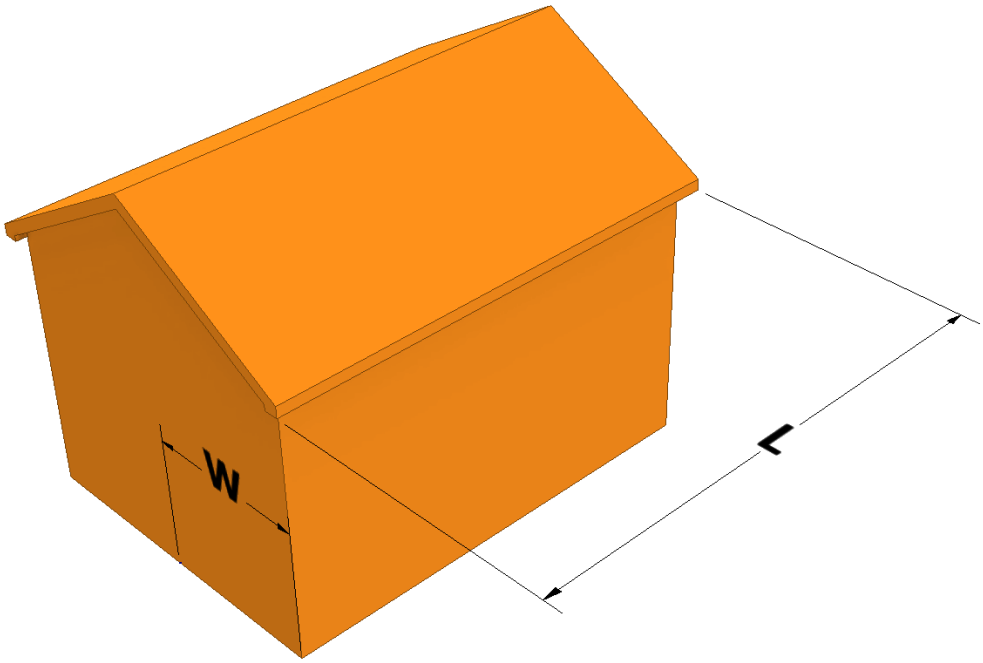
Eaves gutter performance & Eaves drainage design – BS EN12056-3

In accordance with the eaves gutter rainwater drainage standard (BS EN12056-3), a gutter system can be checked for suitability by following the below procedure:

Calculate the effective roof area

Width of roof (m) x Length of roof (m) = Roof area (sq.m)



Roof area x Pitch factor = Effective roof area (sq.m)

Roof Pitch	Pitch Factor	Roof Pitch	Pitch Factor
10 Deg	1.08	30 Deg	1.29
12.5 Deg	1.11	32.5 Deg	1.3
15 Deg	1.13	35 Deg	1.35
17.5 Deg	1.15	37.5 Deg	1.38
20 Deg	1.18	40 Deg	1.42
22.5 Deg	1.2	42.5 Deg	1.46
25 Deg	1.23	45 Deg	1.5
27.5 Deg	1.26	47.5 Deg	1.55

Calculating the rainwater runoff

The BS EN12056-3 Design standard does provide specific localised rainfall data for all regions however, the UK national highest rainfall intensity is 0.021 litres per second per sq.m. Most designers use the highest figure to avoid under sizing.

Effective Roof area x 0.021 litres per second = Rainwater runoff from roof (l/s)

Selecting the correct gutter system

The table below shows the flow performance capacities of our gutter systems and the effective area each outlet is capable of draining.

Gutter system	End Outlet	ERA	Centre Outlet	ERA
Half Round - 63 dia Pipe	1.25 l/s	59.5 sq.m	2.5 l/s	119 sq.m
Half Round - 76 dia Pipe	1.25 l/s	59.5 sq.m	2.5 l/s	119 sq.m
Deepflow - 63 dia Pipe	2.1 l/s	100 sq.m	4 l/s	190 sq.m
Deepflow - 76 dia Pipe	2.1 l/s	100 sq.m	4 l/s	190 sq.m
Box - 63 dia Pipe	2.1 l/s	100 sq.m	4.2 l/s	200 sq.m
Box - 76 dia Pipe	2.9 l/s	138 sq.m	5.9 l/s	280 sq.m
Box - 72x72 Pipe	3.2 l/s	152 sq.m	6.5 l/s	309 sq.m
Moulded Ogee - 63 dia Pipe	2.2 l/s	104 sq.m	3.8 l/s	180 sq.m
Moulded Ogee - 76 dia Pipe	2.2 l/s	104 sq.m	3.8 l/s	180 sq.m
Moulded Ogee - 72x72 Pipe	2.2 l/s	104 sq.m	3.5 l/s	190 sq.m

If you are in need of any assistance please contact our technical team on 01234 978 007 or email enquiries@alugutter.co.uk