GUIDANCE DOCUMENT GD18 MAY 2017
Amended August 2017

METAL GUTTER MANUFACTURERS ASSOCIATION

MGMA EAVES GUTTER DESIGN FLOW CHART

INTRODUCTION

The following MGMA eaves gutter design flow chart is intended to enable the user to perform calculations to BS EN12056-3:2000. By entering simple information relating to building dimensions, geographical location and proposed gutter style, the flow chart will provide guidance on gutter specification. The flow chart is intended as a guide for straightforward eaves gutter applications.

To select the gutter size appropriate to your requirements, two factors must be taken into consideration, namely roof area and gutter flow capacity. Gutter flow capacity is dependent upon system type, outlet position and whether the gutter is laid level or to a specified fall. The flow chart is based on the recommendations from BS EN 12056-3:2000 *Roof drainage, layout and calculation*.

Further advice and guidance is available from any MGMA member company whose details can be found on the MGMA website at www.mgma.co.uk.

MGMA DISCLAIMER

©2017 MGMA 106 Ruskin Avenue, Rogerstone, Newport, Gwent NP10 0BD
01633 891584 mgmagutters@gmail.com www.mgma.co.uk

If the gutter overflows can water enter the building?

Yes

Seek expert advice from manufacturer or consultant

No

Does gutter slope by more than 2 degrees?

(Note most manufacturers recommend facia mounted gutters are laid at slight falls, this is for much steeper slopes)

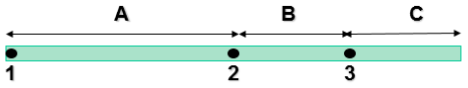
Yes

No

Calculate the roof length draining to each outlet (L)

See Sketch A

Sketch A

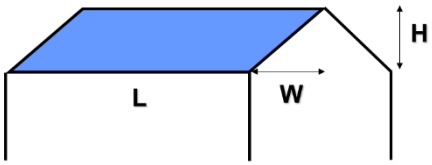


End outlet (1) L = A/2
Centre outlet (2) L = A/2 + B/2
Centre outlet at end of run (3) L= B/2 + C

Calculate the effective catchment area draining to each outlet (using L from sketch A)

See Sketch B

Sketch B



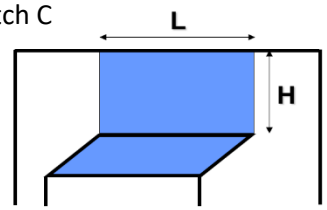
Catchment area = L x (W + 0.5 H)

Add on the area of any higher level roofs draining onto this roof

Add on the area of any vertical surfaces draining to each outlet (using L from sketch A)

See Sketch C

Sketch C



Catchment area of wall = 0.5 x L x H
(stop at 10m tall)

Multiply the catchment area by the rainfall intensity to get flow rate

Find Rainfall intensity from BSEN12056-3:2000 or use the simplified approximations:
England = 0.022 l/(s.m2)
Scotland/Wales/NI = 0.018 l/(s.m2)

Is this a centre or end outlet?

End

Does manufacturer's gutter capacity figure for end outlet exceed flow rate from blue box

No

Increase Gutter Size

No

Or add more outlets

Yes

Flow Checks Pass

Centre

Does manufacturer's gutter capacity figure for centre outlet exceed flow rate from blue box

No

Increase Gutter Size

No

Or add more outlets

Yes

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