



## Appendix 6.3 Bat-boxes: Technical Guidance

Unlike birds and rodents, bats do not build nests. Warm roost temperatures are important in summer to pregnant and lactating females and their young. In winter bats need constant cool temperatures for hibernation.

Bat boxes due to their small size generally cater for the crevice dwelling bats<sup>1</sup> and then only males or non-breeding females. Building bigger boxes or bat houses (over 1m<sup>2</sup> in area) makes the boxes more likely to be used as a maternity roost.

### Size

- The only critical measurement for a bat-roost is the width of the opening slits and internal crevices, which should be 15-20mm.
- There should be no gaps where top and sides join to avoid draughtiness and to keep it dark
- Apexes and chambers inside the box provide lots of surfaces for the bats to roost against.
- A box that cannot be opened is best, to lessen the chances of the bats being disturbed.

### Materials

Bats cannot hang from smooth surfaces, so boxes should be made from a rough material, for example, rough sawn timber. Woodcrete has also been successfully used in making bat boxes.

If timber is used, it must be untreated, as bats can be poisoned by *any* timber treatment chemicals. However, other methods can be used to darken the box to make it absorb and retain heat. Weathered boxes are more likely to be more attractive to bats, though wooden boxes can degrade over time.

### Waste

Designs should bear in mind that bats have a tendency to leave lots of droppings around the entrance to their roosts, so consideration should be given to how to deal with this.

### Siting and Repetition/Modularity

Bat boxes are best sited in groups of two or three, each facing in a different direction, to provide a range of temperature conditions. At least one box should be placed where it can receive at least 6 hours of direct sunlight.

Bat boxes are usually sited at a height of between 5-7m above ground. When designing for buildings that do not have eaves etc at this height, (e.g. contemporary tall buildings) consideration should be given to the requirements for shelter and sunlight. Ultimately, bat-boxes should be dark and warm internally, with no draughts. Although shelter from wind is important, exposure to sunlight should take priority to ensure adequate warmth.

### Access

Most bats crawl into their roosts so a roughened 'landing' platform needs to be provided near the access.

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<sup>1</sup> Crevice Dwelling Bats (which tend to be hidden from view) include the common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Brandt's bat and whiskered bat



**Predators**

Consideration should be given to the potential threat of predators, such as cats, or potential nuisance caused by other species.