

## Project: Sample

Total horizontal depth: 42.0 in

Required Roof Surface Depth: 43.8-55.8 in

Eave length: 164.3 LF

Valley length: 65.1 LF

Net ice and water SF: 1,081.95

Waste included: 10.0 percent

Total SF with waste: 1,190.15

Roll coverage: 200.0 sf

Rolls required: 5.95

Overlapping IWS removed from calculation total

### IRC Code Reference

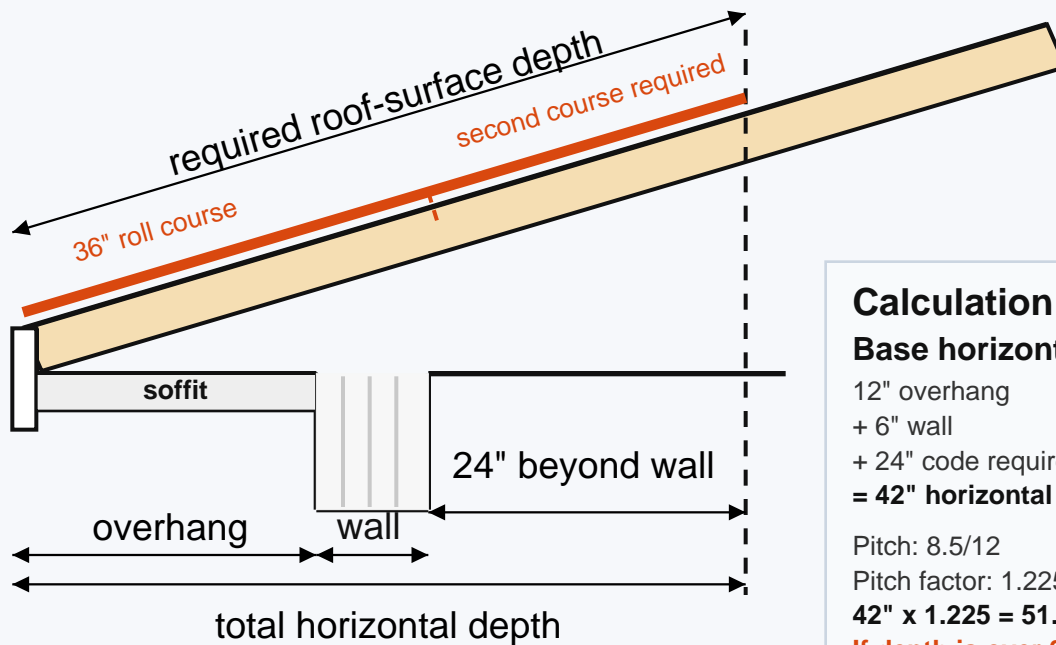
R905.1.2 Ice barriers. In areas where there has been a history of ice forming along the eaves causing a backup of water as designated in Table R301.2(1), an ice barrier shall be installed for asphalt shingles, metal roof shingles, mineral-surfaced roll roofing, slate and slate-type shingles, wood shingles and wood shakes. The ice barrier shall consist of not fewer than two layers of underlayment cemented together, or a self-adhering polymer-modified bitumen sheet shall be used in place of normal underlayment and extend from the lowest edges of all roof surfaces to a point not less than 24 inches (610 mm) inside the exterior wall line of the building. Exception: Detached accessory structures not containing conditioned floor area.

#### Code link:

[https://codes.iccsafe.org/content/IRC2018P3/chapter-9-roof-assemblies#IRC2018P3\\_Pt03\\_Ch09\\_SecR905.1.2](https://codes.iccsafe.org/content/IRC2018P3/chapter-9-roof-assemblies#IRC2018P3_Pt03_Ch09_SecR905.1.2)

## Eave Coverage Detail

Code requires Ice and Water Shield extend from eave to 24" past interior wall.



### Calculation

#### Base horizontal depth

12" overhang  
+ 6" wall  
+ 24" code requirement  
= **42" horizontal depth**

Pitch: 8.5/12

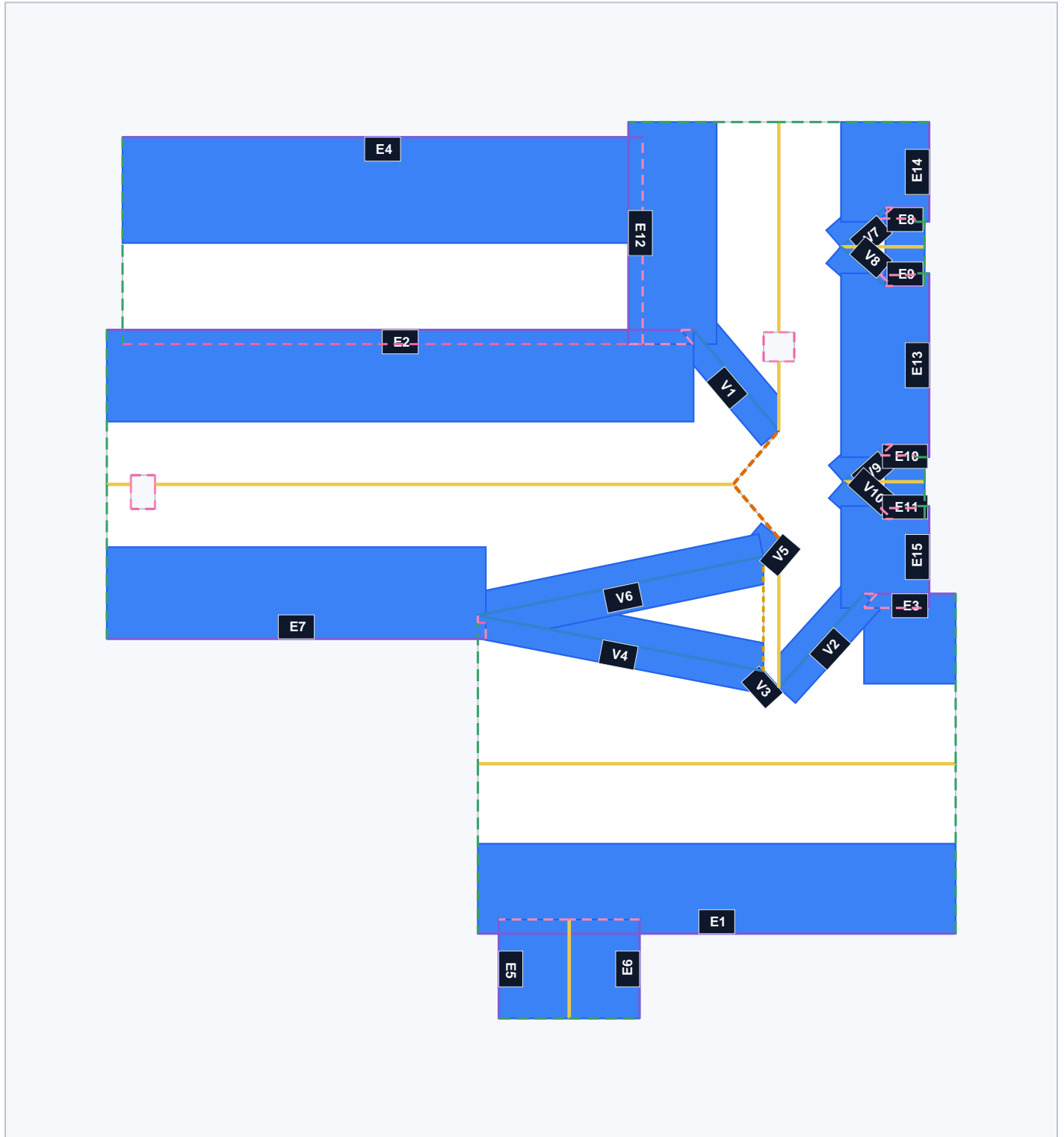
Pitch factor: 1.225

**42" x 1.225 = 51.5" required**

**If depth is over 36",  
add a course.**

## Shaded Ice And Water Coverage

Blue areas show calculated membrane coverage clipped to roof facets. Disabled lines are gray and excluded from totals.



- Ice and water coverage
- Eave
- Valley
- Ridge
- Hip
- Other
- Rake
- Headwall
- Sidewall
- Transition