

INSTALLATION INSTRUCTIONS • WEST ASPHALT SHINGLES

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SECTION 1 GETTING READY FOR THE JOB



- 1.1 TOOLS AND MATERIALS
- 1.2 STORING SHINGLES
- 1.3 SAFETY
- 1.4 CARING FOR YOUR NEW ROOF

1.1 TOOLS AND MATERIALS

A – TOOLS

- Tape measure
- Chalk line
- Carpenter's square
- Hammer (roofer's hatchet or pneumatic nail gun)
- Utility knife to cut felts and roofing roll
- Tin snips to cut metal flashing and shingles
- Caulking gun
- Notched trowel
- Work gloves and nail apron
- Circular saw and chisel to repair or replace damaged decking
- Square-mouth shovel for removing old shingles
- Pry-bar for lifting hard-to-reach shingles and flashings
- 8 mm or 10 mm ($\frac{5}{16}$ " or $\frac{7}{16}$ ") nylon or polypropylene rope to secure the ladder and use as a safety line
- Safety harness
- A strong, safe ladder or scaffolding
- Cutting board to prevent accidentally cutting through the shingle into the roof
- Waste receptacle and broom for cleaning up

B – MATERIALS

- BP Shingles
- Galvanized roofing nails of proper length
- Asphalt plastic cement
- Eave protection (GRIPGARD, WEATHERTEX, BP Smooth or Slate Surface Roll Roofing)
- Underlayment (BP n°15 Lined or Plain Asphalt Felt, Standard Asphalt Sheathing, Shingle Base Underlayment, GRIPGARD, WEATHERTEX, DECKGARD or SUREDECK)
- Valley treatment or flashing (BP Slate Surface Roll Roofing, GRIPGARD or WEATHERTEX)
- Roof ventilators

1.2 STORING SHINGLES

Between the time of you accept delivery of your roofing materials and you install them, they may need to be stored. Following these few recommendations will protect your investment and ensure optimal results:

- Store shingles on a flat surface.
- Don't store shingles in the hot sun or leave them exposed in bad weather.
If the shingles must be stored outdoors, protect them with a tarp or plastic sheet.
Make a few holes in the sheets to allow air to circulate.
- Don't store shingles in extreme cold, especially prior to cutting or bending.
- Stack bundles on a raised platform, not directly on the ground.

1.3 SAFETY

As these instructions are not intended to address all the safety concerns, if any, associated with the installation of roofing shingles, it is the responsibility of the installer to establish appropriate safety and health practices, and determine the applicability of regulatory limitations prior to use.

Working on a roof can be dangerous. Read the following section carefully and take the necessary precautions at every stage to avoid any risk of accident. Falling is the primary, and most obvious, danger. If walking on the roof is difficult, it's probably because the slope is too steep for you to safely do the roofing work yourself.

First and foremost, make sure that you are fastened safely. To that end, you can obtain a safety harness with a large snap hook at your local tool rental centre. Fasten the thigh and chest straps, then clip it to a nylon or polypropylene line 8 mm to 10 mm ($\frac{5}{16}$ " to $\frac{7}{16}$ ") in diameter. Attach the other end of the line to a solid, immovable object on the other side of the roof. A strong tree or a 5 cm x 10 cm (2" x 4") board placed across the inside of a window frame provide reliable anchors for this purpose. Don't tie the rope to the chimney, TV antenna, or a car. Make a series of non-slip loops, at 1.2 m to 1.8 m (4' to 6') intervals between your harness and the ridge. As your work progresses across the roof, you can attach the safety harness to these loops. Use short lengths of hose or rubber to protect the rope from friction where it rubs against the ridge and eaves.

TO AVOID ELECTROCUTION

- Keep your ladder and all metal objects away from electrical wires, and make sure to never touch these wires.
- If you need to remove the TV antenna from the roof, don't do it yourself. Contact the company that installed the antenna. If the company does not provide this service, ask someone to help you. Be prudent and, most importantly, stay away from electrical wires.

WHEN WORKING WITH A LADDER

- Use a sturdy ladder long enough to extend at least 61 cm to 91 cm (2' to 3') above roof level so that you can hold on to the rails while climbing on and off the roof.
- Secure both sides of the ladder at the top and at the bottom.
- Don't lean too far away from the ladder to reach the next section of roof. It is safer to move the ladder.

GENERAL SAFETY GUIDELINES

- Avoid working alone on the roof but, if you can't, at least let someone know.
- Make sure that no one is standing under the roof where they could be hurt by falling objects.
- Avoid wearing loose-fitting clothing. Do wear rubber-soled shoes and protective glasses.

- Never work on a wet roof. Ideally, weather conditions should be mild, dry, and still.
- Make sure your ladder or scaffolding is set up on a flat, stable surface that is neither too muddy nor too dry.
- If you are working on a steep roof (slopes equal to or greater than 6/12), attach a flat retaining board to the roof with steel straps. On slopes greater than or equal to 15/12, a 4 cm x 9 cm (1 1/2" x 3 1/2"), a wood wedge can be placed under the board to provide a level foothold. The board can be moved around the roof as you work.
- Make sure that tools and materials placed on the roof cannot slide.
- Don't place heavy piles of shingles in one spot. Spread them around the roof to evenly distribute the weight.
- Don't take any unnecessary risks.

1.4 CARING FOR YOUR NEW ROOF

If you follow all the necessary steps, using high-quality premium materials, and doing a professional job, you will be proud of your new roof. After the job is done, you will be able to relax knowing that your work will enhance the value and appearance of your home.

Here are a few tips to ensure you get the best possible long-term performance from your new BP roof:

- Clean out the gutters from time to time, especially if there are trees nearby. This maintenance will prevent dead leaves, seeds, petals, pine needles, and other debris to accumulate.
- Don't let rainwater from downpipes spill directly onto a shingle roof. Connect downpipes from upper roofs to a gutter or downpipe that reaches the ground.
- Avoid walking on the roof. If it is necessary to do so, protect the shingles with boards or other appropriate materials, or by wearing soft-soled shoes.
- If you must climb on the roof to clear accumulated snow or ice, leave a few inches covering the shingles and be especially careful. Walking on a roof is always dangerous. Always take necessary safety precautions or have a roof specialist do the work. ●

Note: For further information refer to the *Roofing Specification Manual* of the Canadian Roofing Contractor's Association (CRCA) or of the National Roofing Contractor's Association (NRCA).

For more information concerning the installation of asphalt shingles, please refer to CSA A123.51.



BUILDING PRODUCTS OF CANADA CORP.

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If these Installation Instructions differ from instructions on packaging, this document is to be considered current. Please make sure to download the most up to date version of this document from the Building Products of Canada Corp. website www.bpcan.com. Please refer to local building codes for additional installation requirements.

To benefit from the BP shingle warranty, the shingles must be installed in accordance with these Installation Instructions.

SECTION 2

PREPARATION, PROTECTION OF VULNERABLE AREAS & VENTILATION



- 2.1 SLOPE
- 2.2 DECK
- 2.3 DRIP & RAKE EDGE
- 2.4 VENTILATION

2.1 SLOPE

FIGURE 1

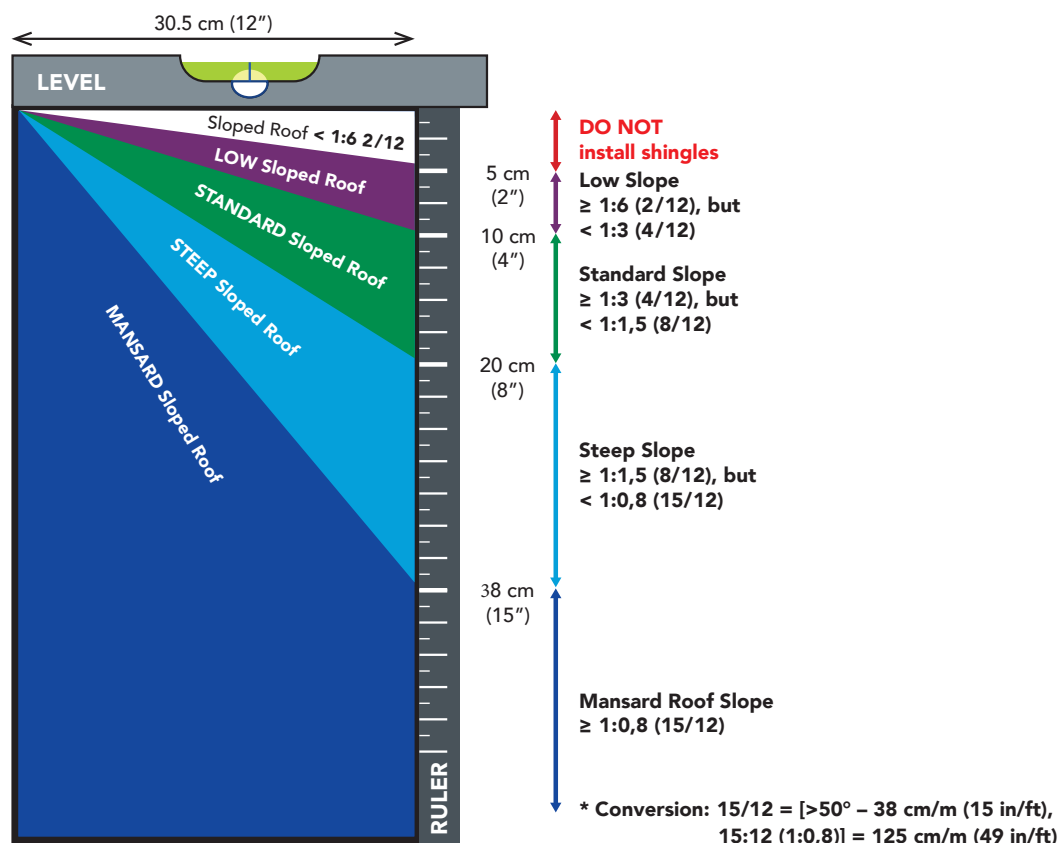


Figure 1 illustrates how to determine the slope of your roof. Place a ruler perpendicular to a well-balanced level on the 12" mark. The measurement reading on your ruler corresponds to the slope of your roof.

For slopes equal to or greater than 2/12 but less than 4/12, install the underlayment according to the special installation instructions for low slopes in **Section 3.3**.

For slopes equal to or greater than 4/12, install the underlayment according to the normal installation instructions for standard slopes in **Section 3.2.B**.

WARNING: Asphalt shingles must not be installed on roofs where the slope is less than 2/12.

See **Table 2** in **Section 3.2**.

2.2 DECK

Shingles must be installed on a smooth surface sturdy enough to hold nails. Plywood or oriented strand board (OSB) must meet local or national building codes. Plywood should be at least 1 cm ($\frac{3}{8}$ ") thick, laid on supports placed every 61 cm (24 ") between the axes. When shingles are installed on boards, the boards must be no wider than 15.2 cm (6").

Failure to use proper materials can undermine the stability of the roof, resulting in deformed or broken sheathing materials. Decks that are warped or buckled should be replaced because these defects can cause shingles to buckle, in which case they will not be covered by warranty.

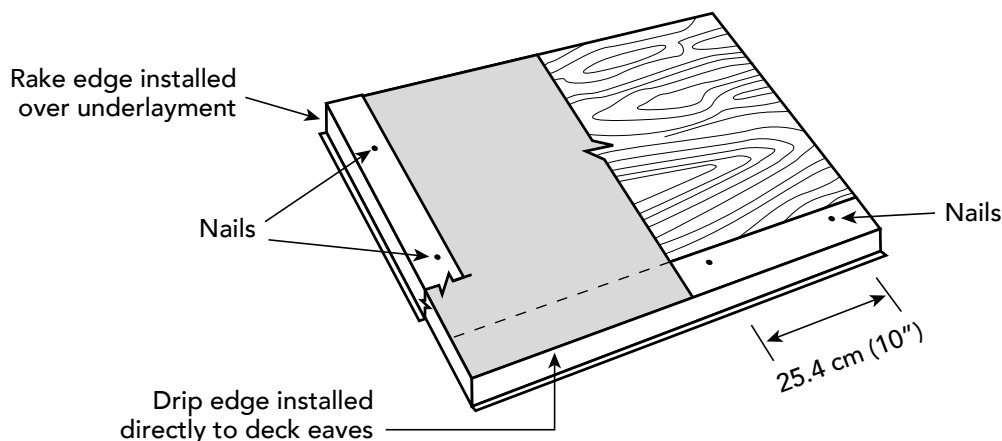
The natural reaction of wood to humidity may also cause the shingles to buckle in varying degrees. If, however, leaks occur due to buckling [caused by humidity], it is not the fault of the shingles but of the deck itself. As any problem related to the deck may invalidate the warranty, it is recommended that plywood sheathing be applied over tongue-and-groove boards before installing shingles.

Finally, shingles must not be nailed directly to insulation.

2.3 DRIP AND RAKE EDGE

Apply a vinyl or metal (galvanized steel or sheet copper) drip edge along the eaves and rake edges. At the eaves, nail the drip edge directly to the deck. At the rake edges, install the drip edge over the underlayment. Nail at intervals of 20 cm to 25 cm (8" to 10") (see **Figure 2**).

FIGURE
2



2.4 VENTILATION

To prevent damp air from getting trapped beneath the deck, all roof structures must have through ventilation mechanisms. For conventional roofs, the ratio of unobstructed vents to the total insulated ceiling area must be at least 1/300 sq. ft. Some building codes include stricter requirements. In the case of low sloped roofs (i.e., equal to or greater than 2/12 but less than 4/12) and cathedral ceilings, the required ventilation ratio is at least 1/150 sq. ft. Vents should be distributed as follows: 55% at the base of the roof (soffits) for air inflow and 45% at the ridge for air outflow.

The shingle warranty will only be valid if your roof has proper through ventilation.

To ensure adequate ventilation, anything that obstructs the free circulation of air should be taken into account. Consult the specifications provided by the vent manufacturer to determine the net free area of ventilation and how to position vents to ensure that they are effective and that one does not impede the effectiveness of the others. ●



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SECTION 3 GENERAL INSTRUCTIONS



3.1 THE BASICS

- A. Nails
- B. Asphalt plastic cement
- C. Protective Tape
- D. Installation on slopes $\geq 15/12$
- E. High Wind Warranty
- F. Cold Weather Installation
- G. Installation Over Existing Layer of Shingles
- H. Ventilation

3.2 EAVE & UNDERLAYMENT PROTECTION

3.3 UNDERLAYMENTS FOR LOW SLOPE SHINGLE INSTALLATION (FROM $\geq 2/12$ TO $< 4/12$)

3.4 UNDERLAYMENTS FOR STANDARD SLOPE SHINGLE INSTALLATION ($\geq 4/12$)

3.5 VALLEY PREPARATION & INSTALLATION

3.6 FLASHING

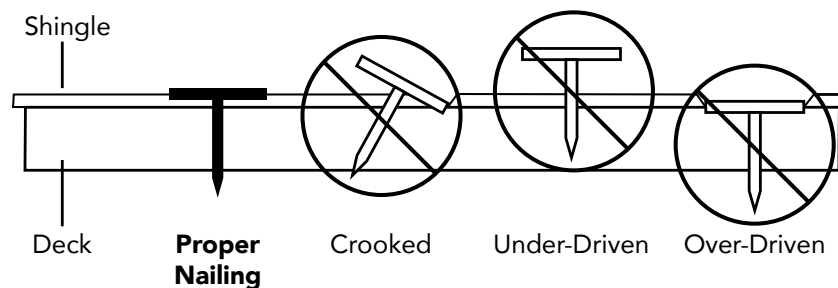
3.7 HIP AND RIDGE

3.1 THE BASICS

A. NAILS

For all types of shingles, use 10 to 12 gauge galvanized nails with at least a 9 mm ($3/8$ ") head, i.e., long enough to penetrate a minimum of 19 mm ($3/4$ ") into solid wood deck or just through the plywood deck. Staples are not recommended for installing shingles. Raised nails can result in shingle distortion and may prevent sealing. Drive nails until they are flush with the surface. Do not overdrive nails. For 3-tab shingles, do not drive nails into the sealant band because this may prevent shingles from sticking together (see **Figure 3**).

FIGURE 3



B. ASPHALT PLASTIC CEMENT

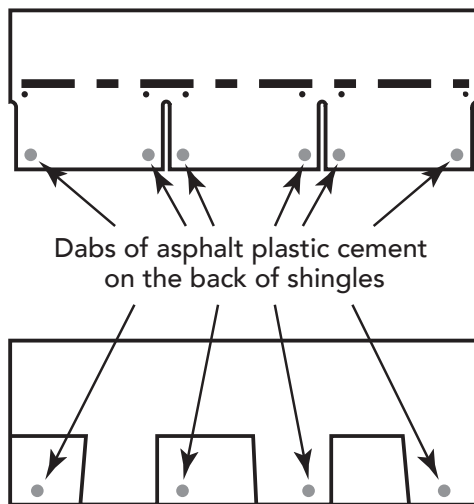
Use an asphalt plastic cement that respects the CAN/CGSB 37.5-M89 and/or ASTM D-4586 standard(s). Use a glue comb or notched trowel to apply a thin even coating (less than 2 mm or 1/16" thick) of asphalt plastic cement. Overusing asphalt plastic cement can damage the shingles.

IMPORTANT: Shingles have factory-applied sealant bands that are activated thermally. Certain conditions can undermine the effectiveness of the adhesive and its ability to keep shingles down and prevent wind blow-offs.

SHINGLES MUST BE CEMENTED DOWN IF INSTALLED

- in high wind areas;
- on slopes equal to or greater than 15/12 (see **Section 3.1-D** and **Figure 4**);
- when the outside temperature at the time of installation is not high enough to activate the sealant band (see **Section 3.1-F**); and
- in areas subject to high dust conditions.

FIGURE
4



When cementing shingles is recommended, apply a small dab of asphalt plastic cement the size and thickness of a 25¢ or a bead 16 mm (5/8") long and 1.5 mm (1/16" thick 2.5 cm (1") 30 cm (12") in from each end. Press the shingles firmly into asphalt plastic cement (see **Figure 4**).

C. PROTECTIVE TAPE

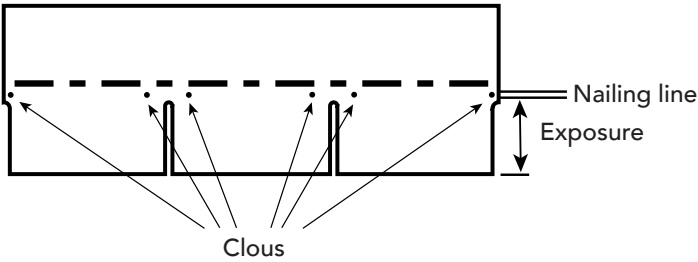
Do not remove protective tape from the back of shingles. The purpose of this tape is to prevent shingles from sticking together while bundled but does not affect shingle installation or effectiveness.

D. INSTALLATION ON SLOPES $\geq 15/12$

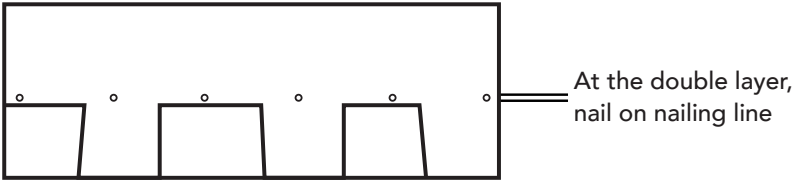
On roofs with very steep slopes, use six (6) nails per shingle instead of four (4), and at the centre of the double layer of laminate shingles. For nailing positions, consult **Section 4** for 3-tab shingles and **Section 5** and **Figure 5** for laminate shingles. After nailing, apply a small dab of asphalt plastic cement (see **Section 3.1-B**). Note that excess application of asphalt plastic cement can cause blistering. For laminate shingles, apply asphalt plastic cement 2.5 cm (1") and 30 cm (12") from each edge for a total of four dabs. Press the shingles firmly into asphalt plastic cement (see **Figure 4** and **5**).

FIGURE 5

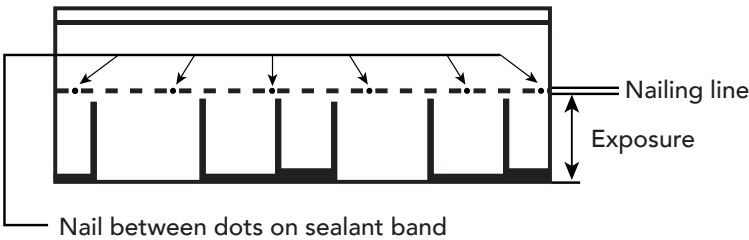
3-TAB SHINGLES
Yukon SB and Dakota



LAMINATE SHINGLES
Mystique 42 and Vangard 42



LAMINATE SHINGLES
Manoir



E. HIGH WIND WARRANTY INSTALLATION

To qualify for the High Wind Warranty, which applies to wind damage or shingle displacement from winds of between 200 km/h (125 mph) for 3-tab shingles and 220 km/h (135 mph) for laminate shingles, shingles must be secured with 6 nails. In addition, all shingles located on the roof perimeter must be cemented with a layer of asphalt plastic cement 10 cm (4") wide. If the above special installation instructions are not followed, the warranty will only cover shingles for winds up to 180 km/h (110 mph). **Table 1** details the maximum wind speeds covered by warranty depending on the type of installation and the type of shingle.

TABLE 1

WIND DAMAGE WARRANTY		
SHINGLES	STANDARD INSTALLATION	HIGH WIND INSTALLATION
Vangard 42 IR Manoir Mystique 42	180 km/h (110 mph)	220 km/h (135 mph)
Yukon SB Dakota	115 km/h (70 mph)	130 km/h (80 mph)

F. COLD WEATHER INSTALLATION

The self-sealing shingles come with sealant bands that must be exposed to temperature sufficiently high to be activated. If weather conditions are too cold when shingles are installed, shingles should be cemented manually using dabs of asphalt plastic cement on each exposure as specified by the CSA A123.51-M85 standard. See **Section 3.1-B** and **Figure 4** for how to apply the asphalt plastic cement.

G. INSTALLATION OVER EXISTING LAYER OF SHINGLES

To install new shingles over old, roofs must be thoroughly dry and provide a smooth surface. Replace all damaged, curled, broken, buckled, or loose shingles, and sweep away all debris with a broom. Nails must be long enough to penetrate at least 19 mm ($\frac{3}{4}$ ") into solid wood decking or just through plywood. Apply new shingles using a butt-edge (nesting) method where the top of the new shingle is nested against the bottom of the exposed portion of the old roofing shingle.

This type of installation must meet local regulations and building codes. Load restrictions must be considered before installing any additional layer of roofing material.

When considering whether you should install asphalt shingles over old shingles...

- Verify that the deck is sufficiently solid to support an additional layer of shingles. Check your local building code because, given the danger of overloading the supporting structure, some municipalities forbid re-roofing over two or more layers of shingles.
- Check the underside of the deck for boards that are rotten or warped and must be replaced;
- Inspect the roof system to ensure that there are no moisture retention problems and that it will meet minimum ventilation requirements.
- Check the condition of the old shingles and remove or drive in any protruding nails. Any defects in the old layer of shingles may transfer to the new layer. BP assumes no responsibility for aesthetic problems that typically arise due to multiple-layer installation.
- Consider using longer nails that can penetrate the roof deck.
- Hip and ridge shingles of the existing roof must be removed before installing new shingles.

H. VENTILATION

To prevent damp air from being trapped beneath the deck, all roof structures must have through ventilation. Ventilation provisions must meet or exceed current National Building Code requirements in Canada or the United States. In general, most building codes require that empty roof spaces (rafters) located above an insulated ceiling must have a ratio of unobstructed vents to the total insulated ceiling area of at least 1/300 sq. ft. That said, the ratio may vary. For example, a low sloped roof or cathedral ceilings require twice (2x) the ventilation or a ratio of at least 1/150 sq. ft. You can use roof-type, eave-type, or gable-end type vents, or any combination of these types, uniformly distributing them so that one does not impede the effectiveness of another. When calculating the net free area (unobstructed open area), be sure to factor in any obstacle to free air circulation including screens, grids, louvers, and blades.

There must be at least 5 cm (2") of space between the insulation in the rafters and the deck. If you insulated your rafters without taking ventilation into account, perforated soffits may not do the job they're intended to do.

The shingle warranty will only be valid if the roof has proper through ventilation.

3.2 EAVE & UNDERLAYMENT PROTECTION

A. EAVE PROTECTION

Apply a non-corrosive metal drip edge at the eaves (see **Section 2.3**) Next, starting at the drip edge, install a GRIPGARD or WEATHERTEX eave protector or BP Slate or Smooth Surface Roll Roofing.

Start at the low point of the roof, the bottom, and work upward. Install the eave protection membrane horizontally, extending it upwards from the eaves to a point at least 30.5 cm (12") beyond the interior wall line (see **Figure 6**). On low sloped roofs (i.e., with slope equal to or greater than 2/12 to under 4/12), the eave protection membrane must extend at least 61 cm (24") beyond the inside surface of the exterior wall of the house (see **Figure 7**). As the minimum requirement may vary depending on location, consult your local building code for specifications.

FIGURE
6

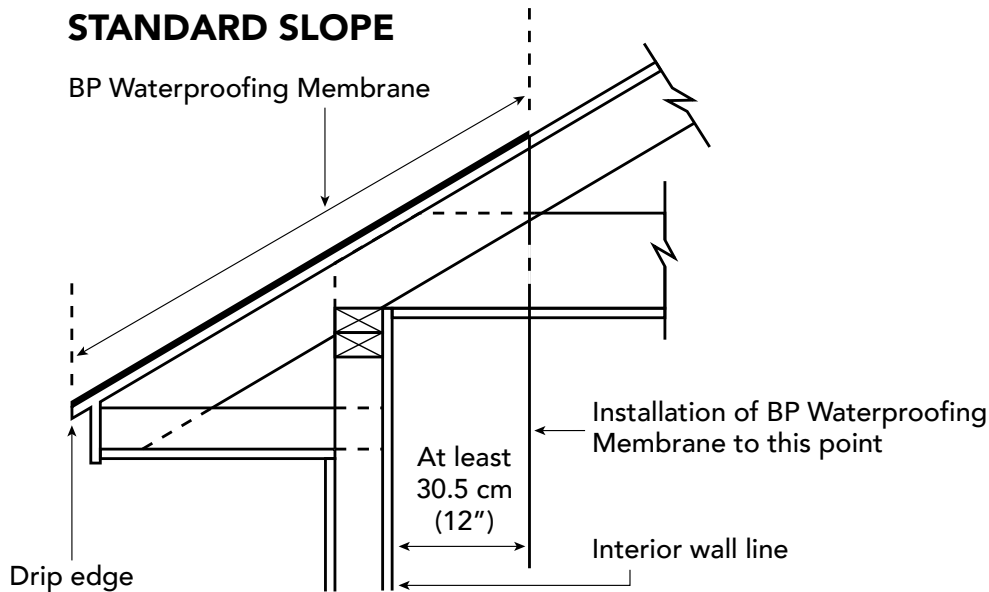
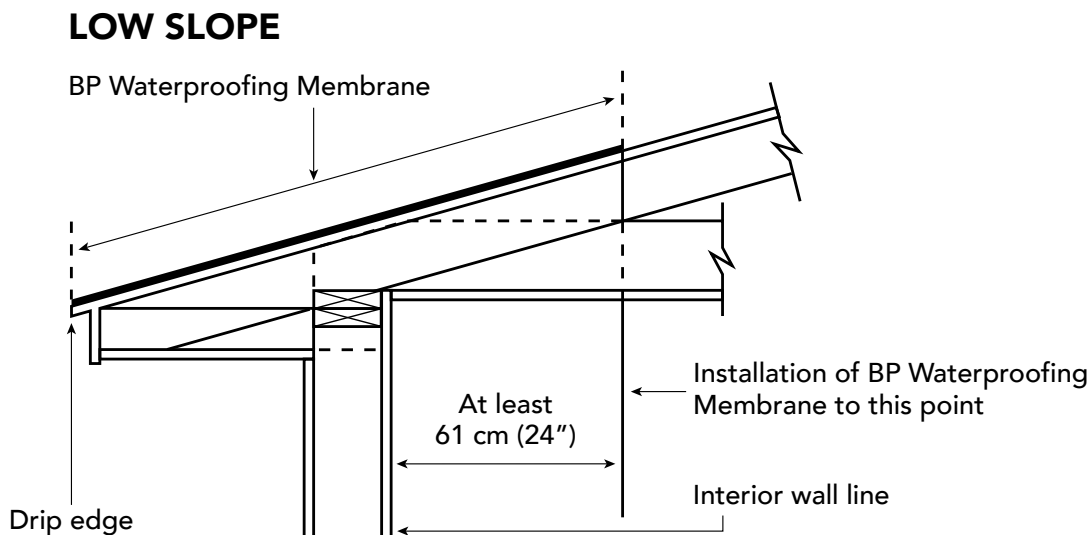


FIGURE
7



Be sure to

- 1) Cut the eave protection membrane into lengths of 3 m to 4.5 m (10' to 15').
- 2) Align this material along the edge of the roof and re-roll.

For self-adhering membranes

- 3-a] Peel back approximately 30.5 cm (12") of protective film and affix the exposed area. Re-roll to the applied portion.
- 3-b] Pull on the protective film to unroll the eave protection membrane and press the material into place to ensure a tight seal. If the membrane deviates from the roof line, cut and resume the procedure described above.
- 3-c] Ends must measure at least 15.2 cm (6") and sides at least 7.6 cm (3"). The ends of GRIPGARD membranes must be sealed using a 10 cm (4")-wide, thin, and uniform layer of asphalt plastic cement.

For Slate or Smooth Surface Roll Roofing

- 4-a] Seal the roll roofing along the eave edge with a 10 cm (4")-wide, thin, and uniform layer of asphalt plastic cement.
- 4-b] Ends must measure at least 15.2 cm (6") and sides at least 7.6 cm (3"). Slate or Smooth Surface Roll Roofing must be sealed with a 10 cm (4")-wide, thin, and uniform layer of asphalt plastic cement.

B. UNDERLAYMENT

See **Table 2** (see next page) for underlayment specifications for BP Shingles.

To meet minimum fire-resistance standards, the use of underlayment is mandatory under BP shingles. The purpose of shingles is to shed water as well as to protect against rain that can be driven by wind beneath the shingles. Thus, even when optional, we strongly recommend installing an underlayment over the entire roof deck. Installed horizontally to cover the whole roof deck, GRIPGARD and WEATHERTEX, BP's n°15 Lined or Plain Asphalt Felt, or DECKGARD or SUREDECK are all suitable underlayment products.

FIGURE
8

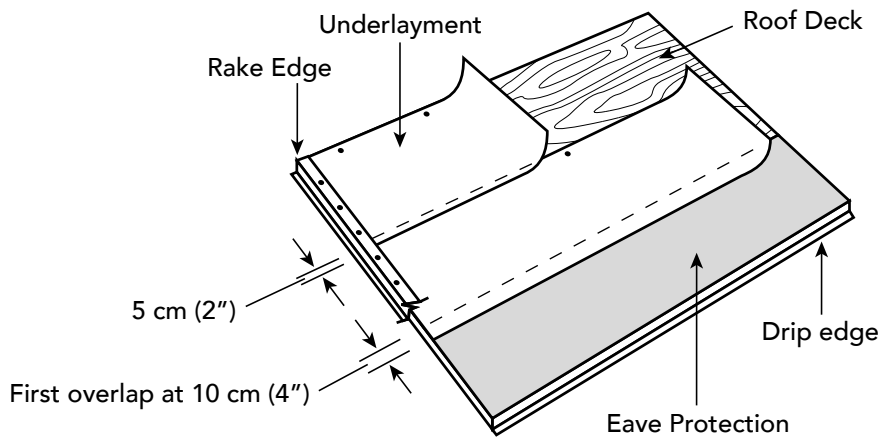


TABLE
2

RECOMMENDATIONS AND REQUIREMENTS FOR BP SHINGLES							
SLOPE	SHINGLE MODEL	EAVE PROTECTION		UNDERLAYMENT		DOCUMENTATION	
		MINIMUM REQUIREMENTS	PRODUCTS	MINIMUM REQUIREMENTS	PRODUCTS	BP	OTHERS
< 1:6 (2/12)	Shingles cannot be installed.	n/a	n/a	n/a	n/a	n/a	n/a
≥ 1:6 (2/12) et < 1:3 (4/12)* Low Slope	All models of BP Shingles	REQUIRED Extend 61 cm (24") beyond inner face of exterior wall	• Gripgard • Weathertex	REQUIRED 1 ply of self-adhesive membrane or 2 plies felt or synthetic membrane	• Gripgard • Weathertex • 1 Ply n°15 Plain Felt	Installation Instructions Sections [R5] 3.2 and 3.3.	National building code, Section 9.26 NBC SEC 9.26.5; 9.26.6; 9.26.8.
≥ 1:3 (4/12) et < 1:2 (6/12) Standard Slope		REQUIRED Extend 30.5 cm (12") beyond inner face of exterior wall	• Smooth Surface • Slate Surface	RECOMMENDED 1 ply of self-adhesive membrane or 1 ply felt or synthetic membrane	• Lined Felt n°15 • Deckgard • Suredeck	Installation Instructions Sections [R5] 3.3 and 5.	National building code, Section 9.26 NBC SEC 9.26.5; 9.26.6; 9.26.7.
≥ 1:2 (6/12) Standard Slope		RECOMMENDED Extend 30.5 cm (12") beyond inner face of exterior wall				Installation Instructions Sections [R5] 3, 4 and 5.	CSA CSA A123.5 CSA A123.51 CSA A123.2 CSA A123.3 CSA A123.22

* Special application required for low sloped roofs.

For more information about BP products, please visit www.bpcan.com.

Install the underlayment over the entire deck surface by placing the longest side parallel to the eave. For GRIPGARD and WEATHERTEX membranes, overlap sheets vertically by 15.2 cm (6") and horizontally by 7.6 cm (3"); 10 cm (4") for DECKGARD and SUREDECK membranes, or 5 cm (2") for BP's n°15 Lined or Plain Asphalt Felt (see **Figure 8**). Use enough nails to hold the underlayment in place until the shingles are applied. When using BP no 15 Lined or Plain Asphalt Felt, Building Products of Canada Corp. recommends installing the shingles the same day to prevent the underlayment from getting wet or wrinkled, in which case it should be discarded and replaced before installing shingles.

3.3 UNDERLAYMENTS FOR LOW SLOPE SHINGLE INSTALLATION

The following instructions apply when installing BP shingles on slopes equal to or greater than 1:6 (2/12) but less than 1:3 (4/12). See **Section 2.1**.

METHOD 1

For optimal protection against water infiltration, use a single ply of GRIPGARD or WEATHERTEX — very resistant self-adhering waterproofing membranes — as an underlayment. These membranes are applied by peeling off the backing as it is unrolled.

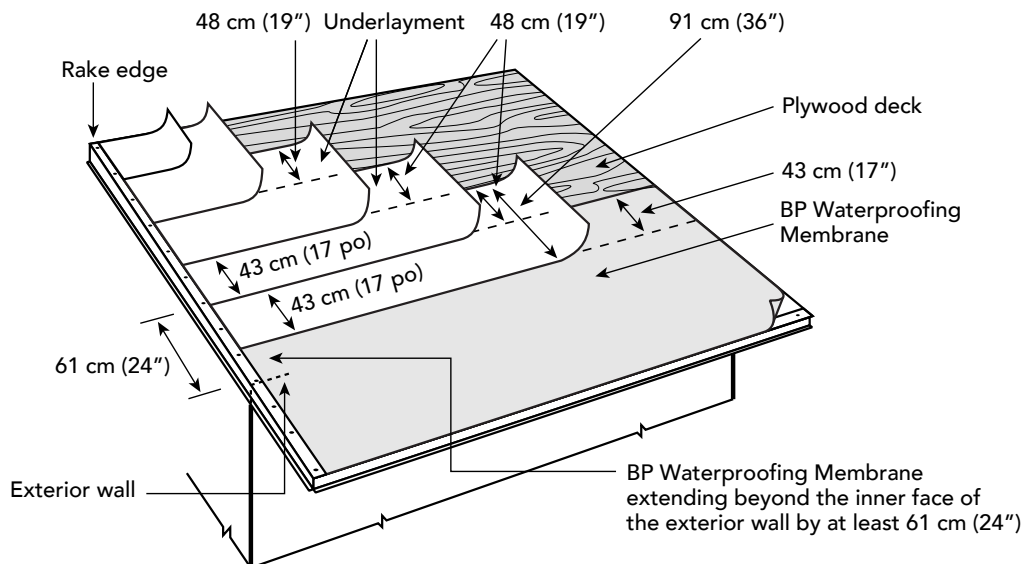
Starting at drip edge, apply GRIPGARD or WEATHERTEX by laying the roll horizontally, ensuring that the membrane overlaps the ends by at least 15 cm (6"). If you use GRIPGARD membrane, seal the ends with a 10 cm (4")-wide, thin, and uniform layer of asphalt plastic cement. If you use WEATHERTEX membrane, sealing the ends is not necessary. Regardless of whether you use GRIPGARD or WEATHERTEX membranes, each succeeding row should be lapped over the preceding, lower row by at least 7.6 cm (3"). Felt underlayment is not required when GRIPGARD or WEATHERTEX is installed over the entire roof.

METHOD 2

Starting from the drip edge and working toward the roof, extend GRIPGARD or WEATHERTEX beyond the inner face of the exterior wall by at least 61 cm (24"). The ends should overlap by at least (6").

If more than one width is required, overlap the second row 7.6 cm (3") over the first for GRIPGARD or WEATHERTEX (see **Figure 9**).

FIGURE 9



Next, install the underlayment, using either a double layer of BP n°15 Lined or Plain Asphalt Felt or a DECKGARD, WEATHERTEX or SUREDECK membrane. Lay horizontally over the rest of the deck to cover the entire roof with underlayment. Start by laying a sheet 91 cm (36") wide so that it overlaps the GRIPGARD or WEATHERTEX membrane by 43 cm (17"). To facilitate shingle installation, the first layer can also completely cover the eave protection. Apply a second sheet of the same width, overlapping the first by 48 cm (19") and leaving 43 cm (17") exposed. Continue to lay the 91 cm (36") sheets, each overlapping the preceding by 48 cm (19"), until the rest of the deck has been covered. Use enough nails to hold each sheet in place until the shingles are applied (see **Figure 9**).

3.4 UNDERLAYMENTS FOR STANDARD SLOPE SHINGLE INSTALLATION

For optimal protection on roofs with slopes equal to or greater than 4/12 and easily up to 8/12, installing a single layer of underlayment of either BP n°15 Lined or Plain Asphalt Felt or a GRIPGARD, WEATHERTEX, DECKGARD, or SUREDECK membrane is recommended.

Install the underlayment over the entire surface of the deck by placing the longest side parallel to the eaves. For GRIPGARD and WEATHERTEX membranes, overlap sheets vertically by 15.2 cm (6") and horizontally by 7.6 cm (3"); 10 cm (4") DECKGARD and SUREDECK membranes or 5 cm (2") for BP n°15 Lined or Plain Asphalt Felt (see **Figure 8**). Use enough nails to hold the underlayment in place until the shingles are applied.

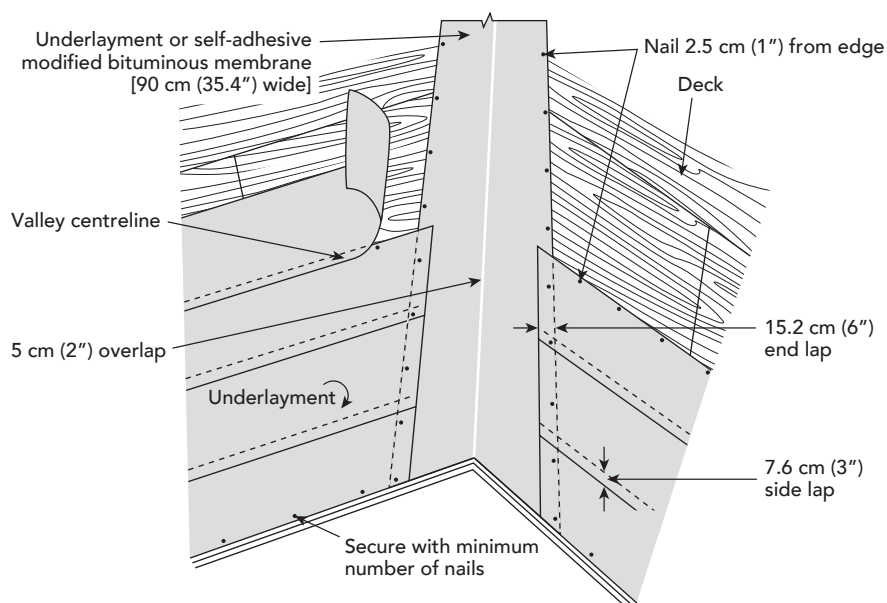
3.5 VALLEY PREPARATION & INSTALLATION

A. VALLEY PREPARATION

Valleys may be open, closed, or woven (**woven valleys are not recommended for laminate shingles**). Regardless of the type of valley selected, the valley flashing, which should be corrosion-resistant, must be in place before beginning shingle installation. For proper water flow, start shingle application on roof's lowest and least inclined point.

After installing eave protection but before installing the underlayment, apply valley flashing by first installing along the valley centre a strip of GRIPGARD or WEATHERTEX at least 91 cm (36") wide, or other underlayment material, and secure with enough nails to hold in place. If necessary, trim horizontal courses of underlayment so that they overlap valley strip by at least 15.2 cm (6"). At joints, overlap valley flashing at least 30 cm (11.8") in direction of water flow. If the flashing is made from underlayment, completely seal the overlapping part with asphalt roofing cement (see **Figure 10**).

FIGURE
10

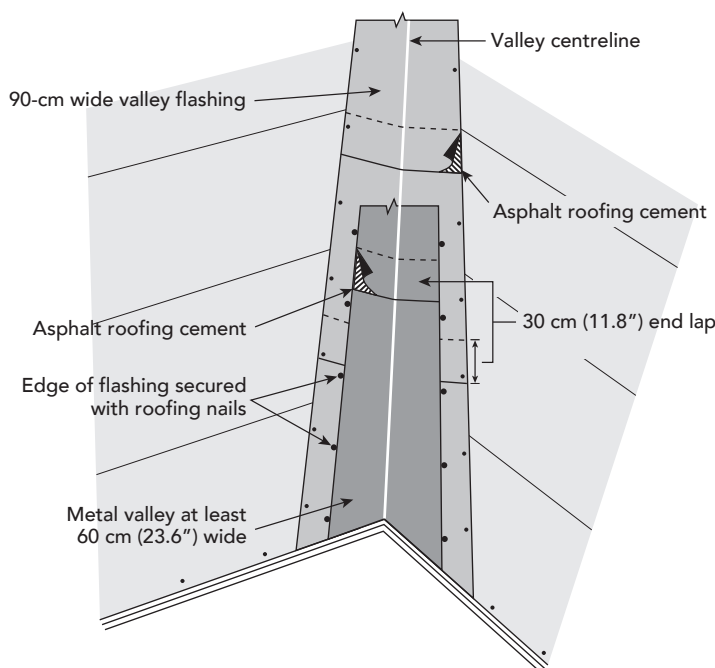


B. VALLEY TRIM

Metal-trimmed open valleys

Metal trim must be at least 60 cm (23.6") wide and 3 m (118") long. Valleys must be made of one thickness of metal and shaped so that they guide water away from the shingles.

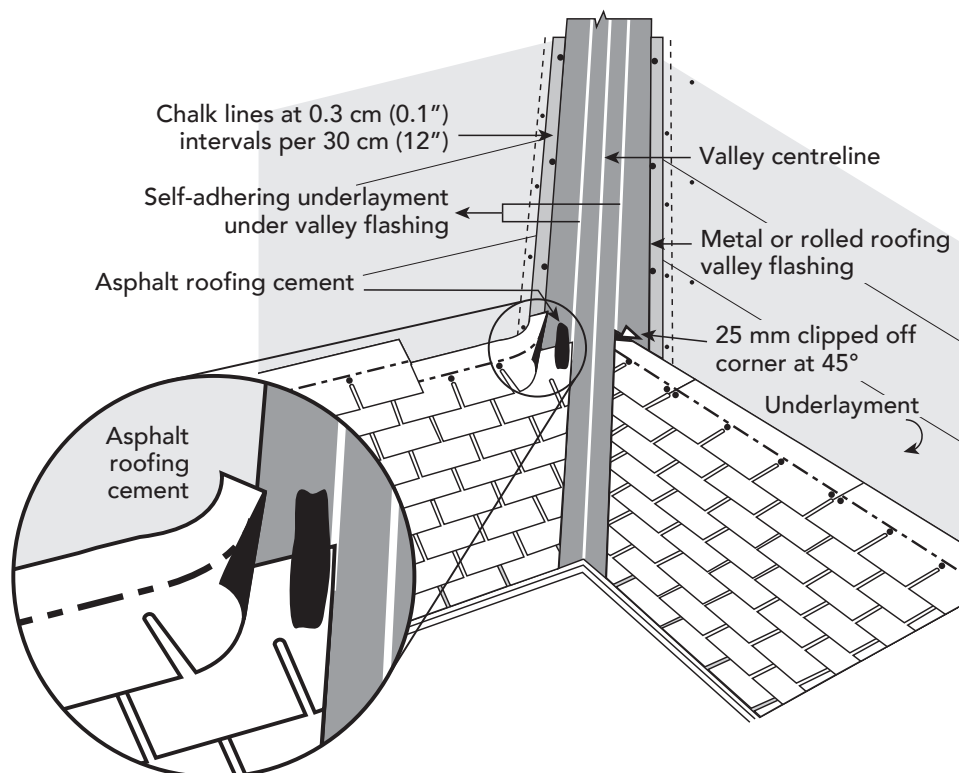
FIGURE
11



Once the valley flashing is in place, centre the sheet metal over the valley and secure it with nails at intervals of 30 to 45 cm (11.8" to 17.7") without puncturing the metal. To do this, position the nails so the shanks are flush with the metal edge and the heads overlap it, securing the flashing. If more than one section of metal flashing is required, overlap the sections by 30 cm (11.8") in the direction of water flow and completely seal the overlapped part with asphalt plastic cement (see **Figure 11**).

Before installing shingles, snap two chalk lines, each 7.6 cm (3") from the ends of the valley, and at least 10 cm (0.4"/3.3') but no more than 20 cm (7.9") from the centre. When shingles are installed, trim the last shingle of each course close to the valley so it abuts the chalk line. Never complete a course next to a valley with a shingle smaller than 30 cm (11.8"). Trim the upper corner of each shingle by 2.5 cm (1") at a 45° angle to divert water into the valley and prevent water from seeping between courses. Seal the ends of each shingle overlapping the valley by cementing them to the flashing with a 7.6 cm (3") layer of asphalt plastic cement. There should be no exposed nails along the valley flashing (see **Figure 12**).

FIGURE
12



Closed Cut Valleys

When slopes are steeper and where specifications call for valley protection using shingles, closed cut valleys are recommended. For these valleys, shingles on the adjacent valleys abut.

Once the valley flashing is installed, install the first course of shingles along the eaves on one side of the roof, crossing the valley and letting the last shingle overlap the adjacent side by at least 30 cm (11.8"). Install the next courses in the same way. Press shingles tightly into the valley. Nail normally, but make sure that no nail is within 15 cm (5.9") of the valley centreline. Secure the end of the shingle crossing the valley with two nails.

Before installing shingles on the adjacent side, snap a chalk line 50 mm (1.97") from the valley joint on the adjacent side.

Install shingles on the adjacent side of the roof, starting along the eaves and crossing the valley onto the previously applied shingles. Trim the shingles up to the chalk line just short of the valley centreline. Trim 25 mm (1") from the upper corner of each end shingle to direct water flow into the valley. Nail the shingles to the roof, making sure that no nail is within 15 cm (5.9") of either end of the valley centreline. Seal the ends of the shingles overlapping the valley with a 7.6 cm (3") layer of asphalt plastic cement, extending from the bottom shingle to the top portion of the shingle of the facing course (see **Figure 13**).

FIGURE
13

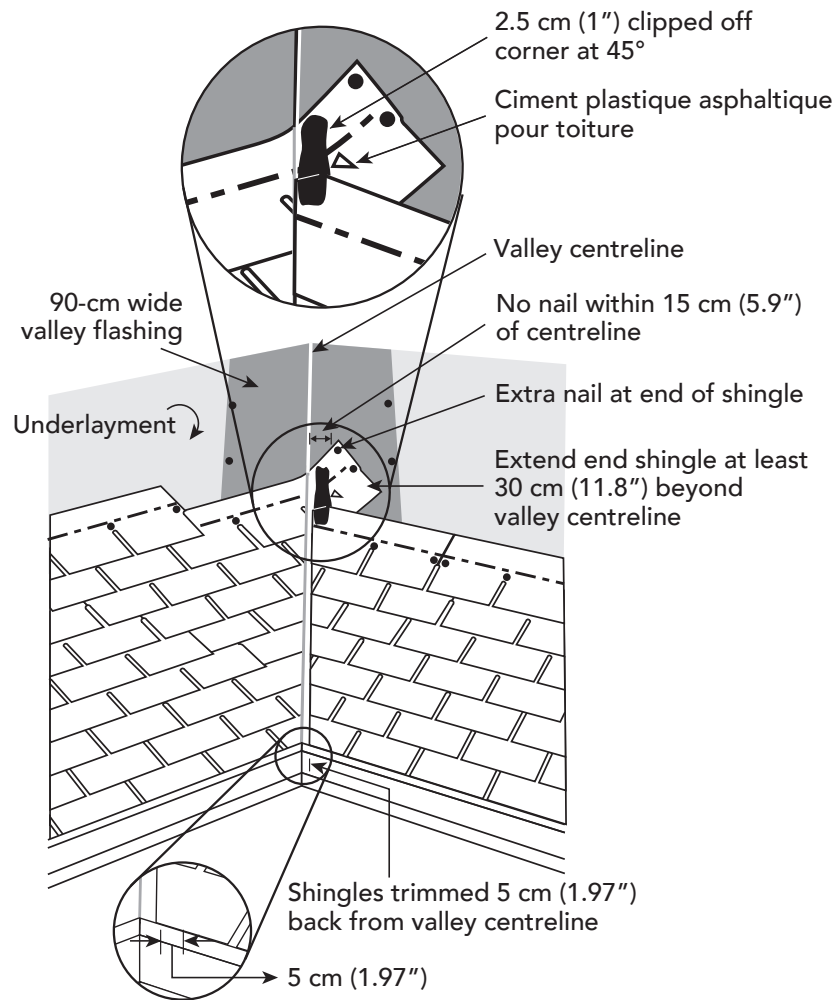
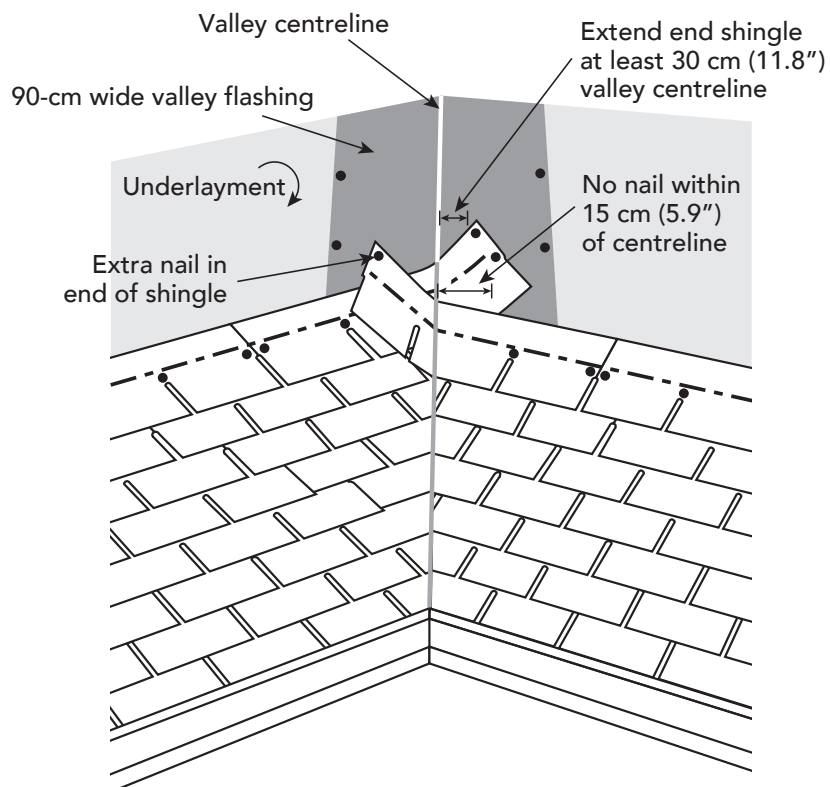


FIGURE
14



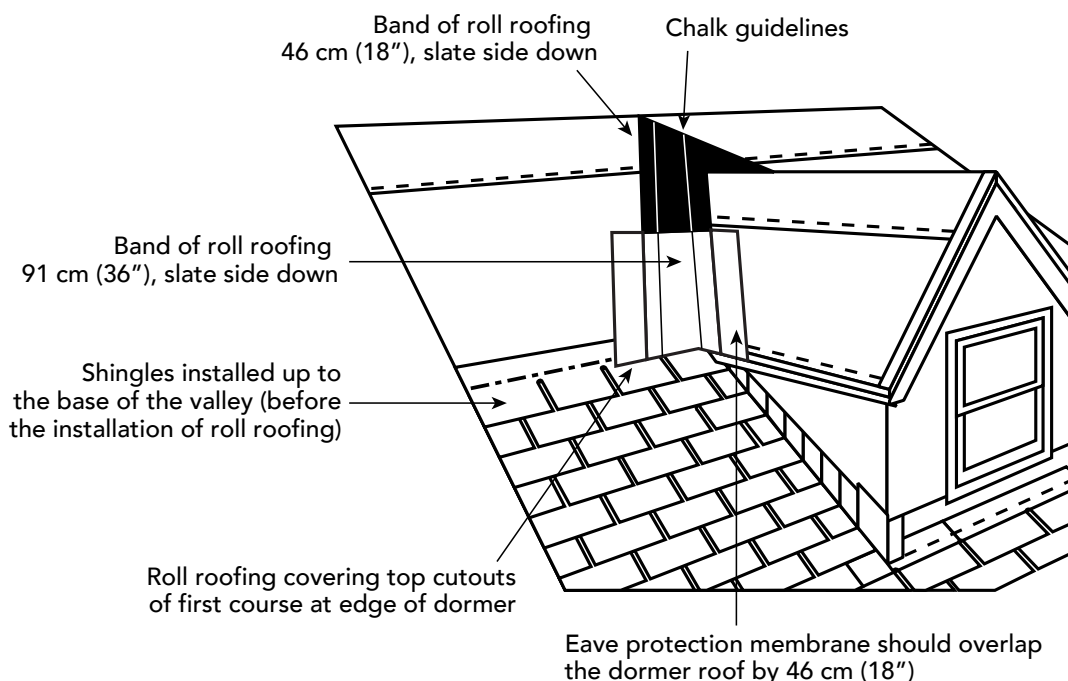
Woven Valleys

Once flashing is in place, begin shingling simultaneously on both sides of the roof. Snap a chalk line down each side of the valley 150 mm (5.9") from the valley joint. Install shingles along the eaves of one side of the roof, crossing the valley and letting the last shingle overlap by at least 30 cm (11.8") over the adjacent side. Apply courses, alternating from one side of the roof to the other, weaving the shingles together. Firmly press shingles into the valley and nail them using the same technique as for closed cut valleys, making sure that no nail is within 15 cm (5.9") of either end of the valley centreline (see **Figure 14**).

Dormer Roof Valley

The open valley of a dormer roof is treated just like any open valley except that the lower part of the BP Slate Surface Roll Roofing is placed so that it covers the top of the cutouts of the first course of shingles located level with the edge of the dormer while the side rests on the edge of the dormer. Install the shingles up to the base of the valley before laying the roll roofing (see **Figure 15**).

FIGURE 15



3.6 FLASHING

Flashing trim must meet building codes. If necessary, corrosion-resistant metal drip and rake edges should be installed on eaves and rake. Following an appropriate method, also install flashing on elements like chimneys and vents using approved materials, for example, galvanized steel or sheet copper.

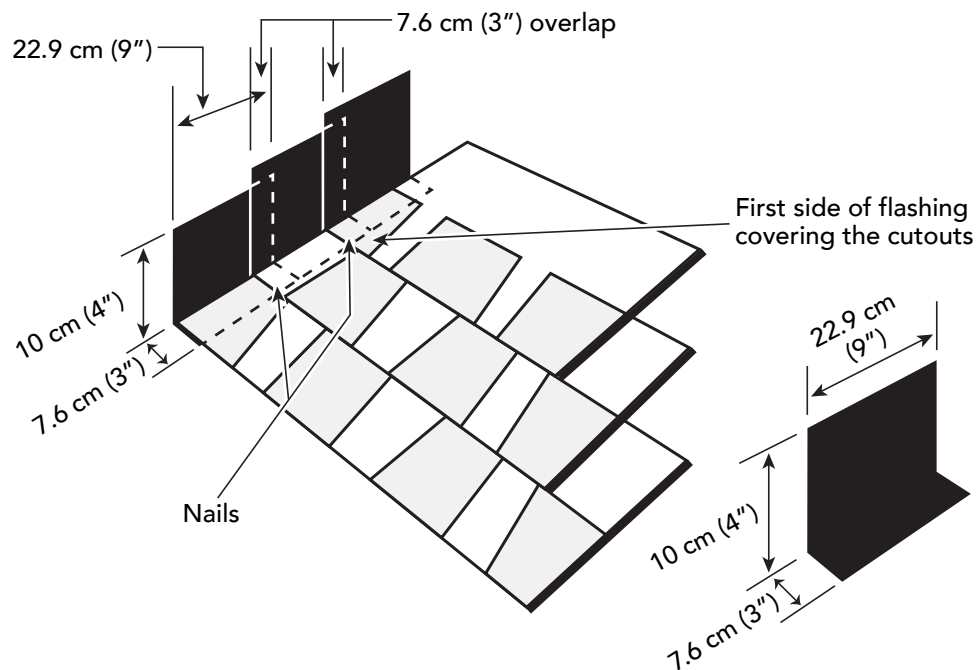
A. WALL/STEP FLASHING

Step flashing consists of steel pieces overlapping by 7.6 cm (3"). The size of the sheet and the amount of shingle exposure will determine the width of the sheets. For example, a 15.2 cm (6") exposure will require a piece of metal flashing 22.9 cm (9") wide. Each strip is placed on top of the shingle, with the lower edge just slightly above the shingle exposure (see **Figure 16**).

Each metal flashing piece should be long enough to extend 10 cm (4") up the vertical wall and 7.6 cm (3") onto the roof deck. Using the above example, each sheet of flashing must be 17.6 cm long and 22.9 cm wide (7" x 9").

To install step flashing, place the first flashing piece over the end of the starter strip and position it so that the tab of the end shingle in the first course covers it completely. Secure the horizontal flange to the roof with two nails. Do not nail flashing to the wall because settling of the roof could damage the seal.

FIGURE 16



Complete the first course of shingles along the roof eave and secure the end of the last shingle to the metal flashing piece with asphalt plastic cement. Do not nail through the shingle and metal flashing

Secure the second metal flashing piece to the vertical wall sheathing and the deck using the same method described above. There should be a side lap of at least a 7.6 cm (3"), but don't let it overlap the shingle exposure of the first course. On the deck, the metal flashing pieces must be completely hidden from view by the shingles (see **Figure 16**). Sheathing serves as cap flashing over step flashing on the vertical wall.

When re-roofing (installation over an existing layer of shingles), ensure that the old shingles along the vertical wall are in good condition. Next install a strip 20 cm (8") wide of BP Smooth Surface Roll Roofing, GRIPGARD or WEATHERTEX over the shingles along the wall. Nail at 10 cm (4") intervals along each edge of the strip. Cover the strip with asphalt plastic cement and affix the new shingles. Use a caulking gun to draw a bead of asphalt plastic cement between the ends of the shingles and the siding.

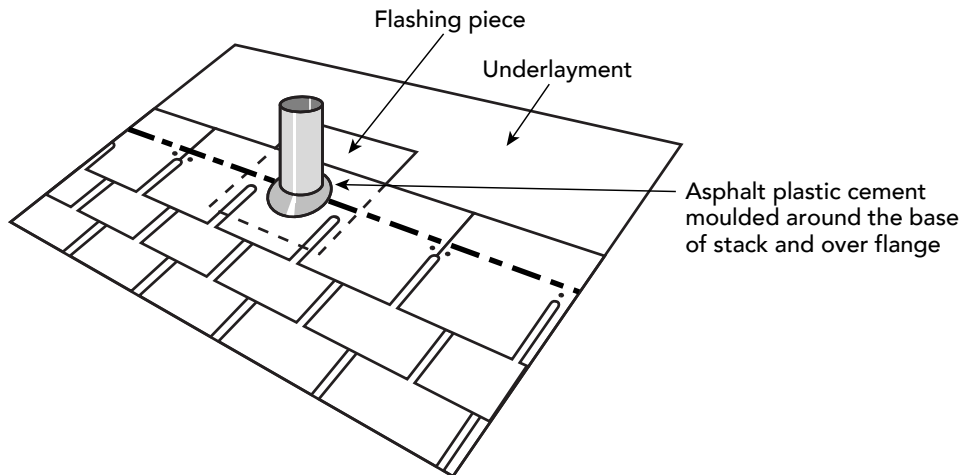
For optimal results, work carefully and use colour-coordinated accessories.

B. SOIL STACK FLASHING:

Use a metal flange or a piece of GRIPGARD, WEATHERTEX, or BP Smooth Surface Roll Roofing to flash the soil stack before shingles are laid. Cut a piece of flashing material with a hole in it large enough to extend 10 cm (4") below, 20 cm (8") above, and 15 cm (6") beyond either side of the pipe. Slip this flange over the pipe and lay it flat on the roof. Form a collar of asphalt plastic cement around the pipe to plug the gap and work it in properly to obtain a good seal. Continue laying shingles, making sure to cement all areas that overlap the flange (see **Figure 17**)

For optimal results, work carefully and use colour-coordinated accessories.

FIGURE 17



C. CHIMNEY FLASHING

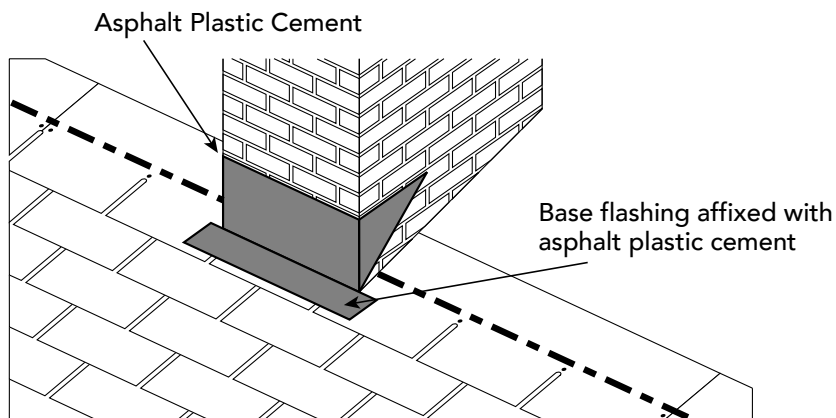
To avoid uneven settling, chimneys are built on a foundation separate from the building. As a result, base flashings must be constructed and secured to the deck, and covered by cap flashings secured to the chimney, so that deck movement doesn't damage the water seal.

Before flashing, install shingles up to the front of the chimney then install a cricket in back to prevent the accumulation of water or ice.

Start by installing a strip of BP Smooth or Slate Surface Roll Roofing, GRIPGARD or WEATHERTEX in front of the chimney, cutting the edges so that they can be folded up the sides of the chimney. Extend the strip 25 cm (10") up the chimney and onto the roof to the top of the cut-outs of the last course of shingles. Cement this strip to the shingles with asphalt plastic cement.

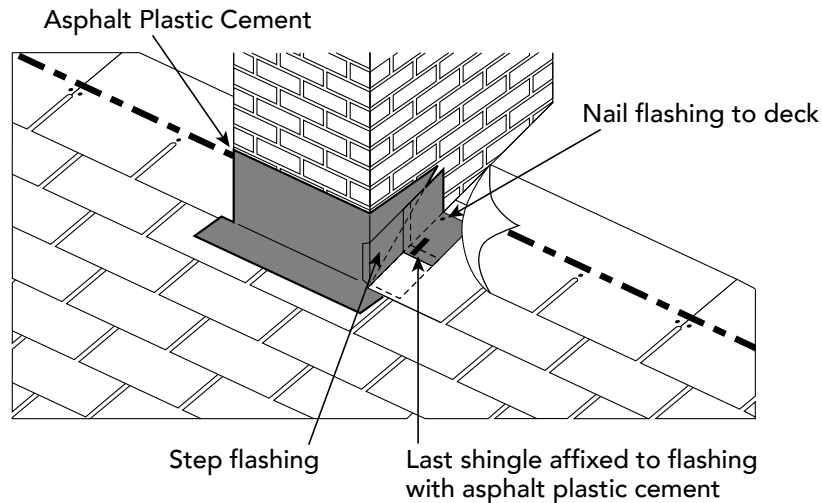
Next install the metal base flashing, starting with the front of the chimney. Bend the metal piece so that the lower section extends over the shingles by at least 10 cm (4") and the upper section extends by at least 30 cm (12") up the vertical face of the chimney (see **Figure 18**). Secure the metal flashing to the strip of roofing with asphalt plastic cement. Continue to install shingles around and/or over the base flashing.

FIGURE 18



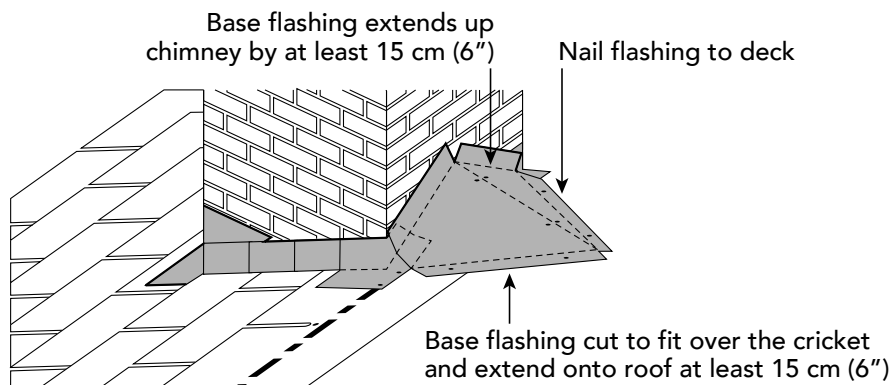
Use metal step flashing to cover the sides of the chimney, using the same method described for flashing a vertical wall. Cut, bend, and install the metal flashing as shown in **Figure 19** and described in **Section 3.6-A**. Cement the end of the last shingle in each course to flashing with asphalt plastic cement.

FIGURE 19



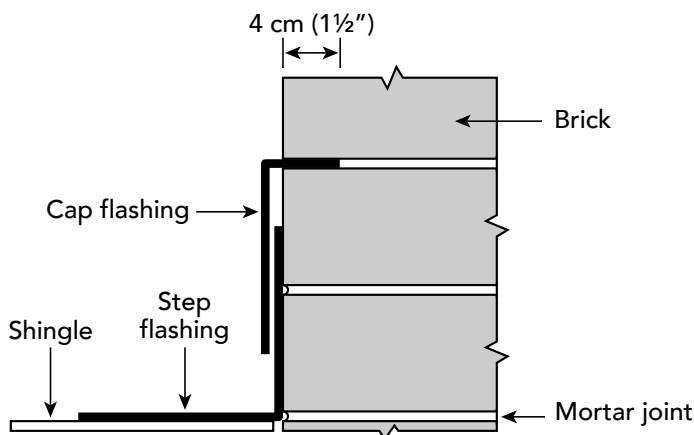
Next, protect the back of the chimney by covering the cricket with metal base flashing cut and bent to extend over the roof deck by at least 15 cm (6"), over the sides of the chimney where it will be laid over step flashing, as well as over the face of the chimney (see **Figure 20**). Continue to install shingles around and/or over the base flashing.

FIGURE 20



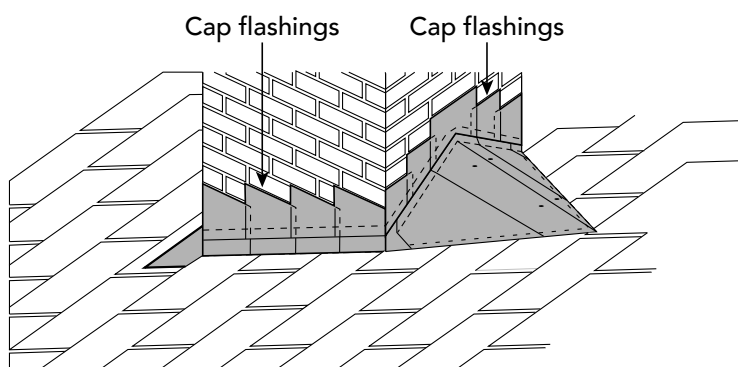
To ensure that the joint is perfectly watertight, cover each flashing with cap flashing. Start by raking out a mortar joint to a depth of 4 cm (1 ½"), as shown in **Figure 21**. Insert the bent edge of the flashing into the cleared joint. Refill the joint with mortar or asphalt plastic cement. The flashing must be moulded to the chimney and snugly cover the base flashing. Don't secure through the base flashing because the two must be allowed to move independently.

FIGURE
21



Use one continuous piece of cap flashing on the front of the chimney. On the sides and back of the chimney, use several pieces trimmed to account for the height of the brick joint and slope of the roof (see **Figure 22**). Start on the sides at the lowest point and overlap each metal piece by at least 7.6 cm (3").

FIGURE
22



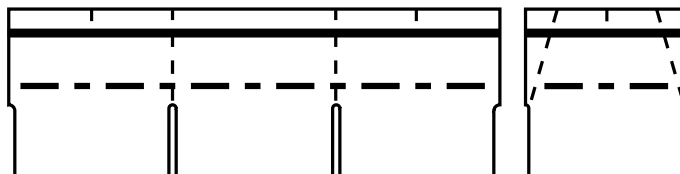
For optimal results, work carefully and use colour-coordinated accessories.

3.7 HIP AND RIDGE

A – HIP AND RIDGE INSTALLATION

The exposure (granule surfaced exposed) of the last course of shingles installed must come to within 14.3 cm (5 5/8") of the ridge. Fold the upper end of the three-tab shingle over the ridge and nail it to the opposite side of the roof. When both sides of the roof have been completed, the ridge capping can be applied: Cut full-size 3-tab shingles into 3 equal sections and trim two corners of each at an angle (see **Figure 23**).

FIGURE
23

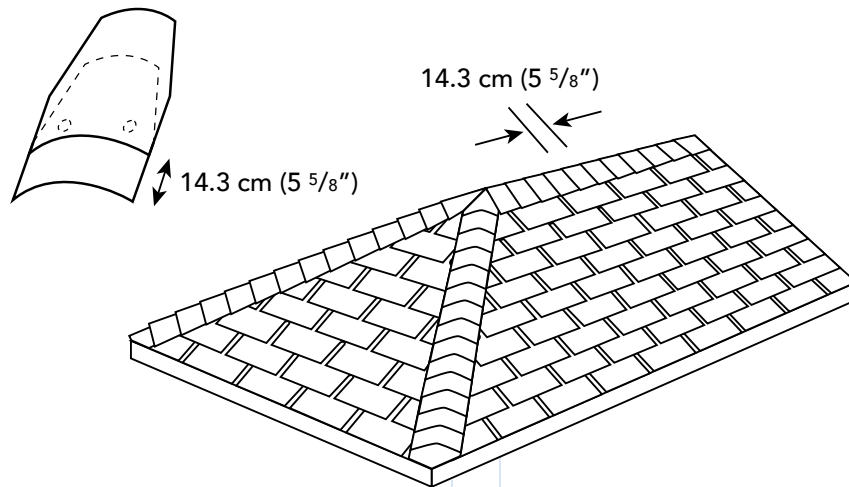


B – INSTALL HIP AND RIDGE AS FOLLOWS

- 1) Bend the cap down the centre so that there is equal exposure of the granular surface on each side of the ridge. In cold weather, warm the cap before bending.
- 2) Starting at bottom of a hip or at the windward end of the ridge, install the caps, overlapping them to leave a 14.3 cm (5 5/8") exposure (see **Figure 24**).

Secure cap with one nail on each side 15.2 cm (6") from the base of the exposure and 2.5 cm (1") from each side. ●

**FIGURE
24**



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If these Installation Instructions differ from instructions on packaging, this document is to be considered current. Please make sure to download the most up to date version of this document from the Building Products of Canada Corp. website www.bpcan.com. Please refer to local building codes for additional installation requirements.

To benefit from the BP shingle warranty, the shingles must be installed in accordance with these Installation Instructions.

SECTION 4 3-TAB SHINGLES

4.1 YUKON SB, DAKOTA



4.1 3-TAB SHINGLES – YUKON SB AND DAKOTA

Before starting installation, please read the following sections of these Installation Instructions.

Section 1 Getting Ready for the Job

Section 2 Preparation, Protection of Vulnerable Areas & Ventilation

Section 3 General Instructions

NOTE: Compliance with all local safety regulations is the responsibility of the installer. Compliance with current building codes is the responsibility of the installer and the homeowner. Self-sealing shingles have sealant bands that must be exposed to sufficient surface temperatures to ensure full thermal sealing. Shingles installed in the fall or winter may not seal unless they are exposed to sufficient surface temperatures (see **Section 3.1-F**). In addition, contamination of the sealant by dust or foreign matter may prevent the sealant band from achieving full thermal seal. Prior to sealing, shingles are more vulnerable to being blown-off or incurring wind damage.

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GENERAL DIRECTIONS

- **Roof Deck**
See **Section 2.2**
- **Asphalt Plastic Cement**
See **Section 3.1-B**
- **Installation Over Existing Layer of Shingles**
See **Section 3.1-G**
- **Eave Protection**
See **Section 3.2-A**
- **Underlayment**
See **Section 3.2-B**
- **Low Slope Shingle Installation**
See **Section 3.3**
- **Valley Preparation**
See **Section 3.5**
- **Flashing**
See **Section 3.6**

INSTALLING SHINGLES

Nailing

Improper nailing will render the warranty null and void. The head of the nails must be driven flush to the top of the shingle surface. Raised nails may cause shingle distortion and prevent sealing due to lack of contact with the sealant. **Using staples to secure shingles is not recommended.** Secure each shingle with at least four (4) nails on slopes of less than 15/12 and at least six (6) nails on slopes equal to or greater than 15/12. When using four nails to secure each shingle, nail at 2.5 cm (1") from the shingle ends and approximately 1.27 cm to 2.5 cm ($\frac{1}{2}$ " to 1") above the cut-outs. For installation with six (6) nails, place a nail at 2.5 cm (1") from each edge, a nail at 30.2 cm ($11\frac{7}{8}$ ") from each edge, and another nail at 32.7 cm ($12\frac{7}{8}$ ") from each edge. Do not nail on the shingle's sealant band. For detailed nailing instructions, see **Section 3.1 (A, D, E, G)**.

Starter Course

- 1) On the deck, chalk a horizontal line 18.8 cm ($7\frac{3}{8}$ ") from the lower edge of the drip.
- 2) Use BP Starter Strip Shingle or 3-tab shingles with the tabs cut off.
- 3) To off-set seams, cut 16.7 cm ($6\frac{9}{16}$ ") off the left side of the first starter shingle and install so that the sealant band is level with the eaves. Starting at the rake edge, align the top edge of this piece with the chalk line. If the shingle does not overhang the eaves by 6 mm ($\frac{1}{4}$ "), adjust your horizontal chalk line accordingly.
- 4) Continue to install full length starter shingles without tabs over the whole roof. Nail with four nails at equal intervals across the shingle and 7.6 cm (3") from the eaves.
- 5) If necessary, apply asphalt plastic cement beneath the starter course and along the rake edge. Use asphalt plastic cement sparingly because excessive amounts can damage shingles.

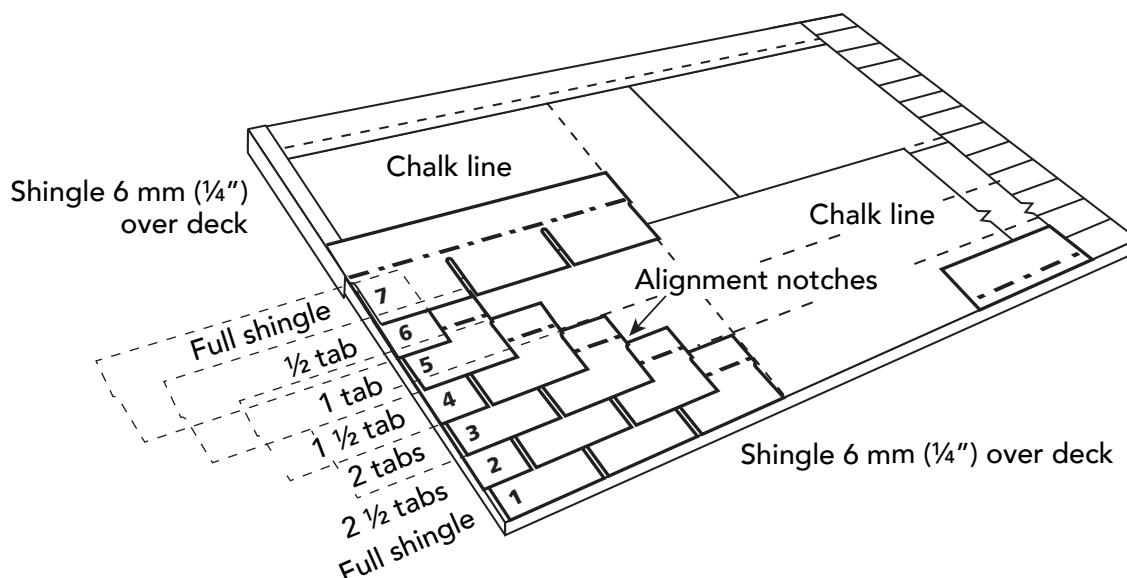
First Course

Start the first course with a full shingle.

Next Courses

Offset each row by half a tab. At the 7th row, repeat the sequence. For optimal alignment, and to verify and adjust vertical alignment, draw vertical reference lines every 2 m ($78\frac{3}{4}$ "). Draw a horizontal line every 28.5 cm ($11\frac{1}{4}$ ") to validate and adjust your horizontal alignment (see **Figure 25**).

FIGURE
25



Shingles in Valley:

See **Section 3.5.**

Hip and Ridge Installation:

See **Section 3.7.** ●



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SECTION 5 LAMINATE SHINGLES



- 5.1 WEATHER-TITE™: SEALANT BANDS / PROTECTIVE TAPE
- 5.2 VANGARD IR 42, MYSTIQUE 42
- 5.3 MANOIR

5.1 WEATHER-TITE™: SEALANT BANDS / PROTECTIVE TAPE

NOTE: To ensure superior protection under the worst weather conditions, BP Laminate shingles now integrate cutting-edge Weather-Tite™ technology into each shingle's two sealant bands (see **Table 3**).

TABLE 3

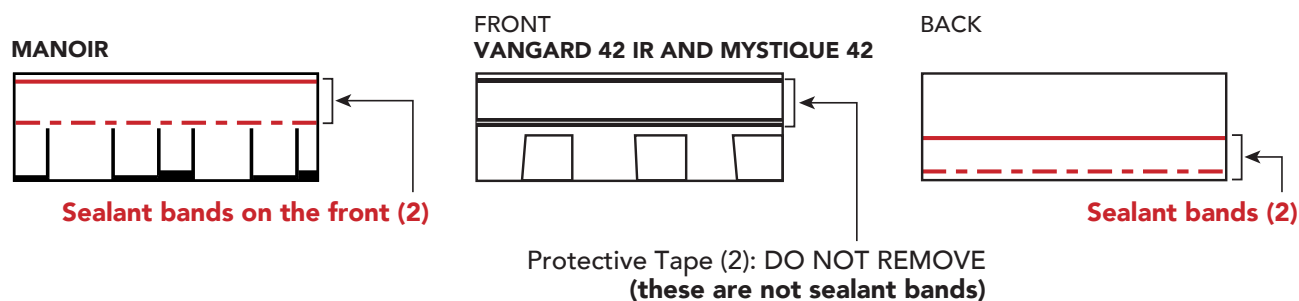
SHINGLES	STANDARD WIND WARRANTY	HIGH WIND WARRANTY
Vanguard 42 IR	180 km/h	220 km/h
Manoir	(110 mph)	(135 mph)
Mystique 42		

Vanguard IR 42, Manoir and Mystique 42 laminate shingles have two sealant bands and two protective tapes on the back (to prevent shingles from sticking together when bundled), which **SHOULD NOT BE REMOVED** (see **Figure 26** and **27**).

FIGURE 26



FIGURE 27



* Manoir shingles have sealant bands on the front.
Vanguard IR 42 and Mystique 42 shingles have sealant bands on the back.

Before beginning installation, please read the following sections of these Installation Instructions

Section 1 Getting Ready for the Job

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Section 3 General Instructions

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See **Section 3.1-G**
- **Eave Protection**
See **Section 3.2-A**
- **Underlayment**
See **Section 3.2-B**
- **Low Slope Shingle Installation**
See **Section 3.3**
- **Valley Preparation**
See **Section 3.5**
- **Flashing**
See **Section 3.6**

5.2 VANGARD IR 42 AND MYSTIQUE 42 (LAMINATE SHINGLES - WEST)

INSTALLING SHINGLES

Nailing

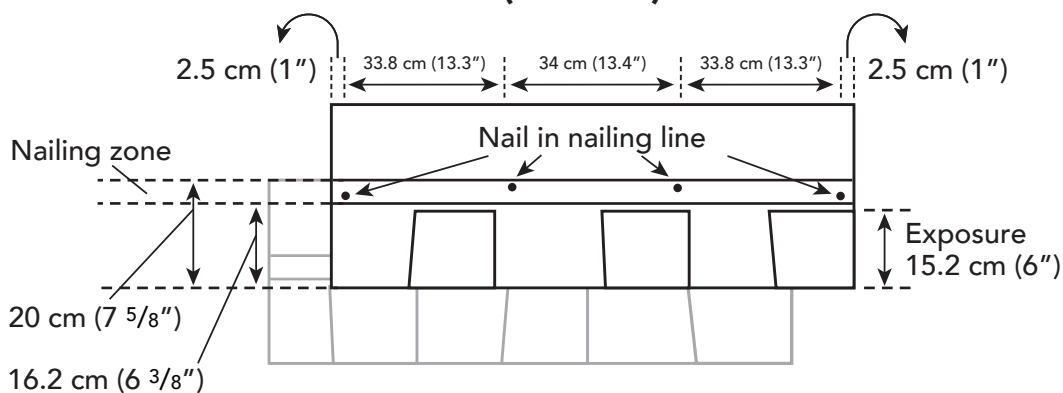
Some shingles have two white lines indicating the nailing line at 16.2 cm ($6\frac{3}{8}$ "") and at 20 cm ($7\frac{7}{8}$ "") from the lower edge of the shingle. In this case, for roofs with a slope less than 15/12, affix nails between these two lines. The nails should penetrate the shingle being installed and the one already installed in the previous course. The sanded (non-grainy) part of the shingle is not the nailing area. On roofs with slopes greater than or equal to 15/12, nail along the lower white line located 16.2 cm ($6\frac{3}{8}$ "") from the bottom edge of the shingle into the double layer of shingles.

Improper nailing will render the warranty null and void (see **Section 3.1-A**). Nail as shown in **Figure 28**. The head of the nails must be driven flush to the top of the shingle surface. Raised nails can cause shingle distortion and may prevent sealing due to lack of contact with the sealant. **Using staples to secure shingles is not recommended.** Secure each shingle with at least four (4) nails on slopes less than 15/12 and at least six (6) nails on slopes equal to or greater than 15/12 (see **Section 3.1**). Nails must be long enough to penetrate at least 19 mm ($\frac{3}{4}$ "") into solid wood deck or just through plywood.

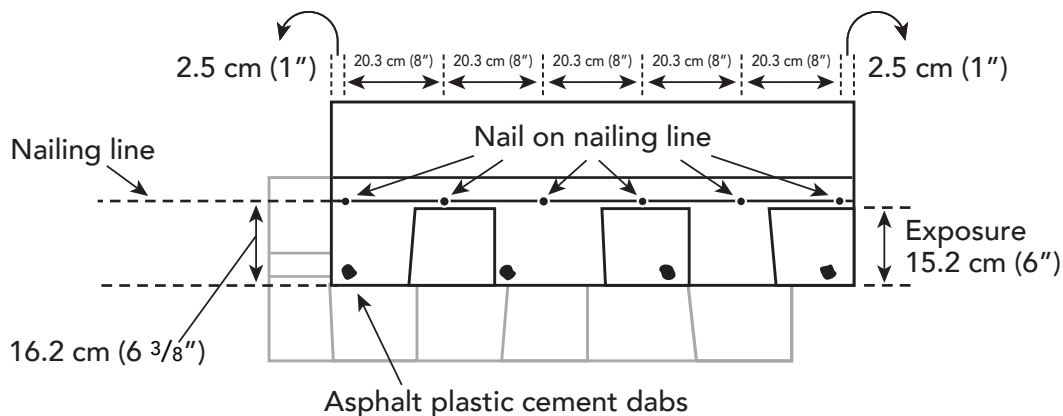
Nail at 2.5 cm (1") and at 33.8 cm (13.3") on each side for a total of four nails, or drive one nail at 2.5 cm (1") from each edge and drive in four more nails every 20.3 cm (8") for a total of six nails (see **Figure 28**).

FIGURE
28

NAILING PATTERN FOR SLOPES LESS THAN 15/12 (4 NAILS)



NAILING PATTERN FOR SLOPES EQUAL TO OR GREATER THAN 15/12 (6 NAILS)



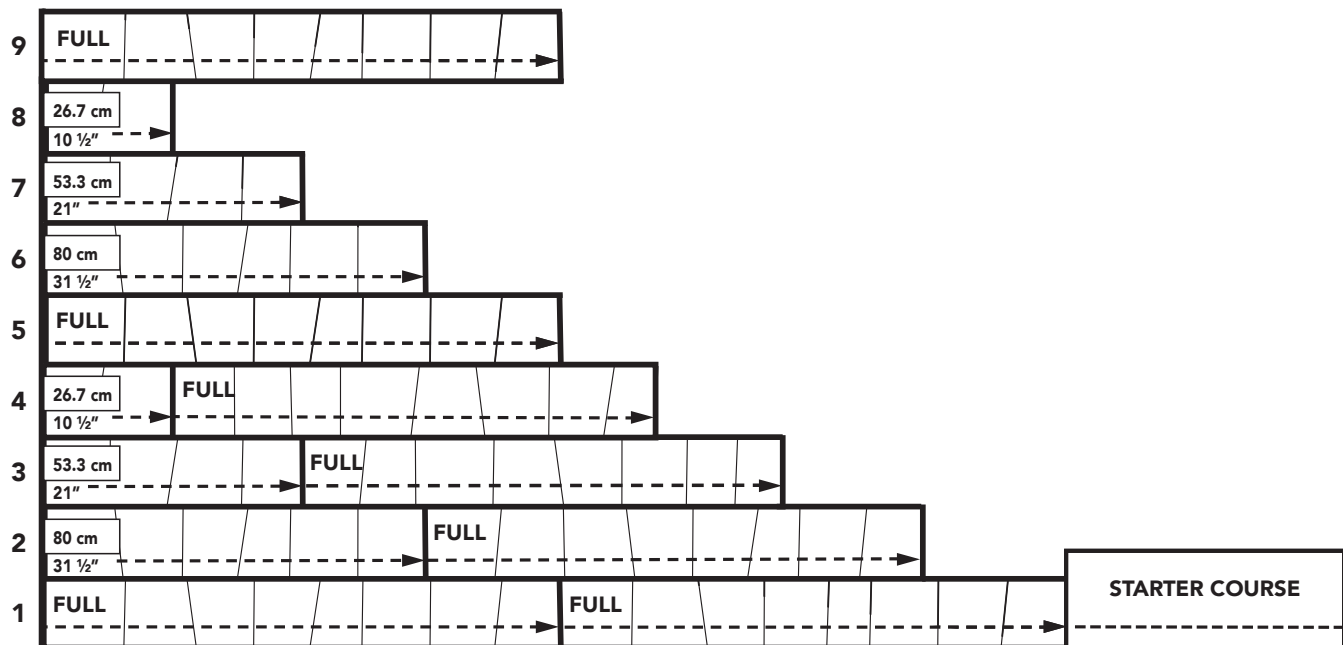
Starter Course

- 1) On the deck, chalk a horizontal line at 18.8 cm (7 ³/₈") from the lower edge of the drip.
- 2) Use BP Starter Strip Shingle or 3-tab shingles with the tabs cut off.
- 3) To off-set seams, cut 15.2 cm (6") off the left side of the first starter shingle and install so that the sealant band is level with the eaves. Starting at the rake edge, align top edge with the chalk line. If the shingle does not overhang the eaves by 6 mm (1/4"), adjust your horizontal chalk line accordingly.
- 4) Continue to install full-length starter shingles without tabs over the entire roof. Secure with four nails at equal intervals across the shingle and 7.6 cm (3") from the eaves.
- 5) If necessary, apply asphalt plastic cement beneath the starter course and along the rake edge. Use asphalt plastic cement sparingly because excessive amounts can damage shingles.

Installation

Always make sure there is an offset of at least 15.2 cm (6") between the ends of one course of shingles and the next course. Start the first course with a full shingle. For the second course, cut 26.7 cm (10 ¹/₂") from the left side of shingle and lay the long side over the upper part of the shingle in the first course leaving a 15.2 cm (6") exposure. For the third course, cut 53.3 cm (21") from the left side of shingle and lay the long side over the upper part of the underlying shingle. Begin the fourth course by cutting off 80 cm (31 ¹/₂"), i.e., 26.7 cm (10 ¹/₂") more than for the third course to create an overall diagonal look. Start the fifth course with a full shingle and repeat the sequence described above. Continue to make your way across the roof, ensuring a 15.2 cm (6") exposure over the entire roof (see **Figure 29**).

**FIGURE
29**



NOTE: When working with cut shingle pieces, make sure there is an offset of at least of 15.2 cm (6") between the edges of shingles in one row and those in the other. In addition, make sure to leave at least 2.5 cm (1") between nail heads and the shingles' side edges.

Shingles in Valley

See **Section 3.5**

Hip and Ridge Trim

Use appropriate BP 3-tab shingle of same colour (see **Table 4**). To prevent cracking in cold weather, make sure shingles are sufficiently warm and flexible.

**TABLE
4**

LAMINATE SHINGLES	HIP AND RIDGE
Vangard 42 IR Manoir Mystique 42	Yukon SB

5.3 LAMINATE SHINGLE – MANOIR

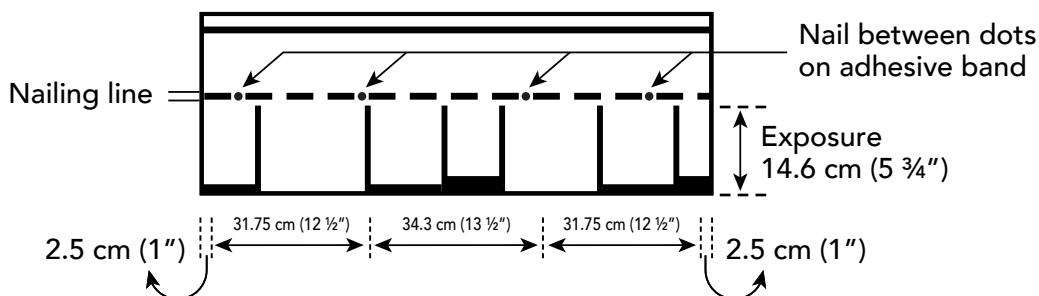
INSTALLING SHINGLES

Nailing

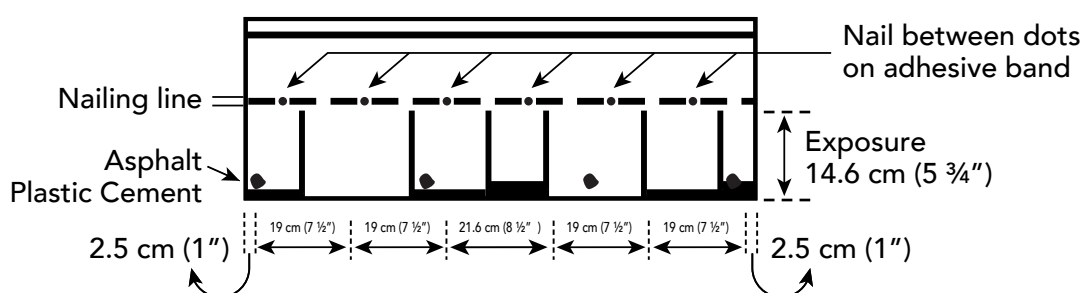
Improper nailing will render the warranty null and void (see **Section 3.1-A**). Nail as shown in **Figure 30**. The head of the nails must be driven flush to the top of the shingle surface. Raised nails can cause shingle distortion and may prevent sealing due to lack of contact with the sealant. **Using staples to secure shingles is not recommended.** Secure each shingle with at least four (4) nails on slopes less than 15/12 and at least six (6) nails on slopes equal to or greater than 15/12 (see **Section 3.1**).

So that nails penetrate the double-ply area just above the tops of the laminated tabs, Manoir shingles must always be nailed between the adhesive dabs of the dotted sealant band. Nails must be long enough to penetrate at least 19 mm (3/4") into solid wood deck or just through plywood.

NAILING PATTERN FOR SLOPES LESS THAN 15/12 (4 NAILS)



NAILING PATTERN FOR SLOPES EQUAL TO OR GREATER THAN 15/12 (6 NAILS)



Nail at 2.5 cm (1") and at 31.75 cm (12 1/2") on each side for a total of four nails, or drive one nail at 2.5 cm (1") from each edge and drive in four more nails every 19 cm (7") for a total of six nails (see **Figure 30**).

It is not necessary to remove protective tape from the back of shingles.

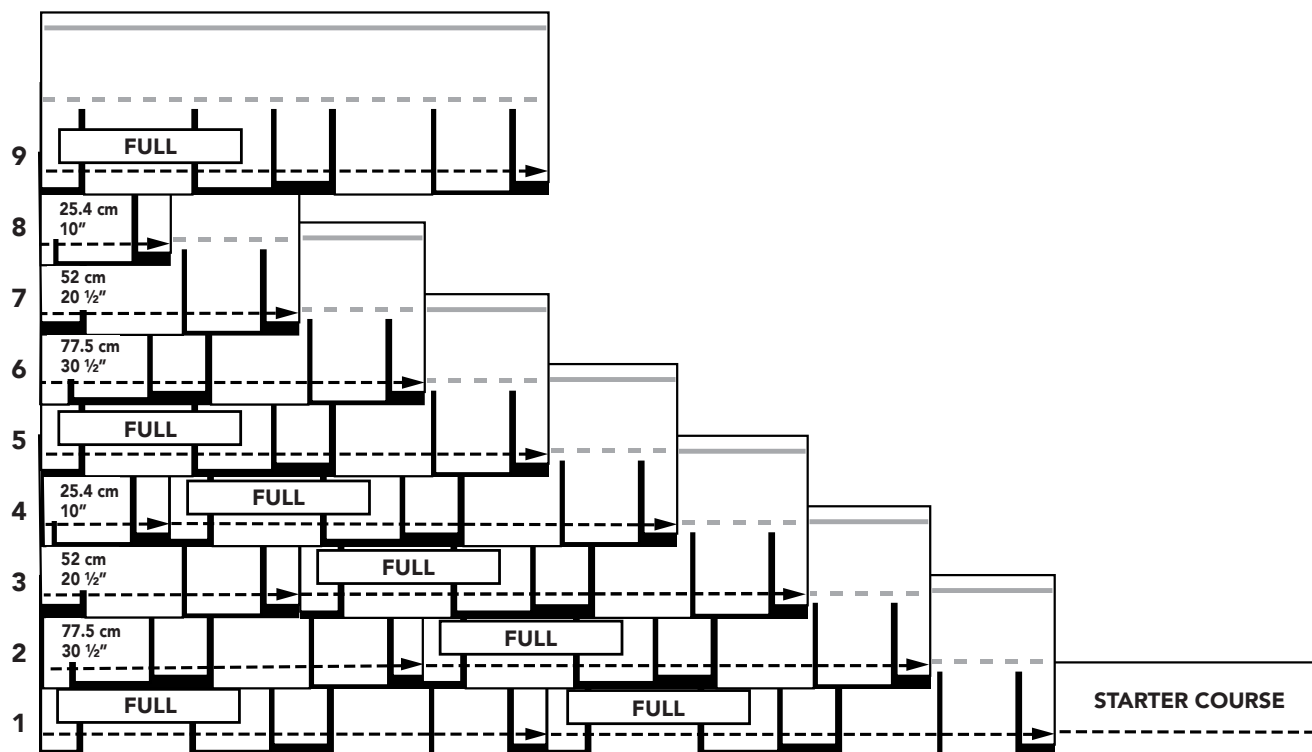
Starter Course

- 1) On the deck, chalk a horizontal line at 18.8 cm (7 3/8") from the lower edge of the drip.
- 2) Use BP Starter Strip Shingle or 3-tab shingles with the tabs cut off.
- 3) To off-set seams, cut 15.2 cm (6") off the left side of the first shingle and install so that the sealant band is level with the eaves. Starting at the rake edge, align top edge with the chalk line. If the shingle does not overhang the eaves by 6 mm (1/4"), adjust your horizontal chalk line accordingly.
- 4) Continue to install full length starter shingles without tabs over the entire roof. Nail with four nails at equal intervals across the shingle and 7.6 cm (3") from the eaves.
- 5) If necessary, apply asphalt plastic cement beneath the starter course and along the rake edge. Use asphalt plastic cement sparingly because excessive amounts can damage shingles.

Installation

Start the first course with a full shingle. For the second course, cut 25.4 cm (10") from the left side of shingle and lay the long side over the upper part of the shingle in the first course leaving 14.6 cm (5 3/4") of exposure. For the third course, cut 50.8 cm (20") from the left side of shingle and lay the long side over the upper part of the underlying shingle. Begin the fourth course with the remaining partial shingle from row 2 to create an overall diagonal look. Start the fifth course with a full shingle and repeat the sequence described above. Continue to make your way across the roof, ensuring a 14.6 cm (5 3/4") exposure across the entire roof (see **Figure 31**).

**FIGURE
31**



NOTE: When working with cut shingle pieces, make sure there is an offset of at least of 15.2 cm (6") between the edges of shingles in one row and those in the other. In addition, make sure to leave at least 2.5 cm (1") between nail heads and the shingles' side edges.

Shingles in Valley

See **Section 3.5**

Hip and Ridge Trim

Use appropriate BP 3-tab shingle of same colour (see **Table 4**) described in **Section 5.1**. To prevent cracking in cold weather, make sure shingles are sufficiently warm and flexible. ●



BUILDING PRODUCTS OF CANADA CORP.

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If these Installation Instructions differ from instructions on packaging, this document is to be considered current. Please make sure to download the most up to date version of this document from the Building Products of Canada Corp. website www.bpcan.com. Please refer to local building codes for additional installation requirements.

To benefit from the BP shingle warranty, the shingles must be installed in accordance with these Installation Instructions.