

SM:/GA7142.001

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TO WHOM IT MAY CONCERN

STONECLIP.COM "STONECLIP"

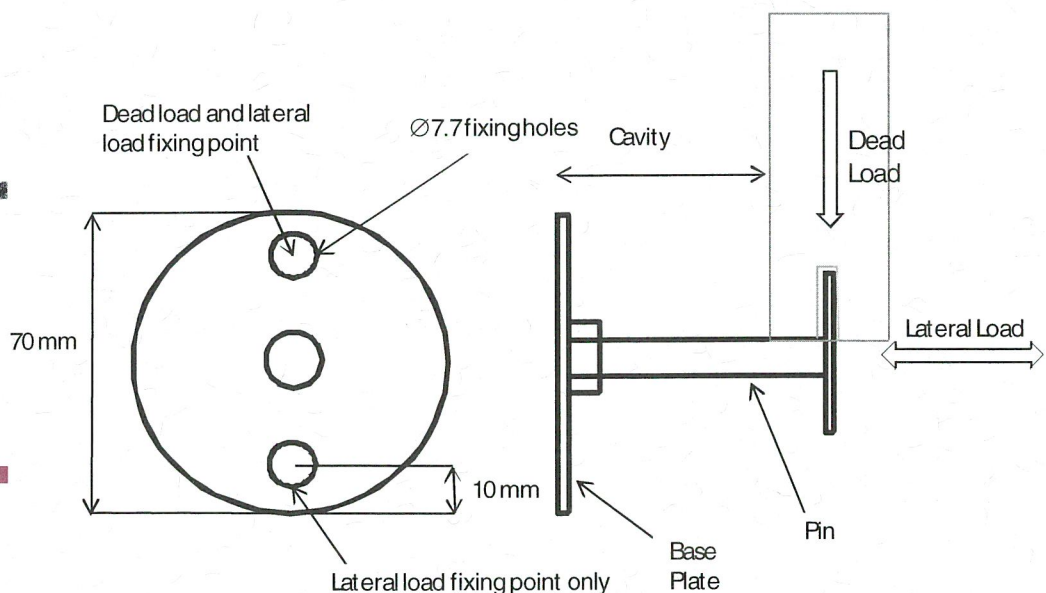
This is to certify that Sheehy & Partners have checked the design of the mechanical fixing known as "StoneClip". The StoneClip parameters and design capacities are summarised below. The limit state loading on the fixings to connect the StoneClip to the substrate are also provided on the following pages.

DESIGN ASSUMPTIONS

The design has been based on the following:

- StoneClip samples provided to this office.
- All components of the clip have been designed in accordance with AS 4673:2001- "Cold-Formed Stainless Steel Structures", other relevant codes, and in accordance with widely accepted engineering principles.
- The load factor applied to Panel Dead Loads is 1.35 in accordance with AS1170.0:2002 "Structural Design Actions".
- Where StoneClips are to resist lateral loads they have been designed for a strength limit state pressure of 2.53 kPa. For lateral wind loadings this is equivalent to buildings in wind region B and terrain category 2 and for a maximum cladding height of 10 m in accordance with AS1170-2:2002 "Structural Design Actions - Wind Actions".

STONE CLIP GEOMETRY



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STONECLIP DESIGN CAPACITY TABLES

1.0 Vertical loading only

The following tables are for StoneClips carrying vertical loading only (no allowance for wind loading). Each Clip is fixed with one fixing only through the top hole in the back plate. Fixings are to be selected in accordance with fixing manufacturer's documentation.

Table 1.1 – Vertical Load Capacity – M12 pin with 3.0 mm thick back plate

Cavity #) [mm]	Max Vertical Load per Clip [kg]	Fixing loading	
		Shear *) [kN]	Tension *) [kN]
50	52.5	0.63	0.76
40	64.5	0.77	0.77
30	81	0.97	0.78

Table 1.2 – Vertical Load Capacity - M10 pin with 3.0 mm thick back plate

Cavity #) [mm]	Max Vertical Load per Clip [kg]	Fixing loading	
		Shear *) [kN]	Tension *) [kN]
50	29.7	0.36	0.43
40	38	0.46	0.46
30	53	0.64	0.51
20	89	1.07	0.64

Table 1.3 – Vertical Load Capacity – M8 pin with 2.0 mm thick back plate

Cavity #) [mm]	Max Vertical Load per Clip [kg]	Fixing loading	
		Shear *) [kN]	Tension *) [kN]
50	14.9	0.18	0.21
40	19	0.23	0.23
30	26.5	0.32	0.25
20	44.5	0.53	0.32

Table 1.4 – Vertical Load Capacity – M6 pin with 1.5 mm thick back plate

Cavity #) [mm]	Max Vertical Load per Clip [kg]	Fixing loading	
		Shear *) [kN]	Tension *) [kN]
40	7.8	0.09	0.09
30	11	0.13	0.11
20	18	0.22	0.13

*) Limit State Load

#) "Cavity" is the distance between the substrate and the inside face of the panel.

2.0 Lateral Loading Only

The following table is for StoneClips carrying lateral loading only (no allowance for vertical loading).

Each clip is fixed with two fixings through holes on opposite sides of the centre. Fixings are to be selected in accordance with fixing manufacturer's documentation.

Table 2.1 – Lateral load Capacity

Thickness of back plate [mm]	Tension Capacity [N]	Wind Area ^{^)} [m ²]	Fixing loading Tension ^{*)} [kN]
3	1594	0.63	0.80
2	708	0.28	0.35
1.5	399	0.16	0.20

^{^)} The wind area is the maximum area that one StoneClip can resist based on the design wind pressure of 2.53 kPa, as noted in the design assumptions. For other wind loading situations engineered solutions based on the above tension capacity may provide increased/reduced wind areas.

^{*)} Limit State Load

CERTIFICATION

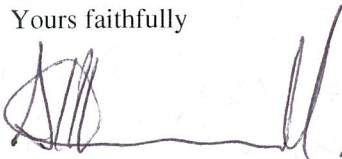
If the StoneClip installation is completed in accordance with the above design, the Stoneclip.com specifications and sound building practice, the "Stone-Clip" mechanical fixing is considered to be structurally adequate.

This certificate does not cover the strength of the stone panel or the transfer of load from the Stone Panel to the "StoneClip".

The certificate does not cover the fixing or the substrate to which the clip is attached. Proprietary fixings to the substrate are to be selected based on the strength limit state loading given in the above tables and based on the design capacities provided by the manufacturer of the fixing.

The undersigned is a Registered Practising Engineer in Queensland (RPEQ No. 8023)

Yours faithfully



S McDonald
for and on behalf of
SHEEHY & PARTNERS PTY LTD
Consulting Engineers