

## In the Workshop

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*We've worked our way up through the hive via the stand, floor and boxes. This month discusses how to make a roof to finish things off.*

A roof is expected to perform some simple requirements; to keep the weather out, robber bees out and to allow some ventilation for the bee colony to manage temperature and humidity within the boxes below.

### Roof design options

Most roof designs are flat. They have the benefits of simplicity, lowest production cost/complexity and they can be laid upturned in the ground to stack boxes onto. To make such a roof, you can copy the dimensions and design of a current roof you have. The biggest decision is how to rainproof your roof. Waterproof PVA and some water resistant paint/roof product should suffice for many years. You can buy the National roof metal tops as a replacement item but they aren't too cheap.

Most people seem to like the shape and style of a roof with an apex. We will discuss how to make one of the more ornate (and complex) shapes in this article. You can simplify it down to one piece of wood on each side of the apex if you wish.

### Making a cutting template

The ends of the roof on this design may seem complicated but it's just a series of small straight cuts. A template to trace around is very useful (template in the download area) as it can save a lot of time. Depending upon the wood you have available, the roof ends can be cut from a single piece of wood or, more usually, from two pieces of wood. If two pieces are used, screw the roof slats on top with long screws (65mm-75mm) so that they go through both halves of each end piece (more info in the download).



draw round the template to get your cutting lines.

### Roof slats

The end pieces must be placed so that the inner faces are around 47cm apart. This gives enough space to slip over a National hive box. The design can be easily adapted for Langstroth hives etc. The roof slats themselves are around 60cm long which gives a sensible overhang at each end to help

keep the hive entrance a little drier in calm, rainy weather. The slats can be screwed to the end pieces with 35mm or 40mm screws if the end pieces are single pieces of wood.

For a more sturdy design, add some waterproof glue between the slats and the end pieces. For a more aesthetically pleasing design, you may want to cut the lowest slats so that the ends are rounded (see picture)



roof is complete with slats glued and screwed into place.

### Why such a complicated design?

A roof can be simple in design. This example shows what can be done if you choose to go along the lines of a slightly more complicated option. Some benefits of this particular design include:

- Low cost – all parts for a roof can be made from a single suitable pallet,
- No metal on roof – perhaps a personal preference but some may like the styling,
- Space under the roof – a small feeder or block of fondant can be placed under the roof without having to put on an eke or equivalent,
- The rain tends to drip off the sides of the roof rather than the front, diverting some water away from the entrance/landing board.





roof has some space underneath for a small feeder or a fondant pack.

### Variations on a theme

This design is just one styling option. The important point here is for you to appreciate that a roof can be made and it can be adapted to suit your particular hive design or requirements. As with all these home-made designs, the more of them you make, the easier it becomes and the more money you save.



This was the result of two days' work, building everything from scratch.

You can create a more aged and rustic look by running a blowtorch over all the woodwork. Very useful method of also getting rid of splinters from the wood.





Before and after charring the wood. Quite a transformation!

### Download

To download some free of charge additional information, please visit [www.beesinourcommunity.org.uk/resources](http://www.beesinourcommunity.org.uk/resources)

### Supplementary information

This roof is made from scrap wood. The top slats are each 60cm long and the width of a typical pallet slat.

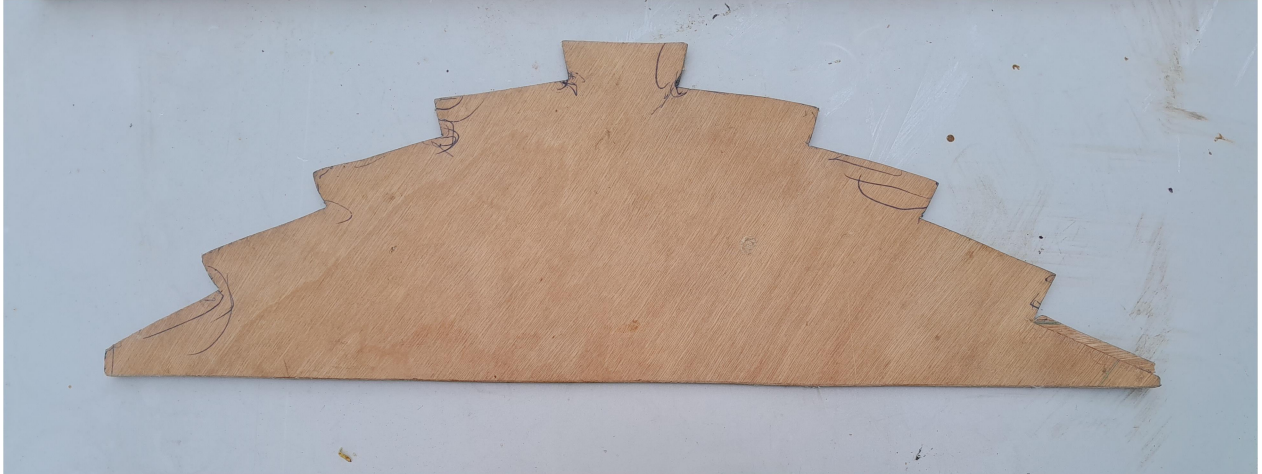
It is fairly heavy and certainly doesn't need a brick to hold it on. You can make the slats longer if you wish to have a more significant overhang above the front of the hive.

The downside of this design is that the roof can't really be laid down upside down to put the super(s) on. I tend to put the roof onto the ground the same way up and balance the super(s) on top of the middle slat. If it doesn't work out too well for you. Have one edge of the super on the ground and the other edge on the top slat. That will keep 95% of the comb off the ground.

You may have different experiences with hive roofs but I found that a metal covering to a roof tends to amplify the impact of temperature at it's extremes.

On a very hot day, the roof can get really hot unless it is in woodland or dappled shade. On a frosty day, the metal roof gets really cold and the water seems to condense under the roof. As it's flat, the water just drip down.

With the apex version, the air is moved through gaps in the woodwork so there isn't nearly so much condensation on a cold day. On a hot day, the warm air is not trapped by the roof design so it tends to convect outwards. I didn't really notice the issue until I was running normal flat roofs alongside these wooden roofs with an apex.



The cutting template will be incredibly useful for you. You've probably heard of the phrase "measure twice, cut once". These templates allow you to "measure three times, cut a thousand times". In other words, getting the template to suit you, the wood you have available and your design preference is key. Once you've got it sorted, it's very easy after that.

I made my initial template from card. I could cut a bit off, tape a bit on etc. until it worked. Once it was working, I drew around the card template onto some 3mm ply to make a more permanent template.

The template download is in the same section as this file and should print out to size. I've put a 20cm long line onto the design so that you can check the scale. If it doesn't print out to scale from your printer, you can enlarge or shrink the picture to get closer to actual size.

As a final note, screwing the parts together is much more preferable than nailing them. I bash my roofs around a fair bit and don't want a nailed fastening to slip out. To make things much more solid, even with screws, it's always worth adding some waterproof PVA glue to the joints either whilst you are assembling them or as a bead of glue between the slats and the end piece after it has been assembled.

Regards from Karl