



**Arch 1240 Methods of Construction in Architecture**  
**Professor Jason Montgomery**

# **Roofing** (CHAPTER 16) **Part II**

## **Steep Slope Roofs**

### **Construction Configuration**

**Structure / Decking / Underlayment / Insulation / Vapor**

**Retarder**

### **Roof Finishes**

**Thatch**

**Shingles**

**Architectural Sheet Metal**

**Solar Roofs**

### **Green Roofs**

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TYPICAL HOUSING DEVELOPMENT WITH STEEP ROOFS

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# Components of a Steep Slope Roof



Roof Decking

Thermal Insulation

Vapor Retarder

Roof Underlayment

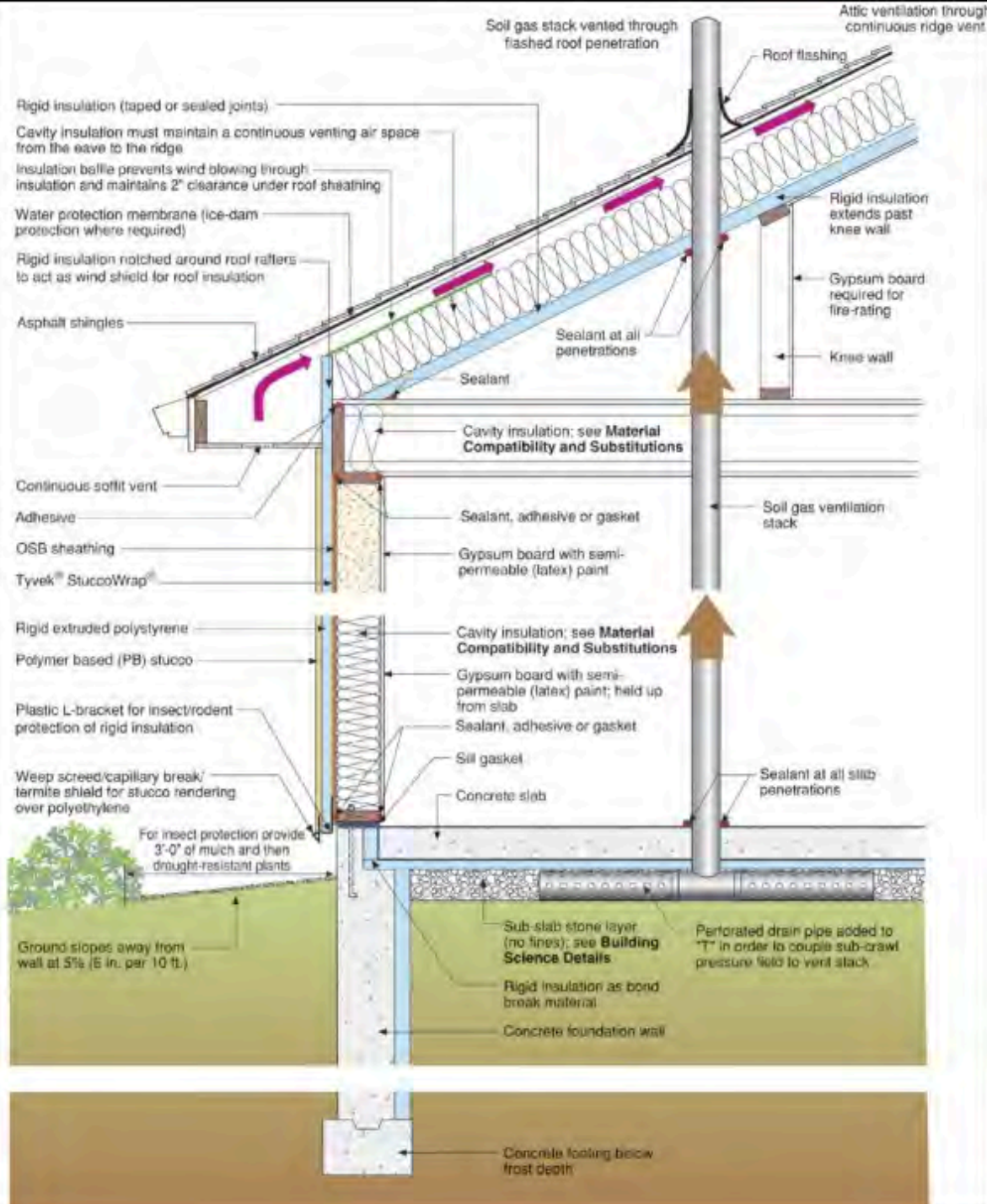
Roof Finish - Thatch, Shingles, Sheet Metal

Ventilation Components

Drainage Components

Metal Drip Edge

# Steep Roof Construction





Thatch Roofs



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# Thatch Roofs





# Cedar Shingle Installation



# Cedar Shake Installation







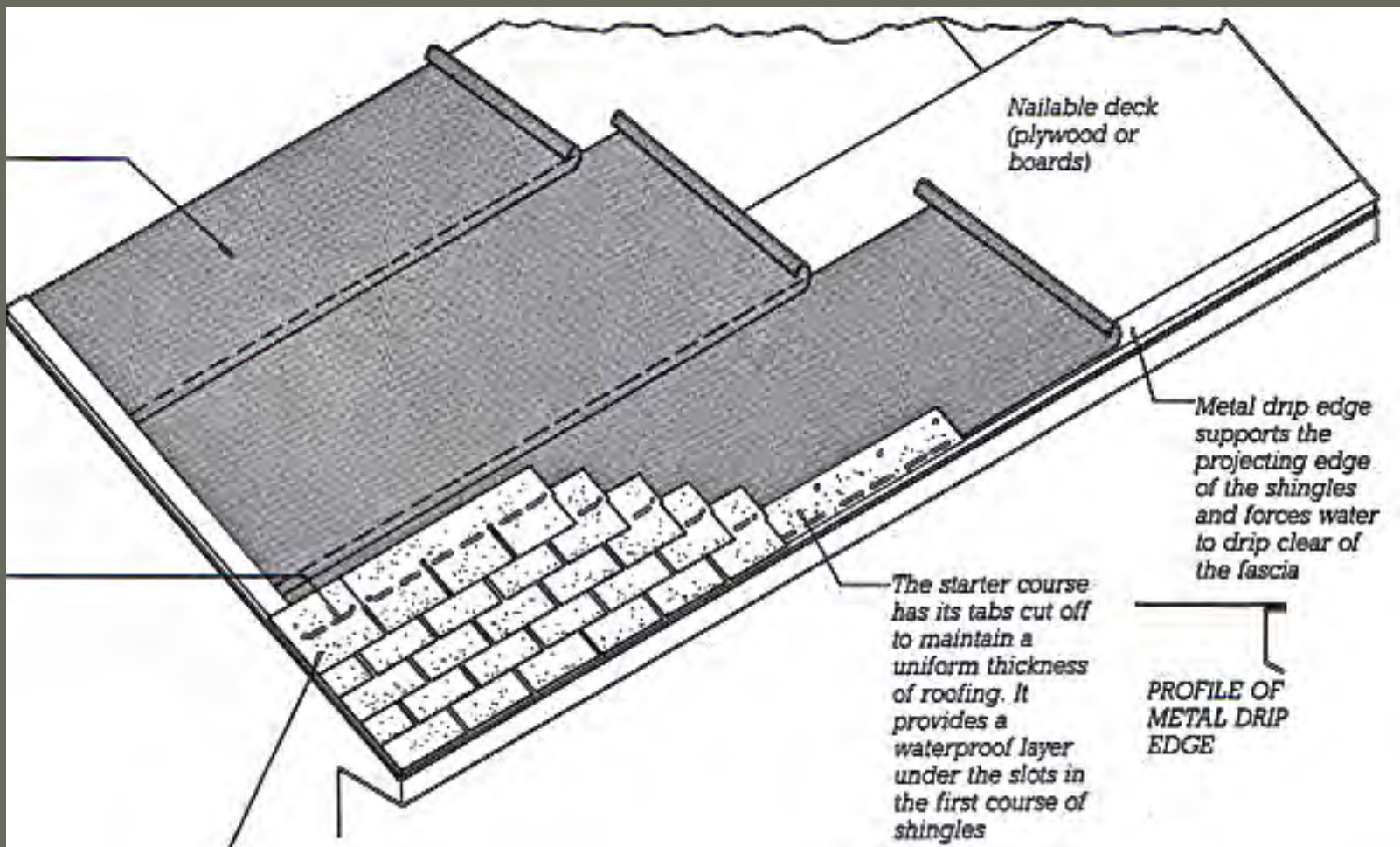
## Underlayment Installation

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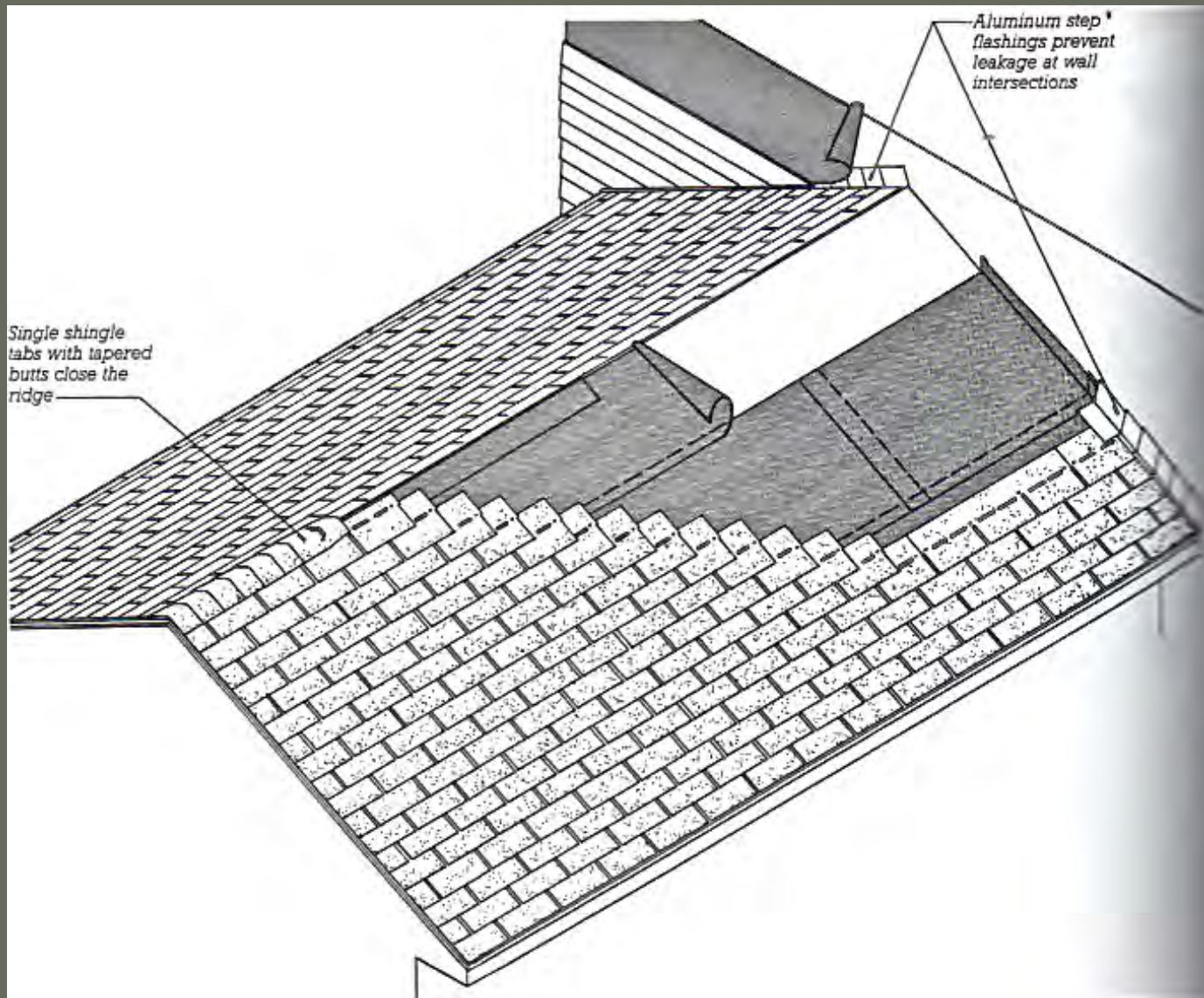


Asphalt Shingle Installation



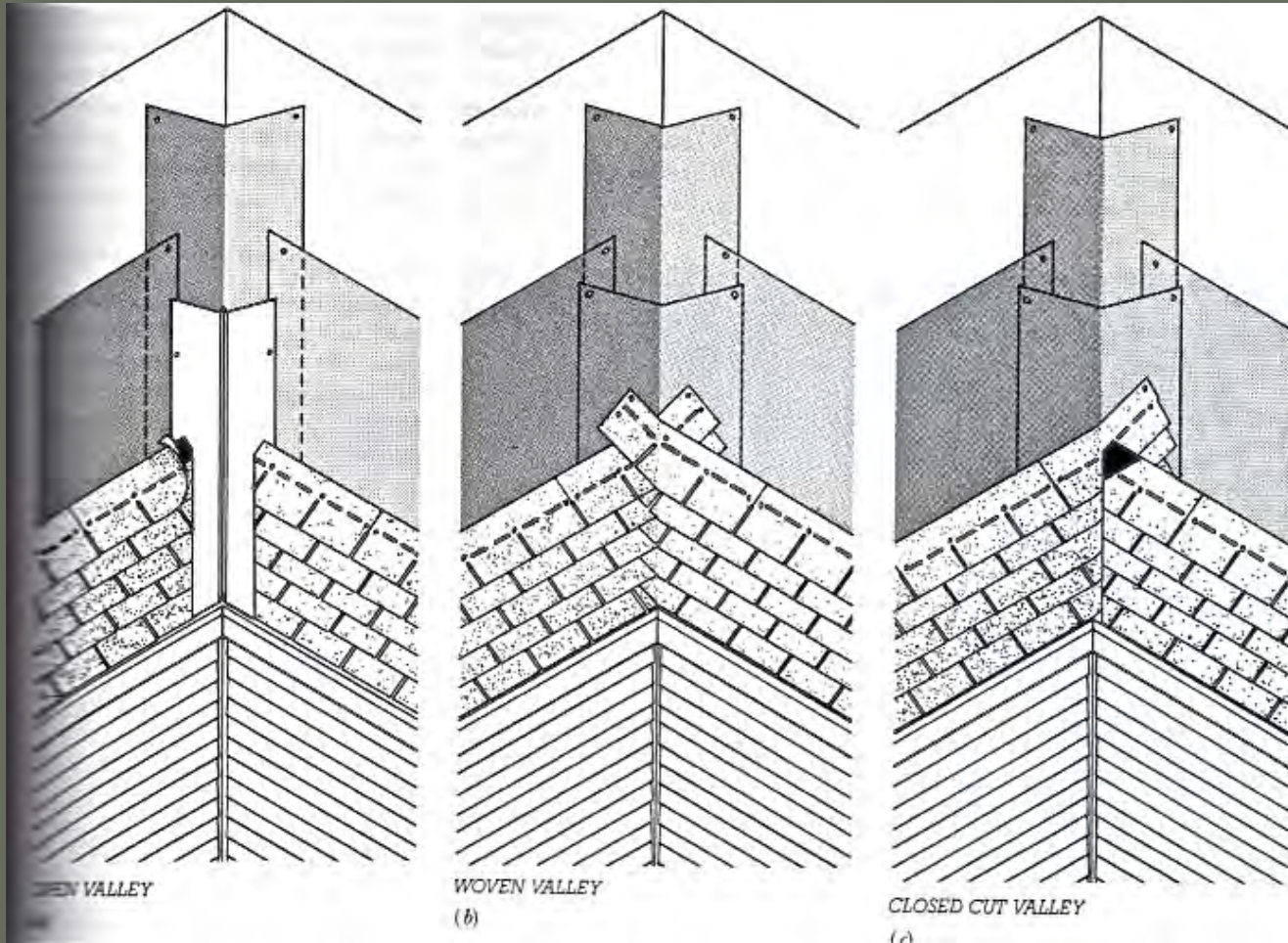


## Asphalt Shingle Installation



Asphalt Shingle Installation





## Valley Construction Options



Valley Construction Options: Open Valley





Valley Construction Options: Closed Cut Valley

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## Flat Clay Tiles

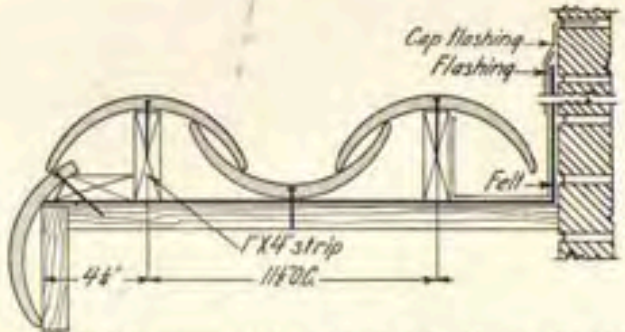
All Roof Finishes  
Require a Specific  
Range for the  
Slope or Pitch



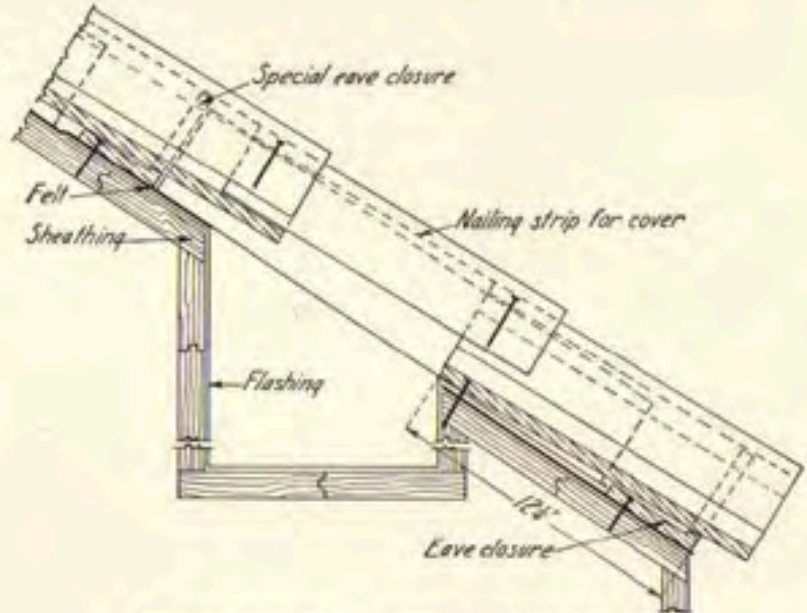


DETAILS OF IMPERIAL

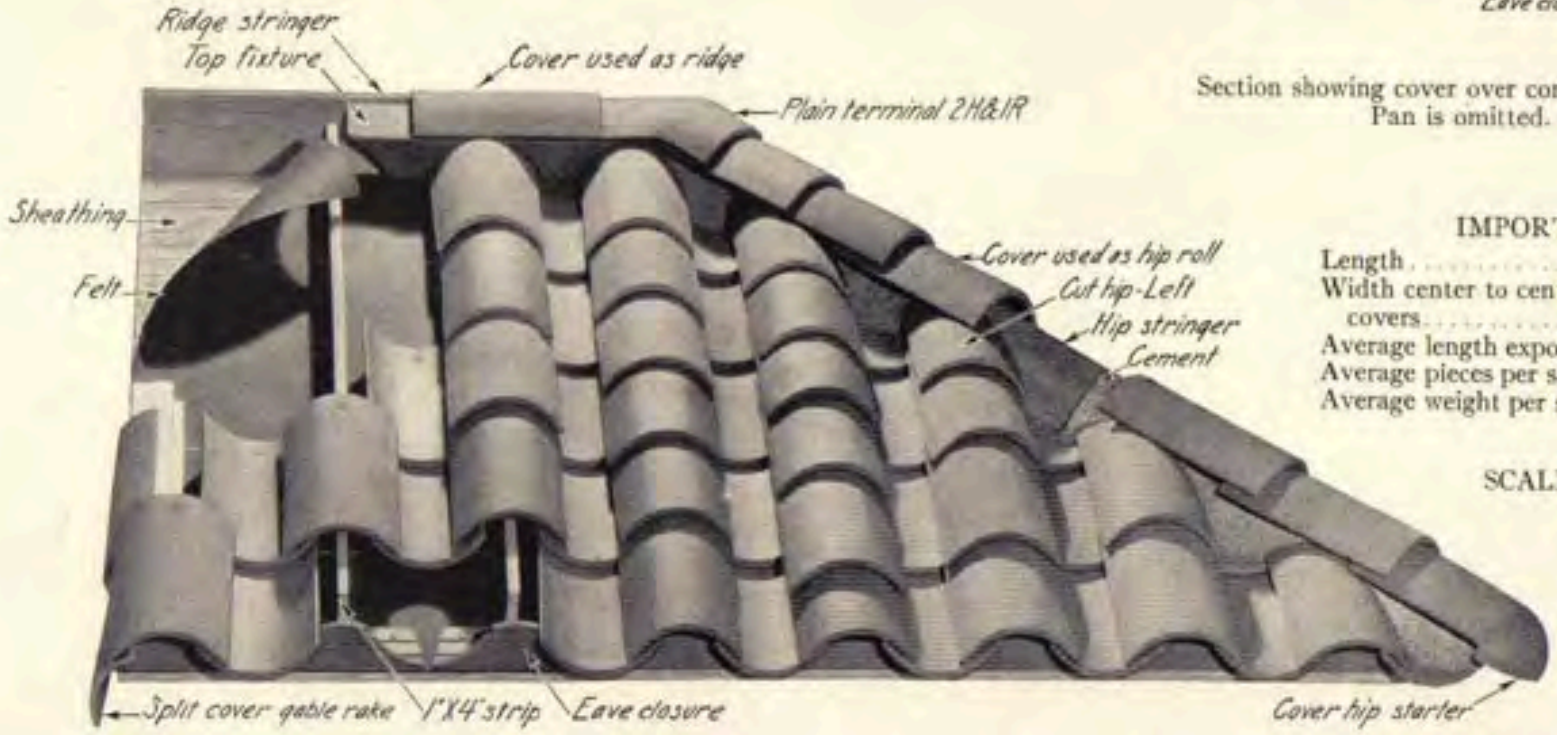
STRAIGHT BARREL MISSION TILES AND FITTINGS



Section showing split cover gable rake, also flashing under side of tiles.



Section showing cover over concealed gutter. Pan is omitted.



IMPORTANT DATA

Length	14 1/4"	18"
Width center to center of covers	11 1/2"	11 1/2"
Average length exposure	11 1/4"	15"
Average pieces per square	224	170
Average weight per square	1250 lbs.	1250 lbs.

SCALE 1 1/2" = 1'-0"





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Mission Tiles



Mission Tiles



Pan Tiles





Standing Seam Roof

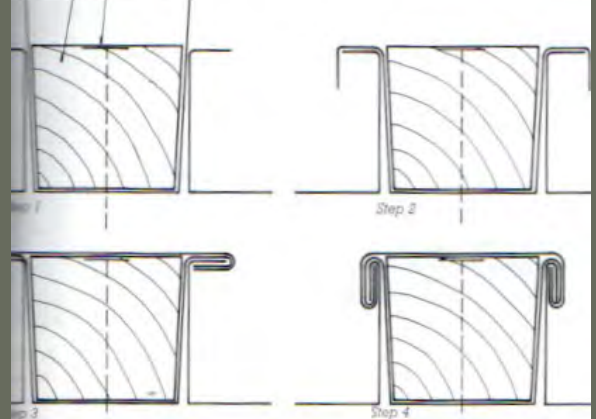
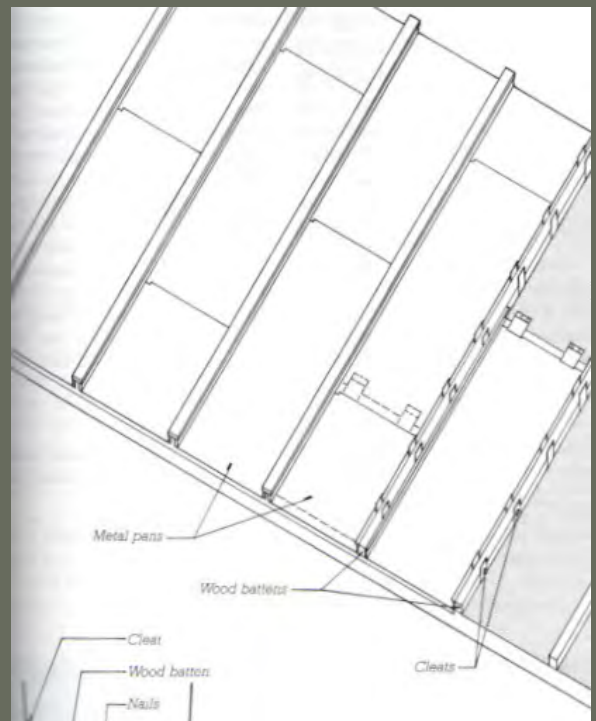
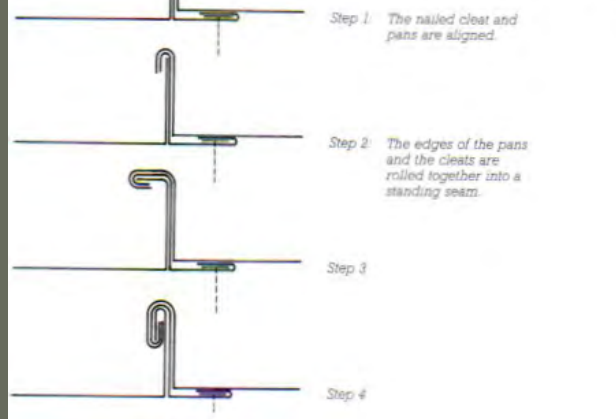
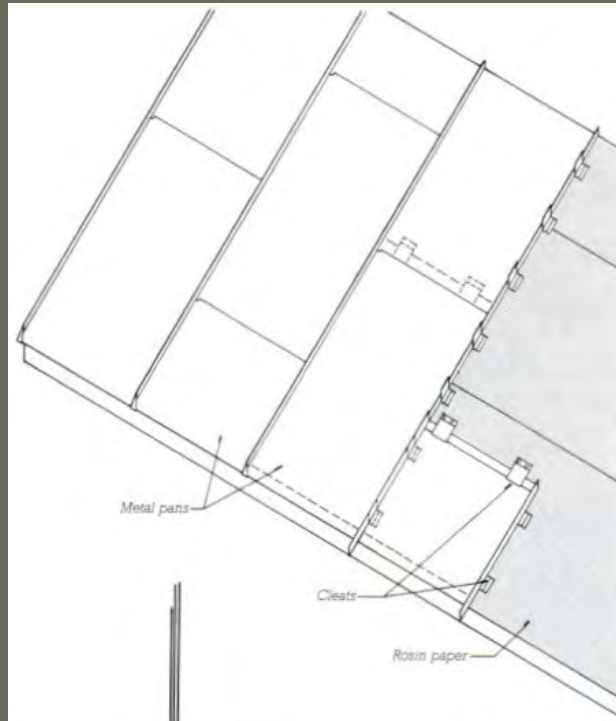
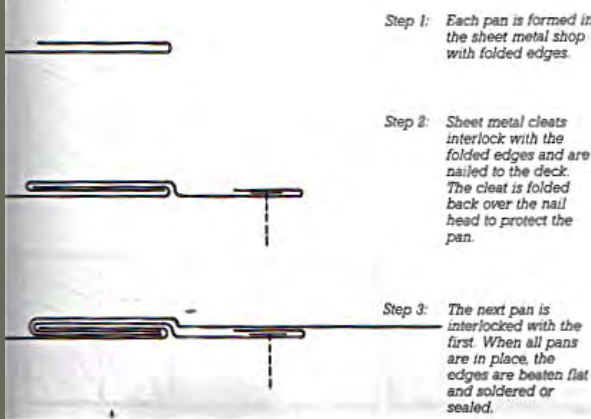
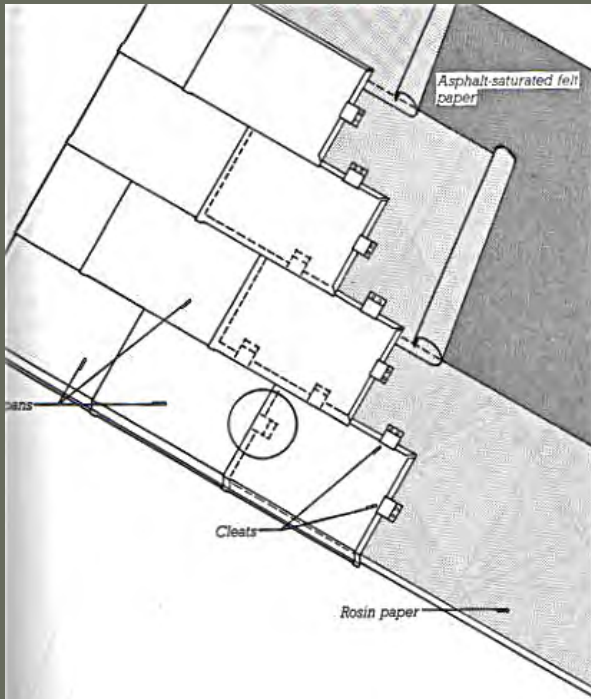
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Standing Seam Copper Roof

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# Sheet Metal Roof Seam Detail Options





Standing Seam Solar Roof

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Solar Roof Tiles



Solar Standing  
Seam Roof



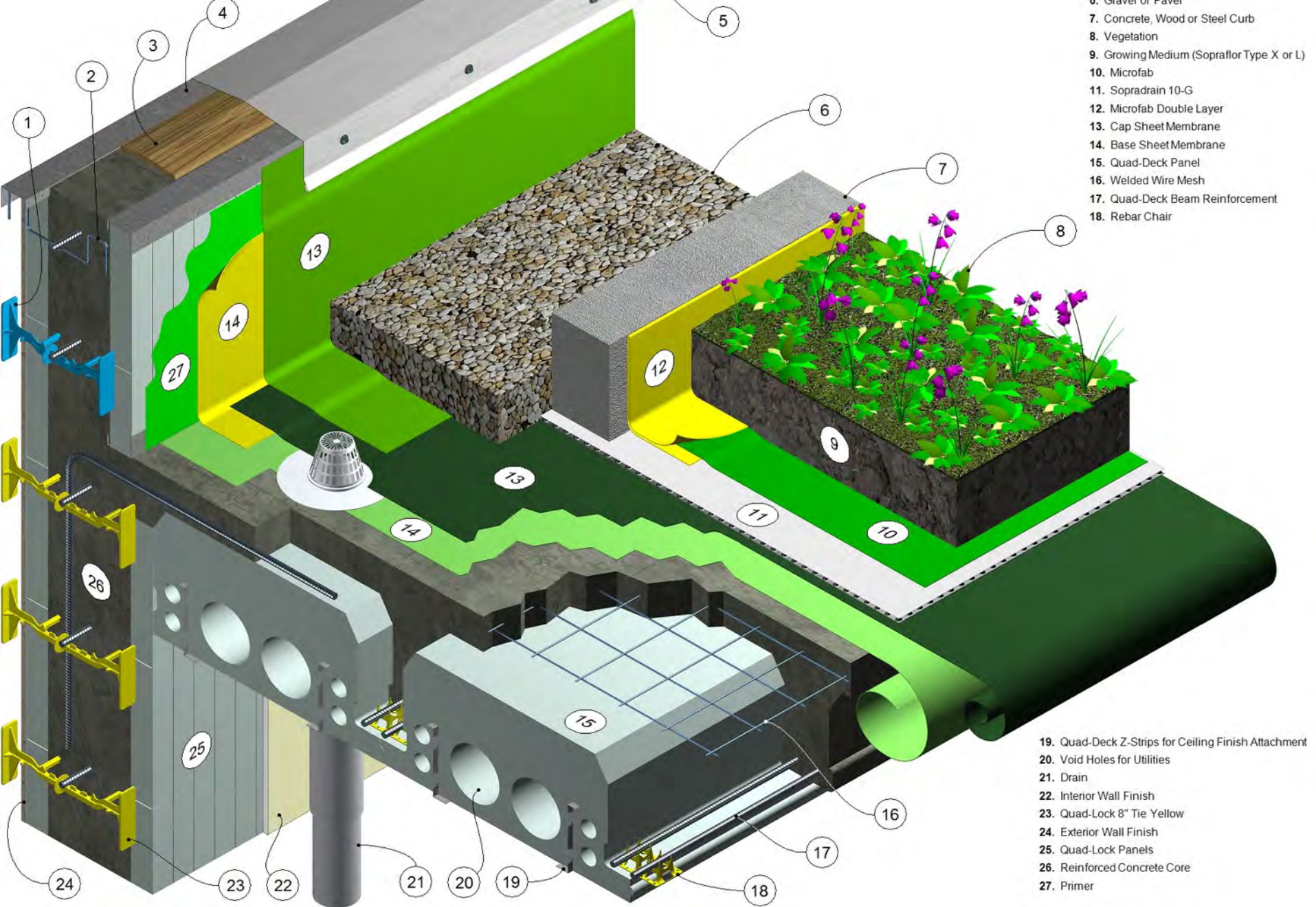




## Green Roof Construction







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Green Roof Construction





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Roofs Collecting Drinking Water in Bermuda

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Architectural Character:  
Derived from the Roof Form

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# **Roofing (CHAPTER 16) Part II**

## **Summary:**

### **Tiled Finish Materials :**

**Small elements with overlapping joints**

**Relation of finish to roof pitch**

### **Sheet Metal:**

**Expansion/ Contraction**

**Patina, Natural Response to Environment**

**Sustainable Role to Play**

**Shading, Water Collection, Reflecting Heat,**

**Surface supports PV power generation**