POLYSAND
ROOFING TILES

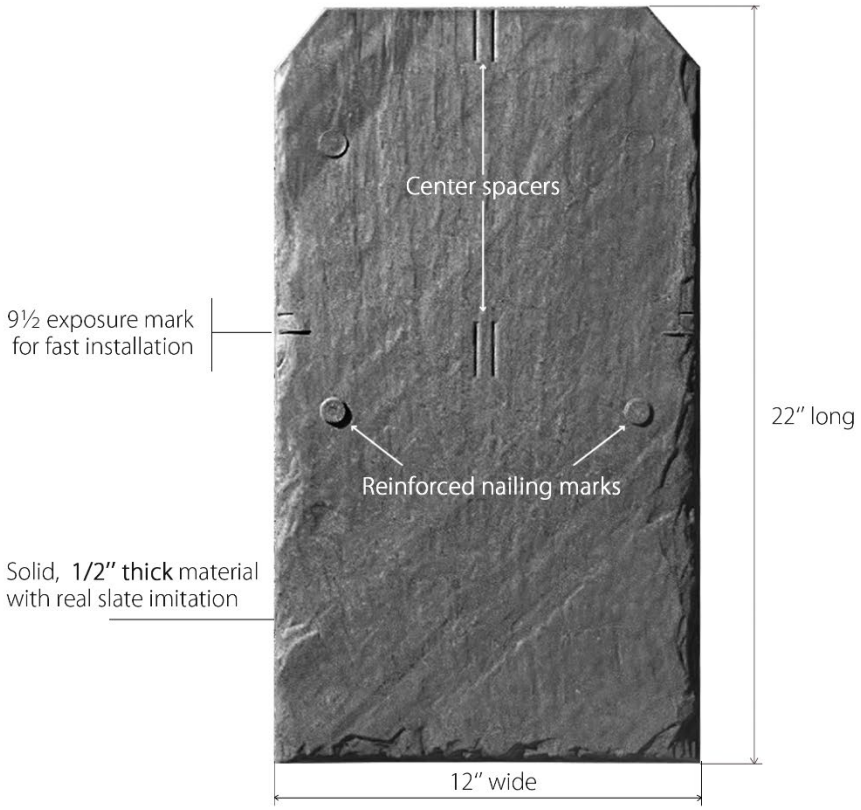
This manual contains basic information, drawings and guides for installing Polysand SyntheticSlate™ Tile Roofing System on a basic type structure. This manual is a summary of good roofing practices and some of the industry standards that have been developed over time and is upgraded periodically. We stress the fact that we are not familiar with all building codes that pertain to roofing. Consequently, the general contractor, roofing contractor, installer or homeowner must accept responsibility for ensuring that the installation meets applicable building and roofing codes.

Please visit our website for additional information and contacts.
www.polysand.ca

Installation Guide is subject to change without notice. Please check our website for the latest edition.

Technical data.

Polysand SyntheticSlate™ Tile	
Weight 1 pc.	2.2 lb (1.0 kg)
Size	12" x 22" (305 x 558 mm)
Thickness	1/2'' (15 mm)
Headlap	3'' (75 mm)
Exposure	9½”
1 square (100 sq.ft.)	125 tiles
1 square weight	275 lb (125 kg)
Packaging	
1 bundle	20 tiles
1 bundle weight	44 lb (20 kg)
Bundles per square	6.25
Bundles per pallet	30
Weight per pallet	1350 lb (600 kg)
Squares per pallet	4.8



Tools.

Polysand Slate tiles can be installed using conventional power tools - tiles can be nailed down using a hammer or nail gun and can be easily cut with a circular saw (masonry or metal cut off blade).

Weight, Exposure and Appearance.

The exposure of tile is the portion of the tile that is not covered by the course above and is, therefore, the length of the roofing tile exposed to the weather.
The marker lines embossed on the surface of the locking mechanism of the tile will help to set the required exposure.

Polysand SyntheticSlate™ tile should be installed with 9½" exposure using provided marks on the surface of the tile

Installation.

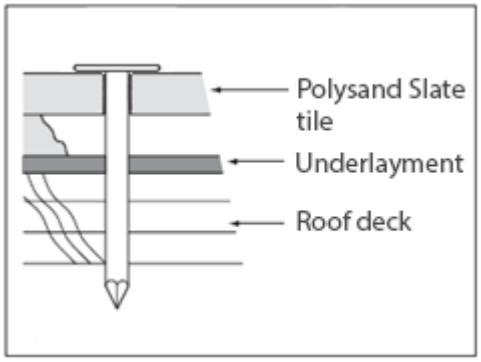
Polysand Slate roofing tiles are made to replicate authentic slate as close as possible and in most cases the installation process is the same. If you have a concern during installation of Polysand SyntheticSlate™ roofing tiles, please refer to an authentic slate installation guide.

Decking and Slopes.

Polysand SyntheticSlate™ tiles should be installed on approved plywood or OSB sheathing minimum 3/8" thick, cut flush with fascia at both eaves and gable. When re-roofing all previous roofing materials should be removed.
It is not recommended to install Polysand Slate tiles on slopes less than 3:12 (14 degrees).

Non-corrosive metal drip-edge should be installed along the all eaves and gable ends. There is no need to use battens with Polysand Slate roofing tiles.

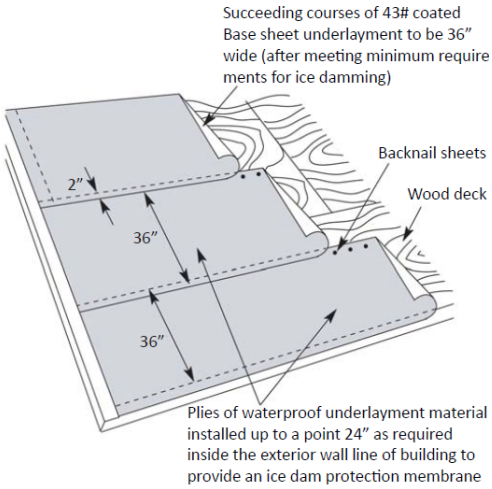
Nailing.



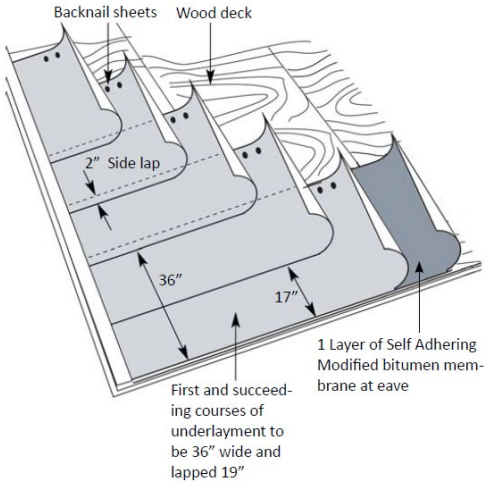
Polysand SyntheticSlate™ slate is fastened with two nails properly placed in the nail guide marks. When attaching slates, nails should be driven with a small pressure on the tile. The length of the nails should be sufficient to properly penetrate at least 3⁄4" into or through the thickness of the deck. In most instances, 1½" nails for the field tiles and 2½" for the ridge/hip tiles are acceptable. Copper, stainless steel or hot-dipped zinc coated nails are recommended to be used. Unprotected nails are not acceptable.

Underlayment.

Because of the long service life of Polysand SyntheticSlate™ roofing tiles, a long-lasting underlayment should be used. All decks shall be covered with synthetic underlayment with a roll of Ice and Water shield along the eaves where necessary.



Single Sheet Underlayment



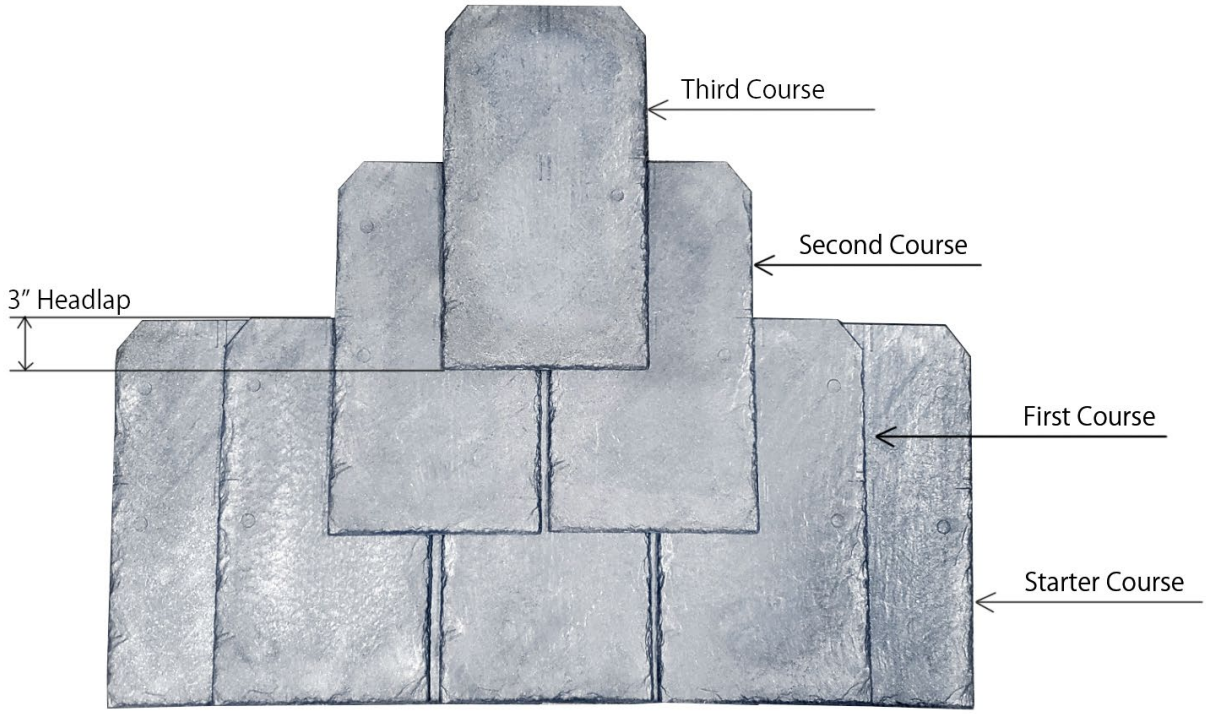
Double Sheet Underlayment

In areas where the average winter temperature drops below -4°C a self-adhering ice and water barrier should be installed. At eaves the barrier should extend 2' beyond the interior wall and 3' for all valleys, rakes and roof penetrations. Be sure to follow underlayment manufacturer installation recommendations and observe your local building codes.

Ventilation.

It is very important that the roof is ventilated properly, especially in regions with a cold climate. Please follow your area building practices to meet local building codes. Appropriate soffit ventilation or continues ridge vent is highly recommended for attaining the maximum service life of the roof.

Starter and First course.



Starter tiles should be installed along all eaves before First Course installation. Starter tiles should hang past eave drip edge a minimum of 1/2" and should be fastened in the target areas provided. Gap between starter tiles should be the same as field tiles, minimum of ¼" and maximum of ½", gap marks should be used for faster installation.

The first course of slate should be installed even with the butt edge of the starter course.

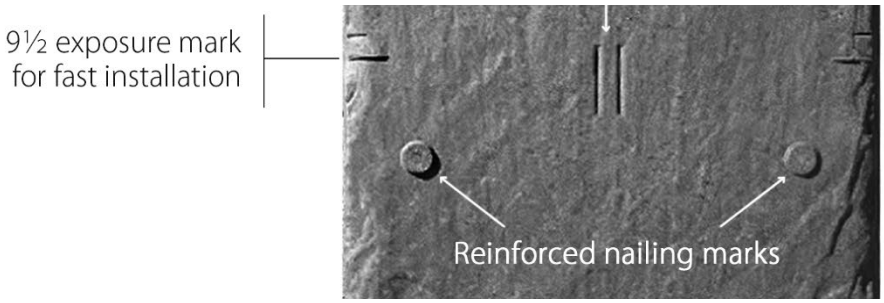
Polysand SyntheticSlate™ tiles are laid with a minimum headlap of 3". Before chalking the roof the installer should verify the tile pattern/exposure being installed. Chalk vertical and horizontal lines along the roof to ensure consistent exposure. The amount of eave overhang can be adjusted to achieve a good water flow into the gutter. It is necessary to use the chalk line to be sure that the first course is straight otherwise subsequent courses will not align properly.

Field Tiles.

Two fasteners must be placed in the marked nail target areas on each tile. Improper fastening can compromise the roof system and voids the manufacturer warranty.

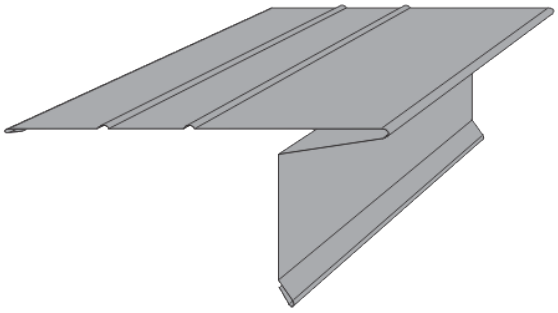
Spacer marks should be used to space tiles evenly with a minimum gap of ¼" and maximum of ½".

Exposure mark should be used for even 9 1/2" exposure. Nails have to be covered with the next course of the tiles and shouldn't be exposed.



Rake Edge flashing.

The gable flashing should be installed over the waterproof underlayment. Flashing must extend 5" onto the deck and 2" down over the fascia with a 1/2" hemmed edge.
"T" Type Drip Edge metal should be used for rake and eave edge.



Ridges and Hips.

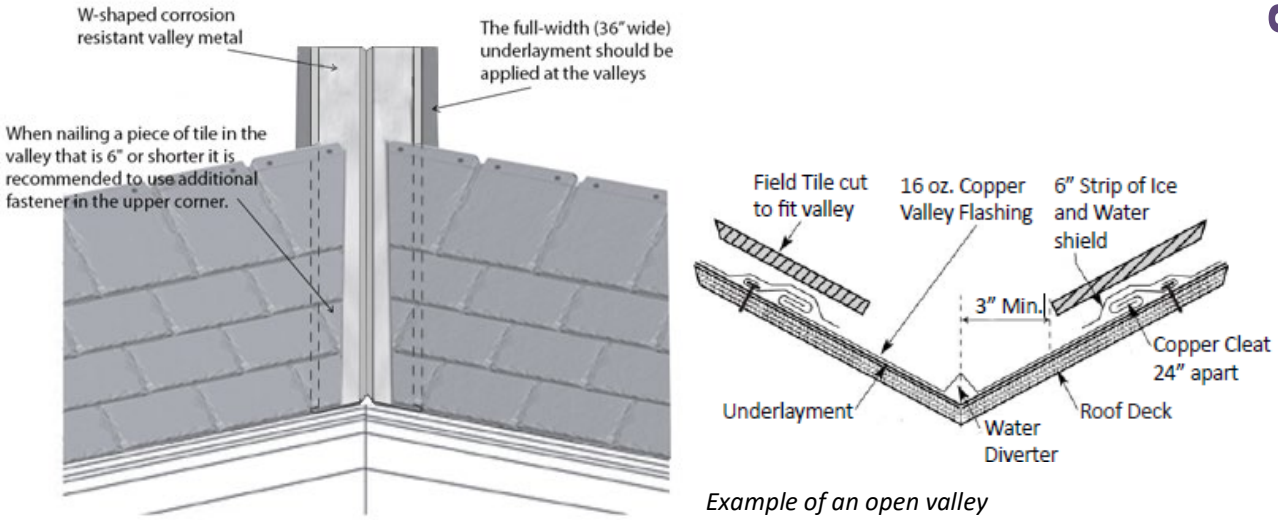
Polysand SyntheticSlate™ cap tile should be used on hip/ridges. Use 2 screws on each slate hip/ridge cap (one on each side). Use maximum 9 ½" exposure for the caps.
Use a chalk line or a string to install caps straight.

Polysand SyntheticSlate™ caps can be used with ridge vent systems. Good ventilation is necessary for extended life of the roof system. Polysand will not warranty an un-vented roof and/or improperly vented roof system

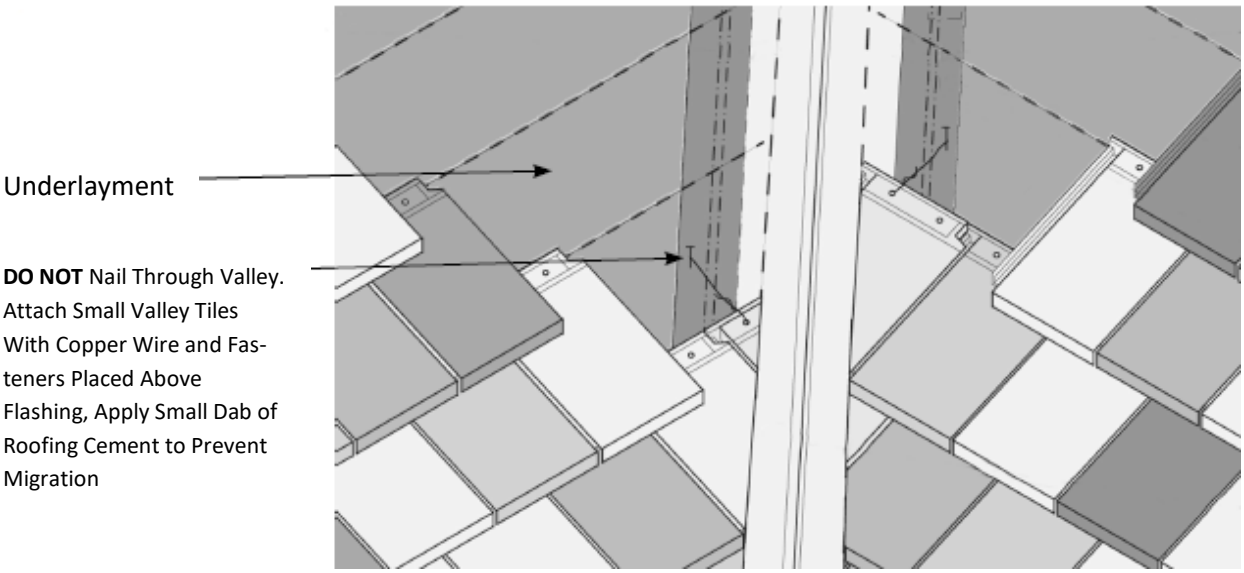
Valleys.

The full-width (36" wide) underlayment should be applied at the valleys. Fasteners should be kept back from the center of a valley by a minimum of 8 inches (200 mm). Valleys can be made of an open or closed design.

Open Valleys
Open valleys should be lined up with a sheet metal. A metal valley is constructed by installing lengths, typically 8 feet or 10 feet (2.4 m or 3 m) and minimum 18" wide of corrosion resistant metal through the valley. It is suggested that valley metal be formed with a "W"-shaped splash diverter or rib in the center (1" high).

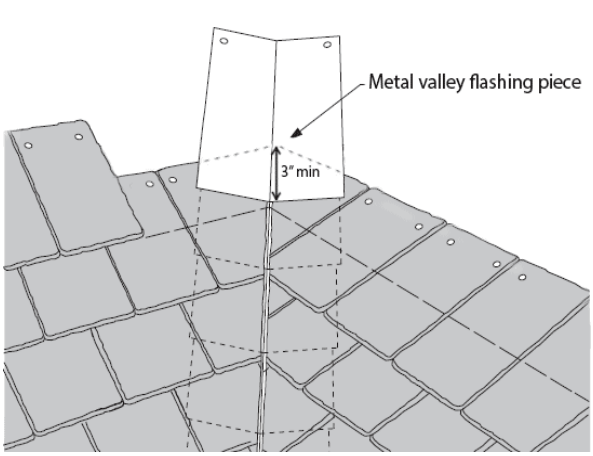


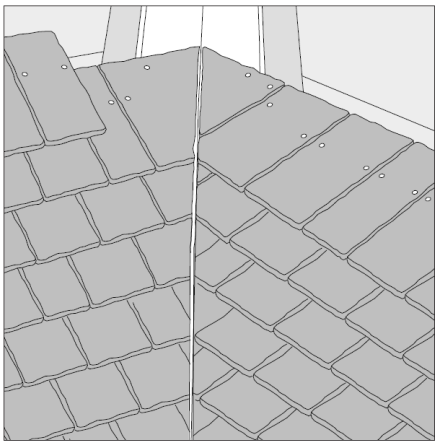
Example of an open valley



Closed Valleys.

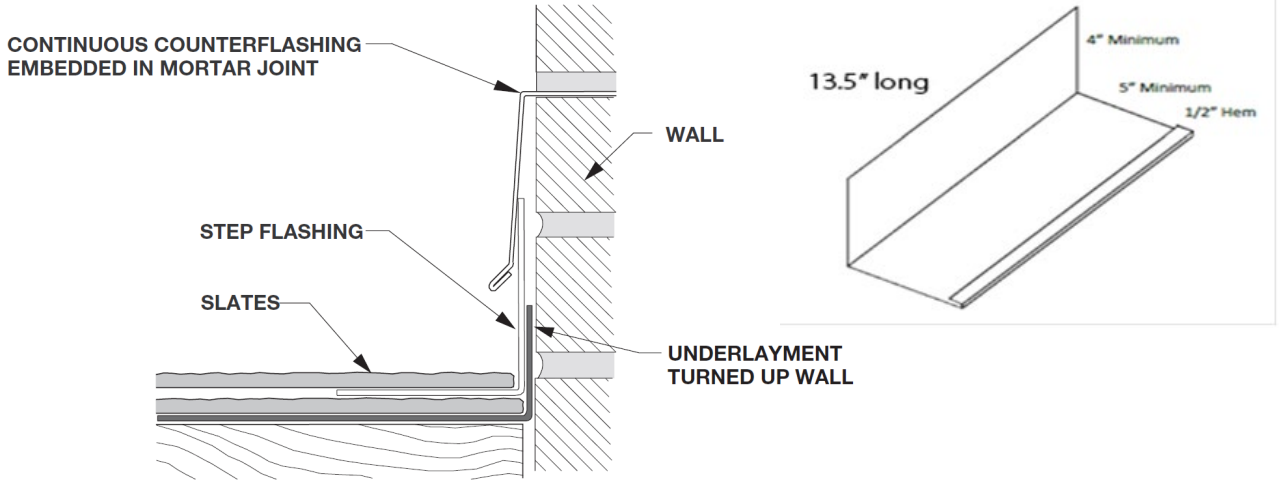
In a closed valley, tile on both sides are cut at an angle parallel to the center line of the valley and are butted together, forming a mitered joint. The size of the metal sheets to which the slate will be attached should be 15 inches long to be laid out in such a way as to extend at least 12 inches above the top of the slate course that will be applied to it so that the sheet will be nailed directly to the roof deck. Each metal sheet should extend downslope 1/2 inches short of overlaying slate. Each metal sheet should be wide enough to extend at least 5 inches from the center of the valley to the roof surface.





Wall Flashing.

When a roof intersects with a vertical wall, step flashing is installed at the end of each course of slate. It is suggested to use metal flashing not less than 13 inches long and 8 inches wide. A roofing underlayment should turn up the wall at least 4".



Side Wall Step Flashing

Chimney and Vents.

Before metal flashing is applied, an asphalt-saturated felt underlayment should be applied to a roof deck around a chimney. In moderate and severe climates, before the underlayment is applied, an ice dam protection membrane should be installed around the base of a chimney.

Plumbing vent stacks are flashed using a metal vent pipe flashing, soft metal or a flexible rubber flashing and woven into the slate tiles courses at the top of the slope.