

# GUTTER OVERFLOW PROVISIONS

**MAY 2025 | REV01** | This version supersedes all previous issues.

## GUTTER OVERFLOW PROVISIONS

Stormwater drainage systems specified in the NCC 2022 Volume Two and the ABCB Housing Provisions are not designed to remove all water to an appropriate outfall during exceptionally heavy rain, particularly in tropical areas. Specifically, eaves gutter systems are designed to remove water arising from rainfall events with an annual exceedance probability of 5% provided they are not blocked. Accordingly, it is necessary to design and install the system to incorporate overflow measures so that when overflowing occurs, during a rainfall event with an annual exceedance probability of up to 1%, any water is directed away in a manner which ensures it does not pond against, enter or damage the building, even if the stormwater drainage system is blocked.

### DESIGN AND INSTALLATION OF DOMESTIC ROOF DRAINAGE SYSTEMS

The detailing and sizing of the selected overflow method/s is normally completed by the designer/installer, but must be adequate for the situation and must meet the relevant performance requirements of the NCC and Australian Standards, including the requirements noted in Lysaght Rainwater Solutions brochures. Eaves gutter must have a minimum fall of 1:500 and must be supported by suitably fixed brackets at stop ends and spaced at not more than 1.2m.

While there may be some variations from state to state, contractors who install guttering systems are generally required to hold an appropriate licence. Where a license is required it is an offence to undertake this work without an appropriate licence. The work is required to comply with the appropriate codes and standards.

### MAINTENANCE OF DOMESTIC ROOF DRAINAGE SYSTEMS

In the longer term, the ability of a roof drainage system to handle overflow will also depend on the regular cleaning of the system. For example the removal of plant or animal matter (leaves, fungal growth, dropping, nests, etc.) and debris from gutters, leaf-guard type systems and the gutter overflow devices to ensure free drainage of water. To ensure the long life of the roof drainage system, the maintenance requirements of the roof drainage system should be forwarded to the occupier/owner of the building and should be fulfilled. Adequate maintenance is a requirement of rainwater goods warranties.

### ABCB HOUSING PROVISIONS STANDARD 2022 PART 7.4

#### MATERIALS:

The materials used in gutters, downpipes, and flashings need to ensure that:

- are manufactured in accordance to AS/NZS 2179.1 for metal components
- no lead is used if forming part of a drinking water catchment area; and
- materials are compatible with upstream roofing materials.

## OVERFLOW DESIGNS

Allowing for rainwater overflow is critical in gutter design to minimise the risk of damage to buildings or loss of amenity for occupants. The NCC requires overflow measures capable of coping with a 5 minute duration rainfall intensity and an annual exceedance probability of 1%. The capacity of the selected overflow measures must exceed the overflow volume.

Following are the two types of overflow measures:

- **Continuous overflow** measures run along a length of gutter, Eg., slots at regular intervals along the front face of a gutter.
- **Dedicated overflow** measures are specific points where rainwater overflow can occur, Eg., a rainhead.

These measures can be used separately, or in combination to achieve the required overflow volumes.

**Table 1 .0 Design Rainfall Intensities (mm/h) – 5 min duration**

	ARI once in 20 years mm/h (Annual exceedance probability 5%)	ARI once in 100 years mm/h (Annual exceedance probability 1%)		ARI once in 20 years mm/h (Annual exceedance probability 5%)	ARI once in 100 years mm/h (Annual exceedance probability 1%)
<b>NEW SOUTH WALES</b>			<b>SOUTH AUSTRALIA</b>		
Albury	139	180	Adelaide	120	174
Broken hill	142	217	Gawler, Adelaide	111	158
Goulburn	120	154	Mt. Gambier	103	144
Kiama	225	320	Murray Bridge	120	177
Newcastle	225	316	Port Augusta	133	199
Orange	141	186	Port Pirie	123	183
Sydney	201	262	Yorke town	155	166
Avalon, Sydney	210	287	<b>TASMANIA</b>		
Campbell Town, Sydney	166	223	Burnie	128	178
Penrith, Sydney	178	240	Flinders Island	124	167
Windsor, Sydney	175	234	Hobart	86	120
Tweed heads	252	332	Lauceston	91	123
Wollongong	218	311	Queenstown	94	120
Coffs Harbour	277	384	St. Marys	150	207
<b>VICTORIA</b>			<b>WESTERN AUSTRALIA</b>		
Ballarat	134	192	Albany	127	179
Benella	146	194	Broome	232	287
Geelong	103	143	Bunbury	147	198
Horsham	121	173	Derby	211	256
Lakes Entrance	145	199	Geraldton	138	194
Melbourne	132	187	Kalgoorlie	136	204
Hastings, Melbourne	112	145	Perth	129	172
Sorrento, Melbourne	106	140	Joondalup, Perth	133	180
Mildura	142	219	Midland, Perth	122	164
Stawell	130	187	Port Hedland	168	232
<b>QUEENSLAND</b>			Tom Price	138	182
Bamaga	252	298			
Brisbane	236	306			
Ipswich, Brisbane	211	278			
Victoria Point, Brisbane	245	320			
Bundaberg	266	339			
Cairns	230	279			
Cloncurry	219	278			
Innisfail	248	302			
Mackay	250	315			
Mt. Isa	201	262			
Noosa heads	258	332			
Rockhampton	229	300			
Toowoomba	203	268			
Townsville	235	300			
Weipa	238	281			

Note: Table 1: Table 7.4.3d of ABCB Housing Provisions Standards 2022. © Commonwealth of Australia and the States and Territories of Australia 2022, published by the Australian Building Codes Board. (For the most up to date version of this document please refer to the official ABCB website at: [abcb.gov.au](http://abcb.gov.au))

**Table 2.0 CONTINUOUS OVERFLOW VOLUME (L/s/m)**

Rain Intensity 5min duration (mm/hr)	Ridge to gutter Length (m)							
	2	4	6	8	10	12	14	16
150	0.08	0.17	0.25	0.33	0.42	0.50	0.58	0.67
175	0.10	0.19	0.29	0.39	0.49	0.58	0.68	0.78
200	0.11	0.22	0.33	0.44	0.56	0.67	0.78	0.89
225	0.13	0.25	0.38	0.50	0.63	0.75	0.88	1.00
250	0.14	0.28	0.42	0.56	0.69	0.83	0.97	1.10
275	0.15	0.31	0.46	0.61	0.76	0.92	1.10	1.20
300	0.17	0.33	0.50	0.67	0.83	1.00	1.20	1.30
325	0.18	0.36	0.54	0.72	0.90	1.10	1.30	1.40
350	0.19	0.39	0.58	0.78	0.97	1.20	1.40	1.60
375	0.21	0.42	0.63	0.83	1.00	1.30	1.50	1.70
400	0.22	0.44	0.67	0.89	1.10	1.30	1.60	1.80

Note: Table 2: Table 7.4.4a of ABCB Housing Provisions Standards 2022. © Commonwealth of Australia and the States and Territories of Australia 2022, published by the Australian Building Codes Board. (For the most up to date version of this document please refer to the official ABCB website at: [abcb.gov.au](http://abcb.gov.au))

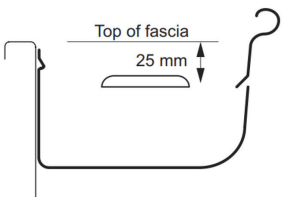
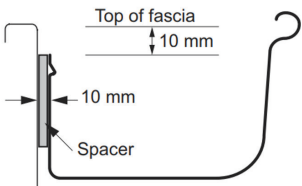
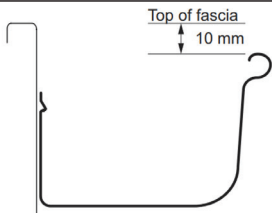
**TABLE 3 DEDICATED OVERFLOW VOLUME(L/s)**

Rain Intensity 5min duration (mm/hr)	Roof Catchment Area (m <sup>2</sup> )				
	30	40	50	60	70
150	1.3	1.7	2.1	2.5	2.9
175	1.5	1.9	2.4	2.9	3.4
200	1.7	2.2	2.8	3.3	3.9
225	1.9	2.5	3.1	3.8	4.4
250	2.1	2.8	3.5	4.2	4.9
275	2.3	3.1	3.8	4.6	5.3
300	2.5	3.3	4.2	5.0	5.8
325	2.7	3.6	4.5	5.4	6.3
350	2.9	3.9	4.9	5.8	6.8
375	3.1	4.2	5.2	6.3	7.3
400	3.3	4.4	5.6	6.7	7.8

Note: Table 3: Table 7.4.4b of ABCB Housing Provisions Standards 2022. © Commonwealth of Australia and the States and Territories of Australia 2022, published by the Australian Building Codes Board. (For the most up to date version of this document please refer to the official ABCB website at: [abcb.gov.au](http://abcb.gov.au))

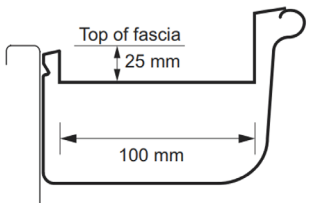
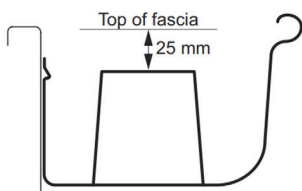

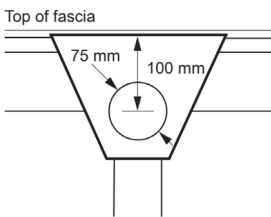
## ACCEPTABLE CONTINUOUS OVERFLOW MEASURES

(As per clause 7.4.6 of ABCB Housing provisions standard 2022)

Type of measure	Construction	Description	Overflow capacity
Front face slotted gutter		<ul style="list-style-type: none"> <li>Min slot opening area=1200mm<sup>2</sup>/m</li> <li>Lower edge of slots= 25mm (min) below top of fascia</li> </ul>	0.5L/s/m
Controlled back gap		<ul style="list-style-type: none"> <li>Permanent min 10mm spacer between gutter back and fascia</li> <li>1 spacer per bracket</li> <li>Spacer width not more than 50mm</li> <li>Back of gutter 10mm below fascia</li> </ul>	1.5L/s/m
Controlled front bead height		<ul style="list-style-type: none"> <li>Front bead of gutter 10mm (min) below top of fascia</li> </ul>	1.5 L/s/m

## ACCEPTABLE DEDICATED OVERFLOW MEASURES

(As per clause 7.4.7 of ABCB Housing provisions standard 2022)

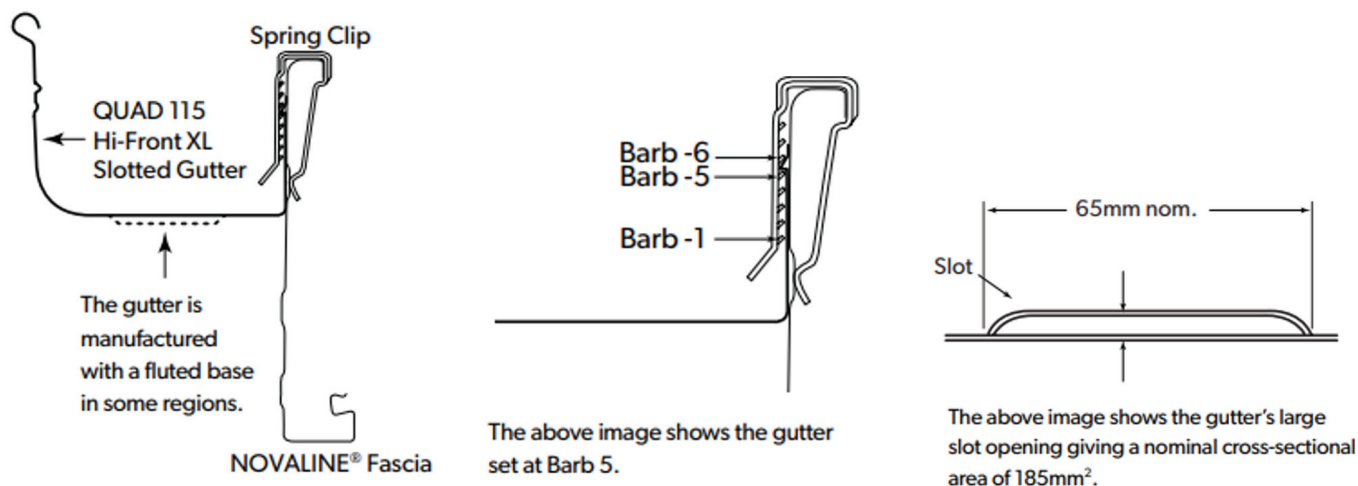
Type of measure	Construction	Description	Overflow capacity
End stop weir		<ul style="list-style-type: none"> <li>Minimum clear width=100mm</li> <li>weir edge 25mm(min) below top of fascia</li> </ul>	0.5L/s
Inverted nozzle		<ul style="list-style-type: none"> <li>Min nozzle size=100x 50mm</li> <li>Top of nozzle 25mm (min) below top of fascia</li> <li>within 500mm of gutter high point</li> </ul>	1.2L/s
Front face weir		<ul style="list-style-type: none"> <li>Minimum clear width=200mm</li> <li>Minimum clear height =20mm</li> <li>weir edge 25mm(min) below top of fascia</li> </ul>	1.0 L/s
Rain Head		<ul style="list-style-type: none"> <li>75mm dia hole in the outer face</li> <li>Centre of hole 100mm below top of fascia</li> </ul>	3.5 L/s

Note:

These measures can be used separately, or in combination to achieve the required overflow volumes.

## LYSAGHT 115 QUAD HI-FRONT XL SLOTTED GUTTER

The LYSAGHT® QUAD 115 Hi-Front XL Slotted Gutter installs onto LYSAGHT NOVALINE® Fascia and assists in managing water overflow at roof eaves.



The gutter slots in Lysaght Quad 115 Hi-front XL slotted gutter are nominally 65mm long and spaced at 90mm centres. Each slot has a nominal clear opening area of 185 mm<sup>2</sup>. This results in a total nominal slot opening area of 2055 mm<sup>2</sup> per metre length of the gutter which far exceeds NCC 2022 Compliance criteria of 1200 mm<sup>2</sup> per m of gutter

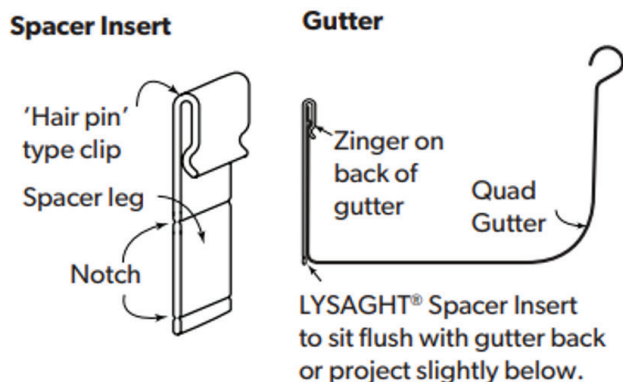
Gutter install location	Overflow capacity with slots (L/s/m)	Overflow solution coverage (refer table below)
Gutter is installed at the highest practical level, i.e. at Barb 6 of the spring clip	0.7	
Gutter is installed at a lower level, i.e., Barb 5 of the spring clip	0.85	
Gutter is installed at a lower level, i.e., at Barb 4 of the spring clip	0.97	

Note: Gutter slope 1:500 or steeper.

Rain Intensity 5min duration (mm/hr)	Ridge to gutter Length (m)							
	2	4	6	8	10	12	14	16
150	0.08	0.17	0.25	0.33	0.42	0.50	0.58	0.67
175	0.10	0.19	0.29	0.39	0.49	0.58	0.68	0.78
200	0.11	0.22	0.33	0.44	0.56	0.67	0.78	0.89
225	0.13	0.25	0.38	0.50	0.63	0.75	0.88	1.0
250	0.14	0.28	0.42	0.56	0.69	0.83	0.97	1.1
275	0.15	0.31	0.46	0.61	0.76	0.92	1.1	1.2
300	0.17	0.33	0.50	0.67	0.83	1.0	1.2	1.3
325	0.18	0.36	0.54	0.72	0.90	1.1	1.3	1.4
350	0.19	0.39	0.58	0.78	0.97	1.2	1.4	1.6
375	0.21	0.42	0.63	0.83	1.0	1.3	1.5	1.7
400	0.22	0.44	0.67	0.89		1.3	1.6	1.8

## LYSAGHT SPACER INSERT

The LYSAGHT® Spacer Insert is available as an accessory to assist in managing water overflow. It is used in conjunction with the LYSAGHT® QUAD GUTTER HI-FRONT (QGHF), OG Gutter, Half Round Flat Back Gutter (HRFB) and SHORELINE® (mini) when installed on to the LYSAGHT NOVALINE® Fascia to provide rainwater overflow capacity to the eaves/roof drainage system as a performance solution



Gutter install location	Overflow capacity with Lysaght Spacer Insert (L/s/m)	Overflow solution coverage (refer table below)
Gutter is installed at the highest practical level, i.e. at Barb 6 of the spring clip Insert Spacing = 1200mm (max) LYSAGHT® Spacer Insert is positioned next to Over-strap Over-strap is positioned next to the Spring Clip	1.25	
Gutter is installed at a lower level ie., at Barb 5 or lower of the spring clip Insert Spacing = 1200mm (max) LYSAGHT® Spacer Insert is positioned next to Over-strap Over-strap is positioned next to the Spring Clip	2.0	

Note: Gutter slope 1:500 or steeper.

Rainfall Intensity 5min duration (mm/hr)	Ridge to gutter Length (m)							
	2	4	6	8	10	12	14	16
150	0.08	0.17	0.25	0.33	0.42	0.50	0.58	0.67
175	0.10	0.19	0.29	0.39	0.49	0.58	0.68	0.78
200	0.11	0.22	0.33	0.44	0.56	0.67	0.78	0.89
225	0.13	0.25	0.38	0.50	0.63	0.75	0.88	1.0
250	0.14	0.28	0.42	0.56	0.69	0.83	0.97	1.1
275	0.15	0.31	0.46	0.61	0.76	0.92	1.1	1.2
300	0.17	0.33	0.50	0.67	0.83	1.0	1.2	1.3
325	0.18	0.36	0.54	0.72	0.90	1.1	1.3	1.4
350	0.19	0.39	0.58	0.78	0.97	1.2	1.4	1.6
375	0.21	0.42	0.63	0.83	1.0	1.3	1.5	1.7
400	0.22	0.44	0.67	0.89	1.1	1.3	1.6	1.8

## REFERENCES

- ABCB Housing Standard 2022
- AS 3500.3 :2025 Plumbing and drainage Part 3: Stormwater drainage

## PRODUCT DESCRIPTION

All descriptions, specifications, illustrations, drawings, data, dimensions, and weights contained in this publication and websites containing information from Lysaght are approximations only. They are intended by Lysaght to be a general description for information and identification purposes and do not create a sale by description. Lysaght reserves the right at any time to:

- a) Supply goods with such minor modifications from its drawings and specifications as it sees fit, and
- b) Alter specifications shown in its publications and websites to reflect changes made after the date of publication

## DISCLAIMER, WARRANTIES AND LIMITATION OF LIABILITY

- This publication is intended to be an aid for all trades and professionals involved with specifying and installing LYSAGHT® products and not be a substitute for professional judgement.
- Terms and conditions of sale are available at [lysaght.com/terms](https://lysaght.com/terms)
- Except to the extent to which liability may not lawfully be excluded or limited, BlueScope Steel Limited will not be under or incur any liability to you for any direct or indirect loss or damage (including, without limitation, consequential loss or damage such as loss of profit or anticipated profit, loss of use, damage to goodwill and loss due to delay) however caused (including, without limitation, breach of contract, negligence and/or breach of statute), which you may suffer or incur in connection with this publication.

FOR YOUR NEAREST SUPPLIER VISIT:

**LYSAGHT.COM**

**FOR SALES ENQUIRIES CALL 13 30 38**

**FOR TECHNICAL ENQUIRIES CALL 1800 641 417**

LYSAGHT® and ® product names are registered trademarks of BlueScope Steel Limited and ™ product names are trademarks of BlueScope Steel Limited. © 2024 BlueScope Steel Limited. ABN 16 000 011 058. All rights reserved.