

Technical Information

Any drainage system should have sufficient capacity to carry the expected flows of water at any point in the system. The actual flow in the system depends upon the area to be drained, the rainfall intensity and the position of the outlets.

Gutter Installation

BS EN 12056-3:2000 states that gutters should be normally level (with a gradient of between 1mm/m and 3mm/m where practicable).

This standard also states that “where snow is likely to lie on roofs, the front edge of the gutter should not be higher than the projected line of the roof, unless snow guards or other precautions are used.”

Gutter Capacity

The profile and dimensions of a gutter determines the maximum flow rate (capacity), currently given in litres/second. The height of gutter profile determines the maximum length of gutter run before resultant overflow at the ‘high point’ (i.e. stop-end or mid-way between outlets) calculated per BS EN 12056-3:2000 as 50 x height.

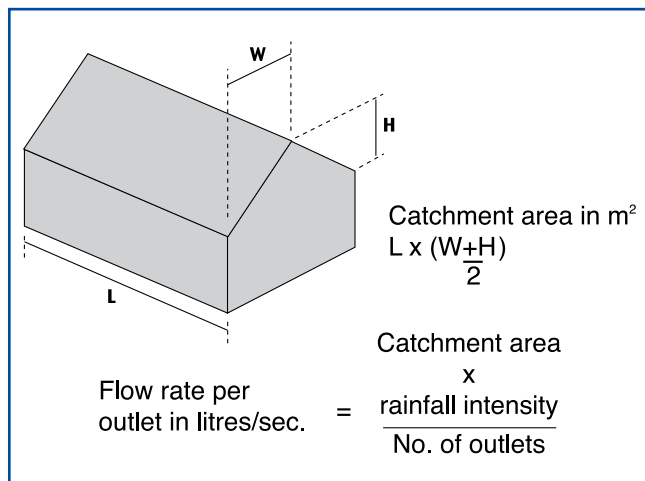
It is most important to consider the position and number of outlets as well as the size of gutter.

Rainfall Intensity

Rainfall and storm intensities vary between differing locations within the UK and a number of pages are devoted in BS EN 12056-3:2000 to variations and safety factors, relating to various types of buildings and gutter locations. Eaves gutters should be designed using a one year storm event, and the intensity found from maps in BS EN 12056-3:2000.

Catchment Area

In accordance with BS EN 12056-3:2000 the drainable catchment area of a pitched roof is calculated by adding half the height to the plan width and multiplying by the length as follows:



Design Flow Rate - End Outlet in Gutter			
Outlet Size (mm)	Max flow rate (l/s) to BS EN 12056	Max distance to stop end	Max distance between outlets (m)
68dia	0.66	2.5	4.87

Design Flow Rate - Centre Outlet in Gutter				
Outlet Size (mm)	Max flow rate (l/s) to BS EN 12056	Max flow rate (l/s) to BS6367	Max distance to stop end	Max distance between outlets (m)
68dia	1.32	1.4	2.5	4.87

Characteristics of the Polypipe Elegance Rainwater System

Properties

Specific gravity 1.35-1.45

Co-efficient of

Linear expansion 7x10⁻⁵/m/°C

Water absorption Negligible

Oxygen index 42%

Vicat Softening Temperature

	Extrusion	Moulding
Black Average	80.5°C	76°C

Chemical Resistance

The material is virtually unaffected by solutions of inorganic acids, alkalis and salts and is resistant to many organic chemicals. It may be softened by some organic materials such as ketones and aromatic compounds. It will not corrode.

Standards

Rainwater systems are manufactured to comply with the requirements of BS EN 607:1996; BS EN 1462:1997; EN 12200-1:2000; BS 4576-1:1989 where applicable.

Installation Guide

Installation instructions for all Polypipe systems are available on request. When fitting our products, the Building Regulations should be followed.