

## Box End Construction



This technical bulletin will guide you through Kestrel's recommended methods of installing a boxed end.

The maximum sizes of box which can be achieved from fascia/bargeboard combinations will be determined by the widest board available within the desired range.

For example, Kestrel 605 series 9mm Bargeboard is available up to 610mm wide allowing extra deep box ends to be constructed.

### Step 1

Install the fascia board using Kestrel's recommended fixing of 2 x 65mm poytop nails (SS-65N) per maximum 600mm centres directly into the rafter ends.

On refurbishment installations the upstand of the fascia above the rafter feet should match as closely as possible to the original installation.

In new build installations an upstand of 50mm is recommended.

In all cases the end of the fascia must finish 5mm short of the end rafter to allow for expansion (Diagram 1)

When fitting the fascia board to the end rafter, use polytop nails with the plastic heads removed. Ensure that the nail heads are hidden when the corner joint is fixed.

### Step 2

Determine the size of the box end return (see Diagram 2)

In all cases the box end return must be greater than the eaves soffit width.

Install treated timber framing to allow PVC box end pieces to be secured and supported effectively.

Diagram 1

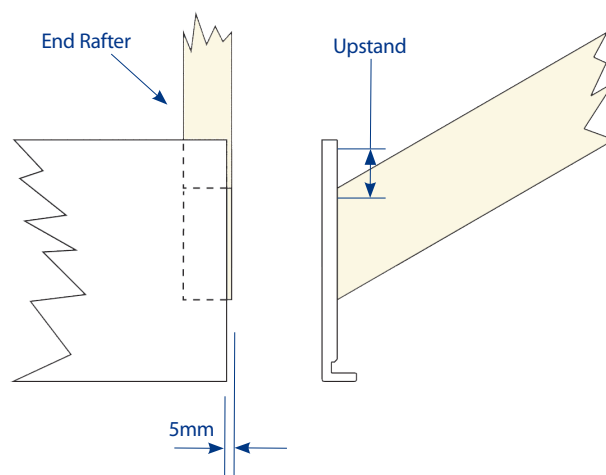
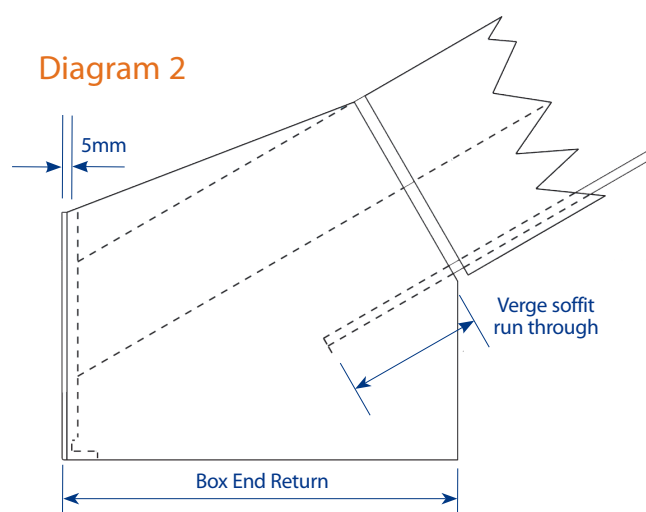


Diagram 2



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Diagram 3

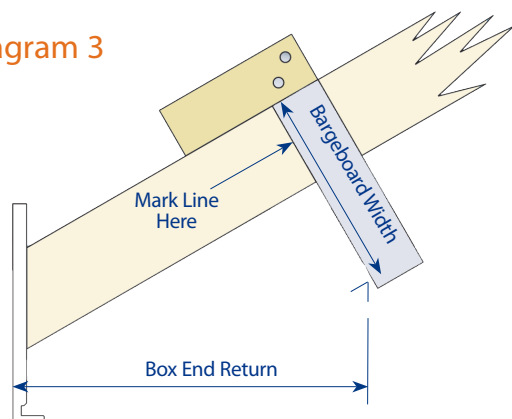


Diagram 4

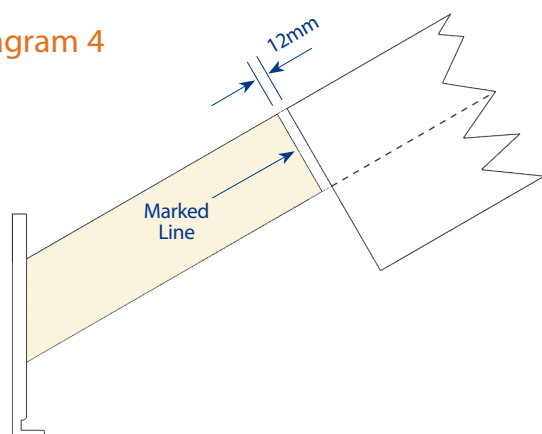


Diagram 5

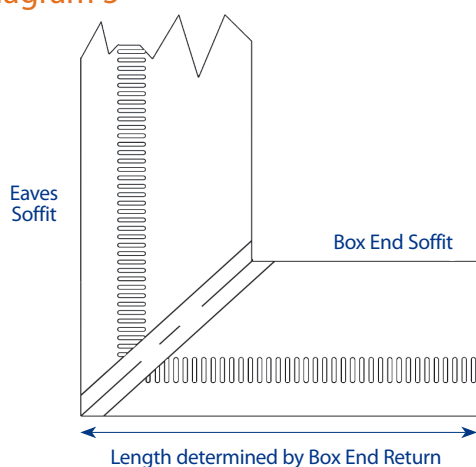
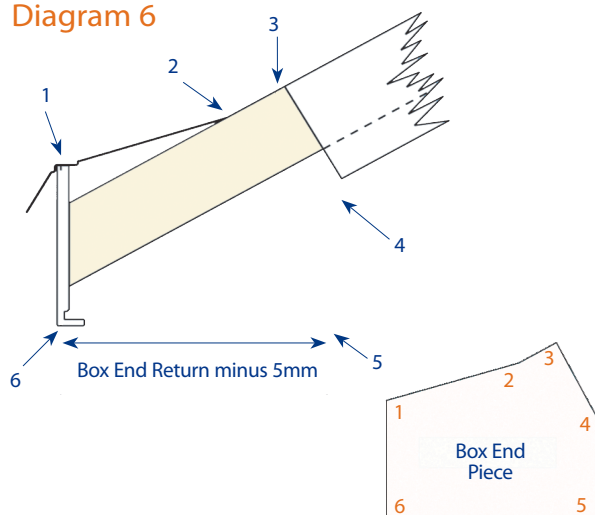


Diagram 6



### Step 3

Verge soffit is fixed between the gable ladder rafter and the building. Achieve the fix to the outer skin of the building by using 40mm polytop pins (SS-40P) to a timber substrate or Kestrel 692 soffit batten trim. The outer edge is fixed in the same way to a timber substrate or is clamped in place against the leg of the bargeboard by timbers secured to the gable ladder.

Alternatively, pin the soffit directly to the underside of the gable ladder.

NB: The soffit must be allowed to run through and into the back of the area to be boxed (Diagram 2).

### Step 4

Using a bargeboard offcut or carpenters square, mark the line of the box end / bargeboard joining point (Diagram 3).

Fix the bargeboard flush with the top of the gable ladder, ensuring the marked line is overlapped by the bargeboard.

Use 50mm polytop nails (SS-50N) at max. 600mm centres.

Keep the lowest fixing centre approx. 300mm from the line.

**Note** Do not nail the lower fixing centre until the boxed end piece has been installed.

Measure 12mm up the bargeboard from the marked line & cut the bargeboard square to the gable rafter (Diagram 4).

### Step 5

Eaves soffit is fixed between the fascia board (located in the soffit groove) and the building. The fix to the outer skin of the building may be achieved by using 40mm polytop pins (SS-40P) fixed to a timber substrate or Kestrel 692 soffit batten trim. Where the soffit sits on top of the brickwork, it can be clamped in place with the use of battens secured to every other rafter.

Mitre the joint between eaves soffit and box end soffit and join with Kestrel 691. Finish the back edge of the box end soffit square to the gable ladder (Diagram 5).

### Step 6

The area bounded by the fascia, eaves protector, gable rafter and bargeboard end must now be covered by a box end piece (Diagram 6, points 1 to 6).

Kestrel recommends the box end board is cut at 90° to the leg to give a board width equal to the distance between points 5 and 6, i.e. box end return minus 5mm.

Cut material from the board leg to allow a fit with the fascia board leg. Hold the box end piece in position locating the back edge under the unsecured end of the bargeboard.

Mark out points 1 to 4 remove and cut to shape.

Use 50mm polytop nails (SS-50N) to install the box end, ensuring maximum fixing centres are not exceeded.

#### Step 7

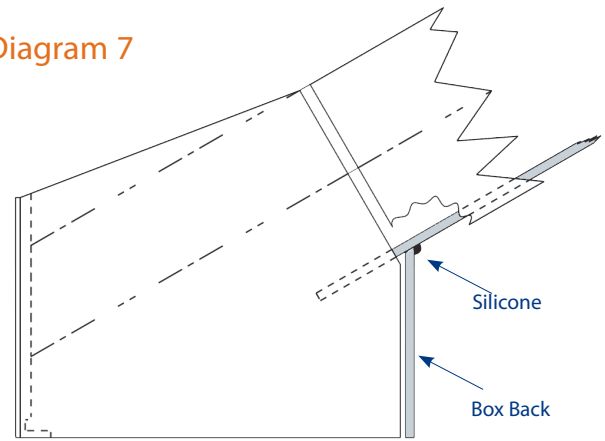
Complete the installation of the bargeboard as in Step 4.

#### Step 8

Fixing a bargeboard section to the framework at the rear of the box completes the structure. Butt the top of the section up against the verge soffit and seal the joint with low modulus neutral cure silicone as shown in (Diagram 7).

Fix using 50mm polytop nails (SS-50N).

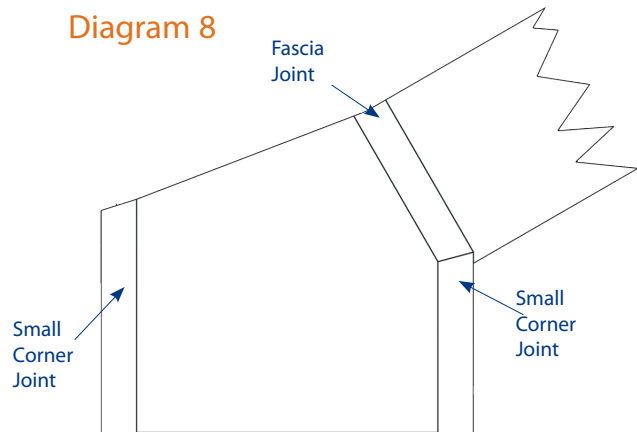
Diagram 7



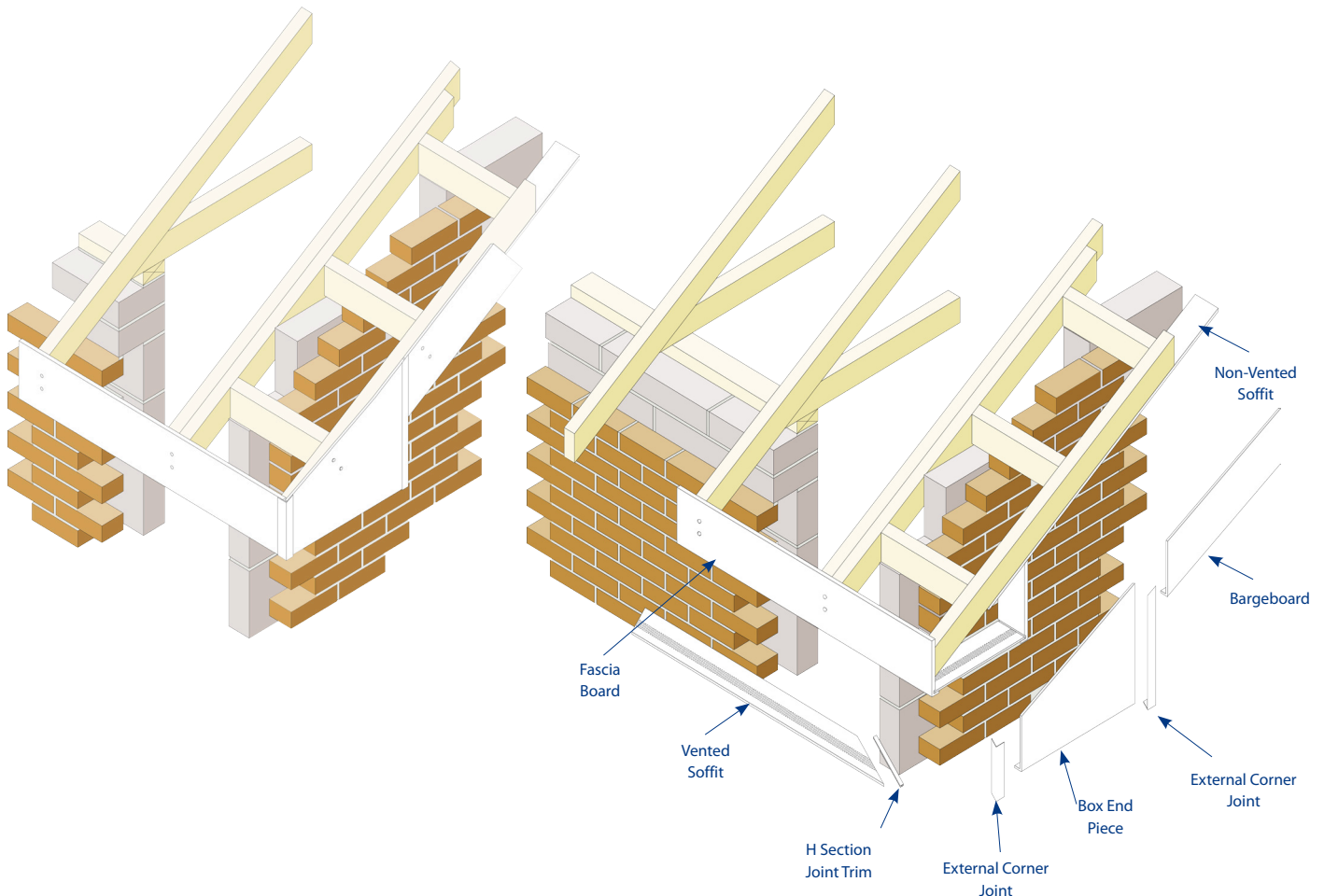
#### Step 9

Finish the boxed end by using two Kestrel corner joints and a Kestrel cover joint cut to fit (Diagram 8). Use low modulus neutral cure silicone to fix the joints and hold in place with adhesive tape until the silicone has skinned.

Diagram 8

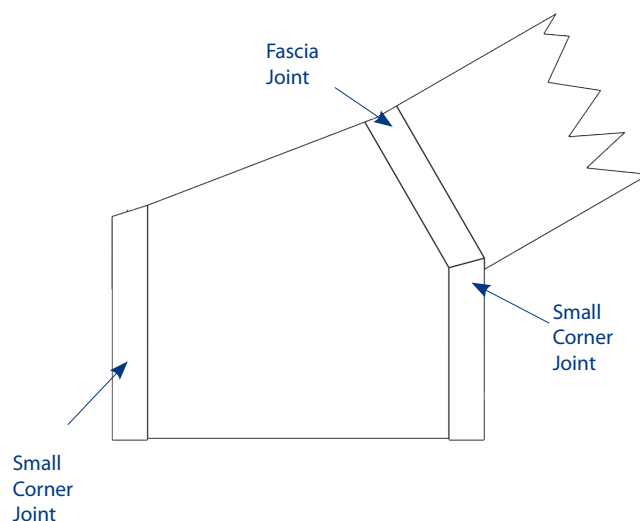
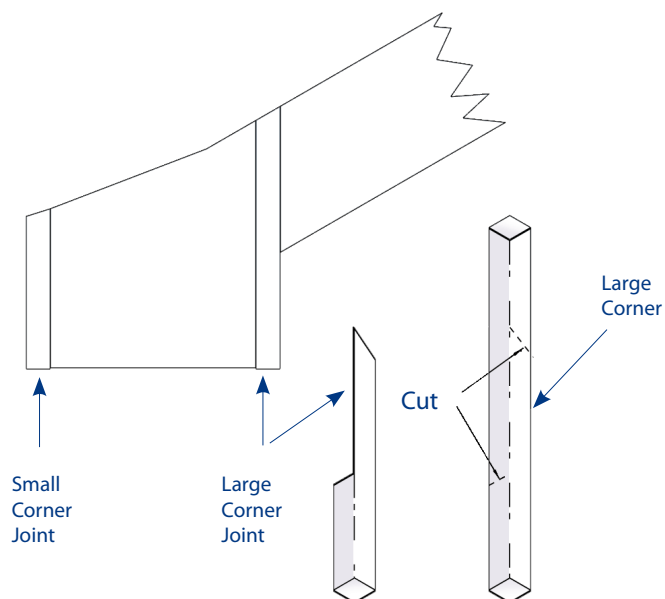


## Unexploded and Exploded View of a typical boxed end



Method A : Using large & small corner joints.

Method B : Using two small corners & a cover joint.



Kestrel recommends the two methods shown above for constructing standard box end installations.

Method A which utilises a 600mm corner joint at the back edge of the box or alternatively Method B as described in the earlier text.



## Foiled Product Installations

Due to the potential heat absorption and resultant risk of excessive expansion / contraction in non white systems the following guidelines should be followed:

1. Increase expansion gap from 5mm (white) to 8mm per board end.
2. All installations to take place at ambient temperatures - between 5 °C and 25 °C.
3. All pre-installed products to be kept stored away from direct sunlight, preferably indoors, at all times.
4. All joints to be made with Woodgrain corners and cover joints.



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