



# Installation Guide

For  
Guttering

**Kayflow<sup>®</sup>**

## Specification & Installation Guide for Guttering

### How much water?

The gutter system must be able to drain the roof during an unusually heavy rainfall event which lasts at least two minutes.

BS12056 shows how to work out the amount of rainwater (in litres per second) that could run off a roof.

The roof area is multiplied by the amount of water running off each square metre of the roof area in litres per second.

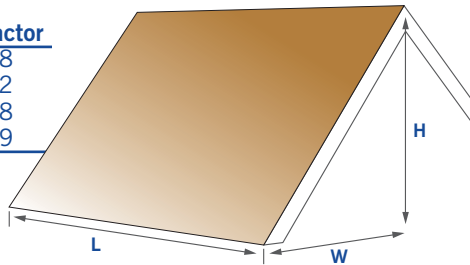
Volume of water coming off a roof = A x B where:

A = 0.021 litres per second.

B = the effective roof area, calculated as follows:

$(W+H/2) \times L$  or  $L \times W \times \text{Pitch factor}$  (see table)

Roof Pitch	Pitch Factor
10°	1.088
20°	1.182
30°	1.288
40°	1.419



W = eaves to below the ridge

H = vertical height from eaves to ridge

L = length of roof section

### Which Gutter to Choose

Compare the result of the calculation (AxB) with the flow capacity of the Kayflow systems available. Please note the following:

1. Reduce flow rates of gutters with angles by 15%.
2. Gutter sections longer than 50 x the height of water when the gutter is full have a reduced flow rate.
3. Gutters are laid level - this can be up to 3mm fall per metre.
4. Centrally placed outlets drain a much larger volume of water.

### Installation

- Fascia brackets must be used within 150mm of any gutter fitting.
- Use all fixing positions on all unions, angles and outlets for all systems.
- Whilst it is best practice to make use of all available fixing holes for gutter brackets, the specification in the table (below) may be adopted. Ensure the fixings are long enough to penetrate the rear face of the board. If the cellular PVC fascia board is less than 16mm thick, install a backing board to accept gutter bracket fixings. The gutter should be fitted as high as possible but not such that the outer edge projects above the line of the roof.
- For all gutters, the tile overhang from the fascia board should not be more than 50mm.
- Where over fascia ventilation is used, it may be necessary to use a gutter spacer and height adjuster bracket in conjunction with fascia brackets to ensure the gutter is fitted in the optimum position.

### Specifications for gutter bracket fixings

Gutter Type	Normal / Sheltered Areas	Snowfall / Exposed Areas	Max distance between brackets
Round	2 x 25 x 4mm or 1 x 32 x 5mm	2 x 25 x 5mm	1m
Square	2 x 25 x 4mm or 1 x 32 x 5mm	2 x 25 x 5mm	1m
Deepflow	2 x 25 x 4mm or 1 x 32 x 5mm	2 x 25 x 5mm	800mm
Ogee	2 x 25 x 4mm or 1 x 32 x 5mm	2 x 25 x 5mm	800mm
SuperDeep 170	2 x 25 x 4mm or 1 x 32 x 6.5mm	3 x 32 x 6.5mm	600mm
Cast Effect	2 x 25 x 4mm	3 x 25 x 5mm	1m

(4mm = 8 gauge, 5mm = 10 gauge, 6.5mm = 12 gauge stainless steel pan head screw)

### System Specifications (All flow rates have been independently established through physical testing to BS 12056-3:2000)

Gutter Type	Flow rate End Outlet (gutter laid level)	Area Drained	'Short' length gutter	Downpipe
Round	0.9l/s	43m <sup>2</sup>	2.4m	68mm Round
Square	1.6l/s	76m <sup>2</sup>	2.7m	68mm Round, 65mm Square
Deepflow	1.8l/s	86m <sup>2</sup>	3.4m	68mm Round
Ogee	2.2l/s	105m <sup>2</sup>	3.4m	68mm Round, 65mm Square
SuperDeep 170	4.3l/s	205m <sup>2</sup>	5.45m	100/110mm Round
Cast Effect Round	0.9l/s	43m <sup>2</sup>	2.4m	68mm Round
Cast Effect Ogee	2.2l/s	105m <sup>2</sup>	3.4m	68mm Round, 65mm Square
Cast Effect Deep	1.8l/s	86m <sup>2</sup>	3.4m	68mm Round

### Snow Loading

In locations where heavy snowfall is common, fixing centres for gutter brackets should be reduced to 600mm for all Kayflow systems. In addition all fixing holes should be used on all brackets and the use of snowboards is recommended where appropriate. For further advice on the specification and installation of Kayflow gutters please email: [info@kayflow.co.uk](mailto:info@kayflow.co.uk) or call 01827 317200



The information contained in this publication is correct at time of publication.

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