



INSTALLATION GUIDE

NewTech Slate is a synthetic slate shingle carefully engineered to provide the authentic look and durability of natural slate . . . at a fraction of the cost and weight.

With its proprietary production technology and patent pending UV protection, NewTech Slate is the most realistic-looking synthetic slate shingle ever made . . . and will maintain its quality for years to come. Confirming its quality, NewTech has earned: 1. Weatherometer Test 2. Wind Resistance 3. Uplift-Bend Test 4. Penetration Test 5. Roof Classification Test 6. Temperature-cycling Test 7. Wind-driven Rain Test



GETTING STARTED

INSTALLATION

Eaves flashing should be installed on eaves and gable ends where applicable. Roof deck should be covered with

a minimum # 30 felt underlay or ice and water shield, where required. Use two nails per slate (in nailing location shown on the slates). Copper or stainless steel nails are recommended; if galvanized nails are used, they must be hot-dipped galvanized nails. Begin installing full slates in the lower left corner (or lower right corner for a left-handed roofer). The slates should be flush with the starter slates on the outer (rakes) and lower (eaves) edges. NewTech recommends 3/8" gap between shingles.

Two methods of installation are available: straight, in which the exposure of each slate is kept consistent, and staggered, in which the exposure varies (usually by a maximum of 1"). Use the alignment indicator at the top of the slate to help manage the exposure. An exposure of between 6" and 7 1/2" is acceptable for straight courses; between 6" and 7" for staggered courses. As you progress up the roof, be careful not to damage slates already in place. Put something, perhaps a cut slate, under toe irons (scaffolding brackets) to avoid scratching or marring the finish of the slate already installed below.

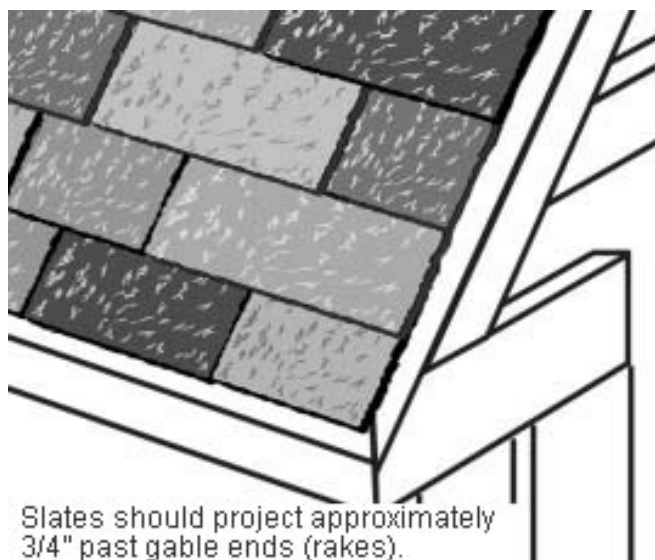
DECKING

NewTech Slate must be installed over solid decking. A minimum 15/32" plywood is recommended. A minimum 7/16" OSB or 1"X4" nominal lumber may be used instead of plywood if preferred. It is also recommended that all previous roofing materials be torn off prior to installation of NewTech Slate.

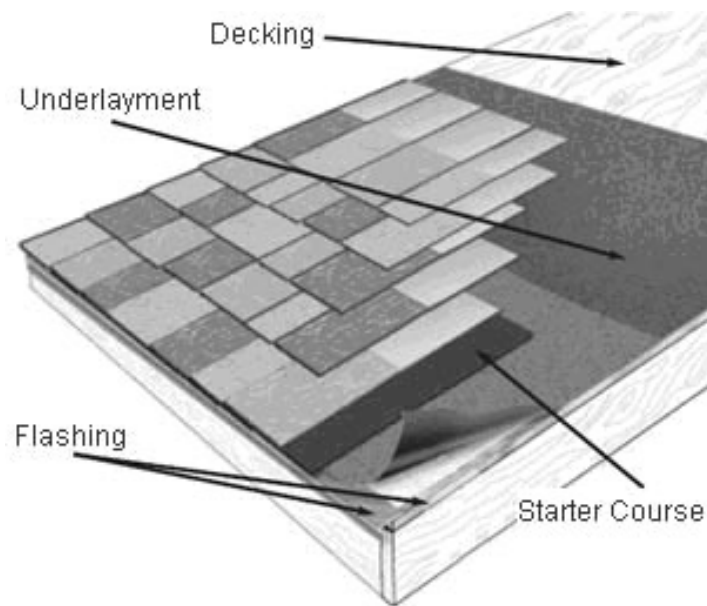
A minimum of one layer of 30 lb. non-perforated asphalt saturated felt, meeting requirements of ASTM D266 must be installed over the entire roof. In areas where the average daily temperature in January is 25 ° F or lower, ice and water shield is required on all eaves. In areas where ice build up is possible, we recommend ice and water shield be installed: two feet above the exterior wall line on all eaves, in all valleys, on all gable ends, around all roof projections

EAVES FLASHING

Copper is the recommended flashing material on eaves and rake edges, although 26-gauge-clad steel can also be used. Eaves flashing should be either "D" style or "A" style roof edging; NewTech recommends "A" style on rakes.



UNDERLAYMENT



Start with a row of 12"X18" NewTech Slates. The slates should extend approximately 1" over the eaves and 3/4" over the rakes. (If "D" style edging is used, NewTech Slates may be laid flush if preferred).

STARTER COURSE

GABLE ENDS/RAKES

When approaching the end of a course, it's best to avoid cutting shingles if possible. If your roofing design will require different widths for your shingles it is recommended to vary the combination and spacing between the slates and predetermined your end pieces prior

to actual installation. If cutting is required, slates should be cut so that the factory edge faces out on the gable end. Slates may be cut with a utility knife and straight edge or circular saw.

square will be required.)

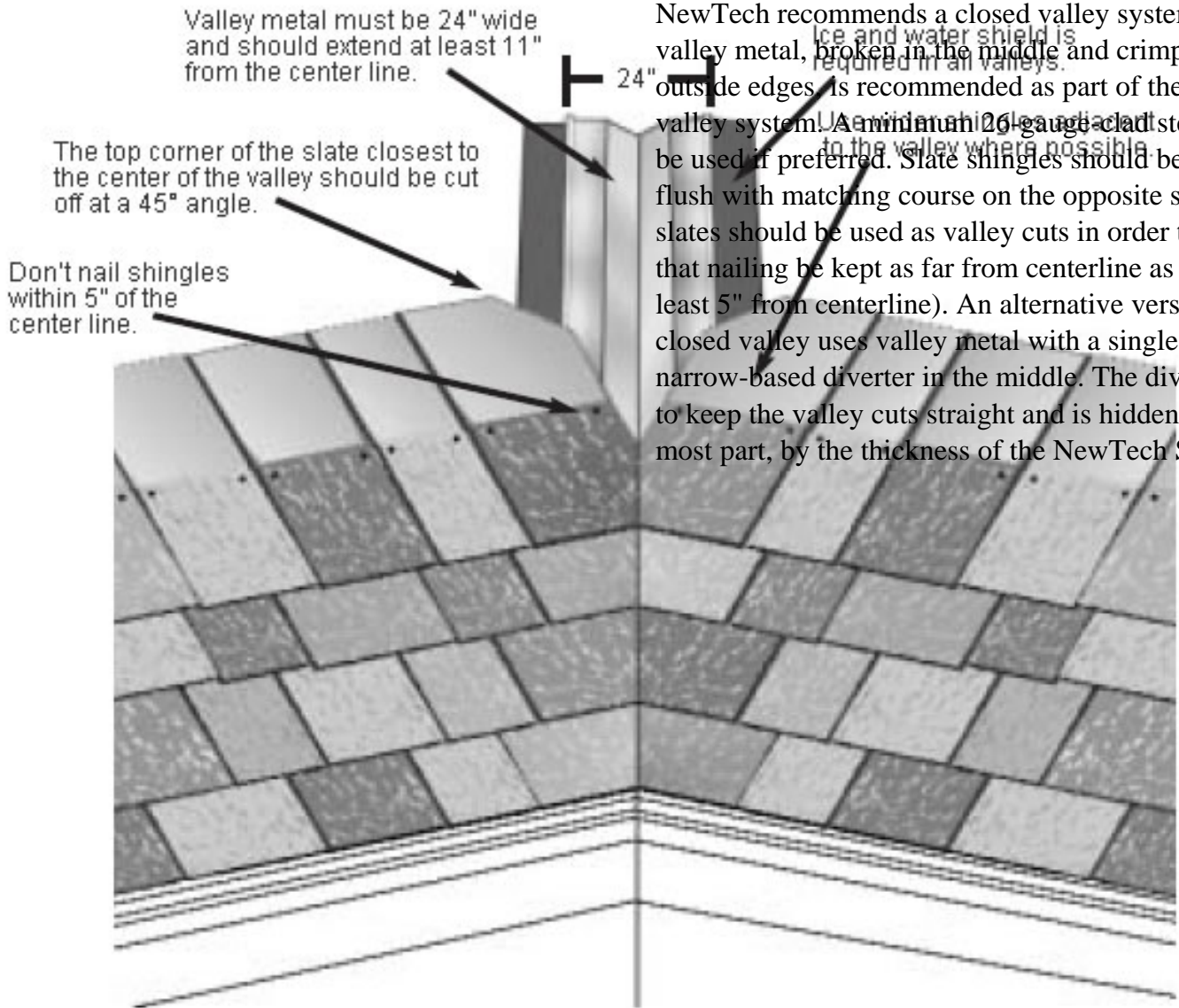
AVOID "CRACK ON CRACK"

The gap between two shingles in one course should never line up less than 1 1/2" from the gap between two shingles on the course below.

GAP

The recommended spacing between shingles is 3/8". To accommodate the natural expansion and contraction that occurs with temperature change, a minimum of 1/4" is required. (The number of shingles per square for NewTech Slate is based on the assumption of 3/8" spacing between slates. If spacing is less, more shingles per square will be required; if more, fewer shingles per

CLOSED VALLEYS

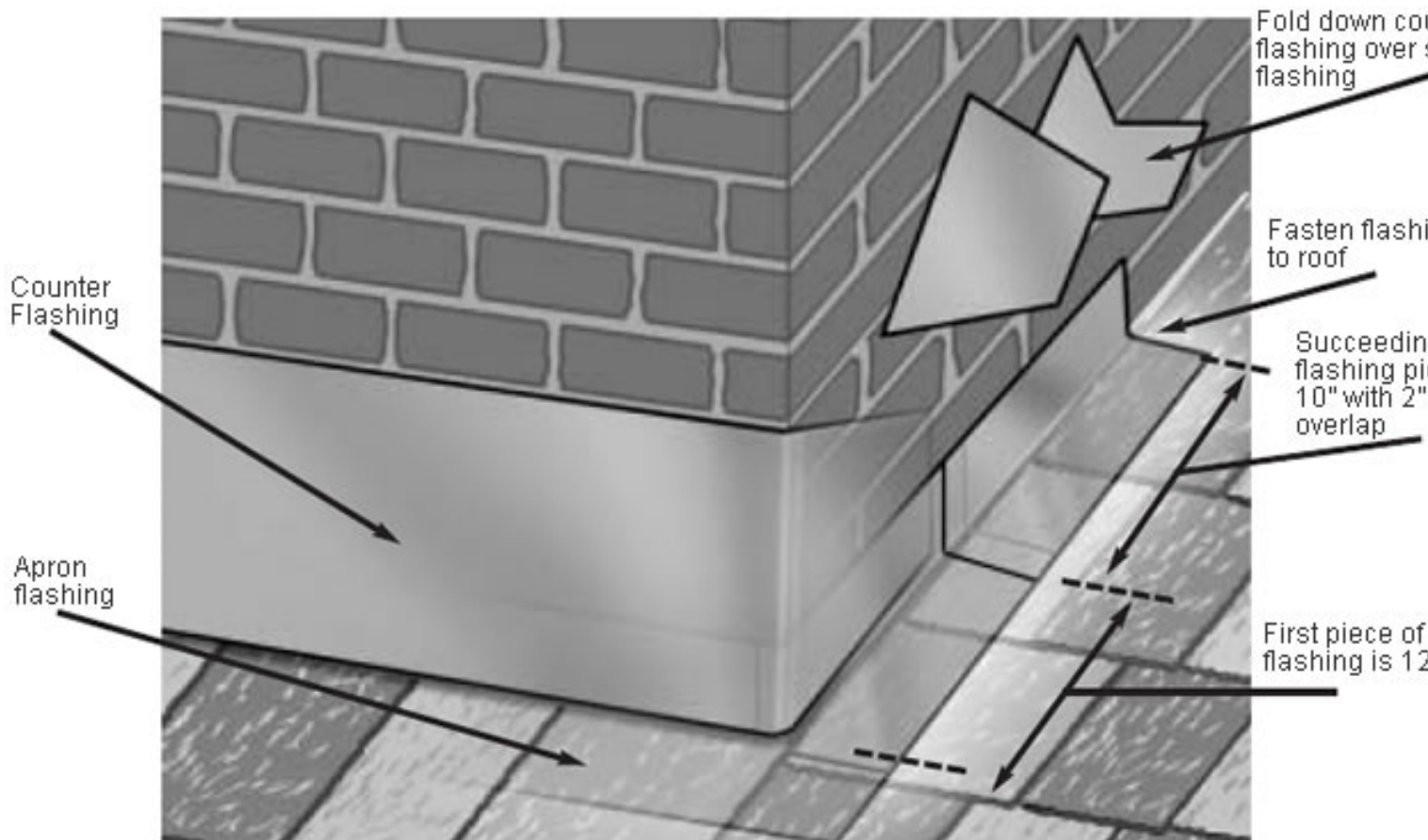


NewTech recommends a closed valley system. Copper valley metal, broken in the middle and crimped on the outside edges, is recommended as part of the closed valley system. A minimum 26-gauge-clad steel may also be used if preferred. Slate shingles should be cut to fit flush with matching course on the opposite side. Wider slates should be used as valley cuts in order to ensure that nailing be kept as far from centerline as possible (at least 5" from centerline). An alternative version of a closed valley uses valley metal with a single narrow-based diverter in the middle. The diverter helps to keep the valley cuts straight and is hidden, for the most part, by the thickness of the NewTech Slates.

Special Issues

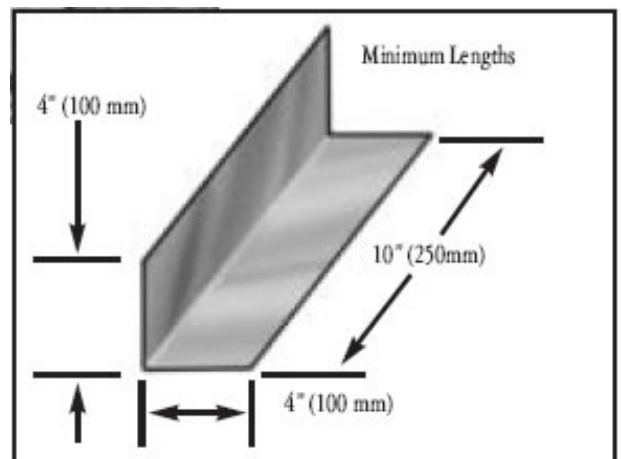
OPEN VALLEYS

Open valleys may be preferred. Copper valley metal broken with a one-inch diverter in the middle and crimped on the outside edges is recommended. A minimum 26-gauge-clad steel may also be used if preferred. In open valley applications, metal should be broken with a diverter at least 1" tall. Slates should be cut 3" from centerline. Valley metal with twin diverters may also be used.



FLASHING

Flashings should be used in all areas in which the roof abuts a vertical wall, dormer, chimney, skylight or other structural protrusion. Use the step flashing method, with copper metal or a minimum of 26-gauge-clad steel or metal. The flashing should extend 4" up vertical walls.

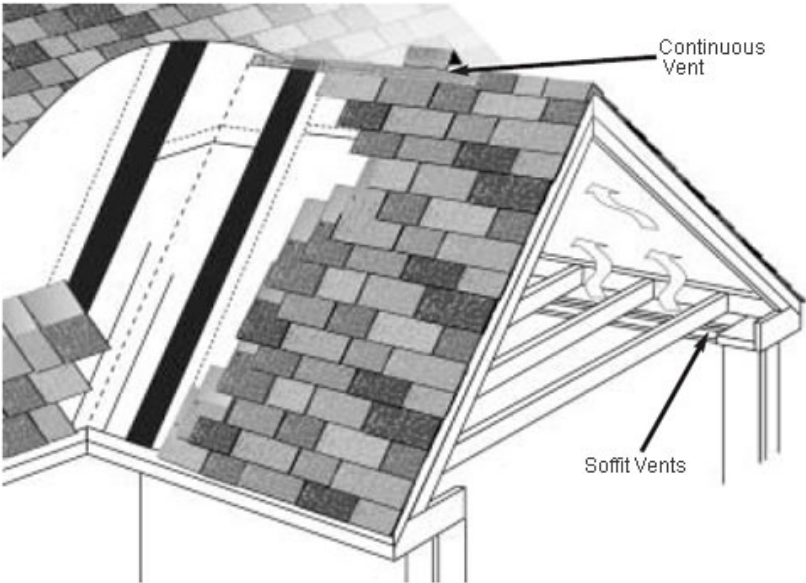


VENTILATION

Because modern houses are often built to be very weather-tight, ventilation is crucial. Insufficient ventilation can create significant moisture problems. Codes require that there should be one square foot of vent space for every 300 square feet of attic space. 50% of the venting should be at the eave line. NewTech recommends using continuous ridge and soft vents to ensure proper airflow.

Please note: if you're roofing a structure with cathedral ceilings, there must be an air channel

between the insulation and the decking.



Product Features

EXPOSURE

"NewTech" Slate Shingle exposure depends on two factors:

- 1)Roof Pitch.
- 2)Whether the slates are laid staggered or straight.

Roof Pitch	Staggered or Straight	Exposure
Less than 2":12"	Not recommended	Not recommended
2:12 to 4:12*	Straight or Staggered	6" maximum
4:12 to 6:12	Straight or Staggered	6" maximum
Greater than 6:12	Staggered	6"-7"
Greater than 6:12	Straight	6"-7 1/2"

*NewTech Slate Shingle is not recommended for slopes less than 2:12. For slopes between 2:12 and 4:12, an ice and water shield is required over the entire area.

Use these alignment guides with the top edge of the previous row of slates to control the exposure.

NAILING

Each shingle should be applied with two corrosion-resistant, 3/8" head x1 1/2" length nails. Slates can be nailed by hand or with a pneumatic nail gun. Don't overdrive nails or nail at an angle. Keep the head flush with the surface of the shingle to avoid creating "craters" which can collect moisture and can also prevent the exposed end of the shingle from lying flat.

NATURAL APPEARANCE

To produce the most contoured, realistic appearance, NewTech Slate is cast like actual slate shingles. Specially engineered reinforced ribs on the back of the shingle add stability and strength. Please Note: NewTech Slate is made flat, should be stored flat, and must not be installed unless it is flat and in its original form. If slates are not stored flat and become twisted or curled, lay them flat in a warm place and they will return to their original usable flatness. Damaged shingles should never be installed.



CUTTING

NewTech Slates can be cut with a utility knife and straight edge.

Circular saws (carbide blade, two teeth per inch) or cordless circular saws (a minimum of 18 volts is recommended) can also be used.

This information is provided for the use of professional roofing contractors. New Group Asia Construction Material Supply, INC. shall not be responsible for leaks or other roofing problems resulting from failure to follow these instructions.

For questions about NewTech Slate or their application, contact New Group Asia Construction Material Supply, INC.
USA: 1-888-359-2288
Canada: 1-877-359-2288

QUICK REFERENCE GUIDE

Issue	DaVinci Recommends	Acceptable Alternatives
Valley	Copper	26-gauge-clad metal
Flashing	Copper	26-gauge-clad metal
Starter Strip	Copper	26-gauge-clad metal
Nails	Copper	Stainless steel Hot-dipped galvanized

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