

The Australian Roofing Tile Association (ARTA) is the peak organisation representing the concerns and interests of more than 90% of the roofing tile industry in Australia.

In accordance with **AS 2050**, tile manufacturers will normally provide advice pertaining to the minimum head lap and installing systems when designing for roof tiles and the relative design wind velocity. This document provides a brief overview of the different types of roof tile fasteners and their suitability.

'Mechanically fastening' refers to either screwing, nailing, clipping, or pointing tiles. A qualified roofing installer will be able to determine which of these fixing methods is appropriate based on the project requirements and product chosen. For pitches over 35 degrees extra precautions should be taken.

### **CLOUT NAILS**

Non-ferrous or galvanised 2.8mm diameter nails should be used with a minimum penetration length of 15 mm into the timber rafter. Timber relevant nail requirements and wind loadings are specified in Table 2 of this datasheet. Further information on the installation requirements can be found in **Section 2.4.2** of **AS 2050**.

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Nail dia.	Head dia. D		Length	Approximate number per			
d	max.	min.		kilogram			
			20	840			
			25	710			
			30	610			
2.8	8.7	7.8					
			40	450			
			45	400			
			50	380			

Table 1 - Clout nail specification



#### **FIXING RECOMMENDATIONS**

Wind	Tile Fixing		Ancillary Fixing	Sarking	Anti-Ponding Board
Classification				Edge of roof	
	Edge of Roof	Field of Roof	Ridge, Hip &		
			Barge Tiles		
N1	1 Mechanically fasten each full tile in second course and then		Mechanically	Optional depending on roof	Mandatory on sarked roofs with pitches of
	every second tile in every course or every tile in each alternate		fasten each tile	pitch, length of rafter, fire	less than 20 <sup>0</sup> and on all roof pitches where
	course			hazard or tile type	there is no eaves overhang
N2	Mechanically fasten each full tile in second course and then		Mechanically		
	every second tile in every course or every tile in each alternate		fasten each tile		
	course				
N3	Mechanically fasten each full	Mechanically fasten each	Mechanically	Mandatory above N3 as	
	tile in second course	second full tile in every course	fasten each tile	detailed in AS 2050	
N4	Mechanically fasten every	Mechanically fasten every full	Mechanically	Section 3.1.1	
	full tile	tile	fasten each tile		
N5	Mechanically fasten every	Mechanically fasten every full	Mechanically		
	full tile	tile	fasten each tile		
N6	Mechanically fasten every	Mechanically fasten every full	Mechanically		
	full tile	tile	fasten each tile		
C1	Mechanically fasten every	Mechanically fasten each	Mechanically		
	full tile	second full tile in every course	fasten every tile		
C2	C2 Mechanically fasten every tile		Mechanically		
			fasten every tile		
C3	C3 Mechanically fasten every tile		Mechanically		
			fasten every tile		
C4	Mechanically fasten every tile		Mechanically		
			fasten every tile		

Table 2 - Australian Fixing Recommendations



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#### **HEAD LAP CLIP**



Head Lap clip:



Head Lap clip in use:



\*Not to be used in cyclonic regions (C1 - C4)



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Non-Cyclonic



Cyclonic

Side Lap clip in use:







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#### SHORT COURSE CLIP

Short Course Clip:



Short Course clip in use:





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**HIP STARTER CLIP** 



Hip Starter Clip:



#### Hip Starter Clip in use:



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### **RIDGE INSTALLATION**

Every ridge tile must be mechanically fastened in accordance with Table 2: Minimum Australian Fixing Recommendations. Ridge tiles are initially laid onto a bed of mortar and finished with flexible pointing, which holds the ridge to the roof tiles.

For areas greater than C1, additional mechanical fasteners (e.g screws) are required to be drilled through the ridge fitting into a special batten installed.



Figure 2 - Ridge Installation Front Section

DATA SHEET



Figure 3 - Ridge Installation Side

Truss

Top tile batten



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#### **HIP INSTALLATION**

Hip tiles must be mechanically fastened in accordance with Table 2: Minimum Australian Fixing Recommendations. A hip starter is positioned onto a bed of mortar at the lower end of the hip, where flexible pointing holds the hip starter to the roof tiles. Roof tiles must be cut and laid with a maximum of 25 mm space between cuts.

For areas greater than C1, additional mechanical fasteners (e.g screws) are required to be drilled through the hip fitting into a special batten installed.



Figure 4 - Hip Installation Detail



#### **STEEP PITCH INSTALLATION**

For roofs pitched at above 35 degrees to 70 degrees, all tiles must be mechanically fixed. This is achieved by nailing, screwing or clipping every tile. For extreme conditions, clip fastening is recommended. For pitches over 35 degrees refer to manufacturer or contractor specifications.



Figure 5 - Steep Pitch Installation Front Section