**Kayflow Gutter Accreditations**

Kayflow rainwater systems carry:

* Kitemark KM508760, BS EN 607:2004 (Eaves Gutters & Fittings),
* BS EN 12200-1:2000 (Plastic Piping Systems)
* BS EN 1462:2004 (Brackets for Eaves Gutters)
* Manufactured under ISO 9001 Quality Management System.

**BSI**

The BSI Kitemark is a quality mark, recognised by consumers and businesses alike. It proves that the product or service for a company has been independently assessed against strict criteria to make sure it meets agreed quality standards over and above the CE marking safety characteristics.

A BSI Kitemark gives a product or service immediate status – hard-earned through rigorous tests at a BSI centre of excellence, or through rigorous assessments.

Find out more: [www.bsigroup.com](http://www.bsigroup.com/)

 **WRAS**

The Water Regulations Advisory Scheme (WRAS) is a conformance mark that demonstrates that an item complies with high standards set out by water regulations promulgated in 1999 in the United Kingdom.

WRAS supports water companies in their role to supply safe, resilient water supplies in the UK.  By promoting the Water Fittings Regulations and Byelaws, they protect public health by helping to keep water safe in premises, so it is always safe to drink and never wasted.

Find out more: [www.wras.co.uk](http://www.wras.co.uk/)

 **CE**

CE marking is an administrative marking that indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic Area. The CE mark on a product indicates that the manufacturer or importer of that product affirms its compliance with the relevant EU legislation and the product may be sold anywhere in the EEA.

Find out more: [www.gov.uk](https://www.gov.uk/guidance/ce-marking)

 **UKCA**

The UKCA (UK Conformity Assessed) marking is a new UK product marking that is used for goods being placed on the market in Great Britain (England, Wales and Scotland). It covers most goods which previously required the CE marking. Over the coming months, up until 1 January 2022, FloPlast will be updating their information to show the UKCA marking instead of/in addition to the CE marking.

Find out more: [www.gov.uk](http://www.gov.uk/guidance/using-the-ukca-marking)

 **BA**

BBA Agrément Certificate is a mark of excellence based on rigorous national and European standards that validate a construction product’s specialist formulation, capability and uniqueness. Certification is an achievement that delivers the power of product confidence, industry satisfaction and market leadership.

Find out more: [www.bbacerts.co.uk](https://www.bbacerts.co.uk/)

 **Part H/Document H**

Approved Document H offers guidance on drainage including foul and surface water and rainwater, and sanitary waste disposal, including sewage structures and their upkeep.

Find out more: [www.gov.uk](https://www.gov.uk/government/publications/drainage-and-waste-disposal-approved-document-h)

 **NMBS**

The National Merchant Buying Society Ltd (NMBS) is a centralised buying society for Independent Builders, Timber, Hardware, Plumbing and Heating Merchants with over 1,150 members with over 4,000 branches.

Find out more: [www.nmbs.co.uk](https://www.nmbs.co.uk/)

**Kayflow: Gutter Performance**

Kayflow systems have different flow rates and capabilities.  The following flow rates are for installations with an end outlet and laid level gutter (up to 3mm fall per metre).

The roof area to be drained should always be compared with the maximum area that a gutter type is able to drain. If the figure is too low the options are to select a system with a higher capacity or increase the fall on the gutter. A third option is to move the outlet point to a central position to effectively double the gutter drainage capacity.

| **Type** | **Height** | **Width** | **Flow Rate** | **Area** |
| --- | --- | --- | --- | --- |
| Round\* | 50mm | 114mm | 0.9 l/s | 43m² |
| Square | 57mm | 117mm | 1.6 l/s | 76m² |
| Deepflow\* | 70mm | 114mm | 1.8 l/s | 86m² |
| Ogee\* | 70/80mm | 120mm | 2.2 l/s | 105m² |
| Superdeep170 | 108mm | 170mm | 4.3l/s | 205m² |

All flow rates are for end outlet with the gutter laid level and have been independently established through physical testing to BS12056-3:2000.
\*Standard and Cast Effect versions have the same performance characteristics.

**Kayflow : Calculating Rainwater Run-off**

As well as normal levels of rainfall, a domestic or light commercial eaves gutter system must be able to cope with an intense rainfall event, lasting at least two minutes, that could happen once a year anywhere in the UK. The [British Standard BS12056](http://shop.bsigroup.com/en/ProductDetail/?pid=000000000030007203) shows how to work out the amount of rainwater (in litres per second) that could run off a roof.

Rainwater runoff = rainfall intensity (litres per second per m²) X the effective roof area (m²)

1. For the rainfall intensity value either:
a. Look up the rainfall intensity for a major annual storm event in the area of the UK where the building is located (as shown in [BS EN 12056-3:2000](http://shop.bsigroup.com/en/ProductDetail/?pid=000000000030007203))
b. Or calculations can be based on 0.021 litres per second per m² of roof area. This is nearly the highest intensity shown in the BS Standard and so should cover most areas.
2. For the effective roof area one of two formulas may be used in reference with Fig.1.
a. (W+H/2) x L
W = width of one pitch of the roof
H = vertical height from the eaves to the top of the pitch.
L = the length of the roof on one side of the building.
b. L x W x Pitch factor (see table opposite)

**Example:**
A roof has dimensions L = 2m, H = 3m and W = 4m.

* The rainfall intensity is 0.021 l/s/m2
* The Effective Roof Area is (4+1.5) x 2 = 11 m2
* So the Rainwater runoff is 0.021 x 11 = 0.231 litres per second