

DESIGN

DRAINAGE REQUIREMENTS

As the primary function of a spouting or guttering system is the dispersal of rainfall from a roof area into a stormwater drain, it is important to have adequate sizing and placement of downpipes. The drainage requirements are influenced by a wide range of factors, including regional rainfall intensity and roof pitch. Note that while most urban areas in New Zealand are subject to 100mm/hr rainfall intensity, some are not – your Territorial Authority can confirm. Designers should refer to Acceptable Solution E1/AS1 of the New Zealand Building Code for further information.

Typical maximum areas for residential spoutings and popular downpipe sizes are summarised in the table below. For example:

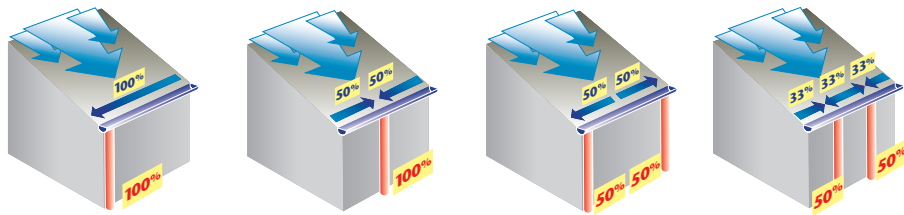
- Select spouting = Customline
- Select rainfall = 100mm/hr
- Select roof pitch = 30°

Therefore, outlets should take a maximum of 54m² of roof area each.

Roof Pitch	Typical Maximum Roof Area (m ²) per outlet										
	Spouting						Downpipes				
	Multiline Quad, Customline, Highline			Plumblines			Round (mmø)			Rectangular (mmxmm)	
	Regional Rainfall Intensity mm/hr			Regional Rainfall Intensity mm/hr							
	100	150	200	100	150	200	65	75	100	100 x 50	75 x 50
<10°	65	43	33	100	67	50	60	85	155	100	73
10-24°	59	39	30	91	61	45	60	85	155	100	73
25-34°	54	36	27	83	56	42	50	70	130	80	61
35-44°	50	33	25	77	51	38	40	60	10	70	50
45-55°	46	31	23	71	48	36	35	50	90	60	43

DOWNPIPE PLACEMENT

Downpipe placement can have a substantial impact on the effective roof area being served by a downpipe or section of spouting.



Proportion Of Roof Area Drained By	A: One Downpipe At End Of Run	B: One Downpipe At Centre Of Run	C: Two Downpipes At Ends Of Run	D: Two Downpipes At Third Points
Each spouting section drains	100%	50%	50%	33%
Each downpipe drains	100%	100%	50%	50%

FALL

To perform satisfactorily spoutings should have a consistent fall towards the nearest outlet to promote drainage and avoid ponding. The recommended minimum fall for external spoutings is 1:500, or 2mm fall for every metre of run.

HANDLING, STORAGE AND INSTALLATION

HANDLING AND STORAGE

Care must be taken to avoid damage by handling and storage. The product should be handled with care to preserve the quality of the finish and stored clear of the ground on site. Do not drag any other building materials or roof sheeting over the fascia or spouting. Due care must be taken when lifting long lengths.

Note:

Trademarks apply to the following products presented in this publication: Multiline, Customline, Colorsteel, Zinalume.

INSTALLATION

- Cutting must be done by shear using tin snips, or by hacksaw.
- Fasteners must be compatible with the materials used.
- The use of abrasive disc cutters or grinders above or adjacent to the products by roofers or other trades, is against trade practice and must be avoided, otherwise swarf staining will result.
- Do not use black lead pencils for marking products.
- During fixing, the spouting must be cleaned of all loose debris.
- At all times, contact with wet concrete, lime, mortar acids and treated timber must be avoided.
- On completion, the whole area can be cleaned by hosing and soft brushing.
- Residential spoutings should have brackets spaced at a maximum of 900mm under normal conditions.