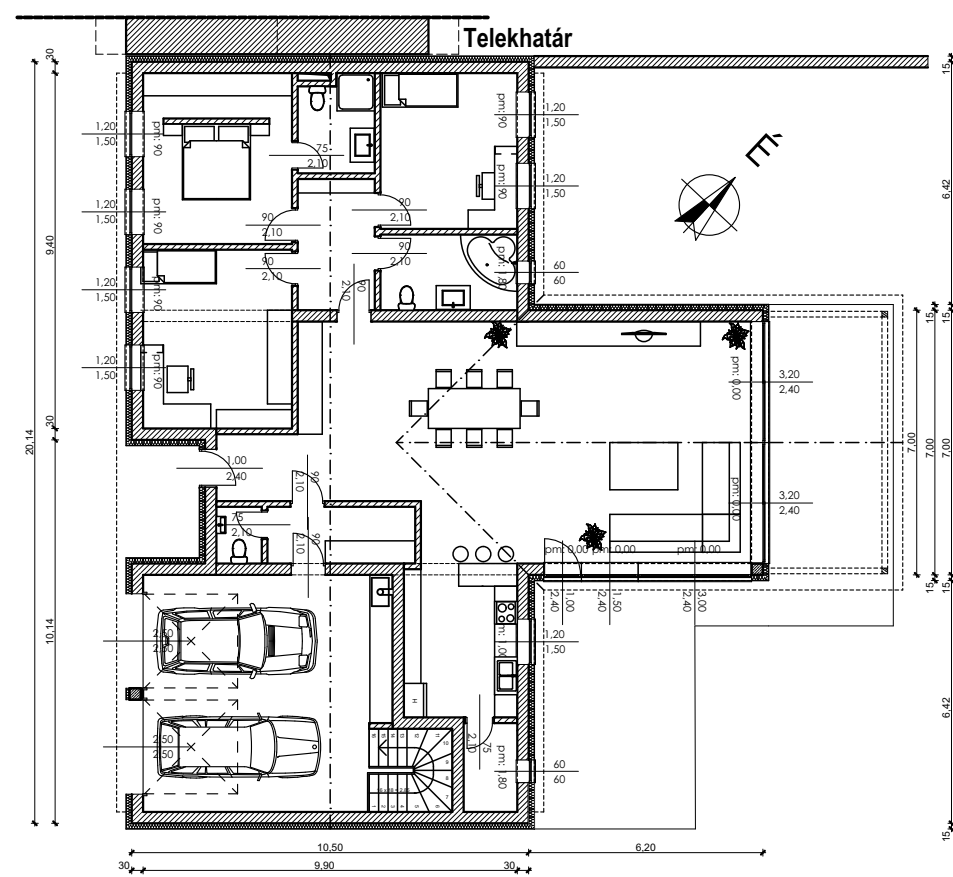


Layout - sketch S =1:200



Layers

Roof - attic

- T1 - roof
- roof cladding
- battens or boards
- counter battens + ventilation
- underlayer foil
- rafter

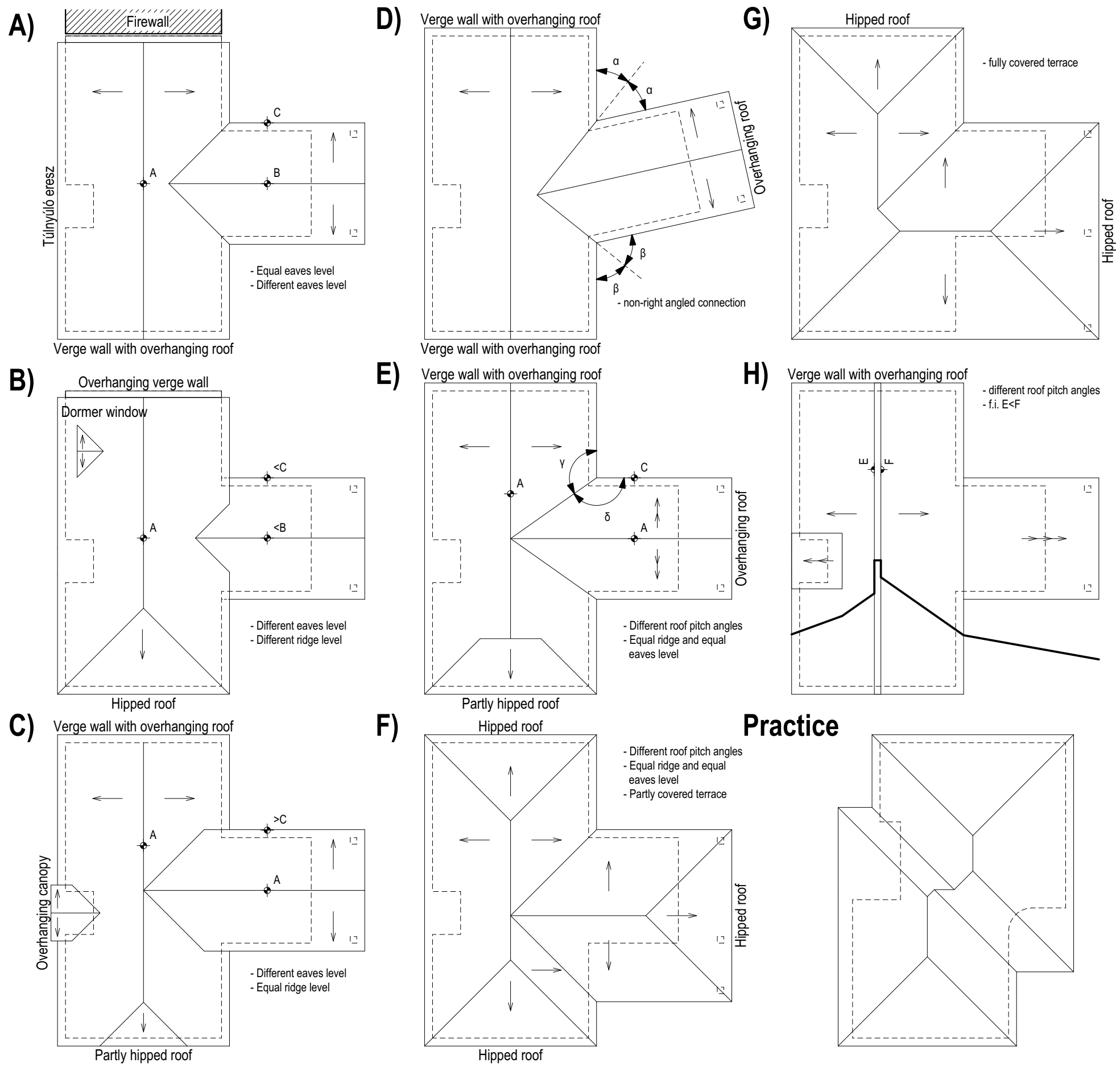
Topmost floor slab - attic

- T2 - floor slab
- thermal insulation
- vapour barrier
- prefabricated floor slab
- plaster

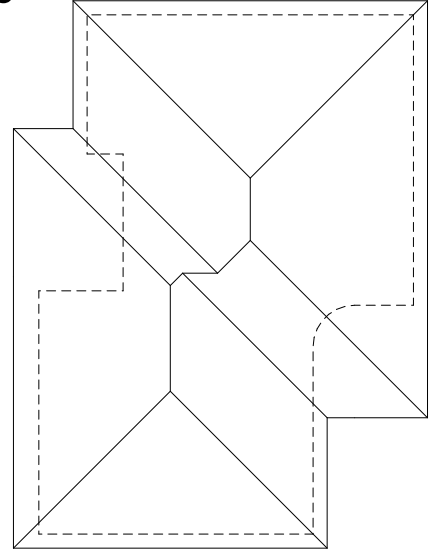
Main steps of roof structure design

1. Roof form construction
2. Cross section
3. Selection of the proper roof structure (aspects are: width of the building, attic extension, pitch angle)
4. Primary structural members (purlins, beams, posts, pair of collar ties).
5. Details (dormer/skylight windows, chimney etc.).
6. Secondary structural members (rafters)

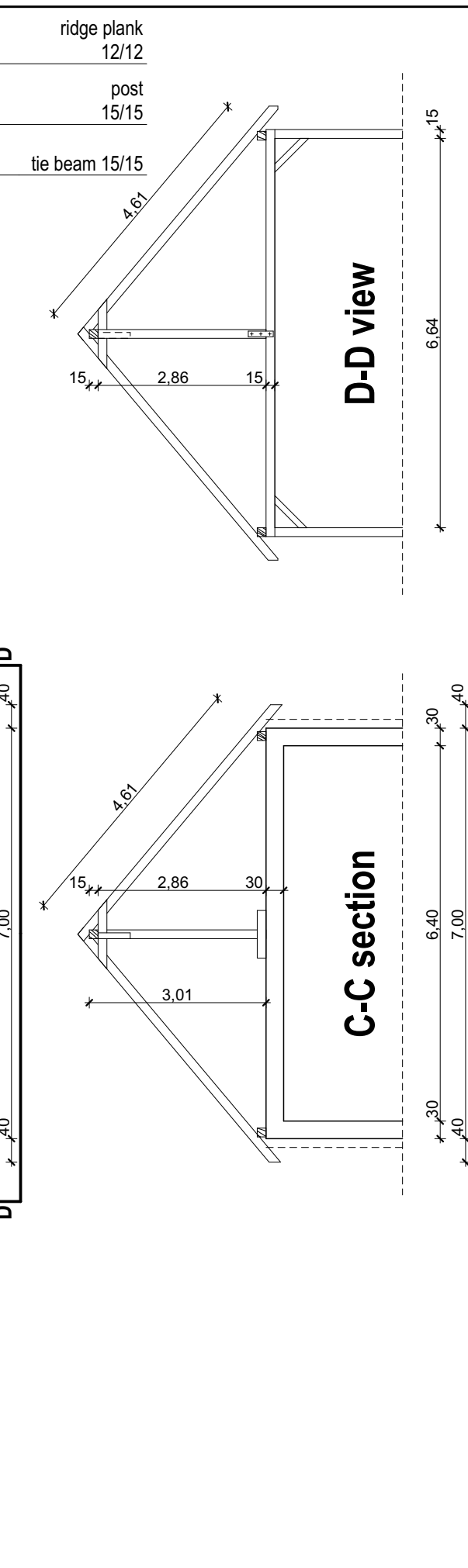
Roof form construction



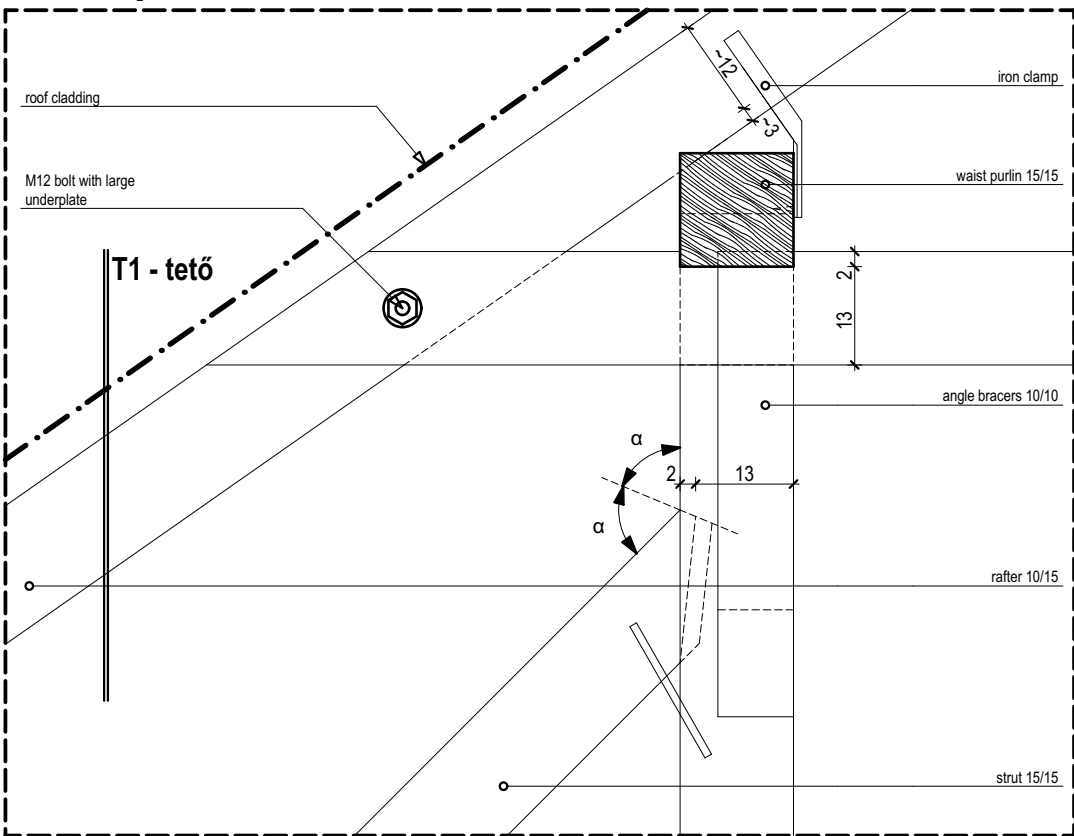
Practice



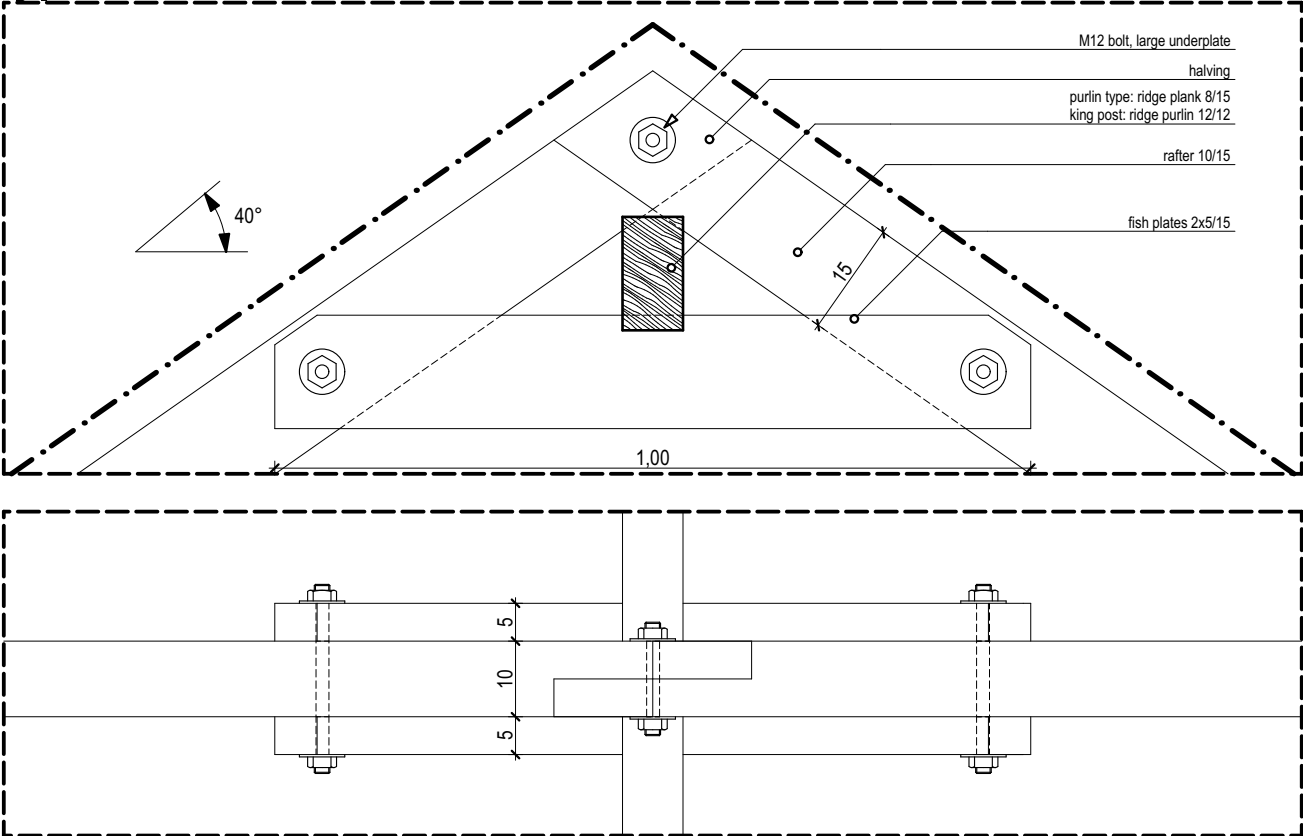
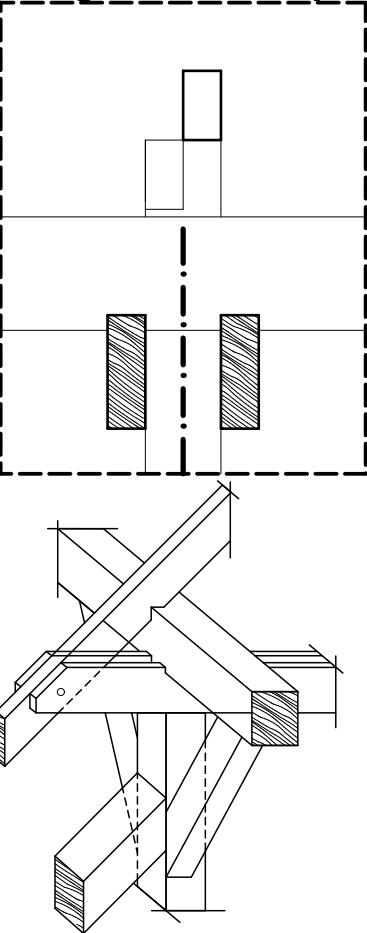
A-A section



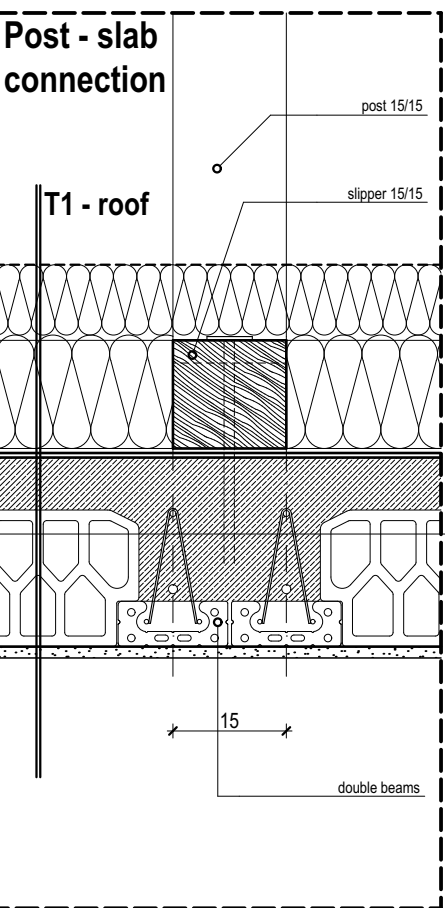
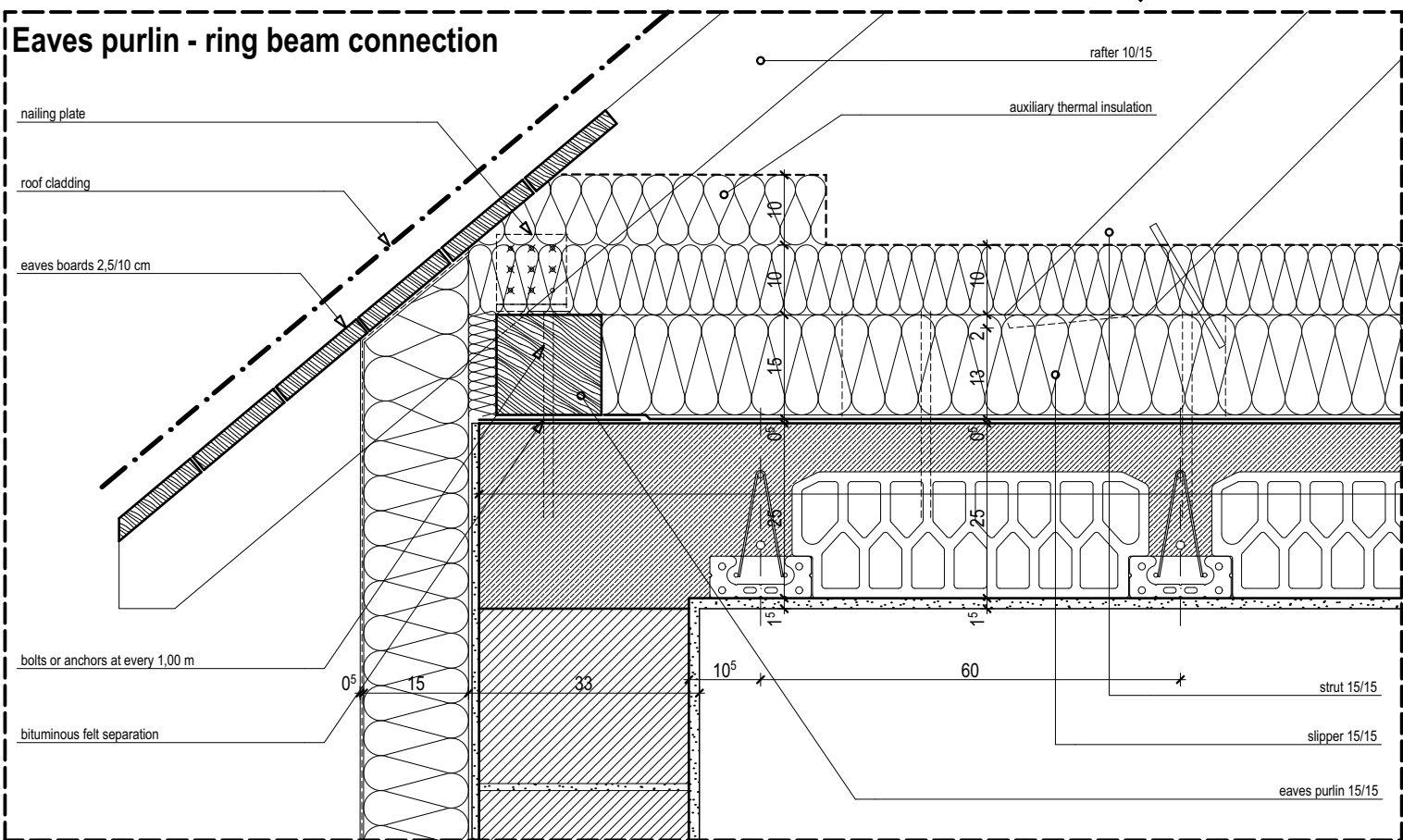
Waist purlin detail



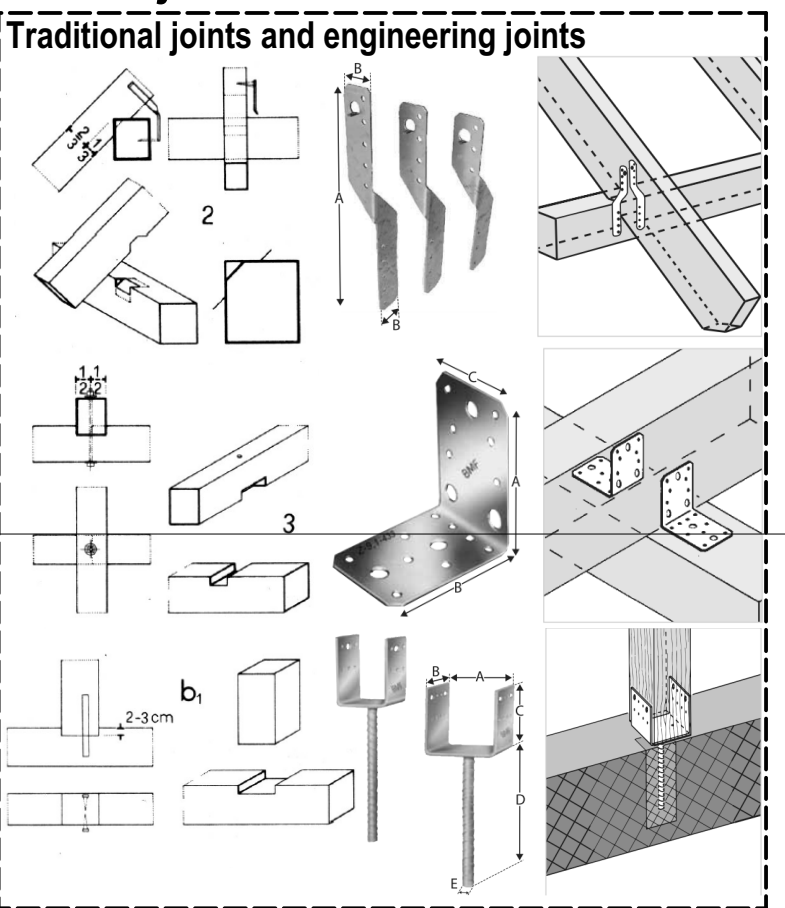
Ridge detail at purlin type roof



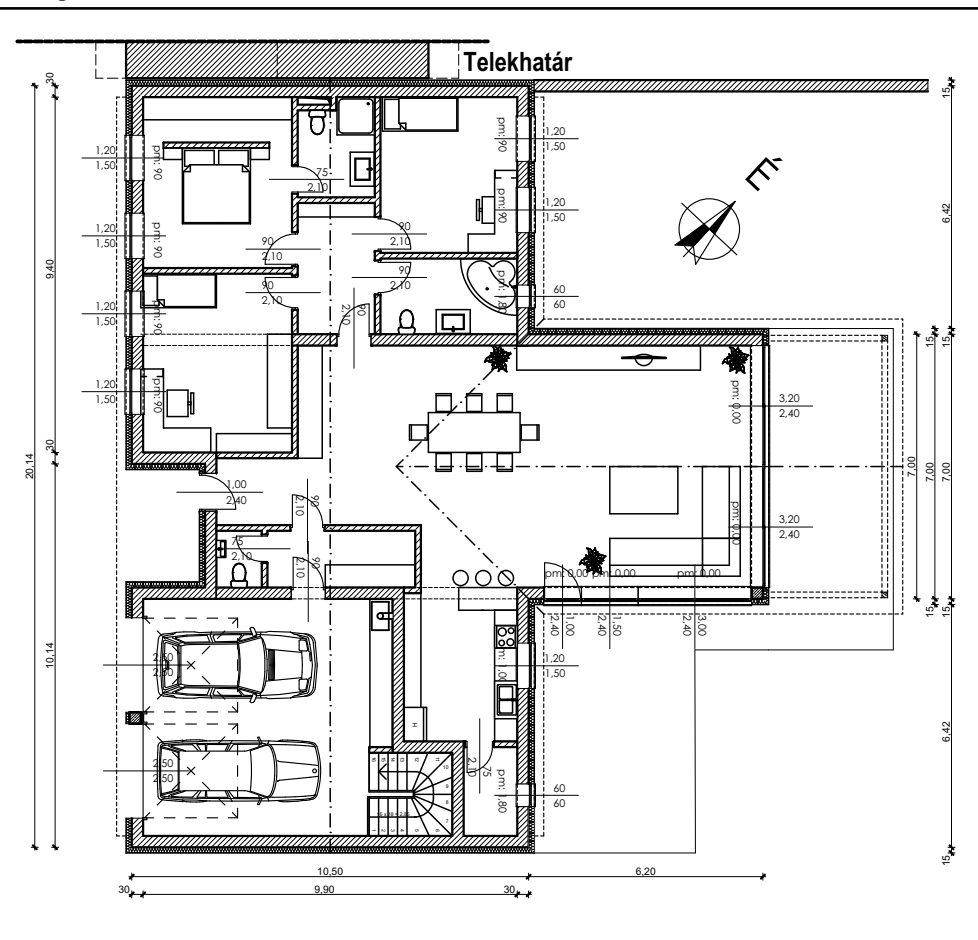
Roof structure - slab connections



Timber joints



Layout - sketch S =1:200



Layers

Roof - attic

- roof cladding
- battens or boards
- counter battens + ventilation
- underlayer foil
- rafter

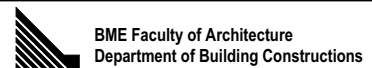
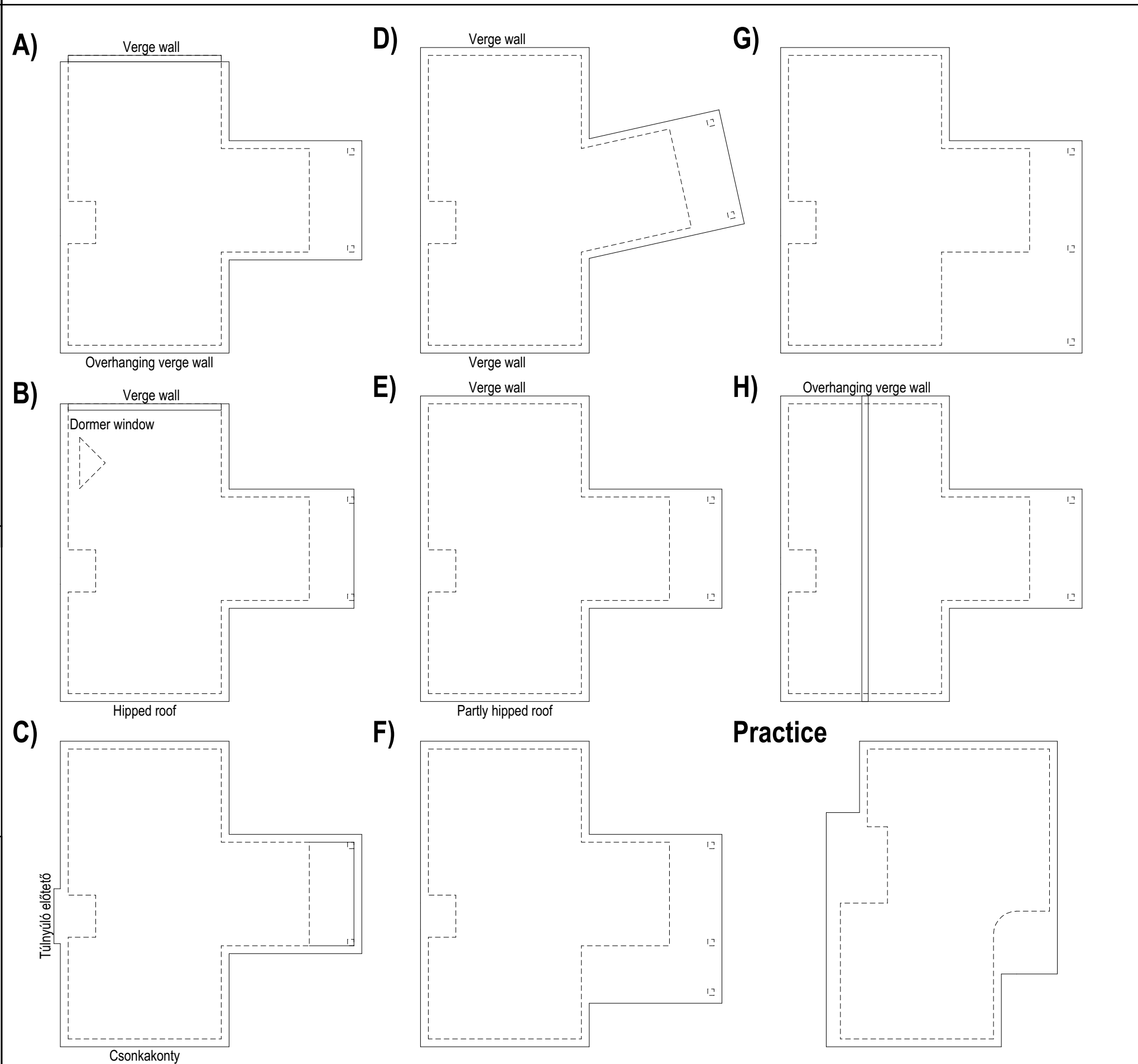
Topmost floor slab - attic

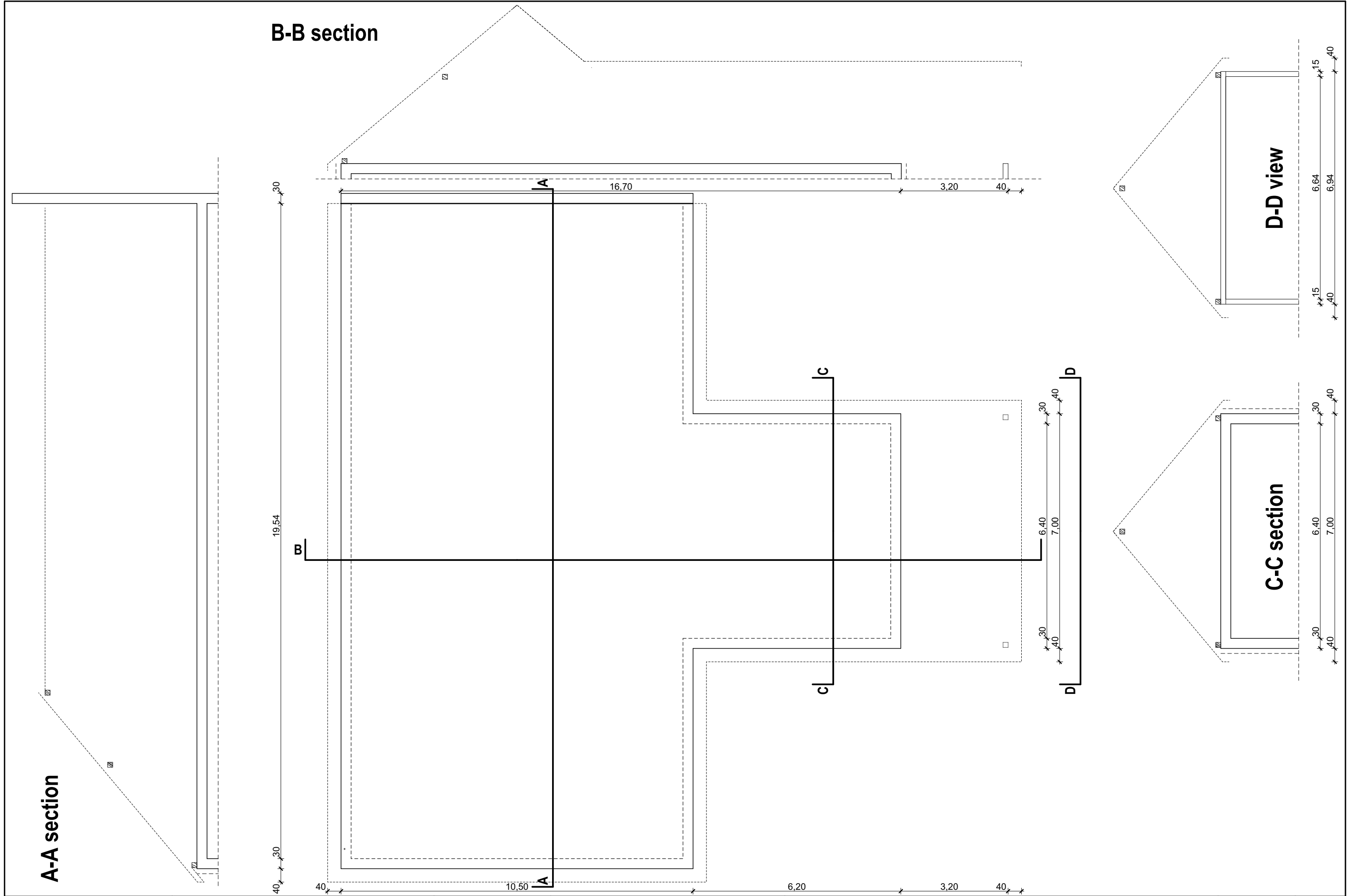
thermal insulation
vapour barrier
prefabricated floor slab
plaster

Main steps of roof structure design

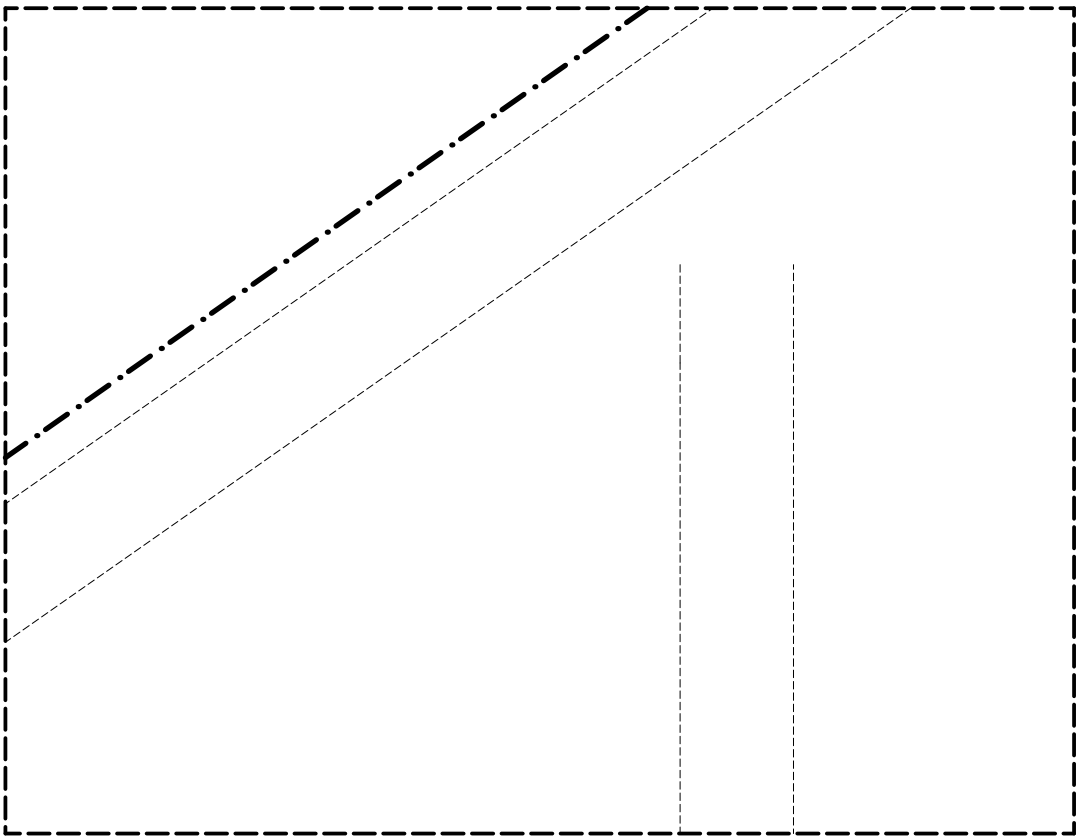
1. Roof form construction
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Roof form construction

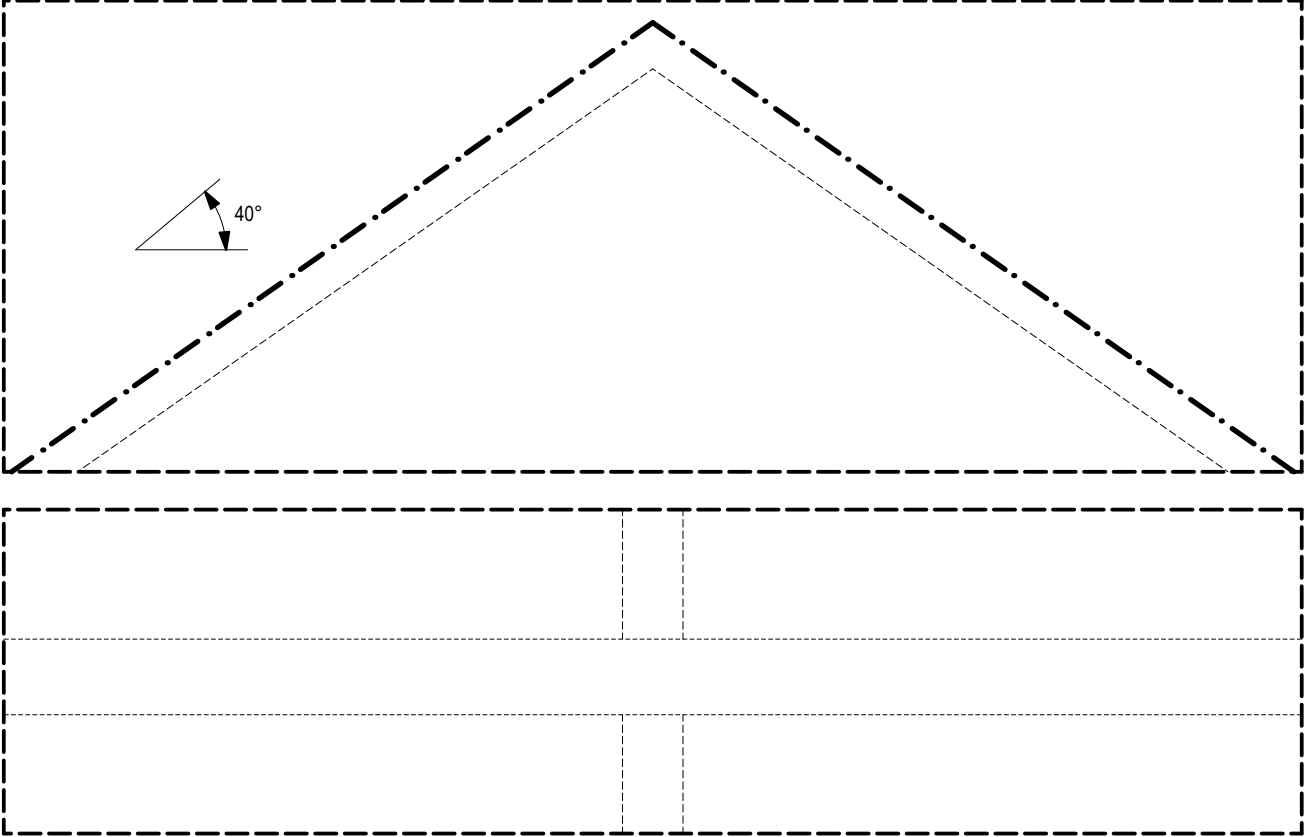
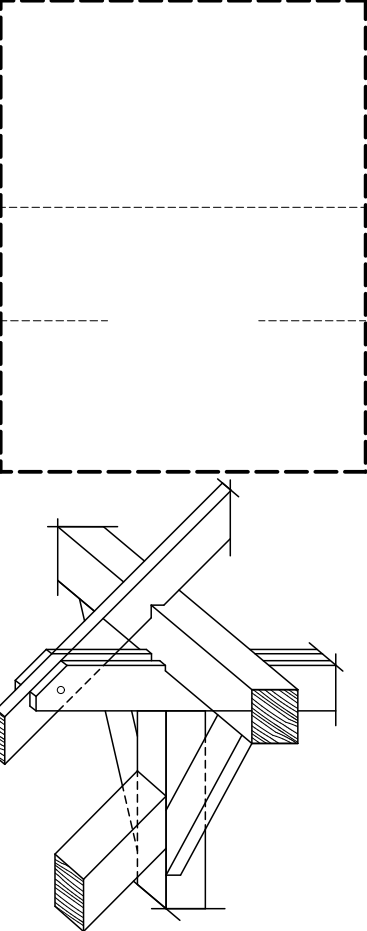




Waist purlin detail

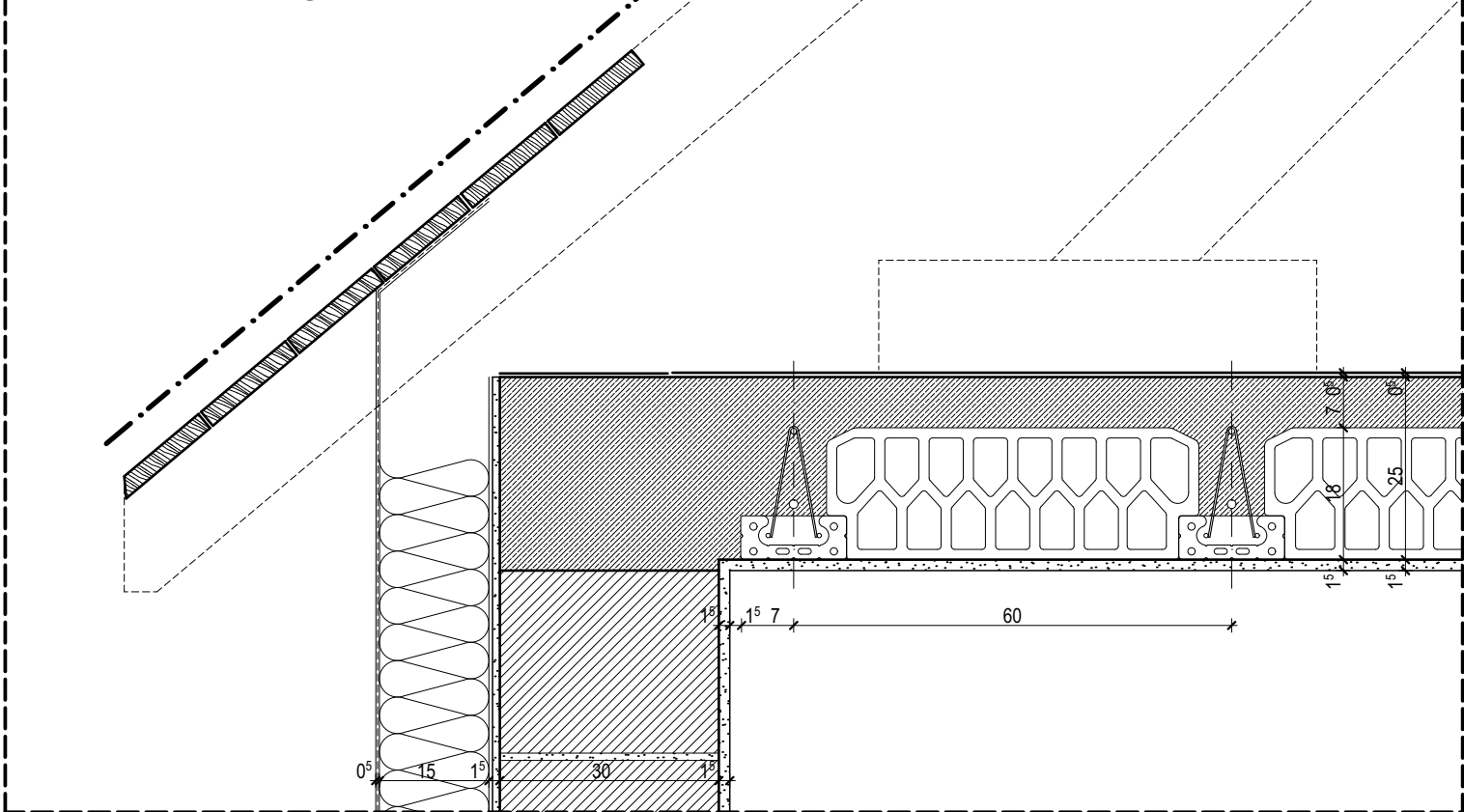


Ridge detail at purlin type roof

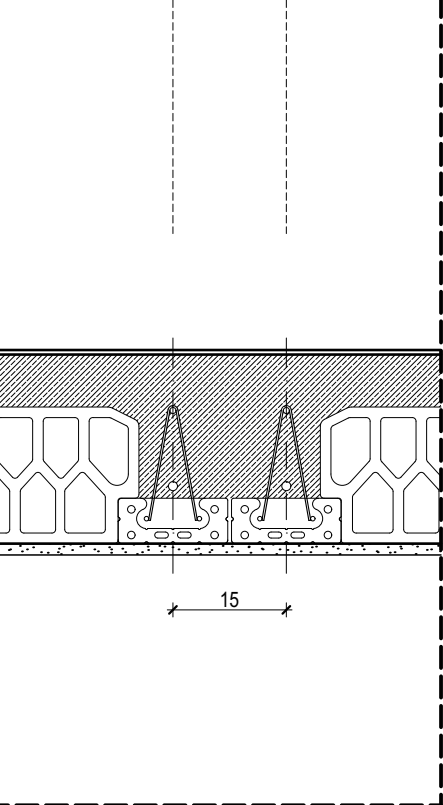


Roof structure - slab connections

Eaves purlin - ring beam connection



Post - slab connection



Timber joints

Traditional joints and engineering joints

