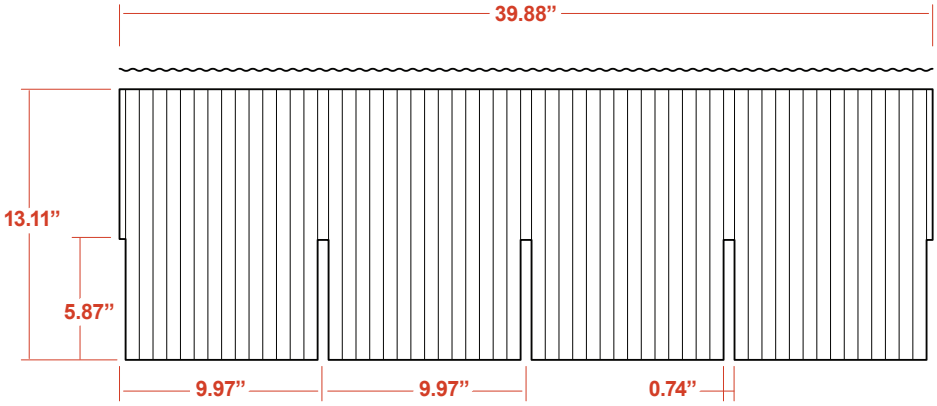
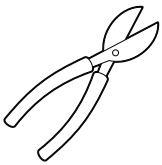
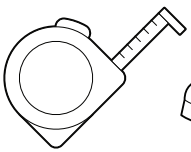


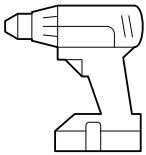


SNIPS

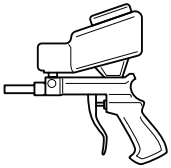


RULER

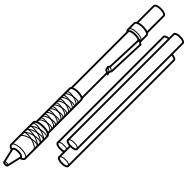
SAFETY SHOES



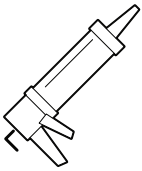
SCREW GUN



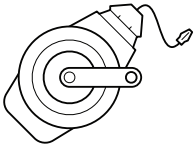
SAND BLASTER GUN



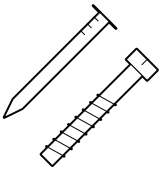
SOAPSTONE PENCIL



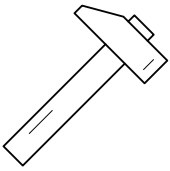
SEALANT



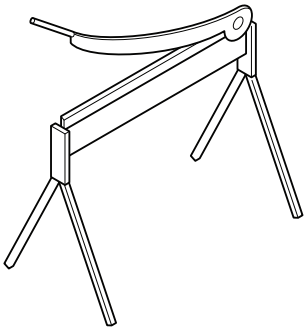
CHALK LINE TOOL



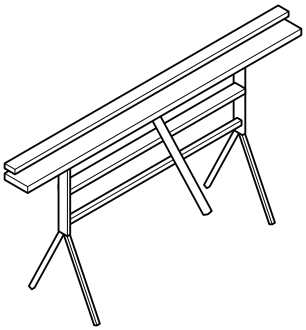
NAILS, SCREWS



HAMMER



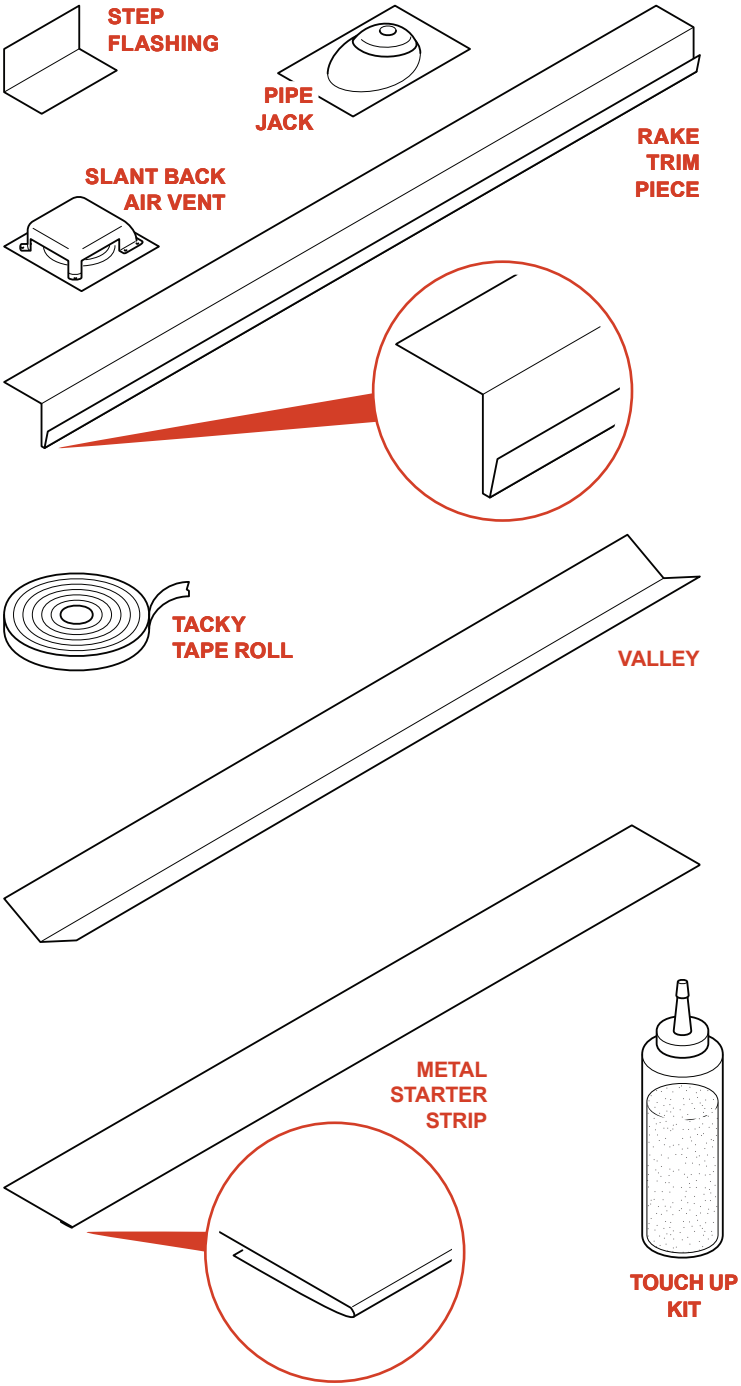
CUTTER

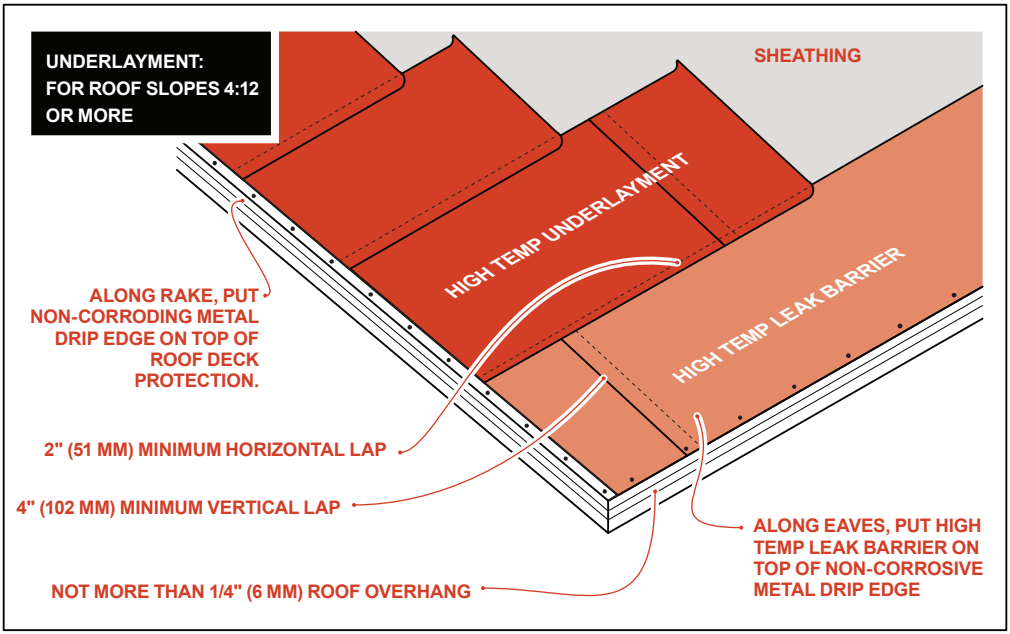


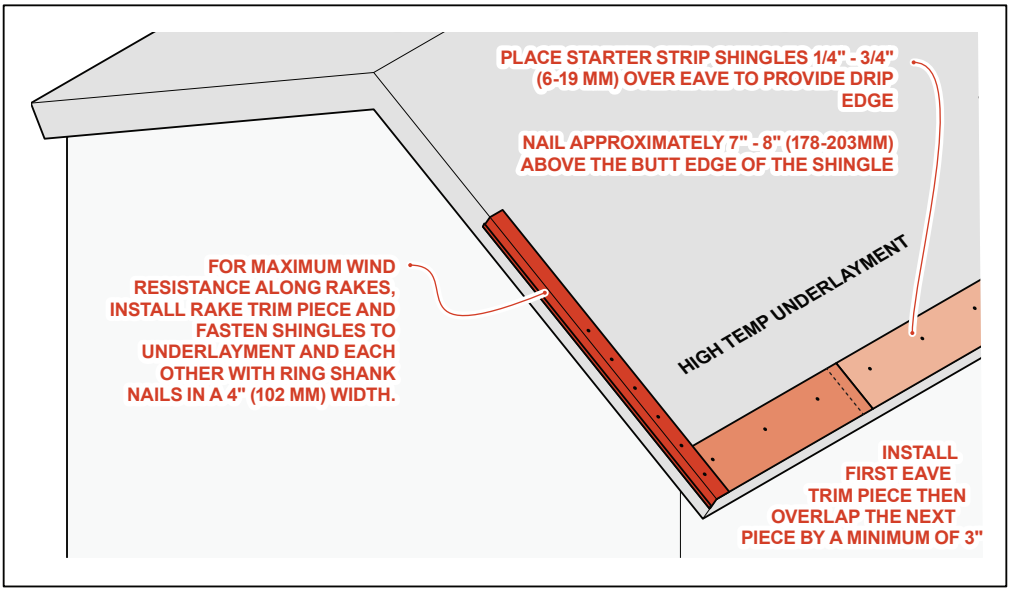
BENDER

DO NOT USE ELECTRIC CUTTER!

INSTALLERS ARE REMINDED TO WEAR THE PROPER GEAR WHEN HANDLING OBJECTS WITH SHARP EDGES

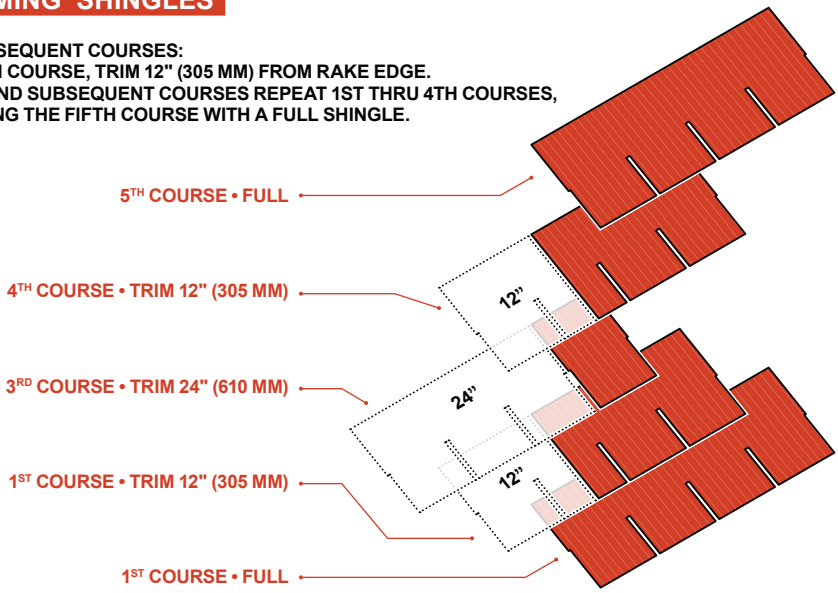

STEP FLASHING
PIPE JACK
RAKE TRIM PIECE
SLANT BACK AIR VENT
TACKY TAPE ROLL
VALLEY
METAL STARTER STRIP
TOUCH UP KIT


UNDERLAYMENT:
FOR ROOF SLOPES 4:12
OR MORE
SHEATHING
HIGH TEMP UNDERLAYMENT
HIGH TEMP LEAK BARRIER
ALONG RAKE, PUT NON-CORRODING METAL DRIP EDGE ON TOP OF ROOF DECK PROTECTION.
2" (51 MM) MINIMUM HORIZONTAL LAP
4" (102 MM) MINIMUM VERTICAL LAP
NOT MORE THAN 1/4" (6 MM) ROOF OVERHANG
ALONG EAVES, PUT HIGH TEMP LEAK BARRIER ON TOP OF NON-CORROSIVE METAL DRIP EDGE

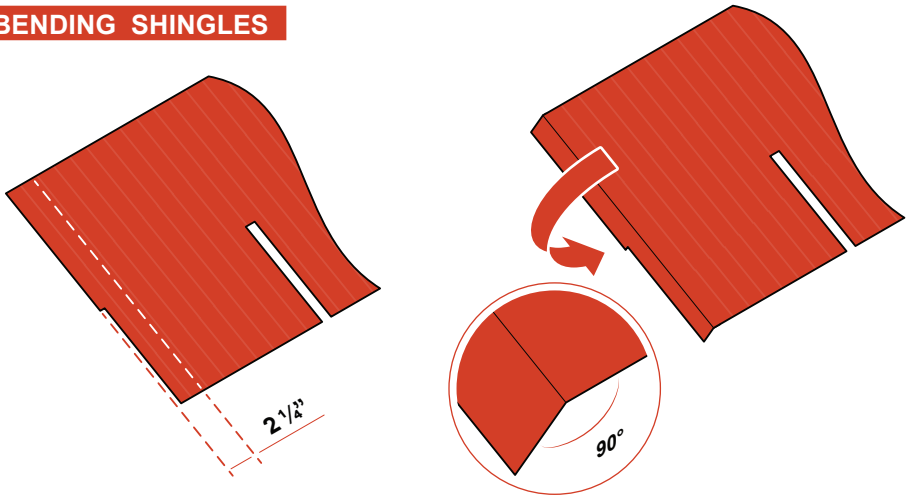

PLACE STARTER STRIP SHINGLES 1/4" - 3/4" (6-19 MM) OVER EAVE TO PROVIDE DRIP EDGE
NAIL APPROXIMATELY 7" - 8" (178-203MM) ABOVE THE BUTT EDGE OF THE SHINGLE
FOR MAXIMUM WIND RESISTANCE ALONG RAKES, INSTALL RAKE TRIM PIECE AND FASTEN SHINGLES TO UNDERLAYMENT AND EACH OTHER WITH RING SHANK NAILS IN A 4" (102 MM) WIDTH.
HIGH TEMP UNDERLAYMENT
INSTALL FIRST EAVE TRIM PIECE THEN OVERLAP THE NEXT PIECE BY A MINIMUM OF 3"

TRIMMING SHINGLES

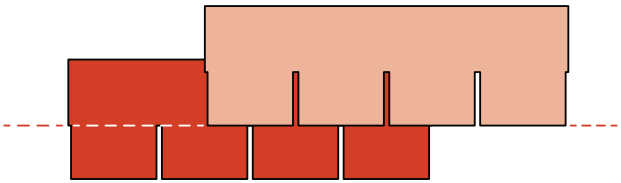
FOR SUBSEQUENT COURSES:
- FOURTH COURSE, TRIM 12" (305 MM) FROM RAKE EDGE.
- FIFTH AND SUBSEQUENT COURSES REPEAT 1ST THRU 4TH COURSES,
- STARTING THE FIFTH COURSE WITH A FULL SHINGLE.

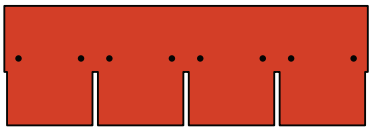


BENDING SHINGLES

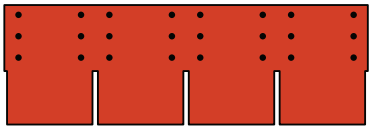


THE NEXT SHINGLE STARTS AT THE TOP OF THE KEYWAY





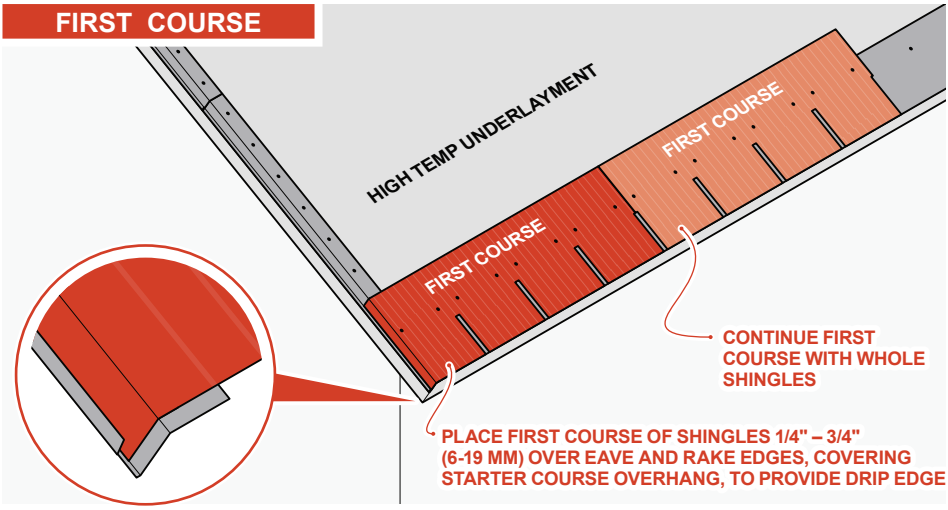
STANDARD NAILING ASSEMBLY
HOT DIPPED RING SHANK COIL NAILS OR BURCO RING SHANK NAILS



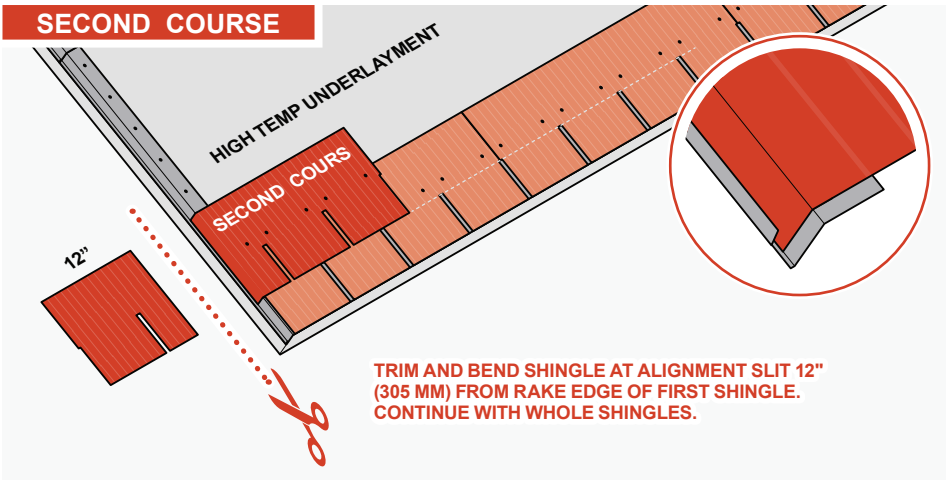
EXTREME HIGH WINDS NAILING ASSEMBLY
HOT DIPPED RING SHANK COIL NAILS OR BURCO RING SHANK NAILS

PRESS DOWN ON THE METAL PANEL BEFORE NAILING

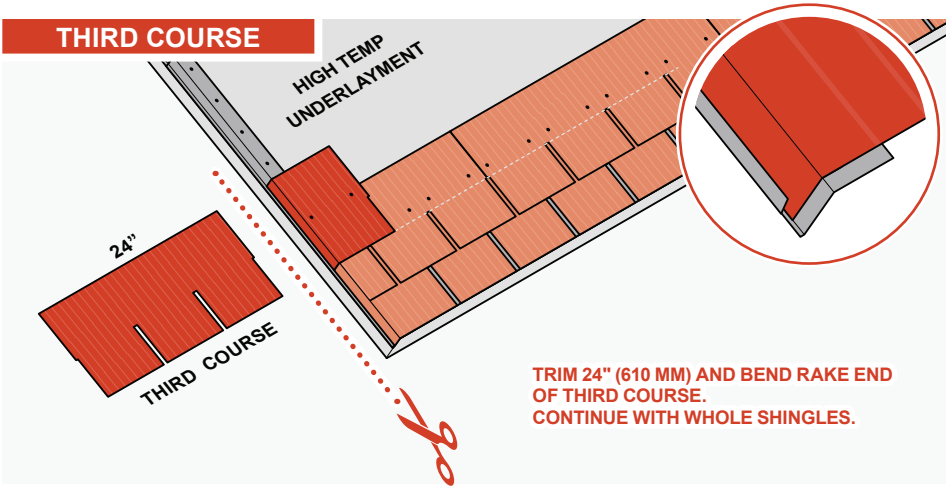
FIRST COURSE



SECOND COURSE

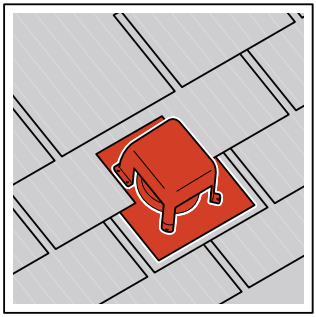


THIRD COURSE



VENTILATION

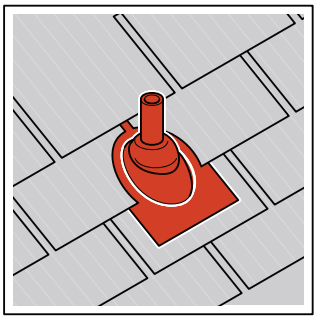
Install ventilation products for optimal shingle life. See General Instructions and the "Through Ventilation" section. Follow the application instructions for the selected ventilation products.

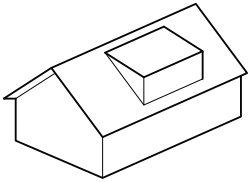


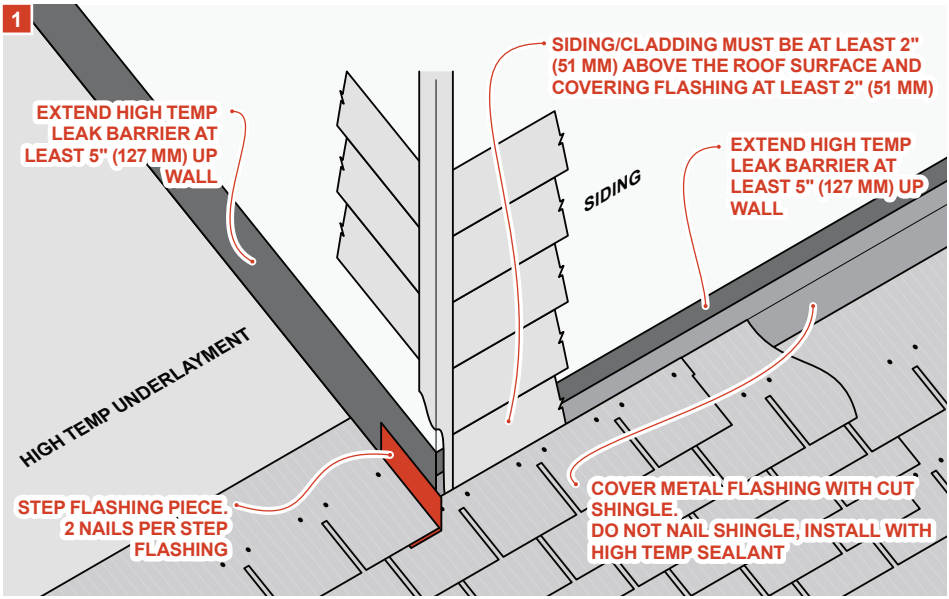
PIPE JACK

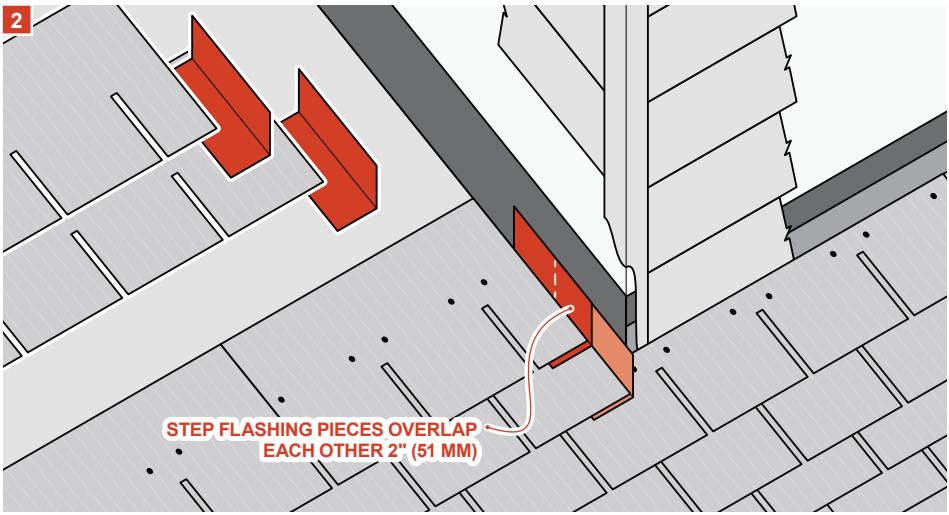
Lead pipe jacks can react with Galvalume metal, leading to galvanic corrosion

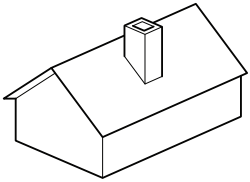
CAUTION: High temp underlayment is a requirement*



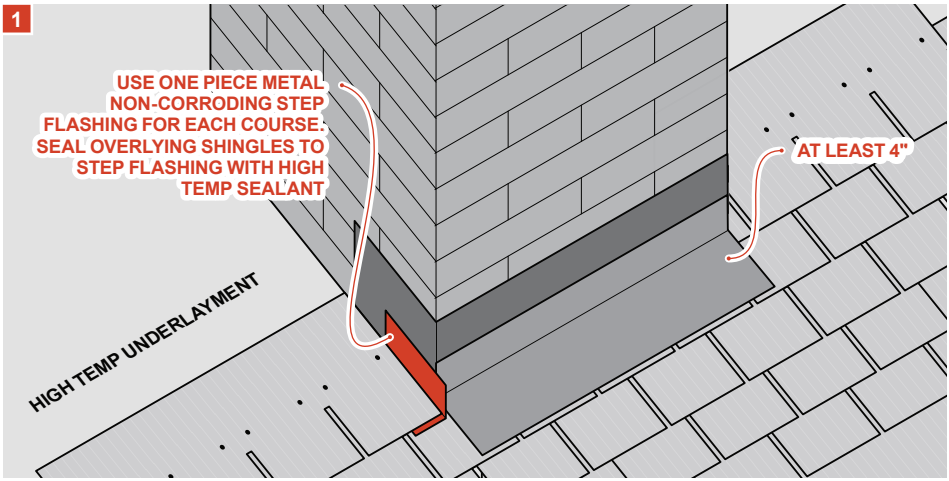



1
SIDING/CLADDING MUST BE AT LEAST 2" (51 MM) ABOVE THE ROOF SURFACE AND COVERING FLASHING AT LEAST 2" (51 MM)
EXTEND HIGH TEMP LEAK BARRIER AT LEAST 5" (127 MM) UP WALL
SIDING
EXTEND HIGH TEMP LEAK BARRIER AT LEAST 5" (127 MM) UP WALL
HIGH TEMP UNDERLAYMENT
STEP FLASHING PIECE. 2 NAILS PER STEP FLASHING
COVER METAL FLASHING WITH CUT SHINGLE. DO NOT NAIL SHINGLE, INSTALL WITH HIGH TEMP SEALANT

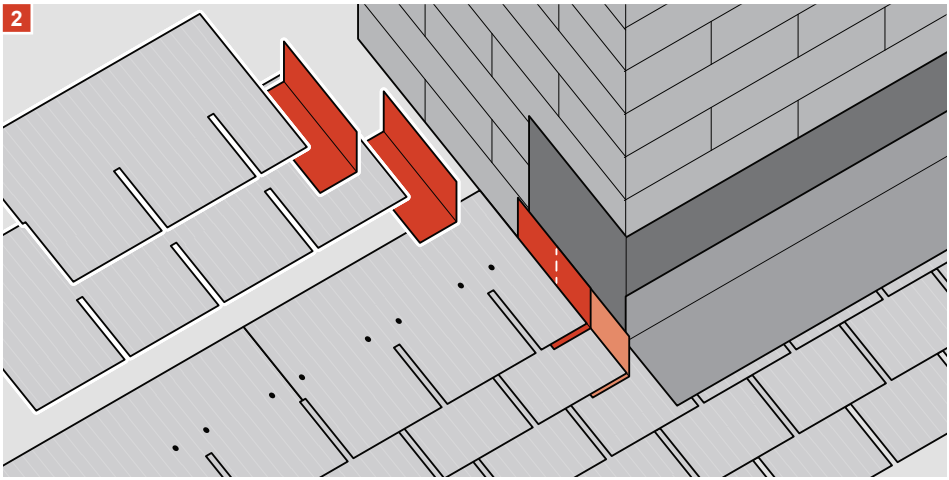

2
STEP FLASHING PIECES OVERLAP EACH OTHER 2" (51 MM)



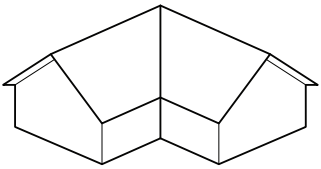
1

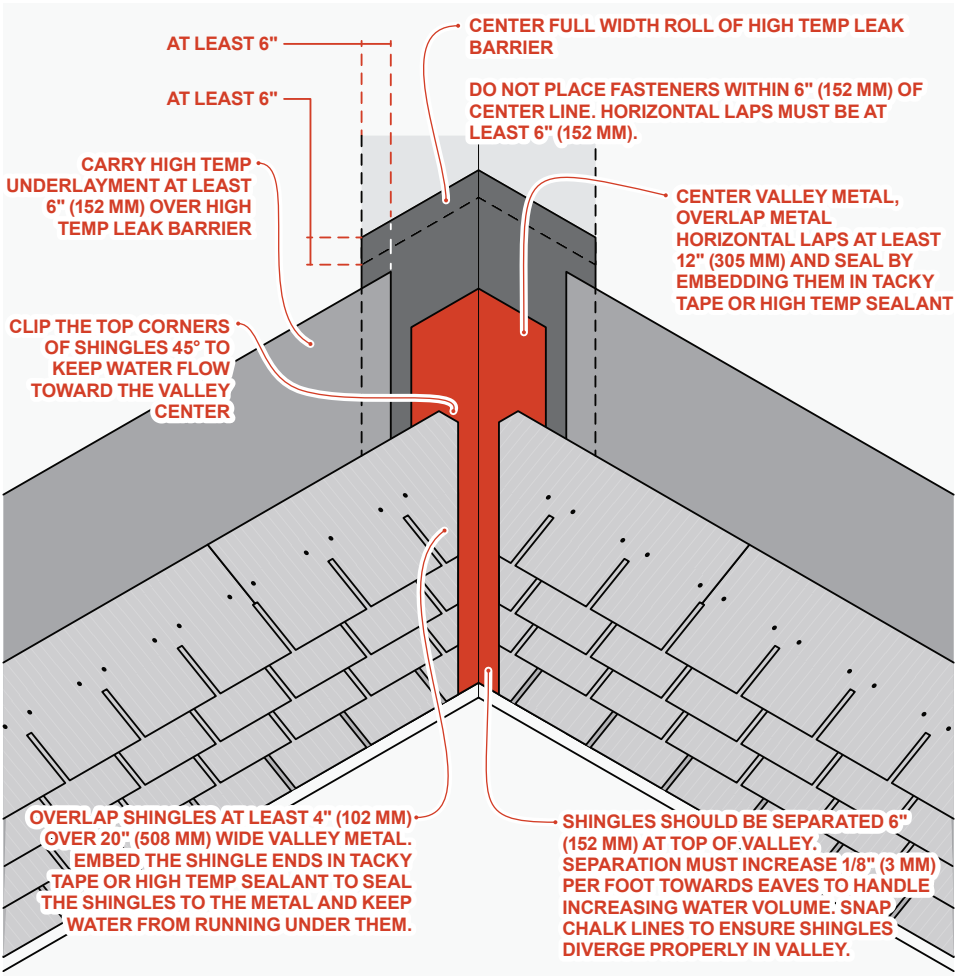

USE ONE PIECE METAL NON-CORRODING STEP FLASHING FOR EACH COURSE. SEAL OVERLYING SHINGLES TO STEP FLASHING WITH HIGH TEMP SEALANT
AT LEAST 4"
HIGH TEMP UNDERLAYMENT

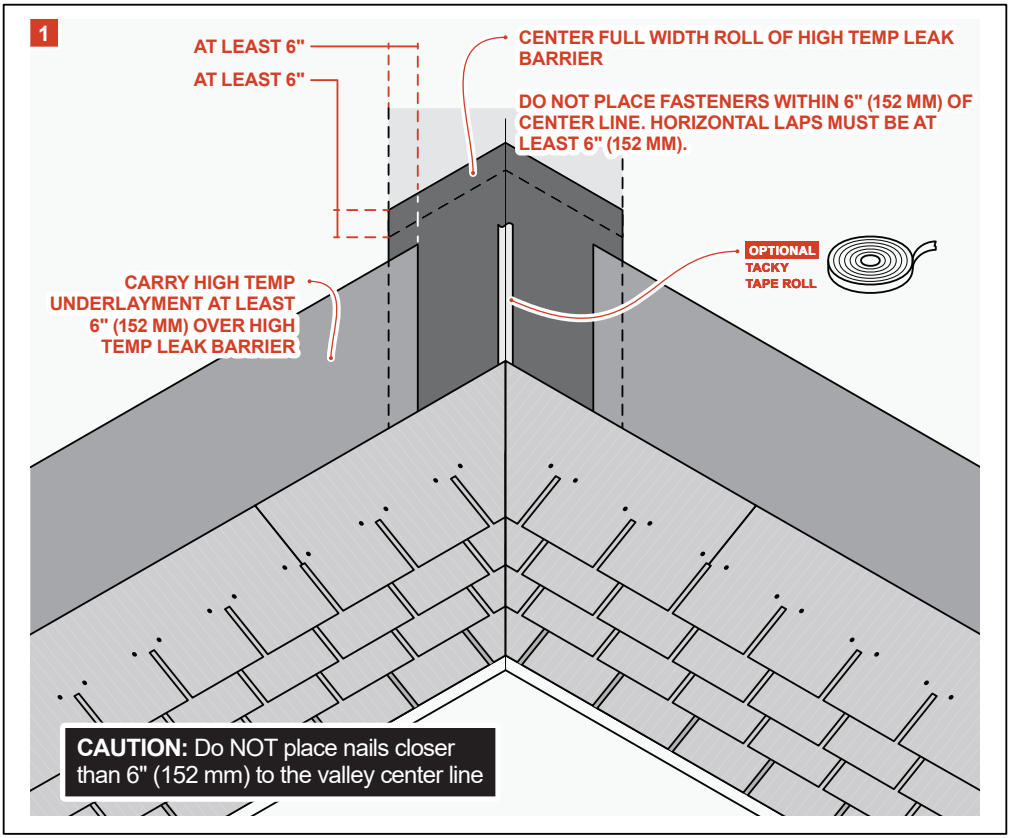
2

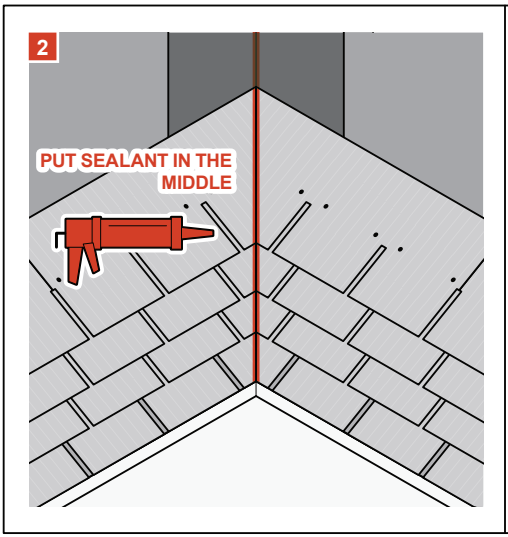


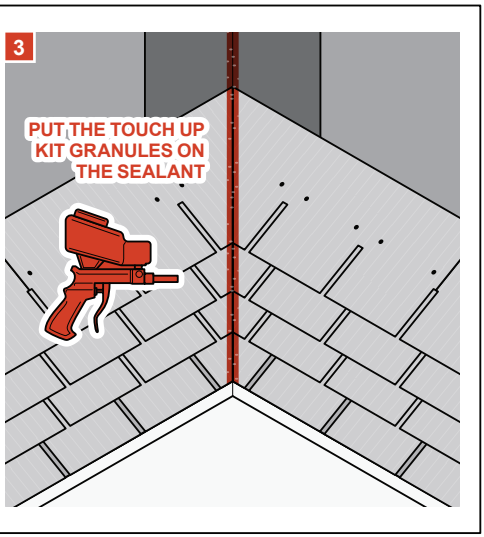
Use minimum 20" (508 mm) wide aluminum, galvanized steel, or other non-corroding, non-staining metals (28 gauge minimum). Long valleys or local building codes may require wider metal. Nail the metal on the edges so the nail heads hold it in place. Do not puncture the metal. Nailing through the metal may cause leaking and buckling due to movement.






1
AT LEAST 6"
AT LEAST 6"
CENTER FULL WIDTH ROLL OF HIGH TEMP LEAK BARRIER
DO NOT PLACE FASTENERS WITHIN 6" (152 MM) OF CENTER LINE. HORIZONTAL LAPS MUST BE AT LEAST 6" (152 MM).
OPTIONAL
TACKY
TAPE ROLL
CARRY HIGH TEMP UNDERLAYMENT AT LEAST 6" (152 MM) OVER HIGH TEMP LEAK BARRIER
CAUTION: Do NOT place nails closer than 6" (152 mm) to the valley center line


2
PUT SEALANT IN THE MIDDLE


3
PUT THE TOUCH UP KIT GRANULES ON THE SEALANT

Make the ridge cap by cutting the shingle