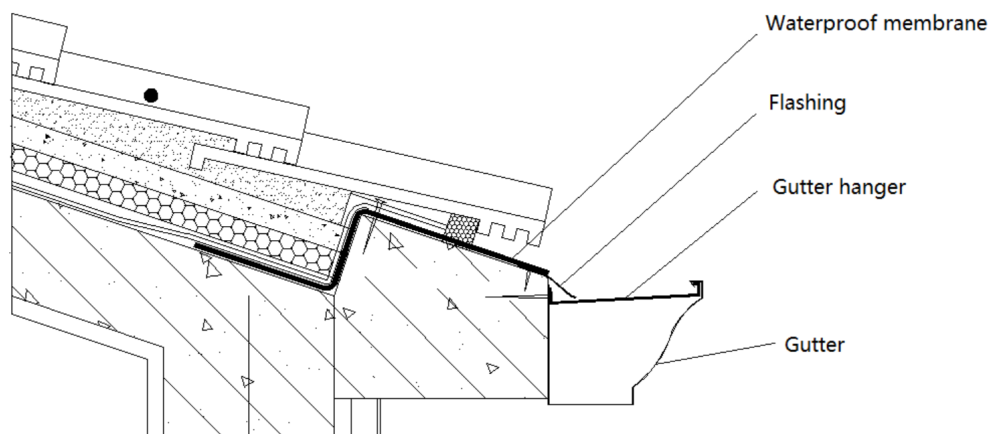


## INSTALLATION INSTRUCTIONS

**Note:** The figures shown here are indicative only. If there is inconsistency between the figures and the actual products, the actual products shall govern. This instruction could be used for half-round and K-type gutters.

### Installing gutter

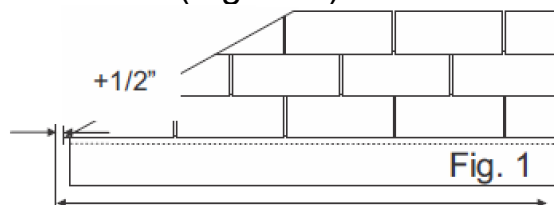


Diagrammatic sketch of roof

### 1 Measuring

1.1 According to roof structure, facades, fascia, and the location of doors and windows and other factors to choose a reasonable downspout location.

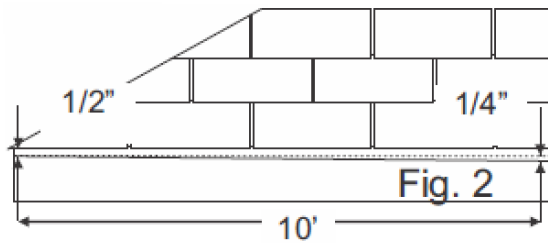
1.2 Measure the length of the fascia board, the gutter beyond the shingles/tiles by 1/2". In the event there is to be a mitred corner, do not add the 1/2" (Figure 1).



### 2 Draw gutter fixing line

2.1 Strike a chalk line on the fascia board beginning 1/2" from the top of the board and dropping the pitch 1/4" for every 10' of run.

Keep in mind that the downspout will be located on the lower outlet end (Figure 2).



### 3 Joining gutter pieces

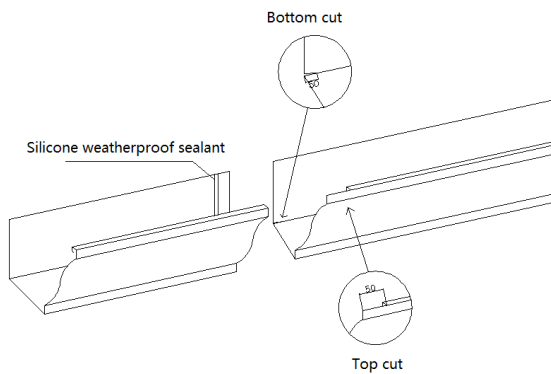


Figure 3

Join pieces of gutter if necessary overlapping the pieces by 2" (50.8mm). To overlap the pieces, first remove  $\frac{3}{8}$ " (9.5mm) X 2" (50.8mm) of the top of one of the pieces of gutter at the end to be joined by riveting from bottom to top (Figure 3). Apply sealant and join the two pieces. Apply sealant at the joint.

### 4 Installing miters

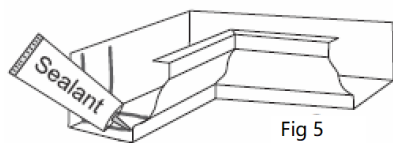


Fig 5

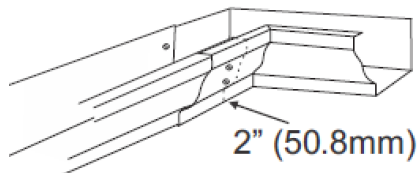


Fig 6

Apply beads of sealant inside both ends of the miter within 2" (50.8mm) of the ends. Slide the gutter into the miter and secure

with rivets, 2 in the front, bottom and rear. Apply more sealant along all inside seams including the 45° seam (Figure 5-6).

**Tip:** If both gutter runs are long, it is helpful to only assemble one side into the miter prior to applying to the fascia.

## 5 Installing downspout outlet

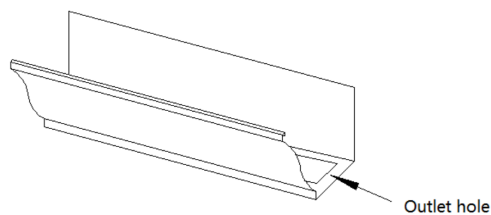


Figure 7

Determine outlet spot on gutter after downspout fixing line is chalked. Drill a hole on the gutter at the spot (Figure 7).

## 6 End caps

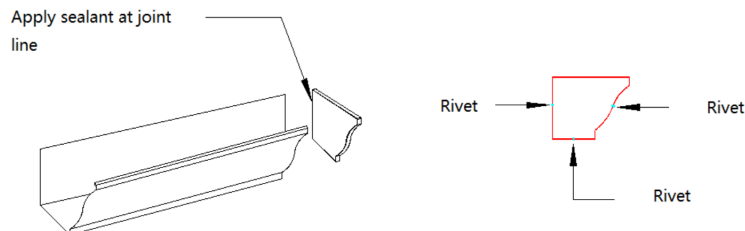
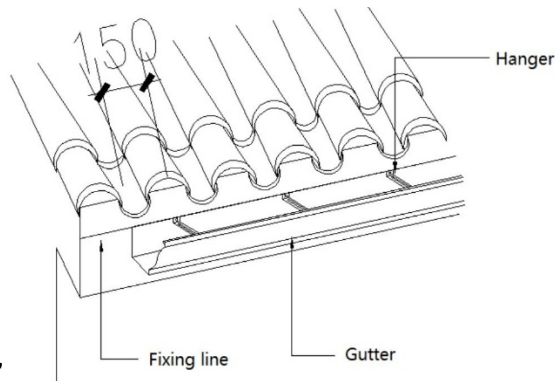


Figure 8

First, apply sealant at sealing line of end caps (Figure 8). Install the end caps and secure with rivets or end cap crimping tool; two in the front and two in the rear.



## 7 Installing hanger

Figure 9

Align the top edge of the gutter with the chalk line. Using either hidden hangers or spikes and ferrules secure the gutter to the fascia board no more than every 24" (609mm) apart (Figure 9). The first hanger should be 6" from gutter end. Add hangers at miters, gutter joint and outlet.

## Installing downspout

### 1 Draw fixing line

Align plumb thread to center of outlet, trike chalk line along the thread.

### 2 Connecting downspout to gutter

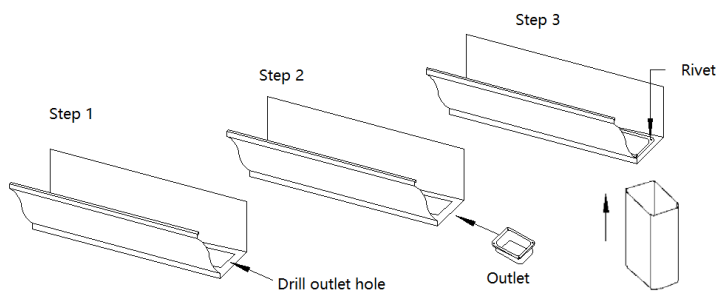


Figure 10

Secure outlet to pre-drilled hole on gutter with three rivets, connect downspout to outlet.

### 3 Installing pipe clamps

Install clamps along the chalk line at 3 ft apart, as close as possible to elbows. Make sure there is one clamp 8" from the ground. Use

expansion bolts if there's insulation on the wall, be sure that penetration depth of bolts is at least 1.6”.

#### 4 Fixing downspout

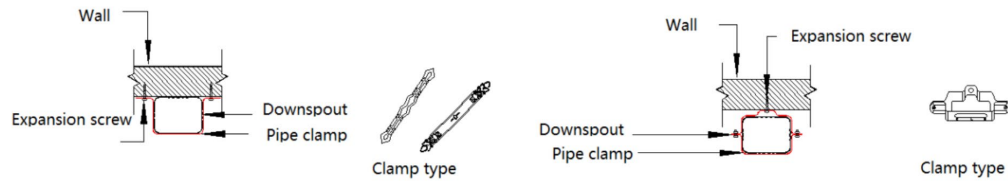


Figure 11

Fix downspout according to figure above with two types of pipe clamps (Figure 11).

#### 5 Joining downspout pieces

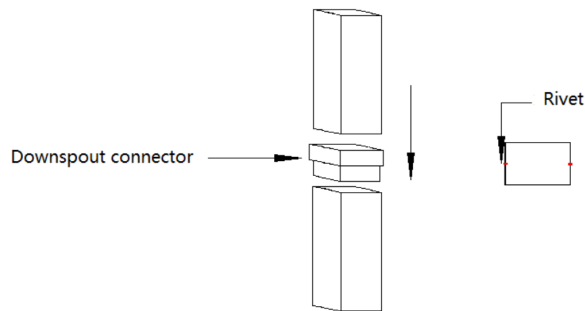


Figure 12

Join different downspout pieces by connector, secure the connection with two rivets (Figure 12).

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