



GLOBAL HYBRID ROOFING SOLUTIONS

Installation Guide



SHAKE SHINGLE

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THIS DOCUMENT INCLUDES THE RECOMMENDED AND SUGGESTED
INSTALLATION PROCEDURES FOR:

**GLOBAL HYBRID ROOFING SOLUTIONS “SHAKE SHINGLE” ROOFING
PRODUCTS**

GLOBAL HYBRID ROOFING SOLUTIONS LIMITED IS THE
MANUFACTURER OF THIS SHAKE AND ALL OTHER ASSOCIATED
ACCESSORIES RELATED TO THIS PRODUCT.

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OVERVIEW

THE INFORMATION PROVIDED IN THIS MANUAL IS FOR A GUIDELINE AND A SUGGESTED METHOD TO INSTALL ROOFING PRODUCTS MANUFACTURED BY GLOBAL HYBRID ROOFING SOLUTIONS LIMITED.

AS WITH ALL ROOFING MATERIALS, ACCEPTABLE AND PROVEN PRACTICES SHOULD BE FOLLOWED. ALL APPLICATION PROCEDURES SHOULD BE CARRIED OUT IN ACCORDANCE WITH LOCAL BUILDING CODES IN YOUR AREA.

THE INFORMATION PROVIDED IN THIS MANUAL IS STRICTLY A GUIDELINE AND DOES NOT IMPLY RESPONSIBILITY FOR THE FINAL INSTALLATION OF THE PRODUCT. GLOBAL HYBRID ROOFING SOLUTIONS LIMITED ASSUMES NO RESPONSIBILITY FOR METHODS OF INSTALLATION OR THE FINAL RESULTS OF SUCH INSTALLATION.

GLOBAL HYBRID ROOFING SOLUTIONS LIMITED WARRANTS ITS PRODUCTS FOR A 50-YEAR PERIOD AND APPLIES TO THE PRODUCT ONLY AND NOT THE WORKMANSHIP OF THE INSTALLED PRODUCT. THE ROOFING CONTRACTORS SHOULD PROVIDE A SEPARATE WARRANTY OF THEIR OWN.

MATERIAL FOR THIS MANUAL HAS BEEN COMPILED FROM VARIOUS AUTHORITATIVE AND PROFESSIONAL SOURCES. MANY OF THE METHODS DESCRIBED AND SHOWN HEREIN ARE SOUND, TIME – PROVEN GUIDELINES AND STANDARDS OF GOOD ROOFING PRACTICE THAT MEET THE REQUIREMENTS OF NATIONAL AND LOCAL BUILDING CODES THROUGHOUT THE U.S. EACH GEOGRAPHIC AREA MAY EMPLOY “AREA PRACTICES” THAT ARE ALSO SOUND AND TIME-PROVEN, WHICH BY EXCLUSION DOES NOT MEAN TO IMPLY THAT PROVEN AREA PRACTICES ARE UNSATISFACTORY.

CAUTION

!!CAUTION!!

SYSTEM REQUIREMENTS

THE REQUIRED SPACING FOR ADJACENT SHINGLES IS A MINIMUM OF 3/8". THIS WILL ALLOW FOR EXPANSION AND CONTRACTION IN VARIOUS WEATHER APPLICATIONS. THIS WILL ALSO GIVE A MORE AESTHETIC APPEARANCE OF NATURAL SHINGLES. **DO NOT** INSTALL PIECES THAT ARE DAMAGED OR LIFTED, AS THEY WILL NOT LIE DOWN PROPERLY.

COLOR BLENDING

FOR BETTER COLOR BLENDING, WE SUGGEST YOU UNLOAD SHAKE SHINGLES FROM AT LEAST THREE (3) DIFFERENT PALLETS. THIS APPLIES FOR BOTH SOLID AND BLENDED COLORS.

CAUTION

TAKE EXTRA CAUTION DUE TO THE FACT THAT THIS PRODUCT CAN BE SLIPPERY.

DISCLAIMER

ROOFING PRODUCTS MANUFACTURED BY GLOBAL HYBRID ROOFING SOLUTIONS ARE INTENTIONALLY DESIGNED TO REPLICATE THE APPEARANCE NATURAL ROOFING PRODUCTS. THIS MANUFACTURING PROCESS CONTAINS A VARIATION WITHIN ALL COLORS. CARE SHOULD BE EXERCISED BY THE INSTALL MIX THIS VARIATION AS RANDOMLY AS POSSIBLE.

PRODUCT SPECIFICATIONS

Profile	Shake – Class A <i>Cavity back</i>	Shake – Class C <i>Cavity back</i>
Exposure	10"	10"
Weight/Piece (lb.)	2.0 ± 0.2 1.2 (5"); 1.7 (7"); 3.0 (12")	2.0 ± 0.2 1.2 (5"); 1.7 (7"); 3.0 (12")
Pieces/Square	169 (total) 57 (5"); 56 (7"); 56 (12")	169 (total) 57 (5"); 56 (7"); 56 (12")
Lb./Square	332	332
Height	24" ± 1/8"	24" ± 1/8"
Width	5" ± 1/8"; 7" ± 1/8"; 12" ± 1/8"	5" ± 1/8"; 7" ± 1/8"; 12" ± 1/8"
Squares/Pallet	5	5
Pallets/Truck	24	24
Squares/Truck**	120	120
Fire Rating	Class A	Class C
Impact Rating	Class 4	Class 4

** These figures are based on a 48-foot flatbed trailer and may vary due to the amount of accessory pieces that may be shipped.

Accessory	Dimensions	Pitch	Weight (lb.)	Pieces/Pallet	Lb./Pallet
Shake – Class A					
Starter	14" Length 16" Width		2	780	1610
Hip & Ridge	14" Length 6" x 5-3/8" Width	5/12 - 7/12	2	240	530
Solid Shingle Accessory	24" ± 1/8" Length 12 ± 1/8" Width		5	480	2450
Shake – Class C					
Starter	14" Length 16" Width		2	780	1610
Hip & Ridge	14" Length 6" x 5-3/8" Width	5/12 - 7/12	2	240	530
Solid Shingle Accessory	24" ± 1/8" Length 12 ± 1/8" Width		5	480	2450

PRODUCT DESCRIPTION/ACCESSORIES

NO SPECIAL TOOLS REQUIRED

- SHAKE SHINGLES CAN BE HAND NAILED OR NAILED WITH PNEUMATIC NAIL GUN
- SHAKE SHINGLES CAN BE CUT WITH A STANDARD SKILL, JIG OR TABLE SAW.
- THE CHOICE OF OPEN OR SOLID SHEATHING IS OPTIONAL WHEN SHAKE SHINGLES ARE APPLIED.

PRODUCT DESCRIPTION

SHAKE SHINGLES ARE MANUFACTURED IN THREE SIZES. THESE SIZES ARE ALL 24" \pm 1/8" IN LENGTH BUT VARY IN WIDTH. THESE WIDTHS ARE 5", 7" AND 12" \pm 1/8".



ACCESSORIES

STARTER PIECE

WEIGHT	2.0 LB.
LENGTH	14"
WIDTH	16"



PRE-FORMED HIP/RIDGE SHINGLE

WEIGHT	2.0 LB.
LENGTH	14"
WIDTH	6" x 5-3/8"
SLOPE	5/12 - 7/12



12" SPECIAL SOLID BACK SHINGLE (USED FOR VALLEY CUTS, HIPs AND GABLE EDGE)

WEIGHT	5 LB.
LENGTH	24" \pm 1/8"
WIDTH	12" \pm 1/8"



Front view



Back view

FASTENER REQUIREMENTS

SHAKE SHINGLES

SHAKE SHINGLES SHOULD BE INSTALLED WITH TWO CORROSION RESISTANT FASTENERS, SUCH AS STAINLESS STEEL TYPE (304 OR 316), HOT-DIPPED ZINC COATED, COPPER, ALUMINUM OR CORROSION RESISTANT PNEUMATIC ROOFING NAILS WITH 3/8" DIAMETER HEAD AND 1 3/4" RING SHANK. DEPENDING ON EXPOSURE THE FASTENER LENGTH REQUIREMENT WILL CHANGE. **THE NAILS SHOULD BE LONG ENOUGH TO PENETRATE THROUGH THE SHEATHING.**

FOR EAVE HEIGHTS 40" OR HIGHER USE TWO SCREWS IN LIEU OF NAILS.

CAUTION SHOULD ALWAYS BE USED TO INSURE AGAINST OVER/UNDER PENETRATION. IN AREAS THAT EXPERIENCE HIGH HUMIDITY OR OTHER SEVERE CLIMATIC CONDITIONS, CONSIDERATION SHOULD BE GIVEN TO USING STAINLESS STEEL FASTENERS AND HIGHER-GRADE ACCESSORIES.

UNDERLAY

ICE AND WATER SHIELD

- SINGLE LAYER OF 36 MIL RUBBERIZED ASPHALT ON 4 MIL POLYETHYLENE CARRIER SHEET
- A 36" WIDE SHEET IN ALL VALLEYS IS RECOMMENDED
- 1 ROW OF 36" WIDE ALONG ALL EAVES, LAP END JOINTS 3" EXTENDED 3" INSIDE THE PLATE LINE
- APPLY AROUND ALL DORMERS, ROOF PROJECTIONS, SKYLIGHTS ETC.
- ALWAYS REFER TO YOUR LOCAL BUILDING CODES
- ICE AND WATER SHIELD IS APPLIED DIRECTLY TO THE DECK WITHOUT OVERLAPPING THE SHAKE.

NOTE: ICE AND WATER SHIELD SHOULD NOT BE INSTALLED OVER THE FELT.

APPROVED ICE AND WATER SHIELDS INCLUDE, BUT ARE NOT LIMITED TO, SOPREMA COLPHENE FR GR (75); GRACE ICE & WATER; AND TAMKO ICE AND WATER OR TESTED EQUIVALENT.

FELTS

- ASPHALT SATURATED AND COATED ORGANIC FELT BASE SHEET WHICH MEETS REQUIREMENTS OF ASTM 2626
- REFERRED TO A 30 LB. FELT AND WITHOUT PERFORATIONS
- SECURED WITH 3/4" LONG GALVANIZED ROOFING NAILS
- FELT SHOULD BE INSTALLED PER LOCAL BUILDING CODES.

NOTE: MINIMUM REQUIREMENT ON A SOLID DECK IS ONE LAYER OF 30 LB.

METALS

VALLEYS

MINIMUM RECOMMENDATIONS

- 16OZ. COPPER
- 24 – 26 GA. CORROSION
- STAINLESS STEEL
- COLOR CLAD STEEL
- COLOR CLAD ALUMINUM

EAVES, GABLES

- EAVE DRIP STARTER STRIPS
- GABLE EDGE STRIPS

ROOF DECKING MATERIALS

SOLID DECK

MINIMUM OF 15/32" CDX PLYWOOD DECK OR EQUAL
MINIMUM 1" TONGUE AND GROOVE WOOD DECKING

SPACED SHEATHING

USUALLY 1 X 6 BOARDS SPACED ON CENTERS EQUAL TO THE WEATHER EXPOSURE AT WHICH THE SHAKES ARE TO BE LAID 10" FOR 24" ON ROOF INSTALLATIONS.

WHEN 1 X 4 SPACED SHEATHING IS INSTALLED AT 10" ON CENTER, ADDITIONAL 1 X 4 BOARDS MUST BE INSTALLED (I.E. MAXIMUM ALLOWABLE SPACING IS APPROXIMATELY 3 ½ MEASURED FROM EDGE TO EDGE BETWEEN SHEATHING BOARDS.)

ROOFING FELT SYSTEM INTERLAY BETWEEN THE SHAKE SHINGLE COURSES IS REQUIRED ON SPACED SHEATHING.

CHECK WITH YOUR LOCAL BUILDING OFFICIAL FOR PLYWOOD THICKNESS AND DIMENSIONS. A SOLID DECK IS RECOMMENDED IN AREAS WHERE WIND DRIVEN SNOW IS ENCOUNTERED.

NOTE: IF INSTALLING OVER SPACED SHEATHING, FIRE RATING IS VOID.

ROOF PITCH

MINIMUM ROOF SLOPE IS RECOMMENDED FOR THE APPLICATION OF SHAKE SHINGLE IS 4:12, MEANING A 4-INCH RISE IN THE ROOF FOR EVERY HORIZONTAL RUN OF 12 INCHES.

FOR ROOF SLOPES OF LESS THAN 4:12 CONSIDERATION SHOULD BE TAKEN FOR SUB ROOF INSTALLATION.

LOW ROOF PITCH DETAILS

THE MINIMUM ROOF SLOPE RECOMMENDED FOR THE APPLICATION OF SHAKE SHINGLE IS 4 IN 12, MEANING A 4-INCH RAISE IN THE ROOF FOR EVERY HORIZONTAL RUN OF 12 INCHES. SPECIAL APPLICATION PROCEDURES SHOULD BE FOLLOWED TO SUCCESSFULLY INSTALL SHAKE SHINGLES TO SOLID SHEATHED ROOFS OF LOWER SLOPE

SPECIAL WATERPROOFING SHEETS, SUCH AS ICE AND WATER SHIELD, MAY BE USED AS THE UNDERLAYMENT. THESE SHEETS WILL HELP ALLEVIATE MOISTURE PROBLEMS AT NAIL PENETRATIONS. NEXT, THE SHAKE SHINGLES ARE APPLIED IN THE NORMAL MANNER WITH A STARTER COURSE AT THE EAVE AND FELT INTERLAYS BETWEEN EACH COURSE OF SHAKE SHINGLES.

STANDARD ROOF PITCH DETAILS

TYPE 30 ASPHALT SATURATED FELT INTERLAY IS REQUIRED BETWEEN COURSES OF SHAKE SHINGLES ON SLOPES OF 5/12 OR LOWER, AND IS OPTIONAL FOR SLOPES GREATER THAN 5/12.

ROOF VOID VENTILATION

FOR EVERY 300 FEET OF ATTIC FLOOR SPACE, YOU WILL NEED ONE (1) SQUARE FOOT OPENING IN THE ROOF. FIFTY PERCENT (50%) OF THIS NEEDS TO BE EAVE LINE. VENTING IS IMPORTANT AND NEEDS TO BE THOUGHT OUT THOROUGHLY.

NOTE: IF SCREENING IS INVOLVED, OPENING AREAS SHOULD BE DOUBLED.

SPACING BETWEEN SHINGLES

THE SPACING BETWEEN ADJACENT SHINGLES SHOULD BE A MINIMUM OF ½". THIS WILL ALLOW FOR ANY MOVEMENT OF THE ROOF DECK AND EXPANSION/CONTRACTION OF THE MATERIALS. SIDE LAPS SHOULD BE 1 ½" AND NO TWO JOINTS SHOULD BE IN DIRECT ALIGNMENT.

COLD WEATHER INSTALLATION

IT IS RECOMMENDED THAT THE SHAKE SHINGLES NOT BE INSTALLED IN TEMPERATURES BELOW 20°F. SPECIAL CONSIDERATION SHOULD BE GIVEN FOR COLD WEATHER INSTALLATION REGARDING ITEMS SUCH AS ICE AND WATER SHIELD AND FELT UNDERLAYMENT. **BE SURE TO FOLLOW THE MANUFACTURER'S INSTALLATION REQUIREMENTS FOR ALL OTHER APPLICATION AND TO REFER TO LOCAL BUILDING CODE REQUIREMENTS.**

NOTE: THE SHAKE SHINGLES CAN BE SLICK AND SAFETY METHODS NEED TO BE ENFORCED.

PRODUCT STORAGE

FOR BETTER AND EASIER INSTALLATION, THE SHAKE SHINGLES NEED TO BE STORED ON A FLAT SURFACE. THE SHAKE SHINGLES CAN BECOME TWISTED OR BENT WHEN STORED ON AN UNEVEN SURFACE. TWISTED OR BENT SHAKE SHINGLES CAN CAUSE AN INITIAL APPEARANCE CONCERN AND A POSSIBLE PROBLEM WITH BLOWING SNOW AND RAIN, AND THEREFORE SHOULD **NOT** BE INSTALLED.

VENTILATION FLASHINGS

NORMAL TYPE OF ROOF STACKS OR FLASHINGS CAN BE USED. A LEAD STACK VENT FOR PLUMBING PIPES IS RECOMMENDED. PERMANENT TYPES OF MATERIALS SHOULD BE USED.

SNOW GUARDS

DUE TO THE TEXTURED SURFACE OF THE SHAKE SHINGLES, SNOW MAY SLIDE OFF RATHER EASILY. THE NEED FOR SNOW GUARDS WILL INCREASE IN AREAS WITH ABOVE AVERAGE SNOWFALL. BE SURE TO FOLLOW THE SNOW GUARD MANUFACTURER'S INSTALLATION SPECIFICATIONS FOR THE CORRECT SPACING AND ALWAYS REFER TO LOCAL BUILDING CODE REQUIREMENTS.

DEBRIS REMOVAL

IN AREAS OF HIPS AND VALLEYS WHERE AN INCREASES NEED FOR CUT SHAKE SHINGLES MAY OCCUR. IT IS RECOMMENDED THAT THESE AREAS ARE SWEEPED OFF AND THE CUTTINGS REMOVED FROM THE ROOF SURFACE. THIS IS FOR SAFETY REASONS AND TO KEEP THE CUTTINGS FROM STOPPING UP THE GUTTERS AND DOWN SPOUTS.

NAILING PATTERN

ALL SHAKE SHINGLES WILL BE NAILED WITH TWO NAILS, AS PER GLOBAL HYBRID ROOFING SOLUTIONS LIMITED INSTRUCTIONS. TWO NAILS WILL BE USED ON THE PRE-MARKED NAIL HOLE INDICATIONS FOR A 10" EXPOSURE.

SHAKE SHINGLE BLENDING

IT IS RECOMMENDED THAT THE INSTALLER LOAD THE ROOF WITH THE SHAKE SHINGLES OUT OF THREE (3) PALLETS, RATHER THAN FROM A SINGLE PALLET. GOOD BLENDING IS THE RESPONSIBILITY OF THE INSTALLER.

LAYOUT OF SIZED SHINGLES

WHEN STARTING OUT OR FINISHING WITH A CUT PIECE OF SHINGLE, THE CUT EDGE SHOULD BE INSTALLED INWARD. THE MANUFACTURED EDGE SHOULD

ALWAYS BE INSTALLED TO THE OUTSIDE (OR THE GABLE EDGE) OF THE ROOF. THIS IS FOR APPEARANCE ONLY. (SEE DIAGRAM BELOW.)

APPLICATION GUIDELINES

HIP & RIDGE

HIP AND RIDGE SHINGLES SHOULD BE NAILED WITH AN OVERLAP EXPOSURE EQUAL TO THAT OF ALL PRECEDING COURSES OF SHAKE SHINGLES.

ROOF JUNCTION DETAILS

WHEN METAL FLASHING IS EMPLOYED, IT SHOULD BE NO LESS THAN 26 GAUGE-GALVANIZED STEEL (OR EQUAL) PAINTED ON BOTH SIDES WITH A GOOD METAL OR BITUMINOUS PAINT AFTER FORMING TO MAINTAIN THE INTEGRITY OF THE GALVANIZED COATING.

CONVEX JUNCTURE

- THIS TYPE OF METAL FLASHING SHOULD BE INSTALLED TO COVER THE TOP FOUR INCHES OF THE WALL AND THE BOTTOM 10 INCHES OF THE ROOF SLOPE BEFORE THE FINAL COURSE OF SHAKE SHINGLES INSTALLED.
- A STARTER COURSE IS THEN APPLIED AT THE EAVE, WITH A 1 ½ OVERHANG OF WALL SURFACE.
- THE ROOF CAN THEN BE COMPLETED IN THE NORMAL MANNER.

CONCAVE JUNCTURE

- THE METAL FLASHING IS SIMILAR TO THE CONVEX TYPE AND IS INSTALLED TO COVER THE TOP OF THE ROOFTOP OF THE ROOF SLOPE AND THE BOTTOM FOUR

INCHES OF THE WALL BEFORE THE FINAL COURSE OF SHAKE SHINGLES INSTALLED.

SHAKE SHINGLES CAN BE APPLIED IN A VARIETY OF PATTERNS. THE MOST COMMON PATTERN IS A SINGLE STRAIGHT-LINE COURSE. FOLLOWING ARE GENERAL GUIDELINES FOR THIS APPLICATION.

ROOF PREPERATION

INSPECT ALL AREAS OF THE ROOF TO BE SHINGLED TO ASSURE THAT:

- 1) SURFACE AREA IS UNIFORM, SMOOTH, SOUND, CLEAN AND FREE OF IRREGULARITIES.
- 2) EVEN THOUGH METAL FLASHING AND OTHER SPECIALTY FLASHINGS MAY NOT BE THE RESPONSIBILITY OF THE ROOFER, THESE MUST BE IN PLACE PRIOR TO THE INSTALLATION.
- 3) WORK BY OTHER TRADES, WHICH PENETRATE THE ROOF PLANE, IS COMPLETED.

UNDERLAY

- 1) INSTALL ICE AND WATER SHIELD AT ALL EAVES, VALLEYS AND AROUND PROJECTIONS IN LIEU OF ANY UNDERLAYMENT.
- 2) FELT UNDERLAYMENT SHOULD **NOT** BE PLACED UNDER THE ICE AND WATER SHIELD, BUT SHOULD OVERLAP THE ICE AND WATER SHIELD NO LESS THAN 2".
- 3) IF ICE AND WATER SHIELD WILL BE YOUR MAN MAIN UNDERLAYMENT INSTEAD OF FELT, THEN IT SHOULD BE INSTALLED DIRECTLY TO THE DECK..

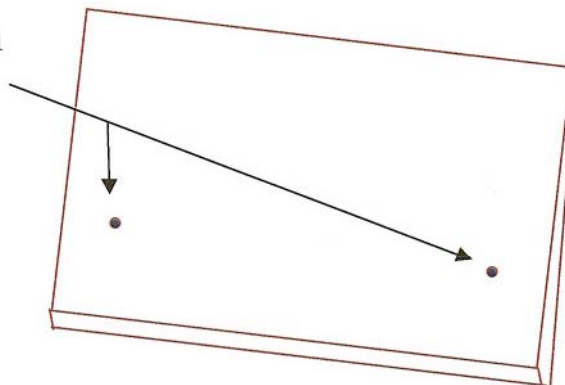
LAYOUT

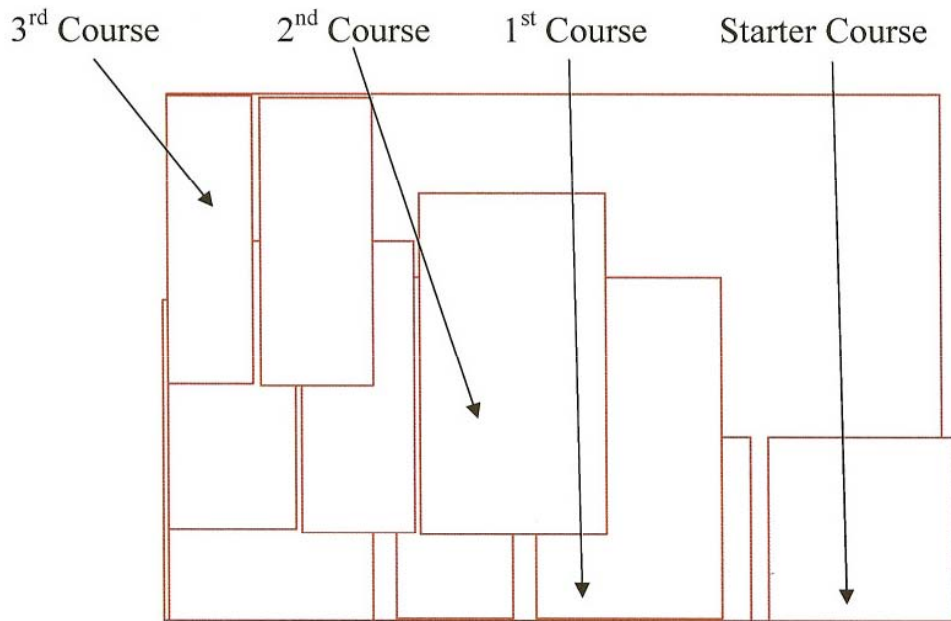
THE SHAKE SHINGLES CAN BE APPLIED IN A VARIETY OF PATTERNS. THE MOST COMMON OF WHICH IS A SINGLE-STRAIGHT LINE COURSE OF SHAKES.

THE STARTER COURSE WILL BE APPLIED USING THE STARTER PIECES. THESE TAPERED STARTER PIECES MEASURE 16" X 14". THE STARTER COURSE SHOULD PROJECT 1/2" BEYOND THE FASCIA BOARD AT THE EAVE AND 1" AT THE GABLE END.

- 1) EACH STARTER SHOULD BE NAILED 6" UP SLOPE FROM THE THICK END AND 1 1/4" FROM EACH OUTER EDGE. A 3/8" SPACING BETWEEN STARTER PIECES IS NECESSARY.
- 2) IF A STARTER PIECE NEEDS TO BE CUT TO COMPLETE THE STARTER COURSE, PLACE FACTORY EDGE TO THE OUTSIDE.
- 3) NOW START THE FINAL COURSE. THE FIRST COURSE OF SHAKE SHINGLE SHOULD BE NAILED OVER THE STARTER COURSE IN SUCH A MANNER THAT THE JOINTS IN EACH COURSE ARE NOT LESS 1 1/2" APART. THIS IS A RECOMMENDED "SIDE LAP"

Nail Position





VALLEYS

EITHER AN OPEN OR CLOSED VALLEY DESIGN CAN BE USED.

OPEN VALLEY DESIGN

WITH AN OPEN VALLEY DESIGN, LEAVE A MINIMUM 4" OPENING AT THE TOP OF THE VALLEY, GRADUATING 1/8" PER 10 LINEAL FEET DOWN SLOPE. FOR ROOF SLOPES OF 4:12 OR GREATER, "W" VALLEY FLASHING SHOULD HAVE 1" CENTER IN PAINTED, GALVANIZED STEEL, ALUMINUM, COPPER OR STAINLESS STEEL, AND EXTEND A MINIMUM OF 10" ON EACH SIDE OF THE VALLEY CENTERLINE. FOR ROOF SLOPES THAN 4:12, VALLEY FLASHING SHOULD EXTEND NOT LESS THAN 14" EACH SIDE.

CLOSED VALLEY DESIGN

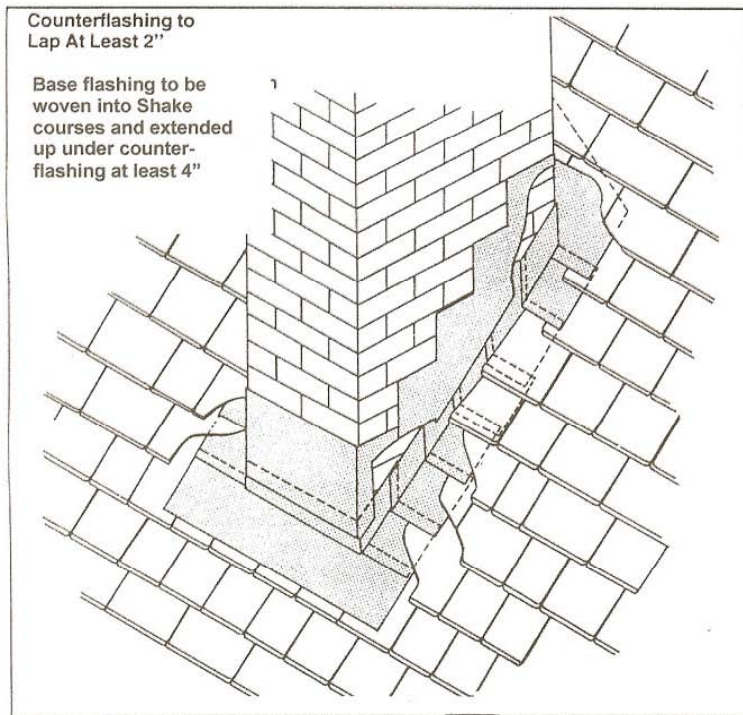
CLOSED VALLEYS FLASHINGS ARE 2 1/2" CENTER CRIMPED EXTENDING 10" OUT FROM CENTERLINE.

FLASHINGS

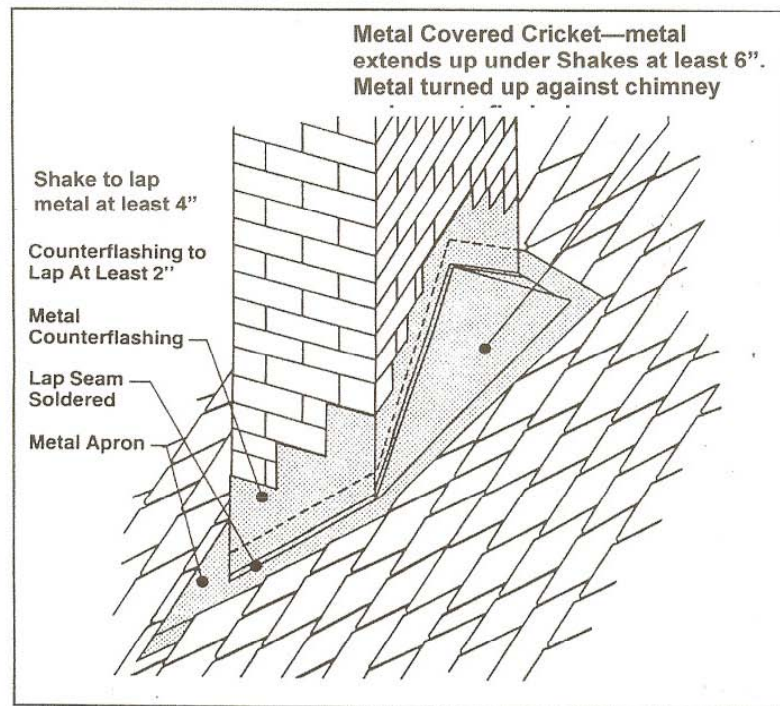
FLASHINGS SHOULD BE USED AROUND ALL ROOF PROJECTIONS, SUCH AS WALLS, CHIMNEYS, DORMERS, PARAPETS, VENT PIPES, SKYLIGHTS, ETC. PROVEN DURABLE FLASHING MATERIALS ARE COPPER, LEAD, GALVANIZED IRON AND STAINLESS STEEL.

NOTE: WHEN DISSIMILAR METALS ARE PLACED IN CONTACT WITH ONE ANOTHER, GALVANIC ACTION WILL RESULT WHICH CAN CAUSE ELECTROPOSITIVE METALS TO DETERIORATE. ONE WAY THIS CAN BE AVOIDED IS BY PLACING STRIPS OF SHEET LEAD BETWEEN THE TWO METALS.

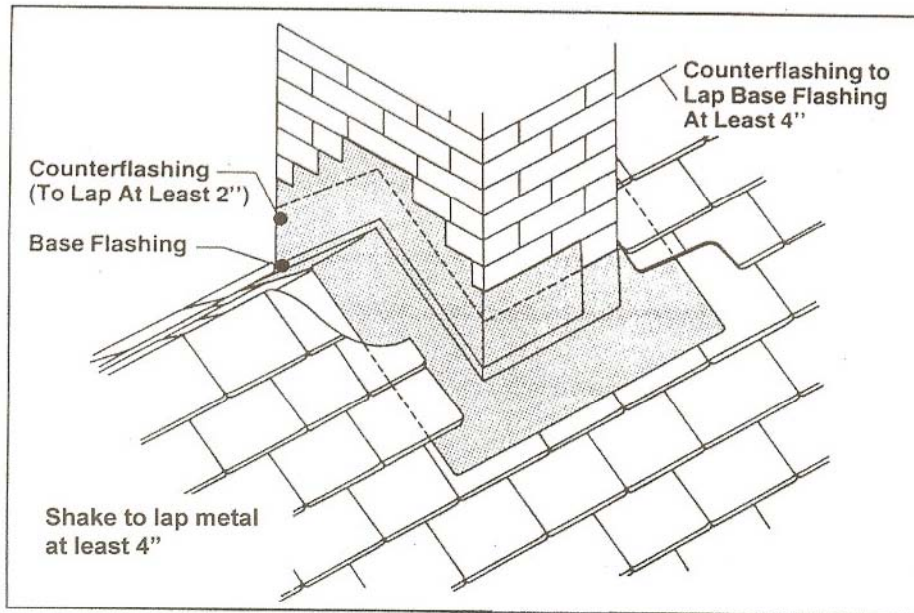
ILLUSTRATIONS



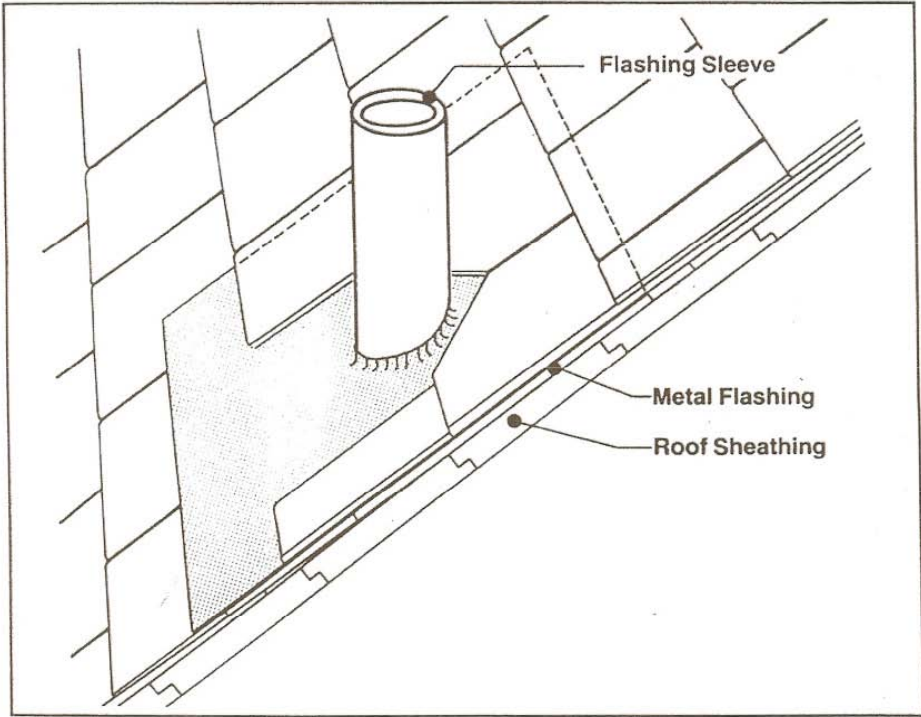
Built-In Base Flashing for a Chimney



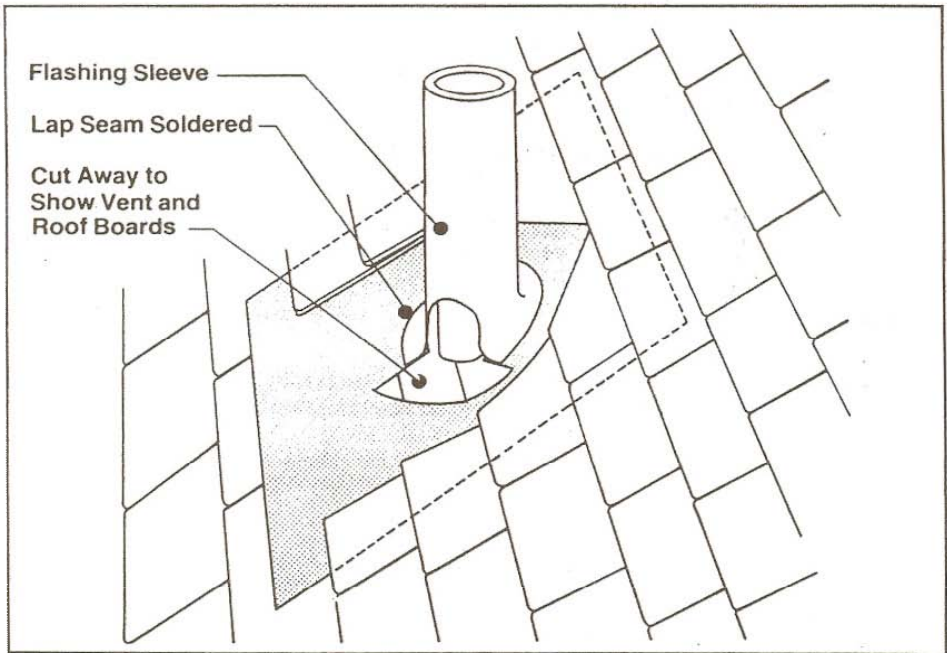
Flashing for a Chimney



Flashing for Chimney on Ridge



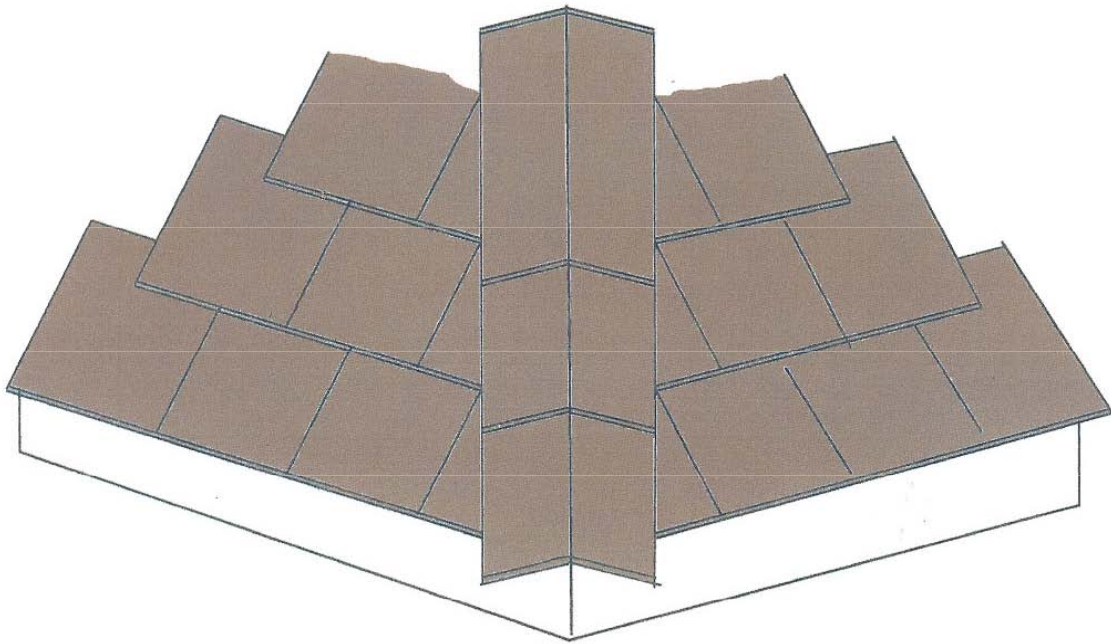
Flashing for Soil Stack



Flashing for a Vent Pipe

HIP & RIDGE DETAILS

- TRIM THE HIP SHINGLES TO FIT AS TIGHT AS POSSIBLE. INSTALL AN 8" WIDE STRIP OF 30 LB., FELT (MINIMUM) OVER THE CENTER OF THE HIP.
- NAILS SHOULD PENETRATE DECKING $\frac{1}{2}$ "
- WHEN PRE-FORMED HIP AND & RIDGE SHINGLES ARE USED, PLACE NAILS AT NAIL LOCATOR MARKS. FASTEN HIP SHINGLES WITH 2 NAILS EACH ON EACH SIDE. MAINTAIN A 3" HEAD LAP.



HIGH WIND SPECIFICATIONS

ROOF DECKING MATERIALS

SOLID DECK

- MINIMUM OF 1/2" PLYWOOD NAILED AT PERIMETER 6" ON CENTER, IN THE FIELD 6" ON CENTER AND ON SEAMS 4" ON CENTER.

UNDERLAYMENT

- a. INSTALL ICE AND WATER SHIELD AT ALL EAVES, VALLEYS AND AROUND PROJECTIONS THAT ARE GREATER THAN 12" X 12" (RECOMMENDED.)
- b. FELT UNDERLAYMENT SHOULD **NOT** BE PLACED UNDER THE ICE AND WATER SHIELD, BUT SHOULD OVERLAP THE ICE AND WATER SHIELD NO LESS THAN 4". SIDE LAPS SHOULD BE NO LESS THAN 6".
- c. ROOFING FELT 30# ASPHALT SATURATED ORGANIC FELT PAPER NAILED WITH 1 TIN TAB PER NAIL 1-1/4" SMOOTH ROOFING NAIL, AT 6" OC ON ALL SEAMS AND IN THE FIELD 12" OC STAGGERED 12".

FASTENER REQUIREMENTS

GHR'S SHAKE

GHR'S SHAKE should be installed with two 1/8" dia. x 1 3/4" ring shank roofing nails for 110 mph. GHR'S SHAKE should be installed with two 1/8" dia. x 2" ring shank roofing nails for 131.75 PSF Design Pressure for Class A and 129.25 PSF for Class C. (See Dade NOA's for further information.)

..... **CAUTION SHOULD ALWAYS BE USED TO INSURE AGAINST OVER/UNDER PENETRATION.** IN AREAS THAT EXPERIENCE HIGH HUMIDITY OR OTHER SEVERE CLIMATIC CONDITIONS, CONSIDERATION SHOULD BE GIVEN TO USING STAINLE SS STEEL FASTENERS AND HIGHER-GRADE ACCESSORIES.

LAYOUT

- 1) THE STARTER COURSE SHOULD PROJECT 1/2" BEYOND THE FASCIA BOARD AT THE EAVE AND 1" AT THE GABLE END. THE STARTER SHOULD BE NAILED WITH TWO 1/8" DIA. X 2" RING SHANK ROOFING NAILS
- 2) FROM BOTH ENDS, POSITION STARTER PIECES AND SNAP A HORIZONTAL LINE FROM THE TOPS OF THE STARTERS BETWEEN THESE TWO POINTS. NEXT SNAP A VERTICAL LINE FROM EAVE TO TOP RIDGE. THESE CHALK LINES WILL INSURE THAT THE SHAKE TILES WILL BE STARTED TRUE AND PLUMB. MORE HORIZONTAL AND VERTICAL LINES MAY BE SNAPPED TO INSURE THE SHAKE TILES WILL STAY TRUE AND PLUMB THROUGHOUT INSTALLATION.
- 3) INITIAL STARTING POINTS MAY BE FROM LEFT SIDE, RIGHT SIDE OR CENTER OF THE AREA TO BE TILED. A MINIMUM SPACING OF 3/8" BETWEEN ALL SHAKE TILES IS REQUIRED.
- 4) SOLID TILE MAY VARY IN SIZE. **DO NOT USE THEM TO ESTABLISH YOUR ROOF LAYOUT.** THEY ARE A TRIM ACCESSORY. BE SURE TO SNAP PROPER LINES TO INITIALIZE AND ENSURE PROPER LAYOUT.
- 5) ONE METHOD OF STARTING IS TO LOCATE THE CENTER OF THE ROOF AREA TO BE COVERED. SNAP A VERTICAL AND HORIZONTAL LINE AT THIS POINT. BEGIN BY PLACING A STARTER TILE ON THE RIGHT AND LEFT SIDE OF THE VERTICAL LINE MAINTAINING A 3/8" SPACING AND CONTINUE TO BOTH ENDS. STARTER PIECES SHOULD BE APPLIED WITH THE TAPERED EDGE (THIN EDGE) AT THE TOP OF THE STARTER COURSE.
- 6) THE EXPOSURE OF THE SHAKE IS TO BE NO MORE THAN 8".

- 7) NOW START THE FIRST COURSE. THE FIRST COURSE OF SHAKE SHOULD BE NAILED OVER THE STARTER COURSE IN SUCH A MANNER THAT THE JOINTS IN EACH COURSE ARE NOT LESS THAT 1 1/2" APART. THIS IS A RECOMMENDED "SIDE LAP."

