

## Fastening of 35 or 45 mm thick battens for sheet roofs

AS1684.2: 2010 provides some guidance on the selection of tie downs for battens to resist a combination of gravity loads and wind uplift as follows:

- Note site wind classification (N1 to N4) from the plans;
- Look up Table 9.14 to determine the required tie-down force in both general and edge areas of the roof for the planned rafter and batten spacings;
- Match those forces with capacities of nails or screws in JD5 timber (MGP10 rafters) using Table 9.25. (The capacity of the selected fastener in Table 9.25 must be greater than the force given in Table 9.14.)

### 35 mm battens

Table 9.25 specifies connections suitable for use into 38 mm battens for sheet roofs, which can also be used for 35 mm thick battens. For 900 mm batten spacings and 900 mm rafter spacings, plain shank nails do not have the required capacity for general areas (deformed shank nails or screws are required), and screws must be used in all edge areas for all site wind classifications. Wespine recommends using 1 x 75 mm long No. 14 Type 17 screws in all general and edge areas for all site wind classifications.

### 45 mm battens

AS1684.2: 2010 does not include capacities for 45 mm battens. The tie-down capacity of all nails and screws through 45 mm battens is significantly lower than the values in Table 9.25 as there is less penetration of the fastener into the rafter. To achieve the required tie-down capacity when using 45 mm battens under sheet roofs, 1 x 75 mm long No. 14 Type 17 screws must be used in all general and edge areas for N1 and N2 site wind classifications. (Longer screws may be required in N3 and N4 sites for some batten and rafter spacings.)

### Edge areas

As the uplift forces on fasteners in edge areas are much higher than those used in general roof areas, the capacity of fasteners in edge areas need to be significantly higher. Edge areas are within 1200 mm of edges, ridges and hips; for 900 mm edge batten spacings, there are two battens in each edge area.

