

PO BOX 2660 MOUNT WAVERLEY, VICTORIA, AUSTRALIA, 3149



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Wilmaplex Pty Ltd. 57 Lathams Road, Carrum Downs, Vic 3201 Mr Graham storey

## RE/ Wilmaplex Strap Nail Design Capacity

This is to confirm that Wilmaplex commissioned CEMQA Pty. Ltd. to undertake the task of testing and evaluating the design capacity of 1mm G300 Z275 Strap Nail (SN25, 38, 50, 75 and 90 X 90). The evaluation was carried out via testing and computations. All Strap Nails have their nails parallel to plate length. The capacities were tested and evaluated based on the direction of nails relative to wood grain. Should the assembly have nails both parallel and perpendicular to grain then the lowest value is adopted and that is perpendicular to grain. Design capacities are given in Table 1. Some applications for Strap Nails is shown in Figure 1.

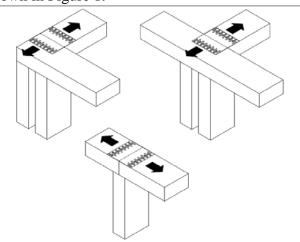


Figure 1 Strap Nail applications, top plate corner and intersection and top plate butt joint.

Table 1 Strap Nail Capicities

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Product	Width	Steel	Number of	Design Capacity $\varphi N_i$ per Strap Nail (kN)	
Code		capacity	nails in	for timber joint group JD4	
		(kN)	each end	Parallel to grain	Perpendicular to grain
SN2590	25	3.8	8	3.2	1.2
SN3890	38	5.9	12	4.8	1.8
SN5090	50	7.6	16	6.4	2.4
SN7590	75	11.4	24	9.6	3.6
SN9090	90	14.1	28	11.2	4.2

## Notes:

- 1. The values in Table 1 apply to Category 1 joints, design capacities for joint groups 2 and 3 are 0.94 and 0.88 consecutively.
- 2. The capacities in Table 1 are given for 1.35G load case and a capacity factor  $\phi$  = 0.85, increase the load capacities for other load cases, however, design capacity must not exceed the steel capacity values shown.
- 4. Computations were undertaken in accordance with the relevant Standards, AS1720, AS/NZS1170 series and AS4055.

Dr Con Adam (Director) CEMQA Pty. Ltd. P.O. Box 2660 Mt. Waverley, VIC 3149