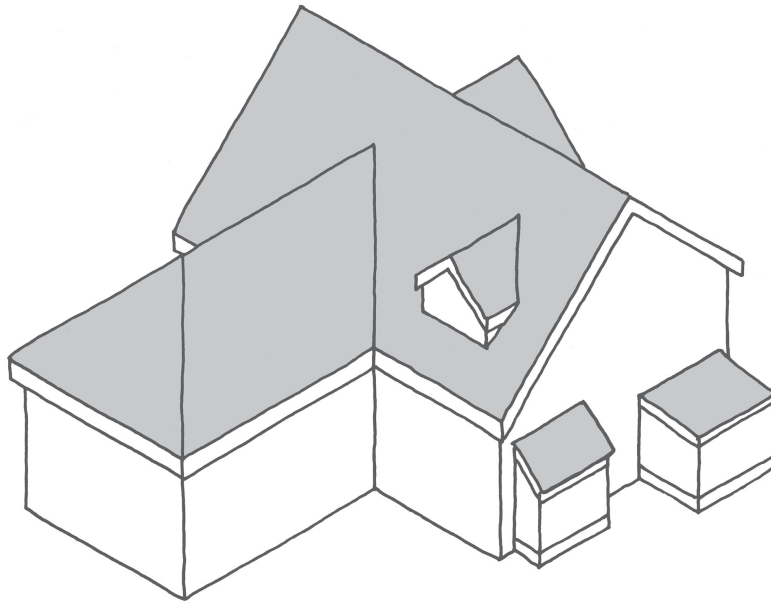


Chapter 16: Roofs

1. What are the primary functions of the roof of a dwelling?

2. Label the parts:

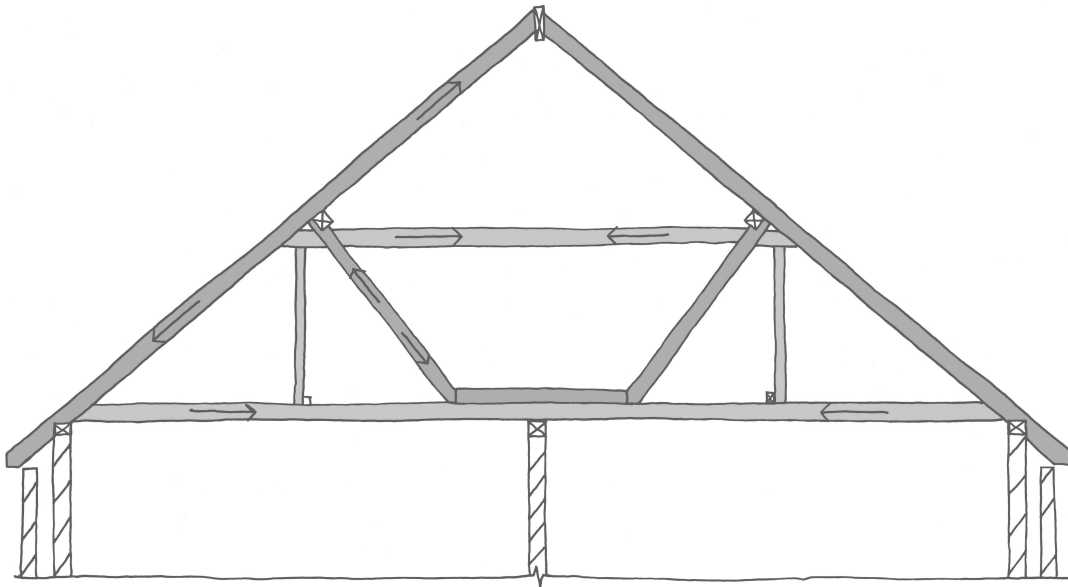


3. List and explain three types of roof structure:

4. List and explain three types of roof covering:

5. Explain any four factors that influence roof design:

6. Label the parts and explain their function below:



• ceiling joist:

- rafter:

- collar:

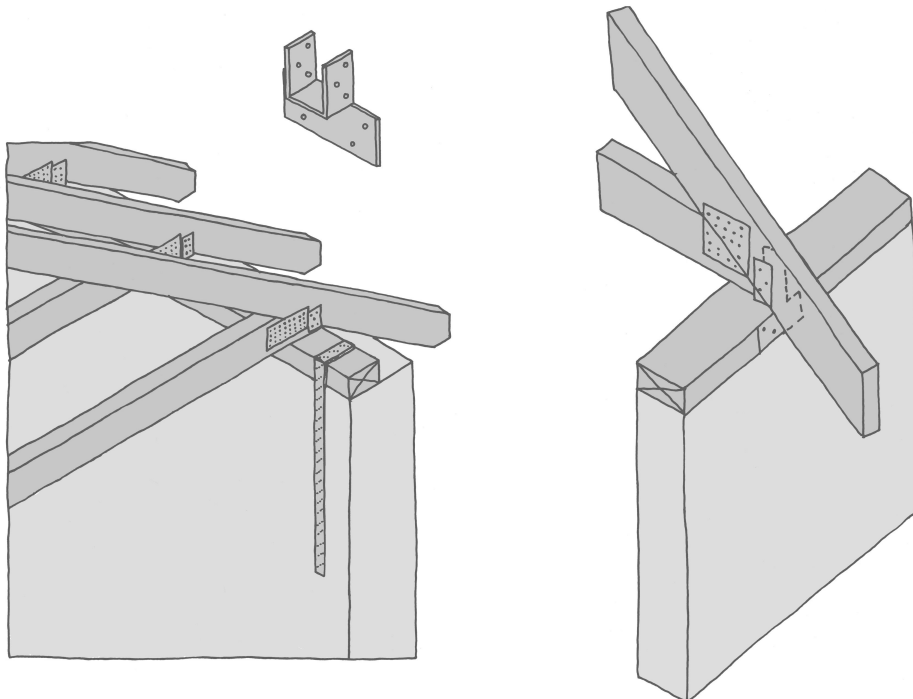
- purlin:

- strut:

7. Explain, using a neat annotated sketch, how a roof living space is constructed in a traditional cut roof.

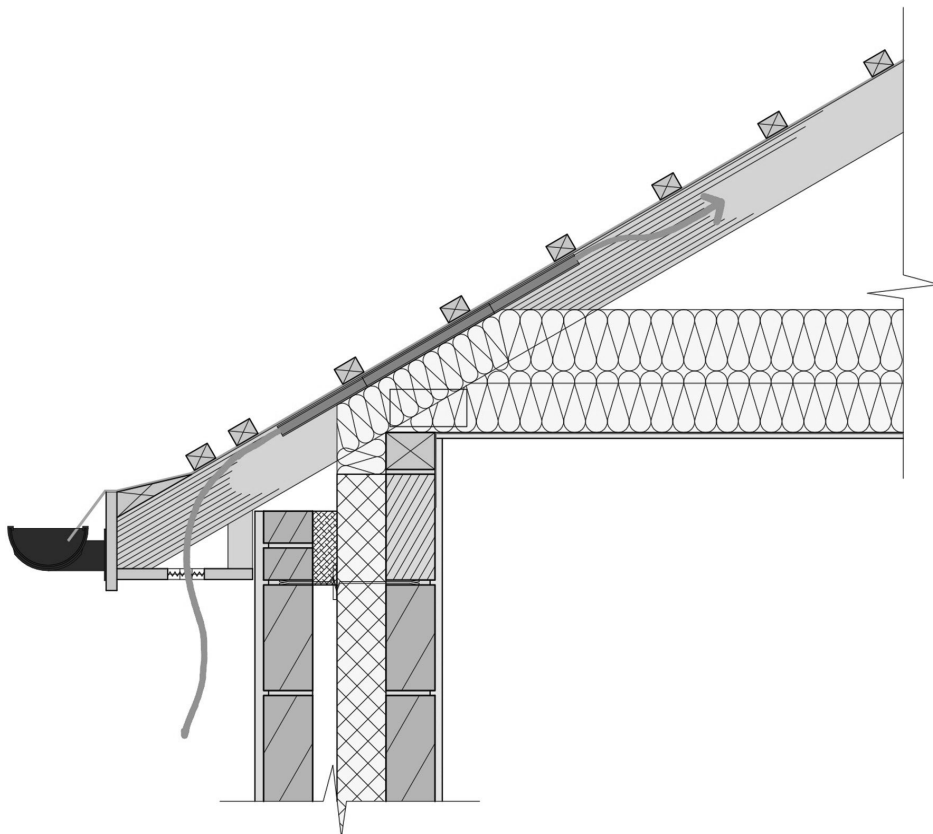
8. Generate a neat cross sectional sketch of a trussed roof (Fink truss).

9. Label and explain the function of each of the components shown in the sketch below.



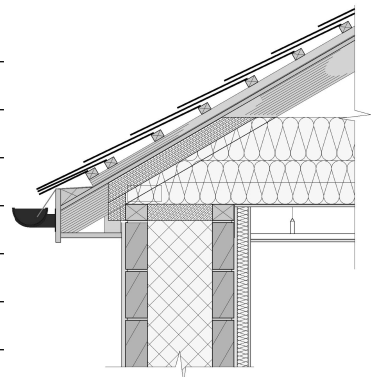
10. Why is it important the steel components are galvanised?

11. Explain, using clear annotation, which three components contribute to the reduction of thermal bridging at the wall-roof junction shown below.

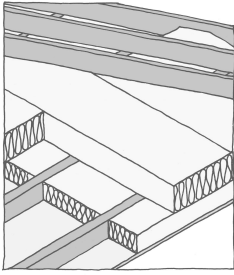


12. Explain, why it is necessary to provide ventilation to the attic space of a traditional roof.

13. Explain why the Passivhaus standard roof shown in figure 16.27 (p.183) does not require ventilation.



14. Why is it essential that attic insulation is laid in two layers, as shown?

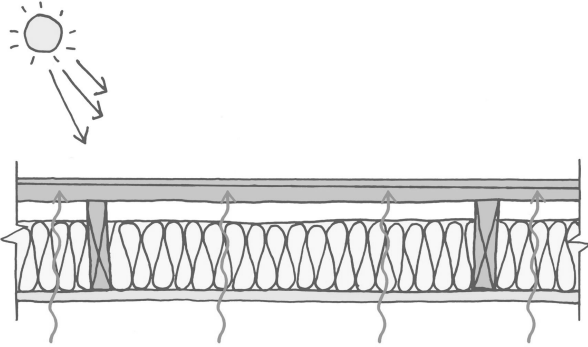


15. Generate a neat cross section sketch of the ridge of a roof. (hint: see 16.32)

16. List three disadvantages of traditional bitumen based roof coverings.

17. A low-slope roof is a buildup of several layers... list and explain them:

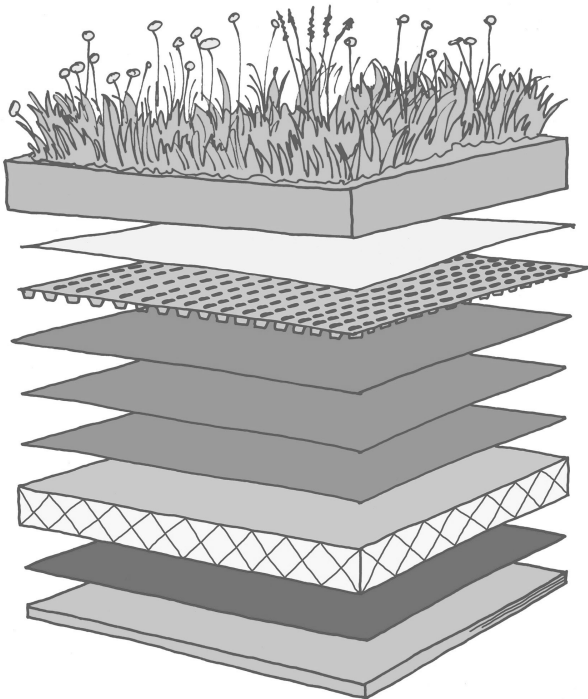
18. Traditional bitumen felt flat roofs are prone to failure. Explain any three common failure mechanisms



19. Generate a neat, annotated cross section sketch of a low slope warm deck roof designed to building regulation standard.

20. List five advantages of a green roof.

21. Label the layers of the green roof buildup shown and explain the function of each layer.



22. Generate a neat, annotated cross section sketch of a low slope warm deck roof designed to Passivhaus standard.