



Date: December 15, 2017

Certificate no. FAC-841 Rev. A

### CERTIFICATE OF COMPLIANCE

Description of product certified: Apex Quad 115 High Front Gutters  
Aspects of product certified: Continuous front slot overflow capacity and maximum ridge to gutter lengths  
Drawing number: FA-APEX-841 Rev. A  
Front slot opening area: 1568mm<sup>2</sup> per lineal meter of gutter

### Basis of certification

The following documents were referred to in making this certification:

1. NCC2016 Volume 2
2. NCC2016 Volume 3
3. AS/NZS 3500.3


### Certification

I certify that the continuous overflow capacity and the ridge to gutter lengths stated in drawing FA-APEX-841 Rev. A, have been obtained using methods and principles which comply with the requirements of NCC2016 (Volumes 2 and 3) and AS/NZS 3500.3.

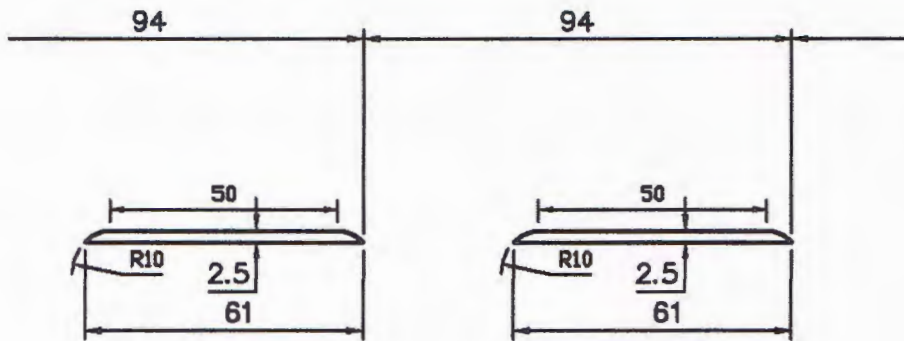
### Conditions of certification

Overflow capacities and maximum ridge to gutter lengths are valid for the following conditions:

1. Gutter slope = 1:500 (or steeper)
2. Minimum vertical distance from top of fascia to bottom of gutter slot = 25mm
3. Gutter slots are clean and free from dirt and other obstructions.

  
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Number of slots per lineal meter of gutter = 10.64  
 Slot area = 142.5mm<sup>2</sup>/per slot  
 Total front slot opening area = 1567.7mm<sup>2</sup> per lineal meter of gutter  
 Front slot overflow capacity = 0.63L/s/m

Figure 1. Front slots in APEX Quad 115 High Front Gutters

| Rainfall location | ARI (1 in 100 years) (mm/hr) | Maximum ridge to gutter length (m) |
|-------------------|------------------------------|------------------------------------|
| <b>ACT</b>        |                              |                                    |
| Canberra          | 193                          | 11.5                               |
| Gungahlin         | 179                          | 12.5                               |
| Tuggeranong       | 210                          | 10.5                               |
| <b>NSW</b>        |                              |                                    |
| Albury            | 180                          | 12.5                               |
| Broken Hill       | 219                          | 10.0                               |
| Goulburn          | 156                          | 14.0                               |
| Kiama             | 319                          | 7.0                                |
| Newcastle         | 316                          | 7.0                                |
| Orange            | 186                          | 12.0                               |
| Sydney            | 262                          | 8.5                                |
| Avalon            | 278                          | 8.0                                |
| Campbelltown      | 222                          | 10.0                               |
| Penrith           | 244                          | 9.0                                |
| Windsor           | 233                          | 9.5                                |
| Tweed Heads       | 330                          | 6.5                                |
| Wollongong        | 308                          | 7.0                                |

Front slot opening area = 1567.7mm<sup>2</sup> per lineal meter of gutter  
 Front slot overflow capacity = 0.63 L/s/m

Table 1. Maximum ridge to gutter lengths for front slots

Notes:

- Overflow capacities and maximum ridge to gutter lengths are valid for the following conditions:
  - Gutter slope = 1:500 (or steeper)
  - Minimum vertical distance from top of fascia to bottom of front slot = 25mm
  - Gutters are regularly maintained and slot openings are free from dirt and other obstructions that prevent the water from flowing through.
- Overflow capacities and maximum ridge to gutter lengths have been calculated in accordance with the requirements of NCC 2016 (volumes 2 and 3) and AS3500.3.

| ARI (1 in 100 Years) | Front slot overflow capacity (L/s/m) | Maximum ridge to gutter length (m) |
|----------------------|--------------------------------------|------------------------------------|
| 150                  | 0.63                                 | 15.0                               |
| 175                  |                                      | 13.0                               |
| 200                  |                                      | 11.0                               |
| 225                  |                                      | 10.0                               |
| 250                  |                                      | 9.0                                |
| 275                  |                                      | 8.0                                |
| 300                  |                                      | 7.5                                |
| 325                  |                                      | 7.0                                |
| 350                  |                                      | 6.5                                |

Table 2. Maximum ridge to gutter lengths vs



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|  | <b>Fernandes &amp; Associates Pty Ltd</b><br>Consulting Mechanical & Structural Engineers<br>www.fernandes.net.au | Drawing no. FA-APEX-841 Rev. A<br>(APEX QUAD 115 HIGH FRONT GUTTERS with front<br>overflow slots of 1568mm <sup>2</sup> per meter of gutter) -ACT/NSW<br>15 December 2017 |
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