sheets of plywood in the area of heavy traffic.
- Locate antennas and air-conditioning units in areas where rooftop traffic will not be required for equipment service.
- If it is necessary to traverse the roof, walk on the lower third of the individual tiles, where the headlap/overlap is between the courses (rows) of tile.
- Be sure to wear grip-sole shoes – tiles can be slippery.
- Do not walk on hips, ridges, valleys or around pipes and vents.



For more information, please call or visit our website at:
800.669.TILE (8453) | www.BoralRoof.com

WARRANTY REGISTRATION ONLINE

Register your warranty online at www.BoralRoof.com



Note: The Warranty is not applicable until you register it online and it is received by Boral Roofing and the owner of the tile is in compliance with the conditions of the Warranty.



ABOUT BORAL ROOFING

Boral Roofing is a subsidiary of Boral USA, and is 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 12 clay and concrete tile manufacturing plants throughout the U.S.

ABOUT BORAL USA

Headquartered in Roswell, Georgia, Boral USA, through its subsidiaries and joint venture companies, is a leading manufacturer in the building materials industry. Boral USA's subsidiaries include Boral Roofing LLC, the nation's leading manufacturer of clay and concrete roof tiles; Boral Stone Products LLC, manufacturer of Cultured Stone® by Boral®, the most recognized brand of manufactured stone veneer, and Boral Versetta Stone®, the leading brand of mortarless manufactured stone veneer; Boral Material Technologies LLC, a leading marketer of coal combustion byproducts; and Boral Composites Inc., manufacturer of Boral TruExterior® Siding & Trim, pioneer of the innovative poly-ash category of exterior building products. Boral USA is also a joint venture partner in Meridian Brick and its affiliated companies, Boral Bricks LLC, Forterra Brick, LLC and Forterra Brick, Ltd. in Canada.

Build something great™ with Boral®

Stone | Trim | Siding | Roofing

www.BoralAmerica.com

Sales Offices

- Phoenix, ARIZONA**
- Corona, CALIFORNIA**
- Lathrop, CALIFORNIA**
- Stockton, CALIFORNIA**
- Rialto, CALIFORNIA**
- Denver, COLORADO**
- Pompano Beach, FLORIDA**

- Lake Wales, FLORIDA**
- Atlanta, GEORGIA**
- Henderson, NEVADA**
- Fort Worth, TEXAS**
- Katy, TEXAS**
- Tacoma, WASHINGTON**

Corporate Office

Boral Roofing
200 Mansell Court East, Suite 310
Roswell, GA 30076

Western Office

Boral Roofing
7575 Irvine Center Drive, Ste. #100
Irvine, CA 92618

Customer Service

800 669 TILE (8453)

Website



Download a QR Code reader app for your smart phone, then take a photo to visit our website www.BoralRoof.com

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