

PIPELIFE PVC-U RAINWATER INSTALLATION

Applications

Pipelife Rainwater Systems are suitable for all applications and types of building, including domestic, commercial and industrial.

Composition

All products are manufactured from unplasticised polyvinyl chloride (PVC-U) and comply with the material requirements of either BS EN 12200-1:2000, BS EN 607:2004 or BS EN 1462:2004 as relevant.

Rainwater gutters and pipes are manufactured by a continuous extrusion process. Fittings are produced on high-pressure injection moulding machines. All fittings are manufactured to close tolerances allowing accurate incorporation of design features.

Accreditation

All of our profiles are manufactured to BS EN 607:2004 (Gutters and fittings), BS EN 12200-1:2000, BS EN 1329-1:2014 and BS 1453-1:2000 (Downpipes and fittings), BS EN 1462:2004 (Gutter brackets) within a quality management system assessed and registered by British Standards as meeting the requirements of BS EN ISO 9001:2000 (Certificate Number FM:501414).

Supply

Products are available from a national network of distributors and stockists. For details of your local stockist contact our Sales Office.

Specification, Technical Advice and Design Guidance
A free advisory service is available to offer technical assistance regarding product and installation details. Those involved with the building industry may take advantage of design services provided by the company for customers who have made a commitment to use or specify Pipelife products.

Installation

1. Plan your installation using the component diagrams to assist you in selecting the correct type and quantity of products required.

- Fascia brackets should be spaced at a maximum of one metre apart on straight gutter runs. (800mm in the case of the Niagara system, 600mm in the case of the Xtraflo system). When using 80mm Round Downpipe with Hi-Cap and Niagara Systems, fascia brackets should be spaced at a maximum of 800mm intervals. In areas where there is the possibility of high levels of snowfall, fascia brackets should be spaced at a maximum of 400mm centres. For further information, view our snow loading statement on page 26.

- Angles and stopends should have a fascia bracket within 150mm of the fitting.

- A supporting pipe clip should be used on shoes, branches and bends where necessary.

- Support downpipes below offset and at maximum intervals of 1.8 metres.

2. Where necessary remove the old gutter and replace old fascia board with Pipelife low maintenance PVC-UE co-extruded fascia board.

3. Establish the position of the running outlet, usually over an existing drain, and fix securely to fascia board.

4. Fix a fascia bracket 100mm short of furthest point from the outlet. Allow for a fall to the outlet (1:350 is recommended) using a string line.

5. Fixings:

- Fix fascia and union brackets at required intervals. Fascia brackets should be positioned so as to avoid the fixing screws splitting the top edge of any timber fascia board. All brackets should be secured to the fascia board with two 25mm x 5mm (1" x 10) screws or one 40mm x 5mm (1 1/2" x 10) screw. The "Cast Iron" fascia brackets must have two fixings.

- Unions should be fixed using a 25mm x 5mm (1" x 10) screw.

- Outlets and Angles should be fixed using two 25mm x 5mm (1" x 10) screws.

- In areas of heavy snowfall it is recommended that each fascia bracket is secured using two 25mm x 5mm (1" x 10) screws.

- Rainwater downpipe clips should be fixed using two 40mm x 6mm (1 1/2" x 12) screws.

- Round head screws are the recommended style of screw, however counter sunk can be used as long as care is taken not to overtighten, particularly when using power tools.

6. Lubricate all gutter seals with Pipelife silicone spray lubricant to ensure an easy fit and to allow for movement caused by expansion and contraction.

7. Working from the running outlet insert the back edge of the gutter under the retaining lip of the wrap around clip. Using slight downward pressure on the gutter snap the front edge of the retaining clip over the front of the gutter. (Ensure that the marked expansion allowance is kept.)

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8. Use a union bracket or angle to join to next gutter length in order to build up a gutter run. Use a stopend to complete the run.

9. Downpipe installation starts at the outlet. If an offset is required use two offset bends with or without a short piece of pipe, alternatively use an adjustable offset bend. Ensure a 6mm gap is left at the top of the downpipe for expansion.

Pipe connectors if required should be secured to the wall with a pipe clip.

At the base of the pipe, fit a shoe secured with a pipe clip or connect downpipe to underground drainage system using a 110mm x 68mm reducer (SP96/D96 or D97).

Capacity of Drainage

To select the gutter size appropriate to your requirements, two factors must be taken into consideration.

- Roof Area
- Gutter Flow Capacity

For further reference refer to BS 12056-3:2000 "Roof Drainage Layout and Calculation".

The capacity of a drainage system should be large enough to carry the expected flow at any point in the system. The flow of 'run-off' depends upon the area to be drained, (the 'effective roof area'), and the intensity of rainfall. It is accepted that 75mm an hour is the intensity of rainfall in the United Kingdom.

Cleaning and Maintenance

Although PVCu rainwater systems are considered to be relatively maintenance-free it is important to clear gutter systems of fallen leaves and other debris at least once per year.

More frequent inspections may be necessary in areas of high pollution and where there are trees in the vicinity.

Inspection of the gutter and brackets is also advisable during and after periods of ice formation in the guttering system.

In some cases lighter coloured systems may require cleaning. Wash down with a solution of soapy warm water, in severe cases a non-abrasive kitchen cream cleaner should be used.

SNOW LOADING STATEMENT

Snow slippage is particularly evident where smooth roofing materials such as slate have been installed. For additional security Pipelife strongly recommend the installation of Snow Guard (see page 5) which facilitates the retention of snow, allowing slow melt, rather than slippage. In areas where there is the possibility of high levels of snowfall, fascia brackets should be spaced at a maximum of 400mm centres.

Several factors can come into play with the performance of rainwater systems, installation, overhang and style of the roof system (tiles/slates), pitch of roof, North or South facing, above or below 100 metres above sea level.

Roof Area

The effective roof area can be calculated by using the following formula:

$$(B + \frac{C}{2}) \times \text{length of Roof (A)} = \text{Area in M}^2$$

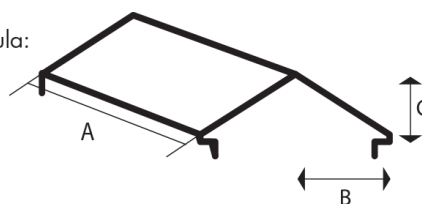
B = Half width of gable end or hip

C = Vertical measurement from eaves to apex

An alternative to the above method is the use of multiplication factors to establish effective roof cover.

Approved Document H of the Building Regulations shows the same method, although the options given below allow for greater accuracy of the effective roof area in m².

Calculate the above using the following method: A x B x factors dependant on the angle of the roof pitch.



METHOD OF CALCULATING EFFECTIVE ROOF AREA

Roof Pitch	10°	12.5°	15°	17.5°	20°	22.5°	25°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°
Factor	1.088	1.111	1.134	1.158	1.182	1.207	1.233	1.260	1.288	1.319	1.350	1.384	1.419	1.459	1.500	1.547

For roofs of 50° or more and walls, the factor of 1.600 should be used.