



South Central Regional Construction Code Council

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Roof Covering Replacement – Building Code Requirements

Underlayment [IRC T905.1.1(2) & (3) / IBC 1507.1.1]

RESIDENTIAL ROOFS: 2 LAYERS of Underlayment for asphalt shingles, clay and concrete tile, metal roof shingles, mineral-surfaced roll roofing, slate and slate-type shingles, wood shingles, wood shakes, metal roof panels and photovoltaic shingles is required for our region.

Underlayment shall meet ASTM D226 Type II, ASTM D4869 Type III or Type IV (i.e. 30# felt or synthetic). NOTE: 15# felt (Type I) not allowed in our region.

Underlayment shall be two layers applied in the following manner: Apply a 19-inch strip of underlayment felt parallel to and starting at the eaves. Next, starting at the eave, apply 36-inch-wide sheets of underlayment, overlapping successive sheets 19 inches. Distortions in the underlayment shall not interfere with the ability of the shingles to seal. End laps shall be 4 inches and shall be offset by 6 feet. The underlayment shall be attached with corrosion-resistant fasteners in a grid pattern of **12** inches between side laps with a 6-inch spacing at side and end laps. Underlayment shall be attached using annular ring or deformed shank nails with 1-inch-diameter metal or plastic caps.

As an alternative:

1. A minimum 4-inch-wide strip of self-adhering polymer-modified bitumen membrane bearing a label indicating compliance with ASTM D1970, installed in accordance with the manufacturer's installation instructions for the deck material, **shall be applied over all joints** in the roof decking. An approved underlayment complying with the applicable roof covering for areas where wind design is not required in accordance with IRC Figures shall be applied over the entire roof over the 4-inch-wide membrane strips. Underlayment shall be applied in accordance with IRC Table R905.1.1(2) using the application requirements for areas where wind design is not required in accordance with Figure R301.2.1.1. Underlayment shall be attached in accordance with Table R905.1.1(3).
2. A self-adhering polymer-modified bitumen underlayment bearing a label indication compliance with ASTM D1970 and installed with both the underlayment manufacturer's and roof covering manufacturer's instructions for the deck material, roof ventilation configuration and climate exposure for the roof covering to be installed, shall be permitted. (i.e. Ice and water shield over the entire roof)
3. Structural metal panels that do not require a substrate or underlayment. (Provide manufacturer installation instructions at time of plan review/submittal or to inspector on site if metal panels are on spaced supports and do not require underlayment.)

COMERCIAL ROOFS: 2 LAYERS of underlayment for roofs with a pitch less than 4:12
See IBC 1507 for Commercial requirements.

*****UNDERLAYMENT WILL NEED TO BE INSPECTED AND VERIFIED PRIOR TO
SUBSTANTIAL COVERING WITH ROOF COVERING MATERIALS – SEE END OF LETTER
FOR SCHEDULING INSPECTION**

Friday, March 1, 2024

Roof Covering Replacement - Building Code Requirements IBC-IRC 2021 (2-26-2024)

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Asphalt Shingles [IRC 905.2 / IBC 1507.2]

1. Shingles must be tested in accordance with ASTM D 3161, Class F approved for use up to 194mph (V-ult)/150mph (V-asd) or ASTM D 7158, Class G up to 155mph (V-ult)/120mph (V-asd) OR Class H up to 194mph (Vult)/150 mph (V-asd).
2. Shingles that are MIAMI-DADE approved are also approved for use.
3. Asphalt shingles shall have the minimum number of fasteners (6 for our region) required by the manufacturer's approved installation instructions. Where the roof slope exceeds 21 units vertical in 12 units horizontal (21:12, 175-percent slope), shingles shall be installed in accordance with the manufacturer's approved installation instructions.

Metal Roof Panel Covering [IRC 905.10 / IBC 1507.4]

1. Metal roof panel coverings shall be applied to solid sheathing, except where the roof covering is specifically designed to be applied to spaced supports (i.e. purlins, lats, runners, etc..) see manufacturers installation requirements. Spaced supports shall be a minimum 2x4 when attached directly to rafters. The space supports shall be a maximum of 24 inches apart. Fasteners shall be a minimum of (2) number 8 x 3-1/2" wood screws used to attach spaced supports to rafters.
2. Metal roof panels shall be secured in accordance with manufacturers installation instructions.

If panels are to be installed over solid sheathing, the underlayment requirements on page 1 of this letter shall apply.

Flat Roof Systems [IRC 905.11 thru 905.15 / IBC 1507.11 thru 1507.15]

Flat roof systems shall comply with noted code references and manufacturer's installation instructions.

Re-covering versus Replacement [IRC 907.3 / IBC 1510.3]

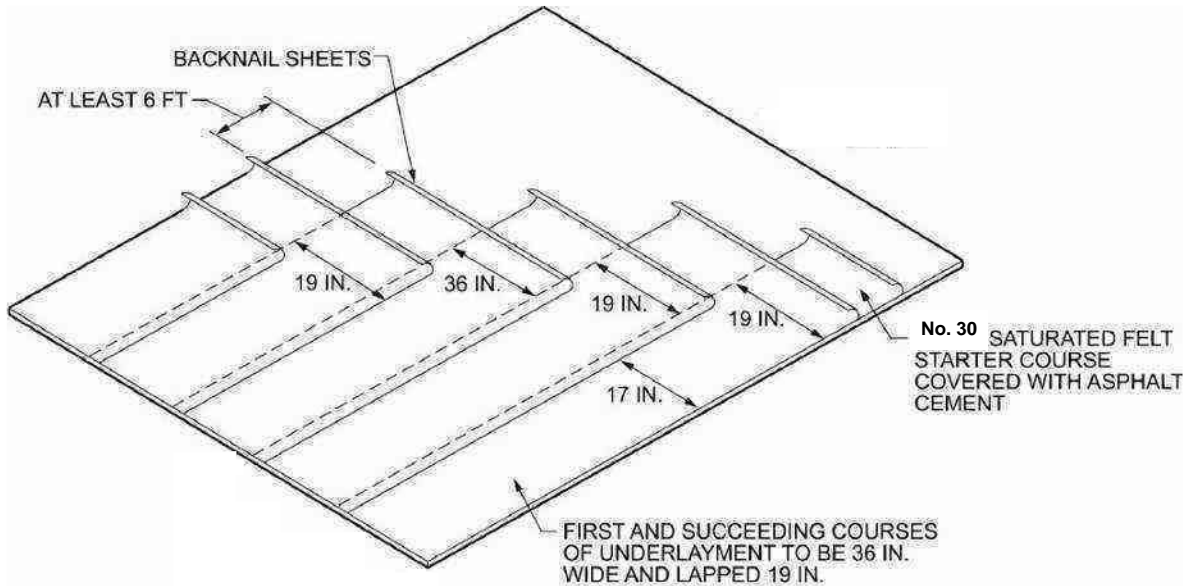
New roof coverings shall not be installed without first removing all existing layers of roof coverings where the roof has two or more applications of coverings. New covering attachment to existing wood shake, slate, clay, cement or asbestos-cement tile NOT ALLOWED.

INSPECTION REQUIREMENT:

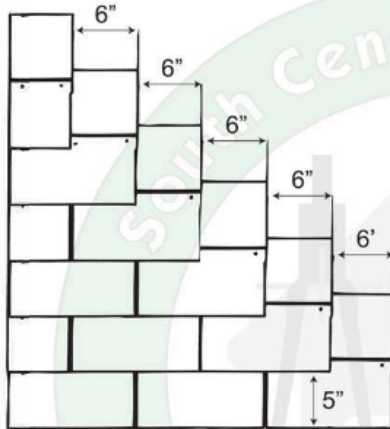
Inspection by the building department shall be conducted. This inspection shall be performed during the roof covering installation prior to substantial completion of each pitch (**VERIFICATION OF UNDERLAYMENT INSTALLATION METHOD MANDATORY**). To schedule required inspection, call 985-655-1070. Since inspections are scheduled as next day inspections, it is recommended that you schedule your inspections the day prior to starting the job so that the building department can VERIFY Roof Underlayment requirements. NOTE: If inspection takes place and portions of roof that underlayment have not yet been applied, make arrangements with inspection dept to schedule additional roof inspections. (First inspection will then be changed to Partial, then the underlayment inspection and then the final roof inspection will be the last inspection).

SEE NEXT PAGES FOR DETAILED EXAMPLES

DOUBLE-PLY UNDERLAYMENT APPLICATION REQUIREMENT



Detail A



Requirements for Roof Coverings

ASTM D 3161 Class F (Approved for UP TO 194 MPH)

MIAMI DADE approved (Any wind zone)

(Note: ASTM D 7158 Based on wind zone map ASCE 7-10)

ASTM D 7158 Class G (Approved for ONLY UP TO 155 MPH)

Class H (Approved for ONLY UP TO 194 MPH)

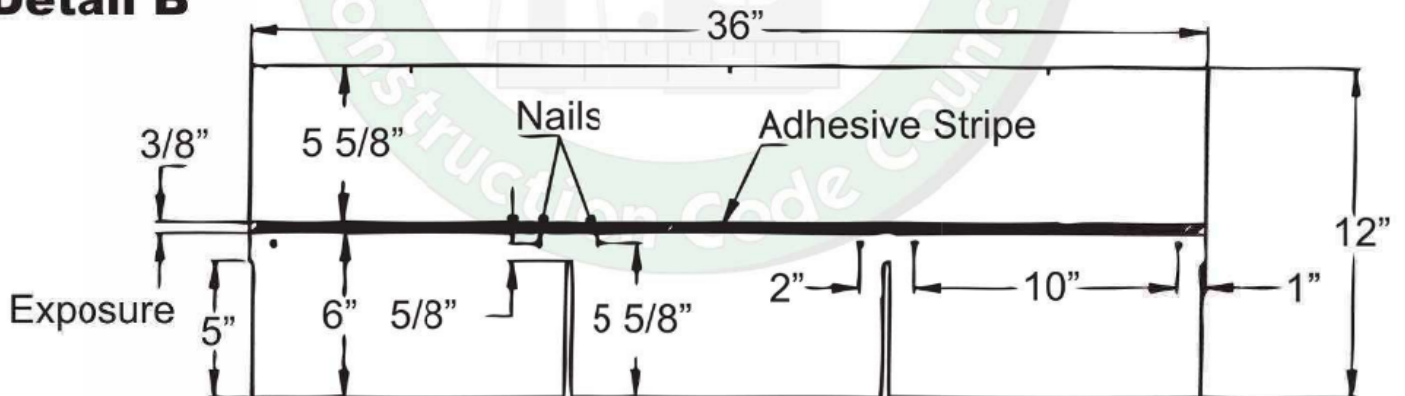
IRC Table R905.2.4.1

IBC Table 1504.1.1

Fasteners: 6 Nails Per Shingle

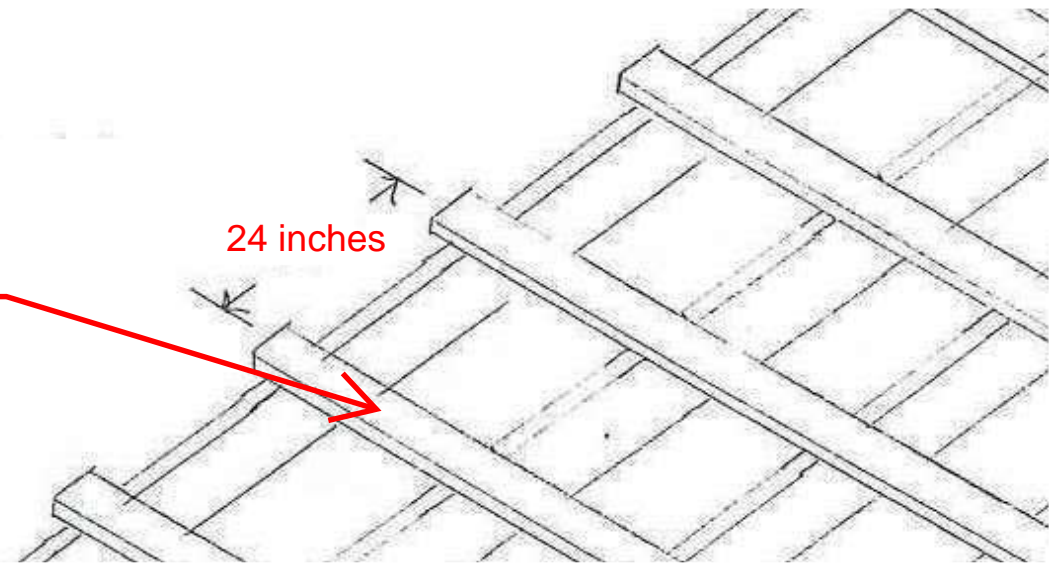
Underlayment shall be Minimum **30# Felt or synthetic** (NO 15# Felt allowed) attached with corrosion-resistant fasteners in a grid pattern of 12 inches between side laps with a 6-inch spacing at side and end laps. Underlayment shall be attached using annular ring or deformed shank nails with 1-inch-diameter metal or plastic cap.

Detail B



2x4 min for stripping
fasten at each rafter
point with (2) #8 deck
screws

Treated stripping reacts with
metal coatings not recommended



Slope

R905.2.2 Slope

Asphalt shingles shall be used only on roof slopes of 2 units vertical in 12 units horizontal (2:12) or greater. For roof slopes from 2 units vertical in 12 units horizontal (2:12) or greater, two layers of underlayment are required in our region.



Roof Sheathing Blocking and Nailing

140mph (V-ult) / 110mph (V-asd) Exp B

INSPECTIONS: Roof sheathing nail pattern inspection by building department required prior to covering (see Plan Review Letter).

Nailing Pattern for roof sheathing:

Interior Zone 1: (not within 4'-0" of roof edge)

- **RSRS 01 (2 3/8" x 0.113")** @ 6" O.C. at all edges.
- **RSRS 01 (2 3/8" x 0.113")** @ 6" O.C. in the field.

Perimeter Edge Zone 2: (within 4'-0" of roof edge)

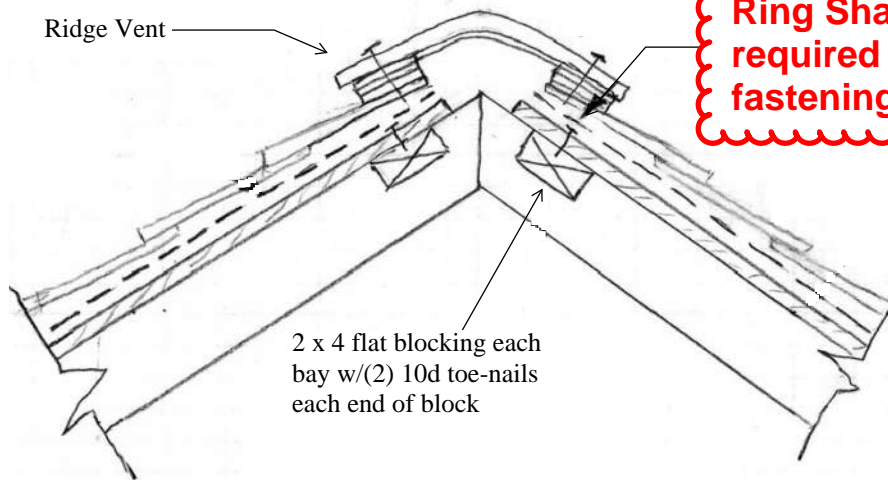
- **RSRS 01 (2 3/8" x 0.113")** @ 4" O.C. at all edges.
- **RSRS 01 (2 3/8" x 0.113")** @ 4" O.C. in the field.

Gable Endwall Rake Zone 3:

- **RSRS 01 (2 3/8" x 0.113")** @ 4" O.C. at edges.
- **RSRS 01 (2 3/8" x 0.113")** @ 4" O.C. in the field.

LSUCCC Amendment to Table R602.3(3)

**RSRS 01 (2 3/8" x 0.113")
Ring Shank nails Now
required for roof deck
fastening per schedule**



Note: Blocking at top 1 inch away from ridge is only required when ridge vents are installed. If ridge vents are not installed, nailing pattern will continue on the ridge itself.

Figure 2.1h Rake Overhang Limits - Lookout Blocks (see 2.1.3.4c & 3.1.3.4c)

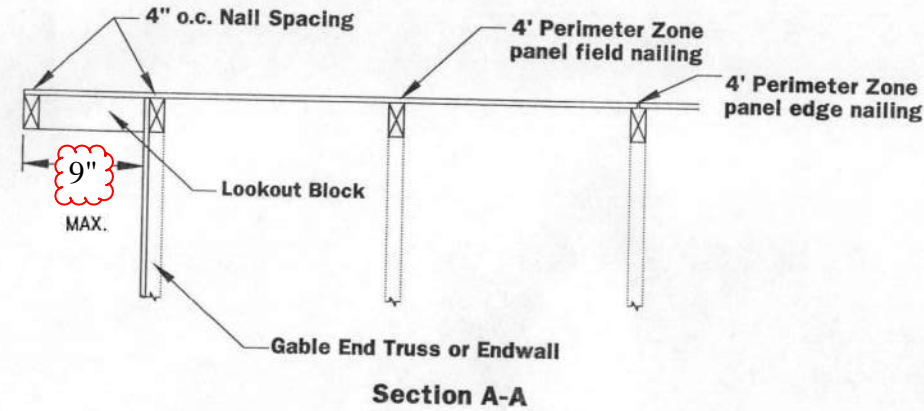
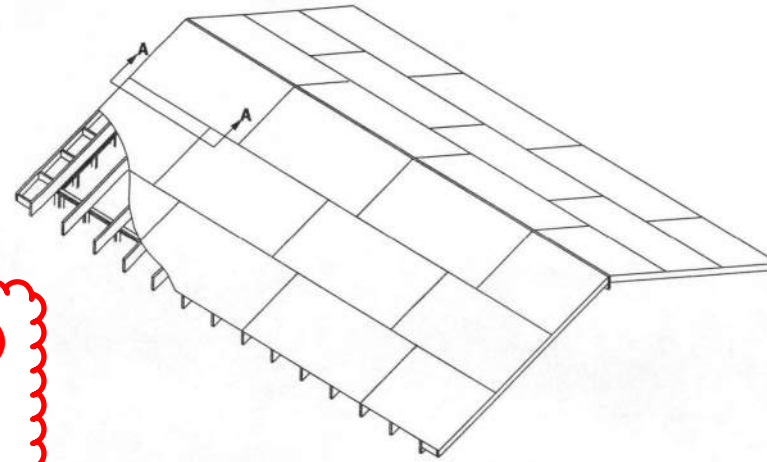
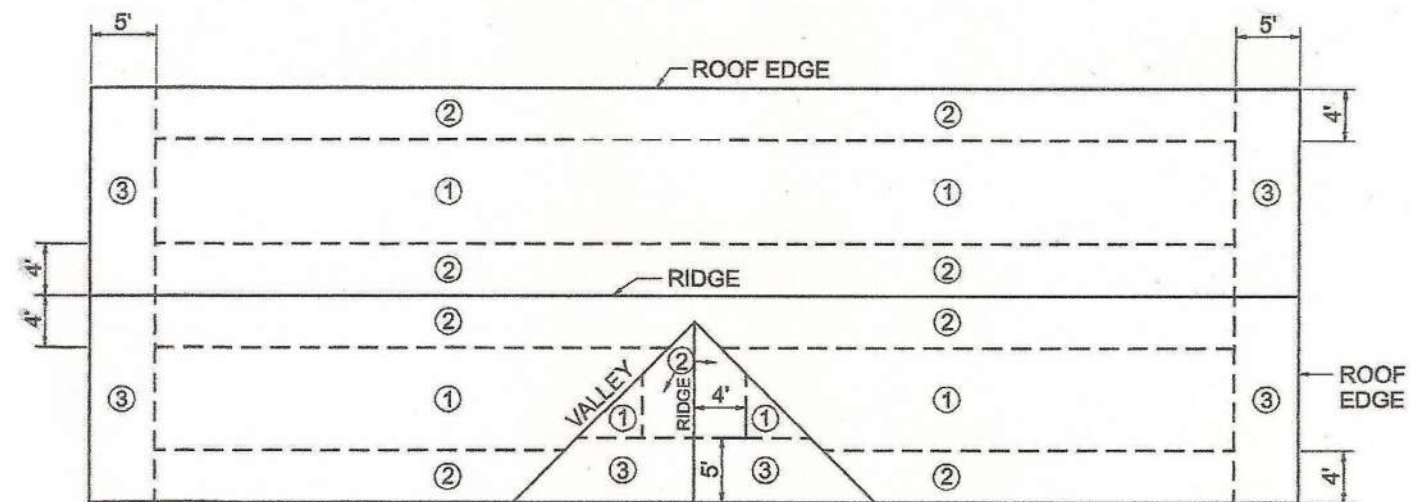
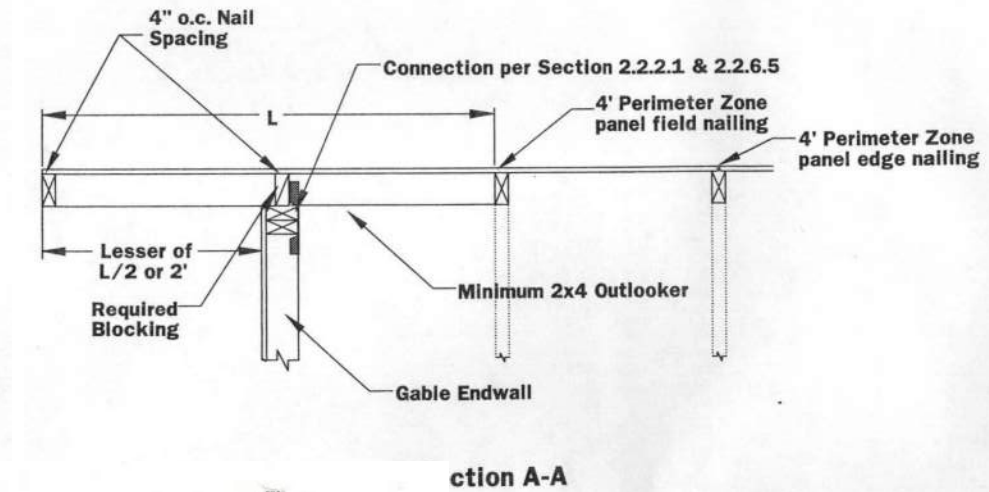
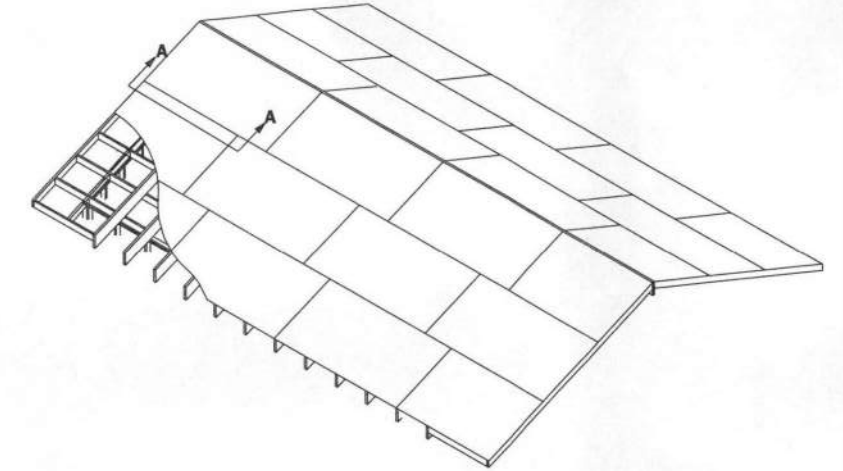


Figure 2.1g Rake Overhang Limits - Outlookers (see 2.1.3.4c)



- Zone 1 - Interior Zone
- Zone 2 - Perimeter Edge Zone
- Zone 3 - Gable Endwall or Rake Truss