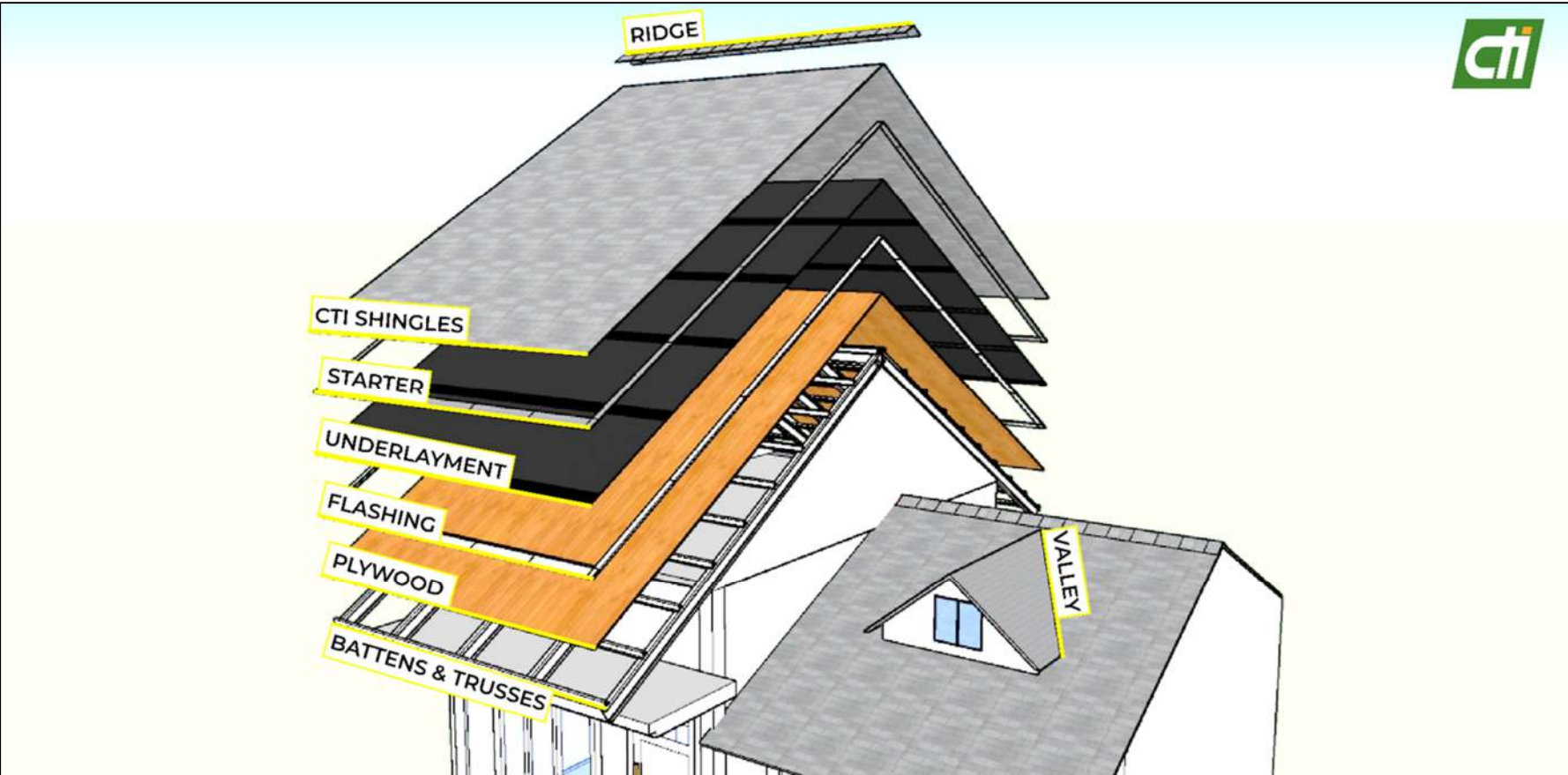
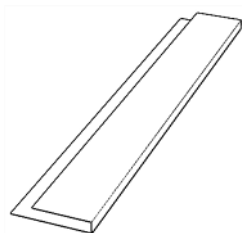


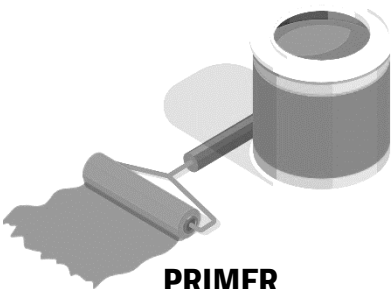
CTI INSTALLATION GUIDE



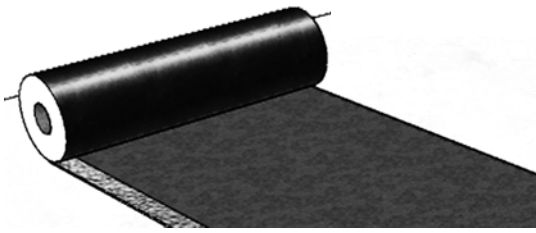
OTHER ROOFING MATERIALS –YOU MAY NEED



FLASHING



PRIMER



UNDERLAYMENT



NAILS



HAMMER



CUTTER



RULER

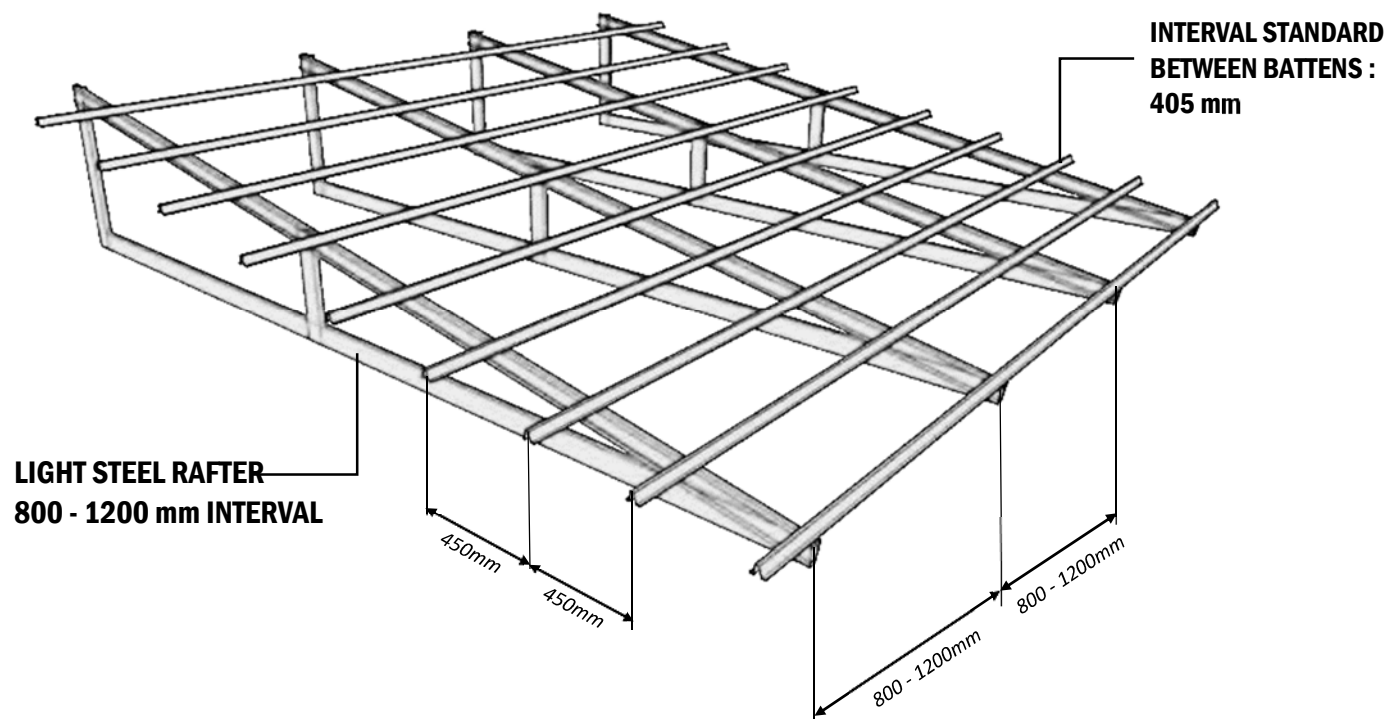


CHALK LINE

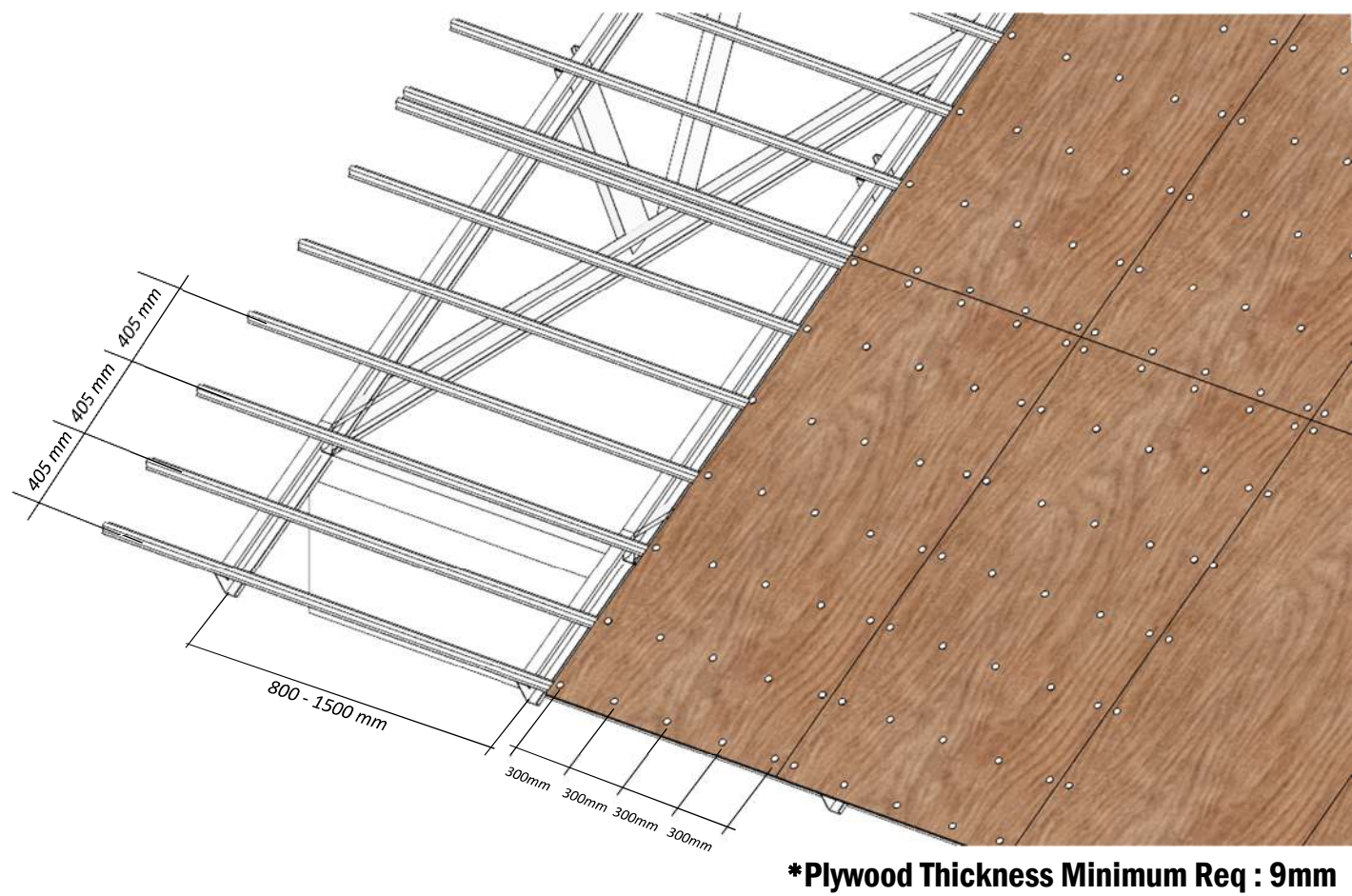


SEALANT

1. BATTENS INTERVAL STANDARD : 405 mm

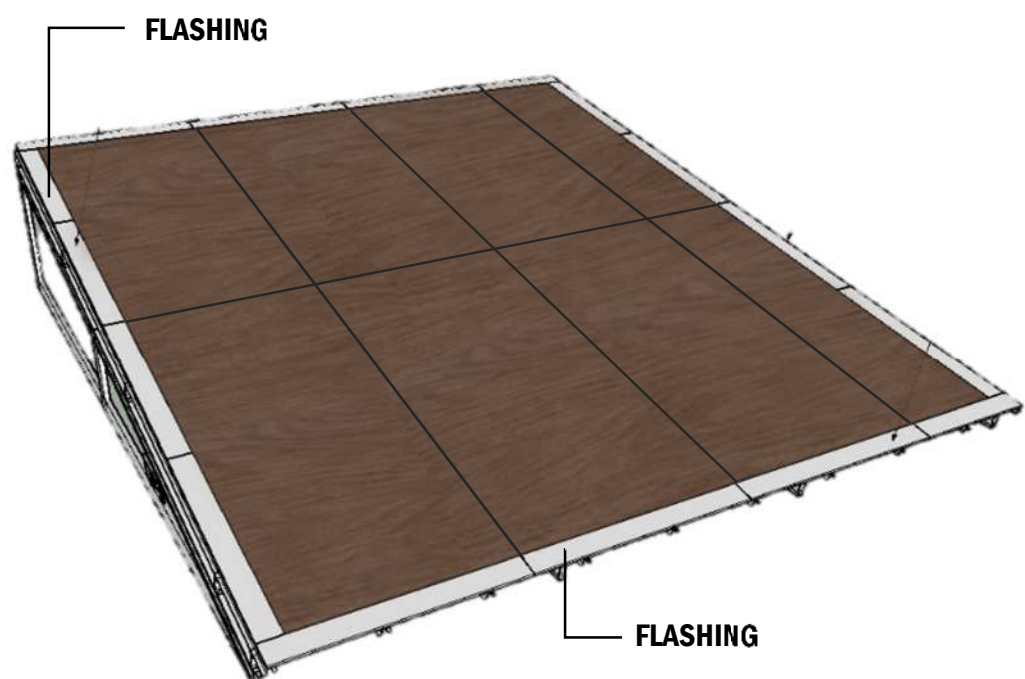


2. PLYWOOD SCREWS INTERVAL STANDARD : 300 mm

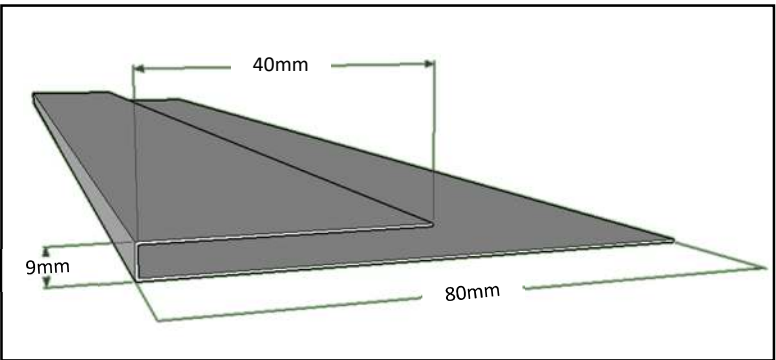


3. FLASHING INSTALLATION

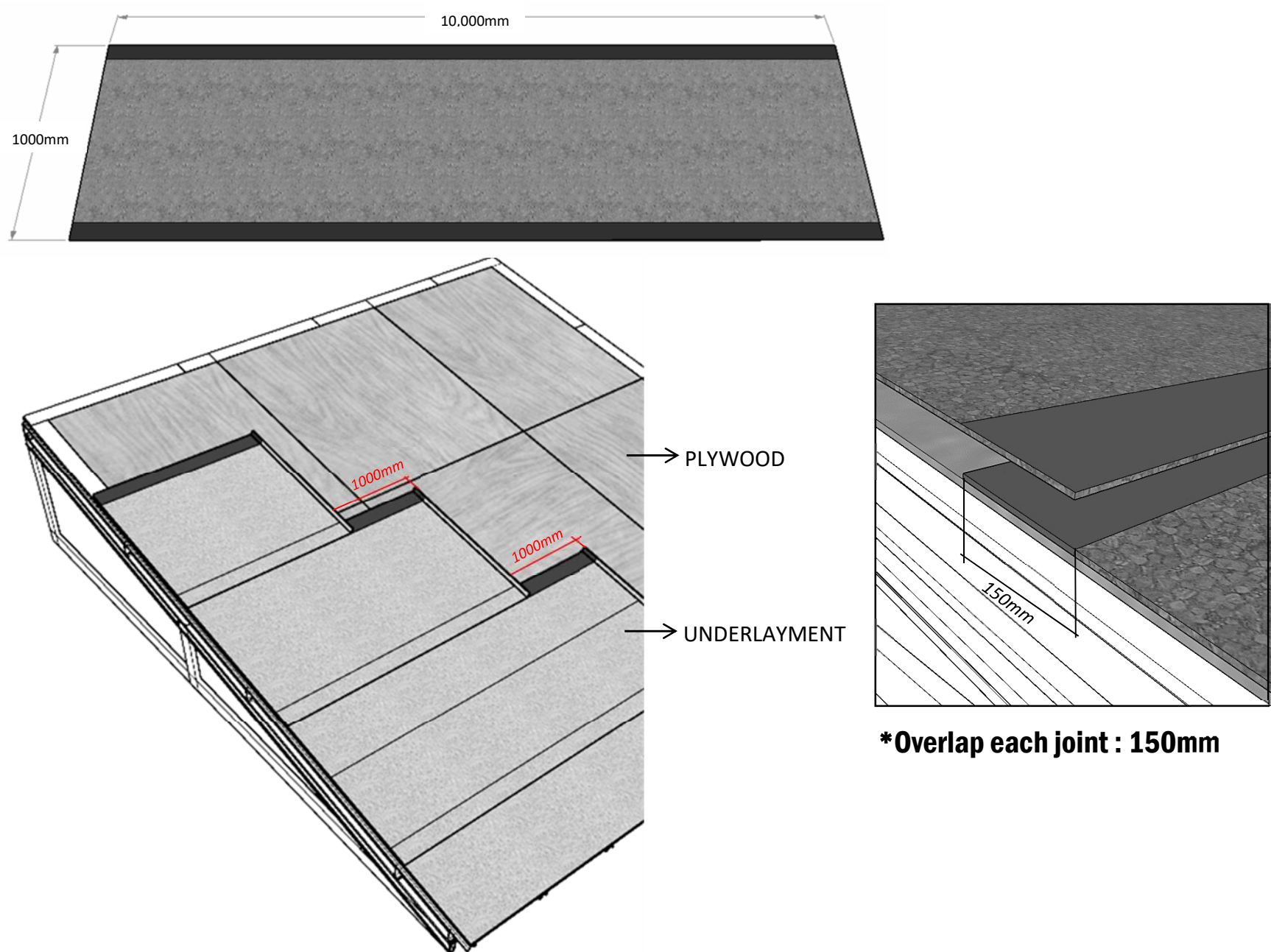
* FLASHING INSTALLED AROUND THE EDGE OF ROOF



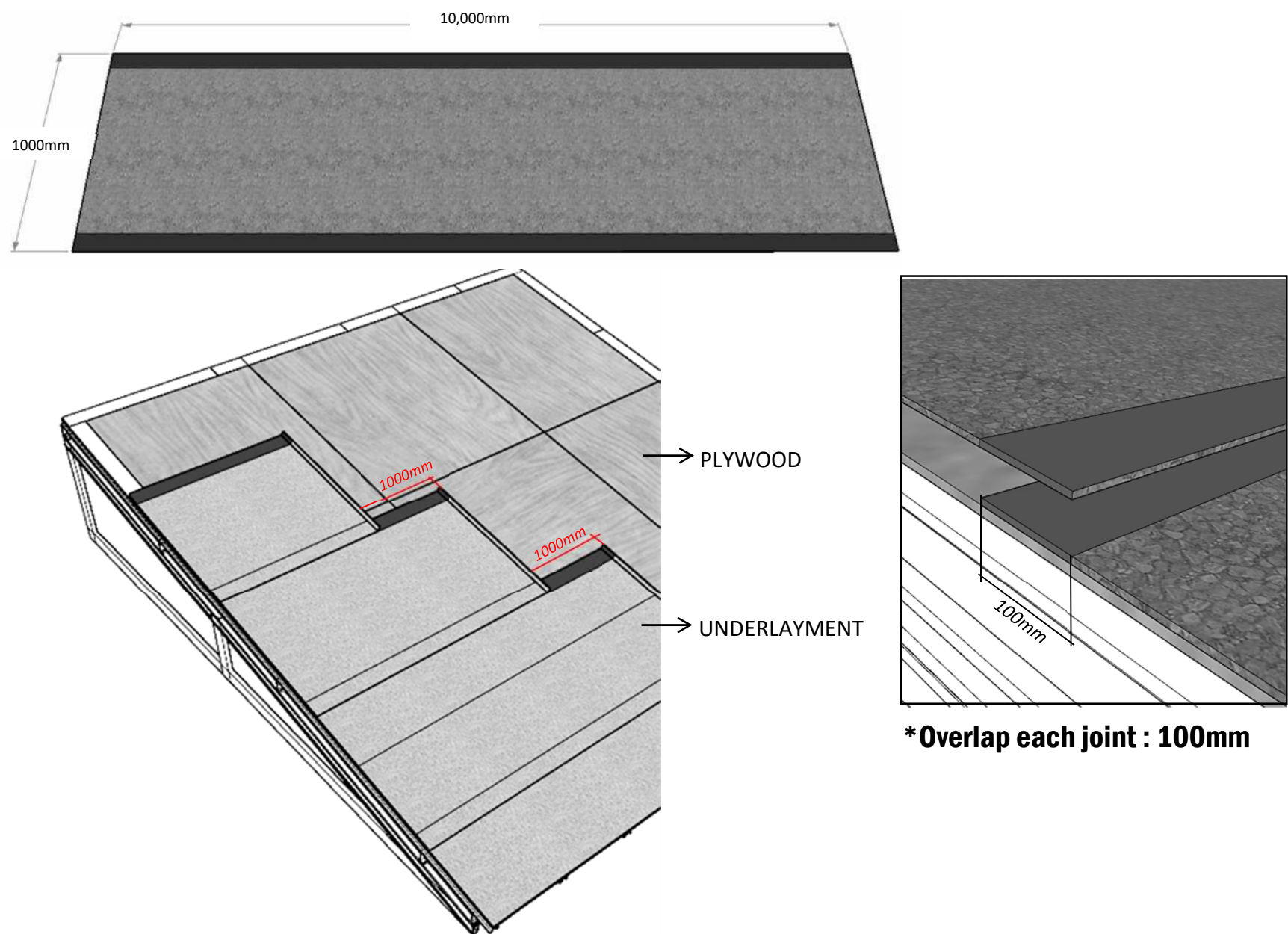
* FLASHING DIMENSIONS



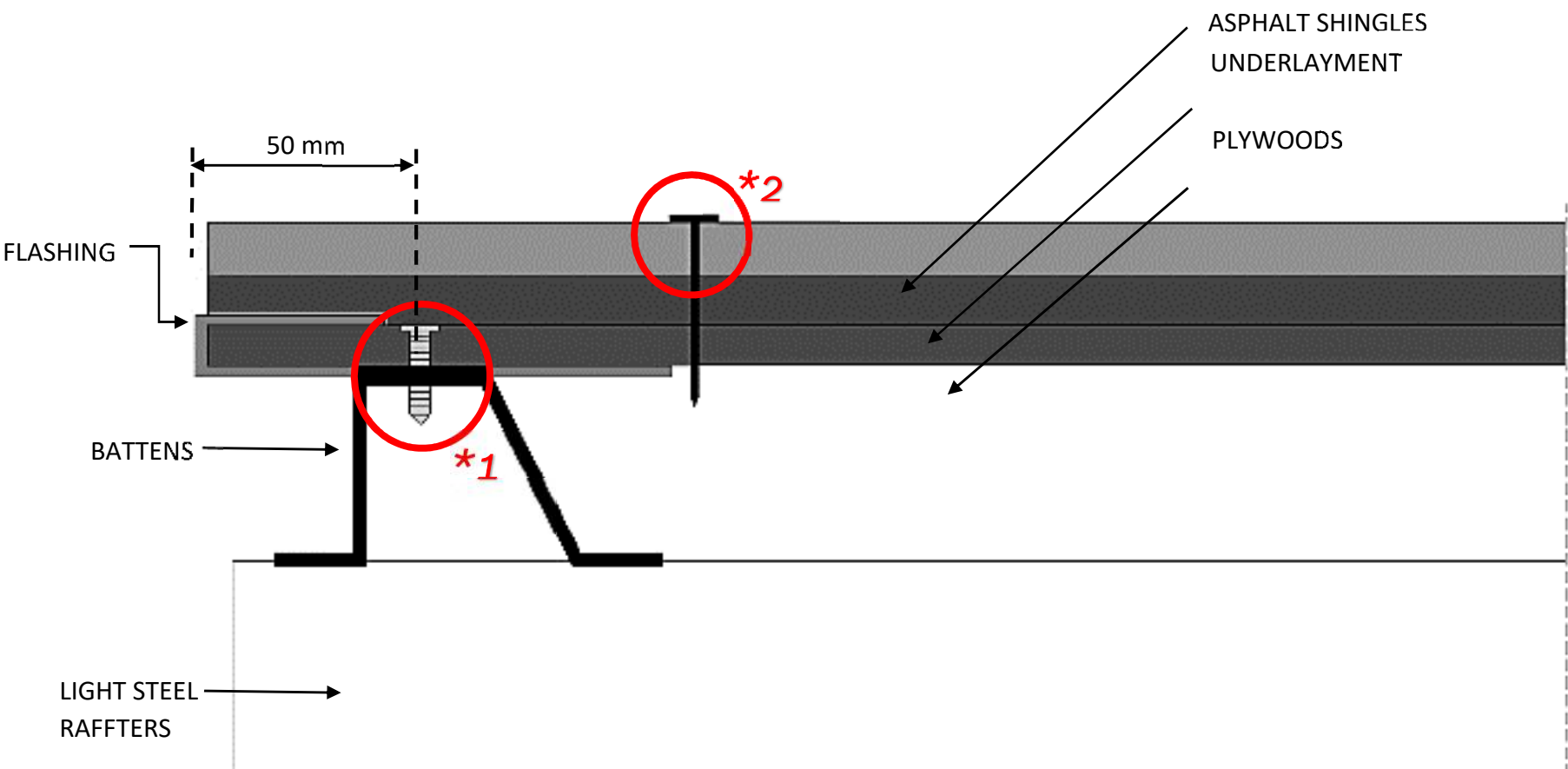
4.1. UNDERLAYMENT INSTALLATION (10° - 15° DEGREES)



4.2. UNDERLAYMENT INSTALLATION (>15° DEGREES)



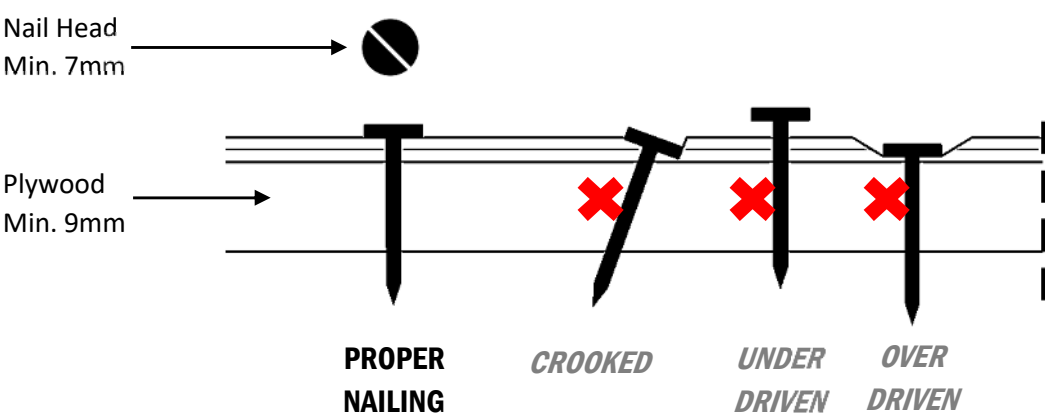
5. TRANSVERSE SECTION



***1. Screw : From Plywood/GRC to Battens**

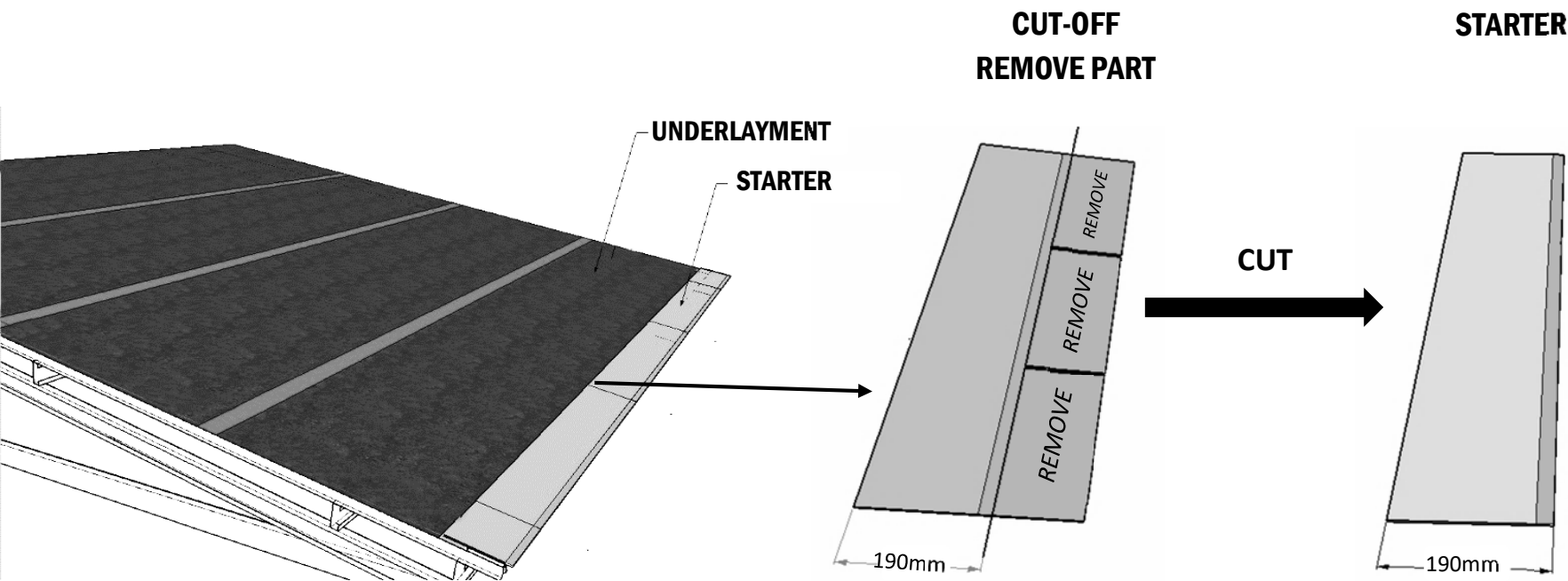
Screw must penetrate the plywood and also battens.

***2. Roof Nail : From Asphalt Shingles to Plywood/GRC**



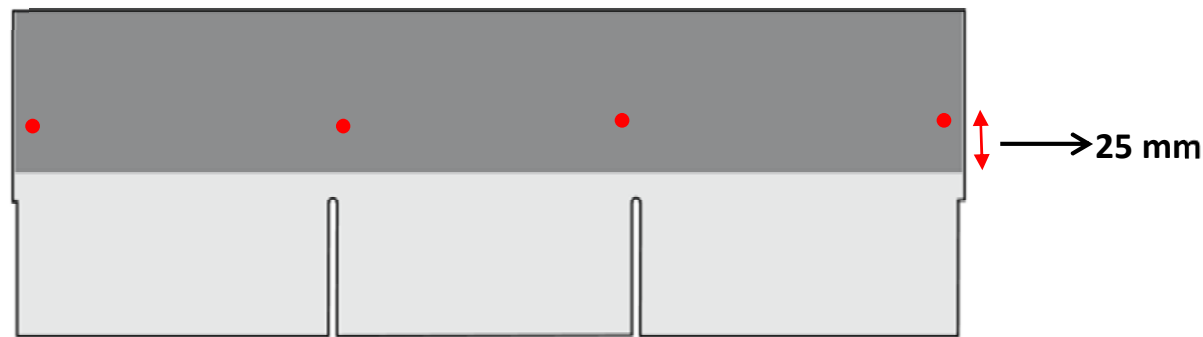
6. STARTER INSTALLATION

- *The distance between last screw and roof edge : 50mm
- *For exposed truss interior, the plywood’s thickness min. req. 15mm or paint the screws

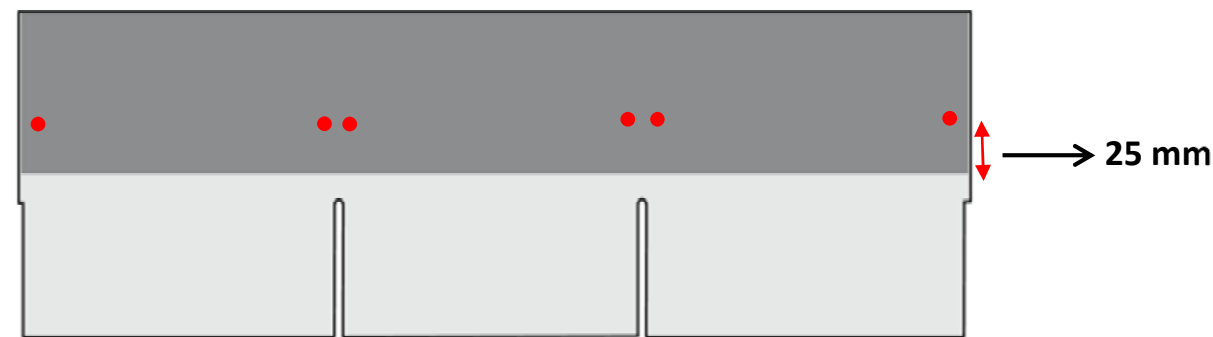


7.1. CT3 INSTALLATION AND NAILING POSITION

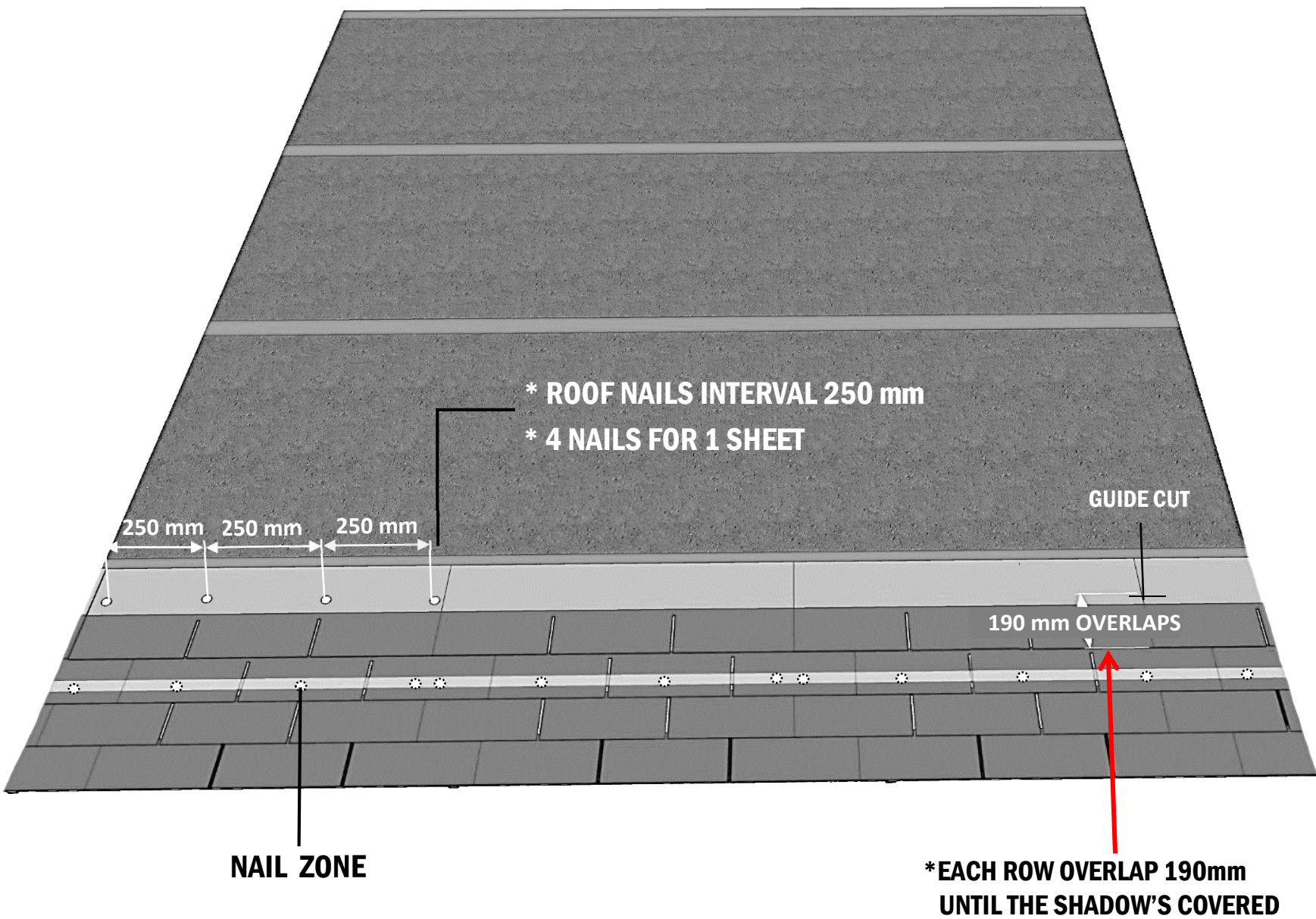
*CT3 INSTALLATION DEMO : <https://www.youtube.com/watch?v=tZZjxBYU9FM>



***NORMAL WIND AREAS – COMMON CONDITION/<60° DEG.:**
4 NAILS/SHEET, TAP ON THE SHADOW AREA OF SHEET.

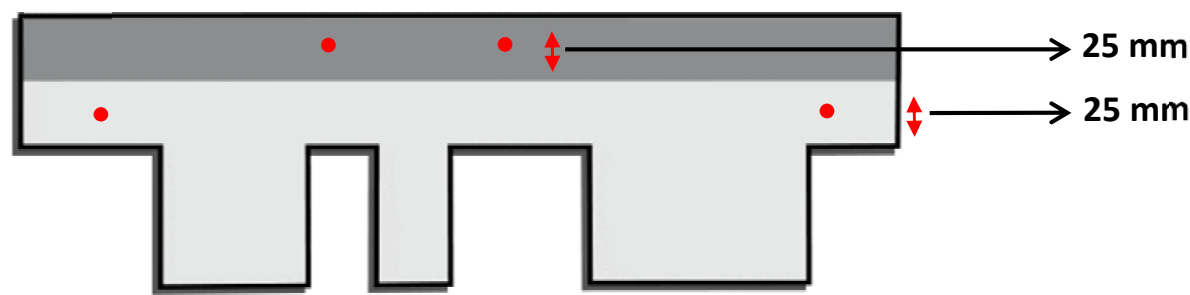


***HIGH WIND AREAS – WITH CONDITIONS/>60° DEG.:**
MUST TAP 6 NAILS PER SHEET OR MORE. BASED ON BUILDING’S WEATHER CONDITION SUCH AS STRONG WIND, HAVE MORE THAN 60° DEGRESS OR MANSARD ROOF TYPE. SEALANT USING IS RECOMMENDED FOR MORE SECURER ROOFING SYSTEM.

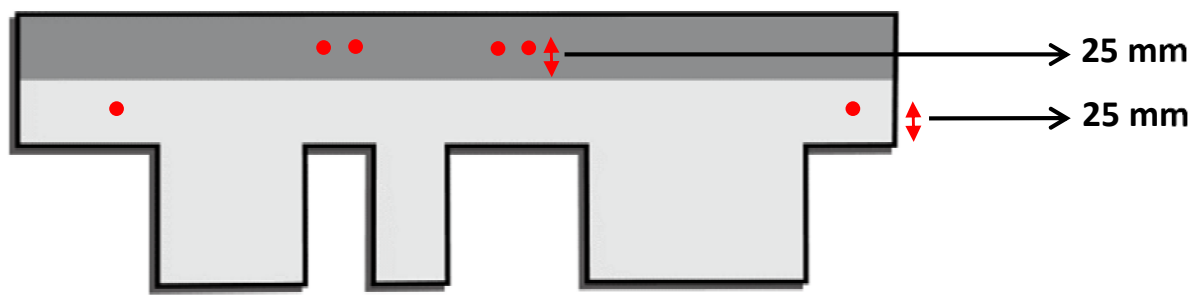


7.2. CT5 INSTALLATION AND NAILING POSITION

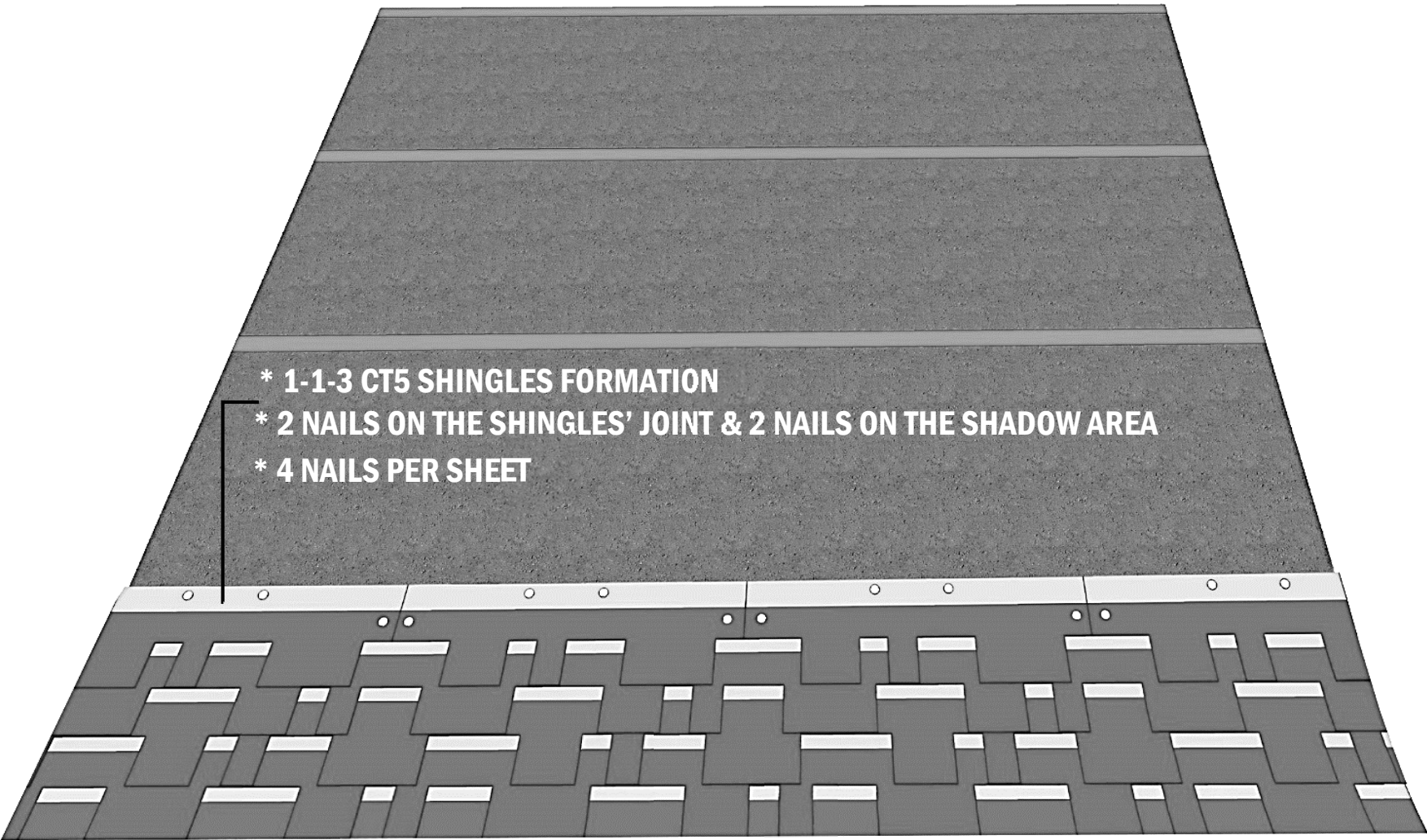
*CT5 INSTALLATION DEMO: <https://www.youtube.com/watch?v=PU1zp7gcU4g&t=92s>



***NORMAL WIND AREAS – COMMON CONDITION/<60° DEG.:**
4 NAILS/SHEET, TAP ON THE SHADOW AREA OF SHEET.



***HIGH WIND AREAS – WITH CONDITIONS/>60° DEG.:**
MUST TAP 6 NAILS PER SHEET OR MORE. BASED ON BUILDING’S WEATHER CONDITION SUCH AS STRONG WIND, HAVE MORE THAN 60° DEGREES OR MANSARD ROOF TYPE. SEALANT USING IS RECOMMENDED FOR MORE SECURER ROOFING SYSTEM.



7.2. CT5 SHINGLES FORMATION

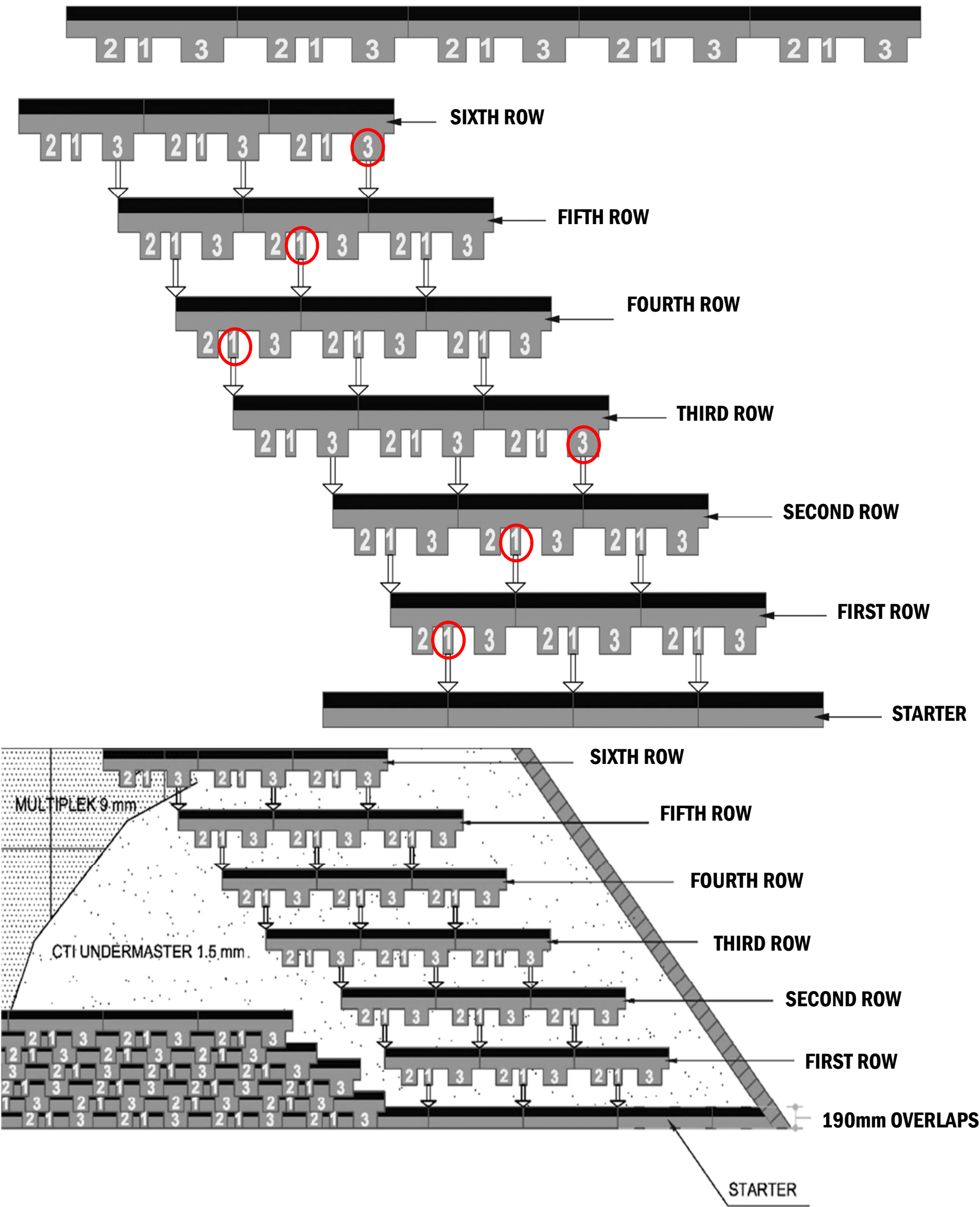
1-1-3 FORMATION LAYOUT

#1 COVERS THE JOINT OF SHINGLES UNDERNEATH

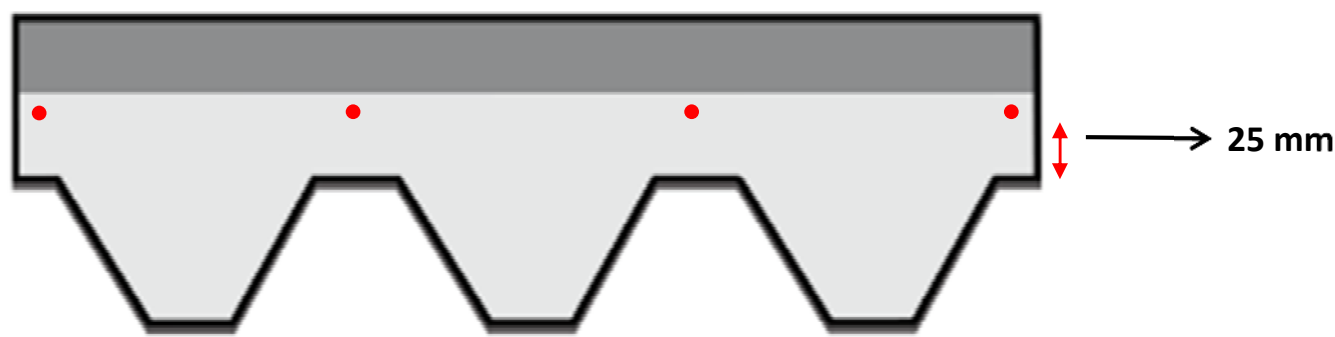
#1 COVERS THE JOINT OF SHINGLES UNDERNEATH

#3 COVERS THE JOINT OF SHINGLES UNDERNEATH

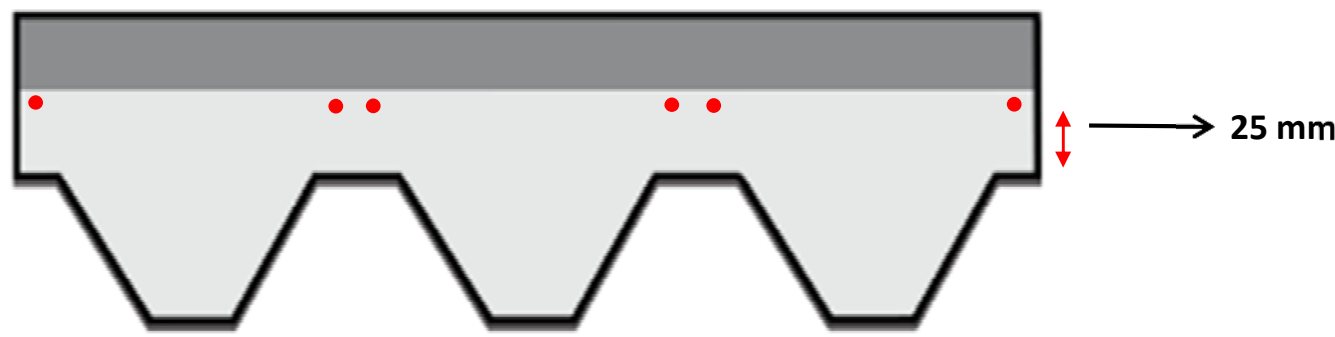
*REPEAT STEPS AS PICTURE BELOW



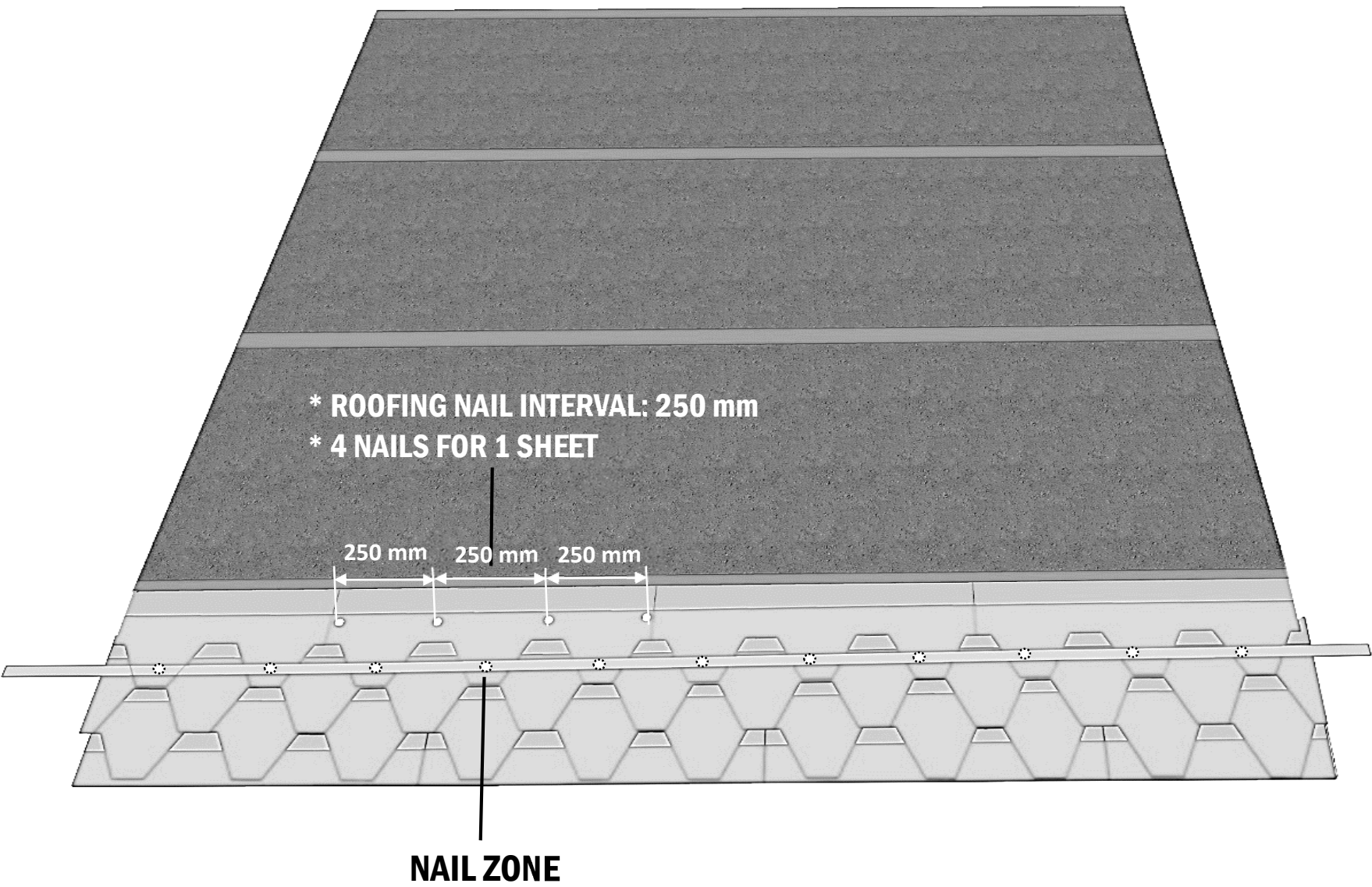
7.3. CT6 INSTALLATION AND NAILING POSITION



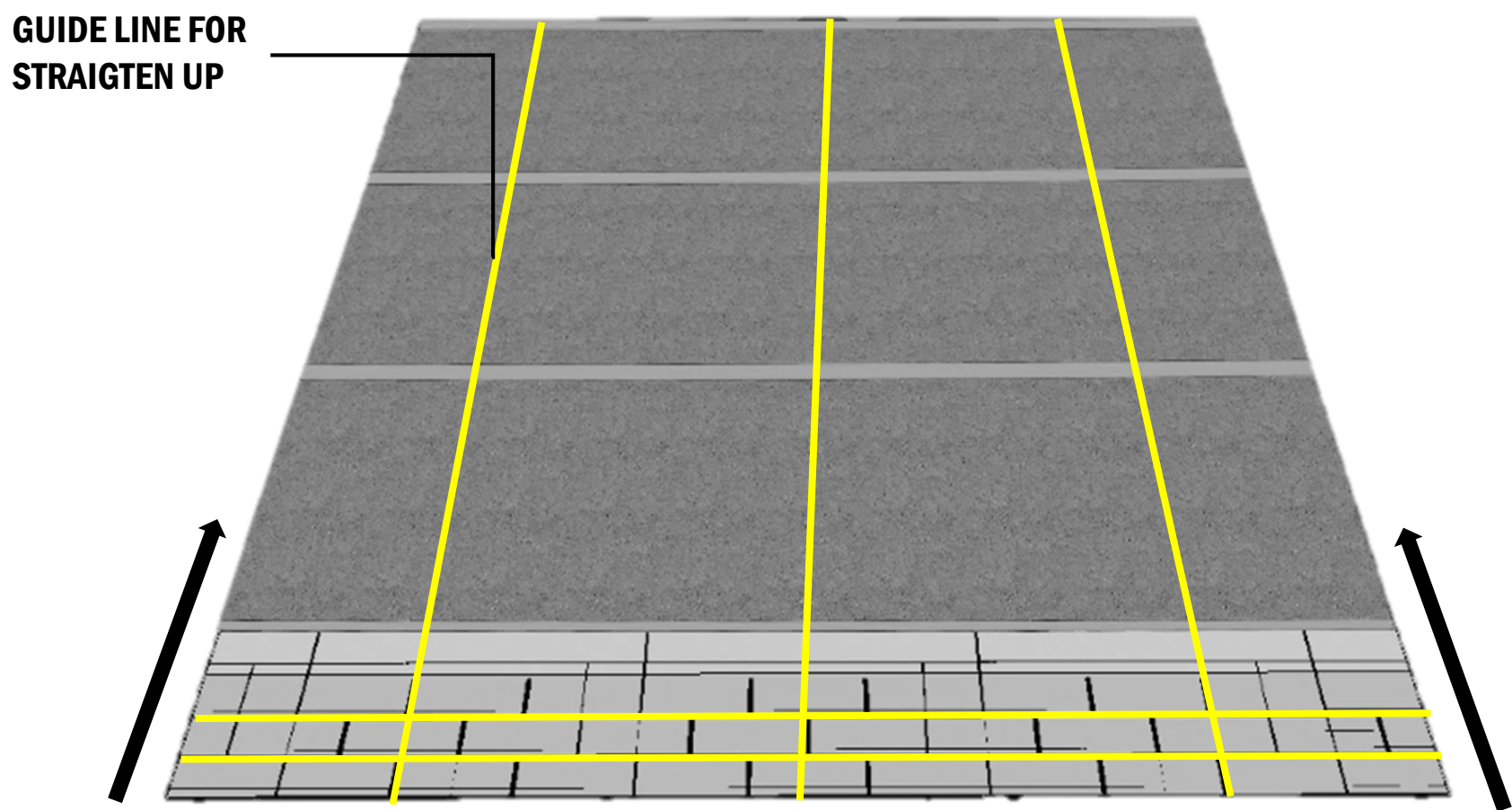
***NORMAL WIND AREAS – COMMON CONDITION/<60° DEG.:**
4 NAILS/SHEET, TAP ON THE SHADOW AREA OF SHEET.



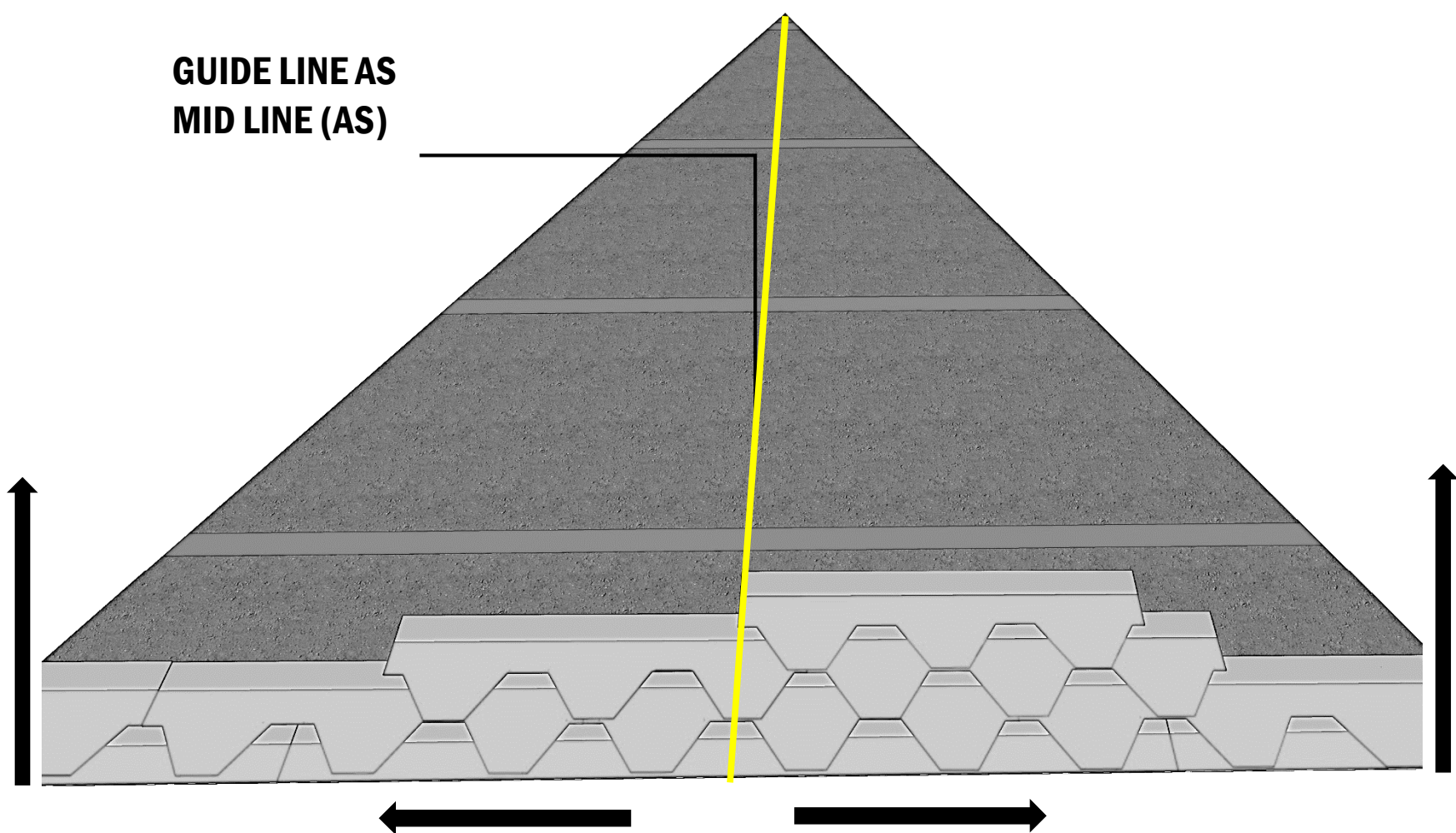
***HIGH WIND AREAS – WITH CONDITIONS/>60° DEG.:**
MUST TAP 6 NAILS PER SHEET OR MORE. BASED ON BUILDING’S WEATHER CONDITION SUCH AS STRONG WIND, HAVE MORE THAN 60° DEGREES OR MANSARD ROOF TYPE. SEALANT USING IS RECOMMENDED FOR MORE SECURER ROOFING SYSTEM.



8. SHINGLES INSTALLATION GUIDE LINE



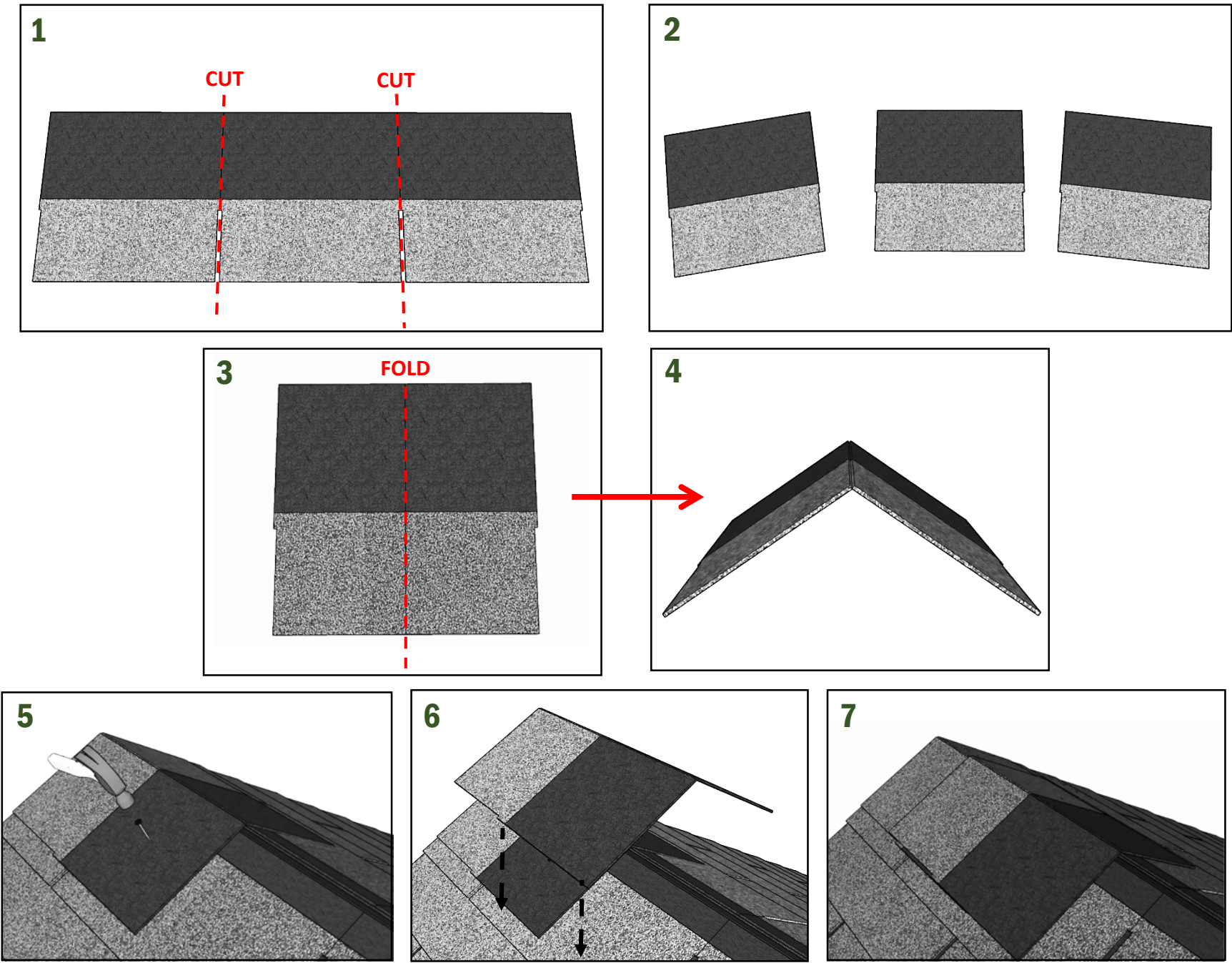
For square roof type, install the shingles step by step from bottom to top horizontally then install shingles from side to side depends the weather condition.



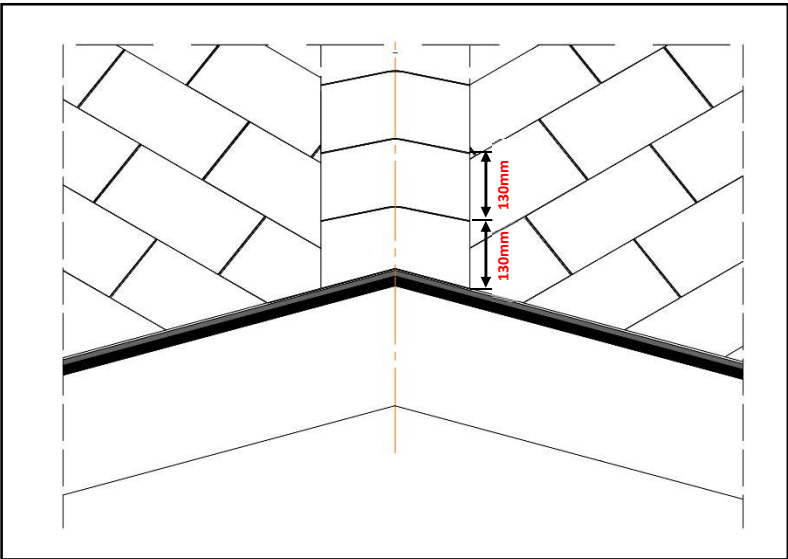
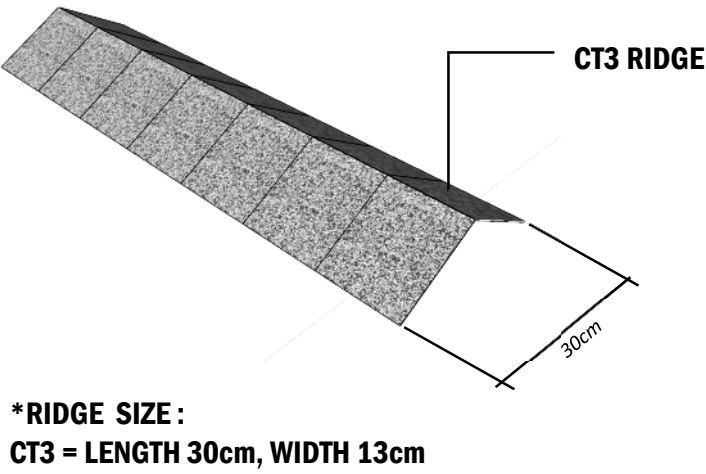
For triangle/trapezoidal roof shape, install the shingles refer to mid line (as) of the roof then install shingles from side to side, and bottom to top interchangeably.

9. RIDGE INSTALLATION

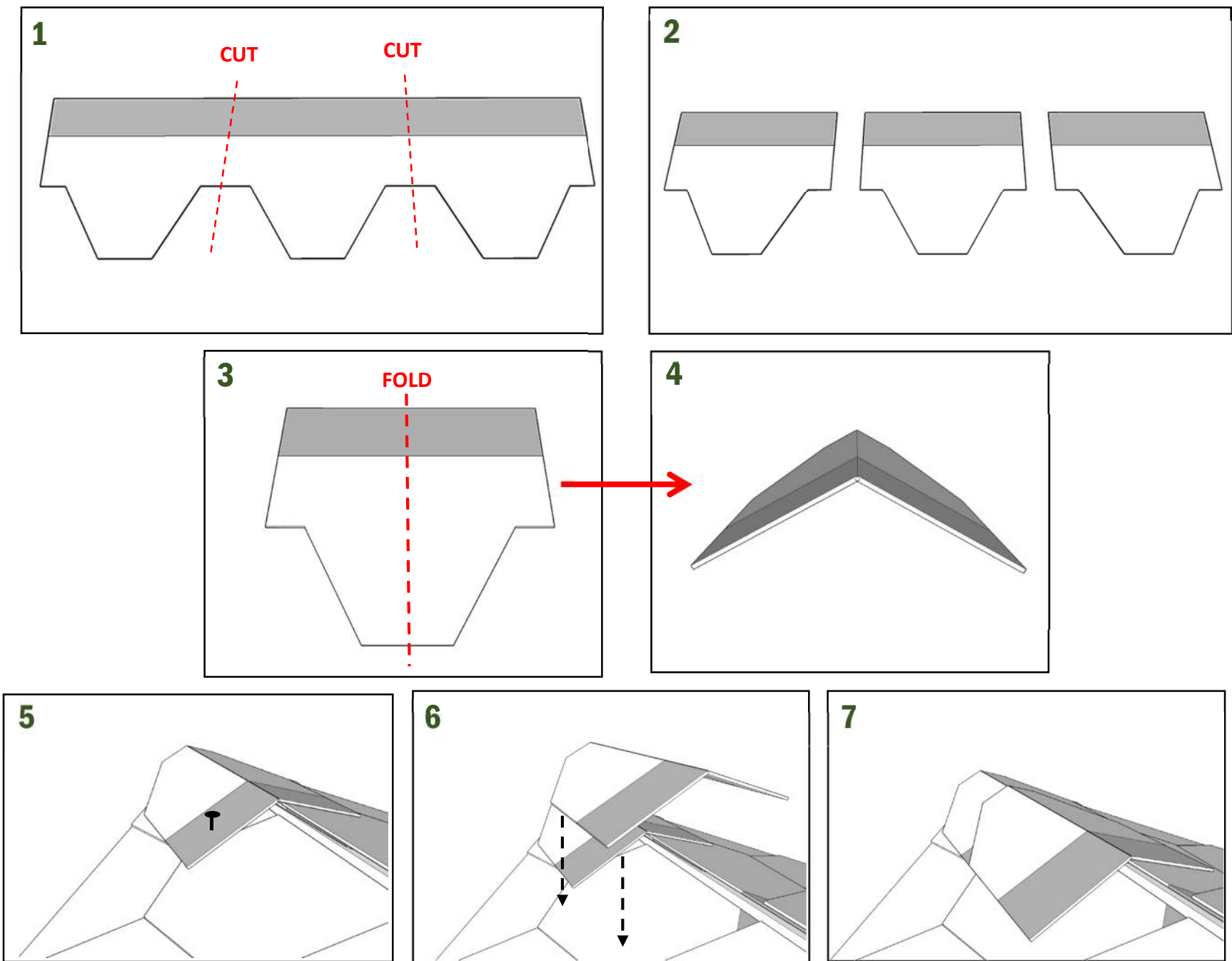
CT3 & CT5 RIDGE



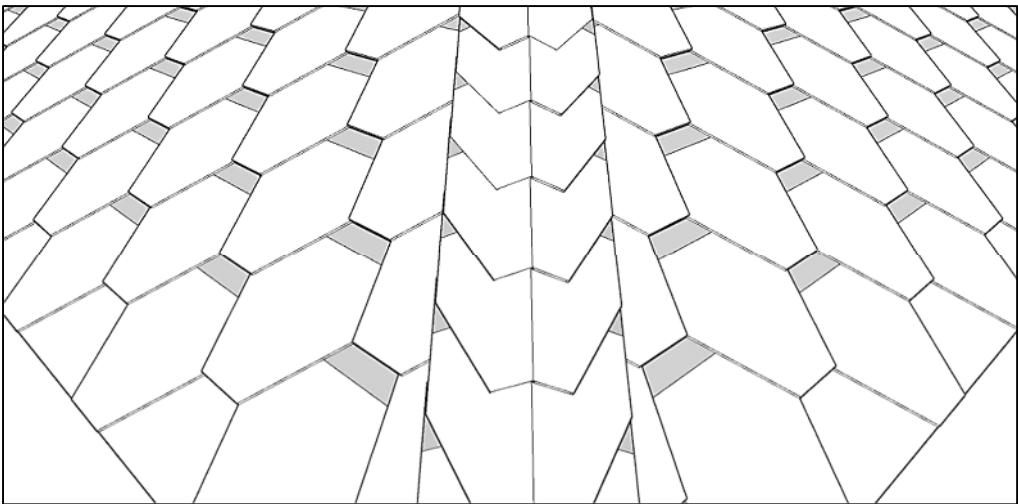
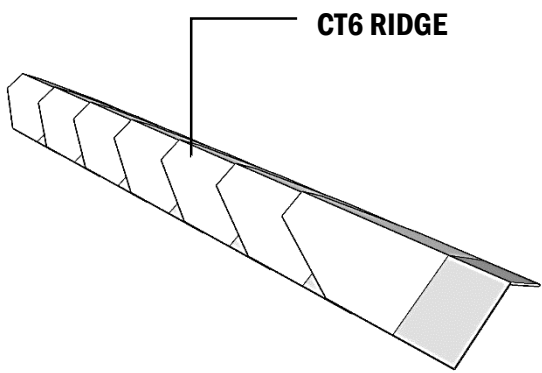
Make the ridges by cutting the shingles full-length on the tab cutouts, then bending the center of the shingles. Nail shingle on the shadow area and do it repeatedly.



CT6 RIDGE



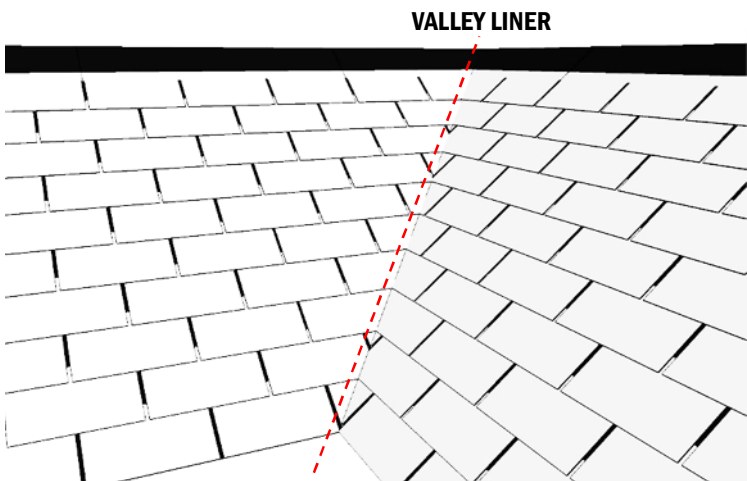
Make the ridges by cutting the shingles full-length on the tab cutouts, then bending the center of the shingles. Nail shingle on the shadow area and do it repeatedly.



***RIDGE SIZE :**
CT6= LENGTH 31.8cm, WIDTH 24.3cm

10. VALLEY SHINGLES INSTALLATION

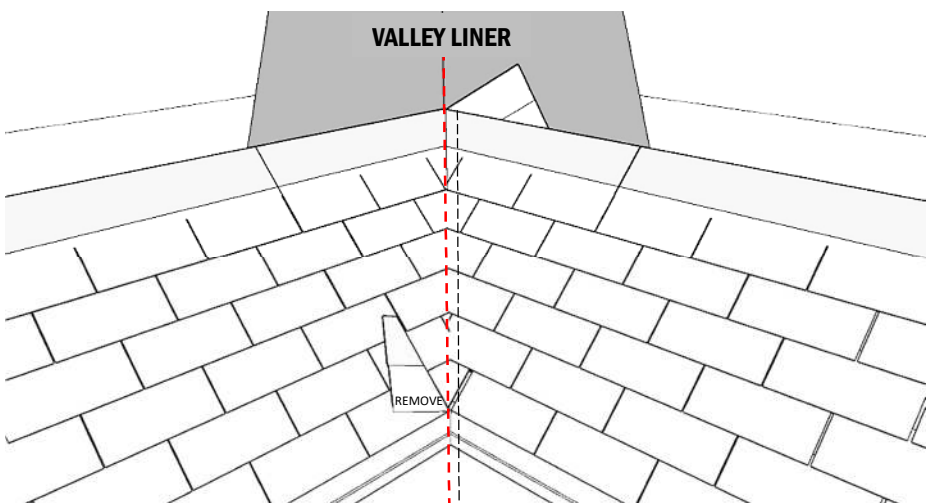
CT3 VALLEY
TYPE WOVEN



***INSTALLING VALLEY
SHINGLES BY EMBROIDERY
(NOT CUT OFF)**

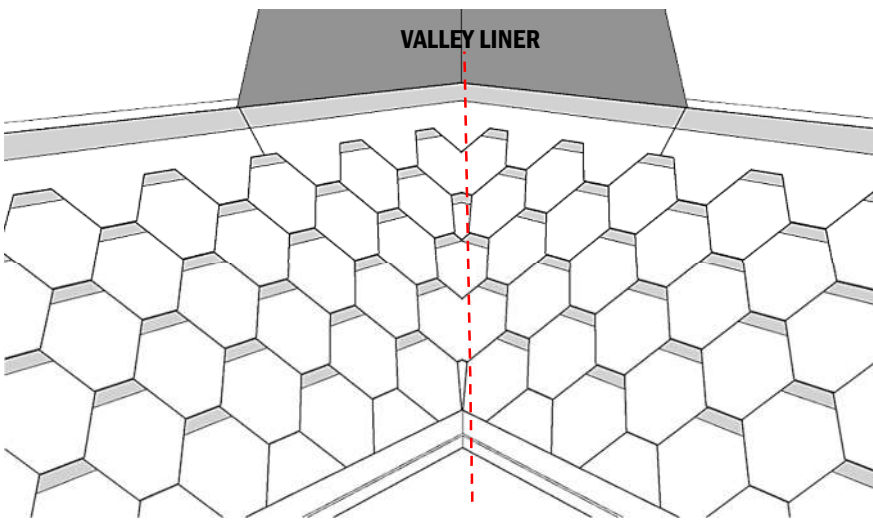
On the valley installed in the form of woven.
Nail min. 200mm from the valley liner.
Extend each 300 - 457mm beyond the
center of the valley. Extra nail at the end of
the strip.

TYPE CUT-OFF



***CUT SHINGLES 50mm BACK
FROM VALLEY CENTERLINE**

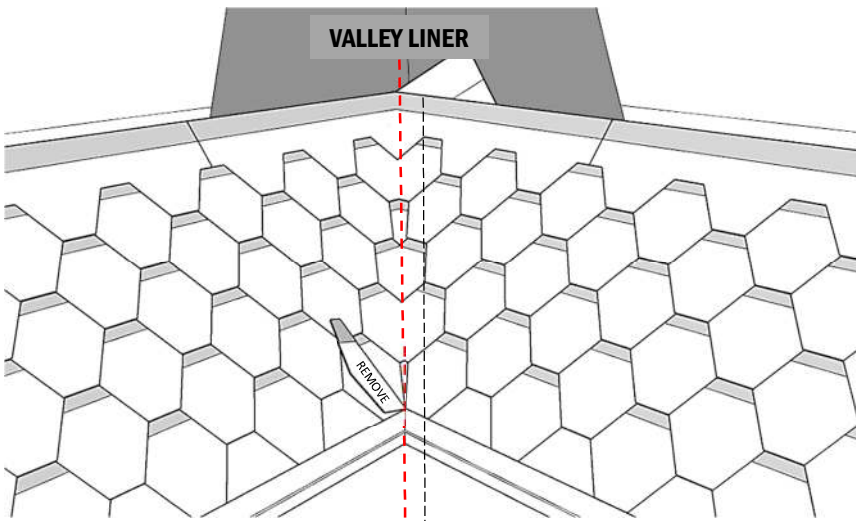
CT6 VALLEY
TYPE WOVEN



***INSTALLING VALLEY
SHINGLES BY EMBROIDERY
(NOT CUT OFF)**

On the valley installed in the form of woven.
Nail min. 200mm from the valley liner.
Extend each 300 - 457mm beyond the
center of the valley. Extra nail at the end of
the strip.

TYPE CUT-OFF



***CUT SHINGLES 50mm BACK
FROM VALLEY CENTERLINE**