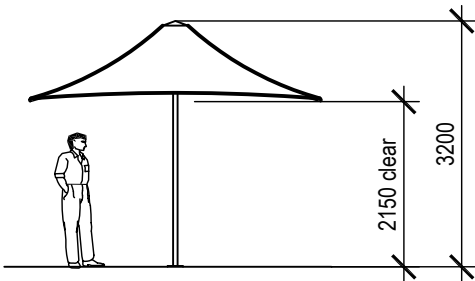


**Plan**

1:100 at A4



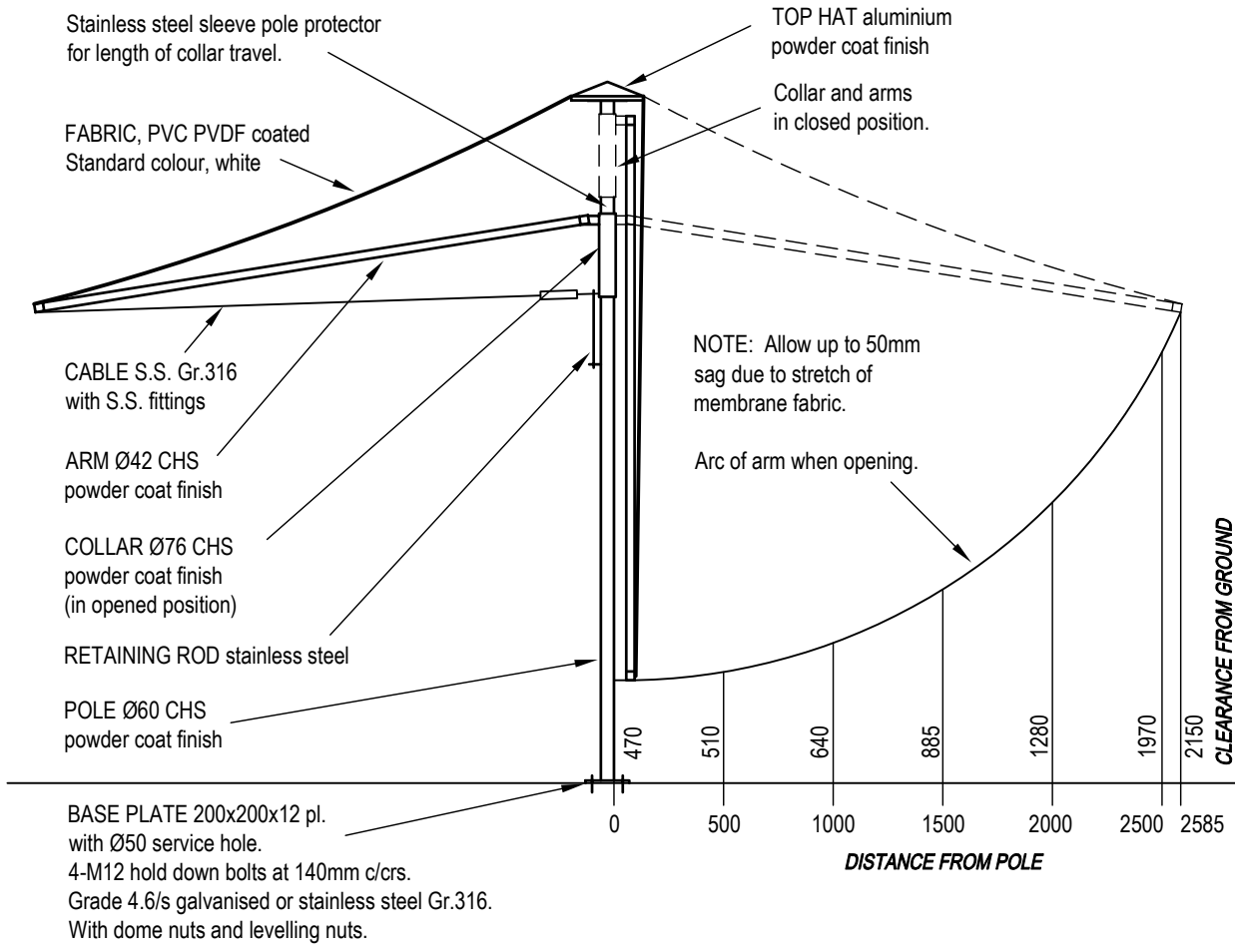
**Elevation**

1:100 at A4

**SQUARE 3.8m**  
 Wind Rating: 33m/sec (120km/h)  
 Rated when umbrella is fully erected.  
 Umbrella weight: 61kg

Overall dimensions represent clearance dimensions for the complete umbrella.  
 Membrane dimensions differ, depending on variations in tensioning and fabrication.

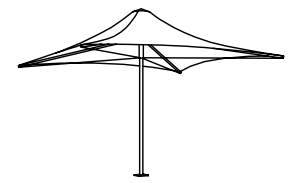
Dimensions are in millimetres.



OPENED POSITION

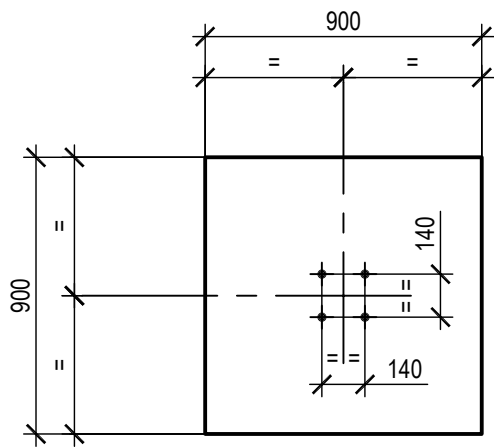
CLOSED POSITION

**3.8m Centre Support Square Umbrella**  
**Centre Support - Model SUA-CS38**

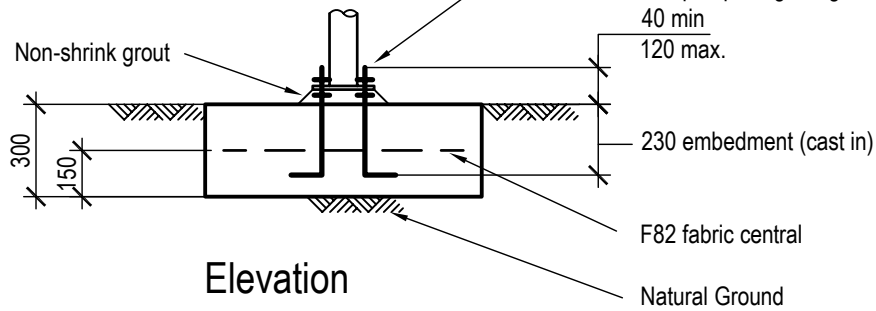


Centre Support Square Umbrella  
 Model SUA-CS38





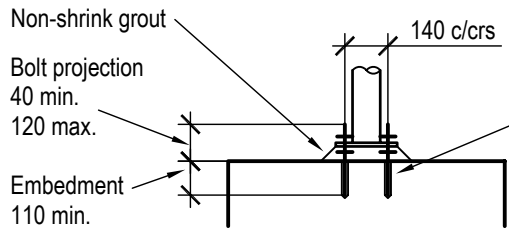
Plan



Elevation

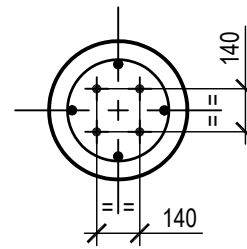
### SUA-CS38 - Pad Footing

4-M12 Gr.4.6/S galvanised H.D. bolts with nuts and levelling nuts - Cog 100 Bolt projection to suit level of top of paving, tiling, etc 40 min 120 max.  
 230 embedment (cast in)  
 F82 fabric central  
 Natural Ground

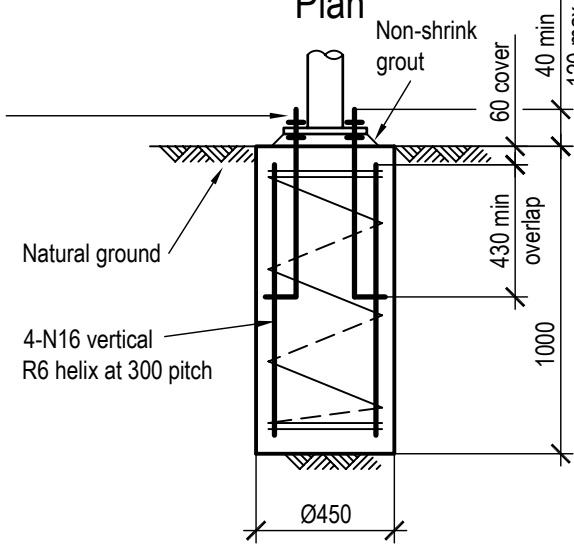


### Chemical Anchor Detail

4-M12 H.D. bolts to be threaded rod grade 4.6/s hot dipped galvanised, or stainless steel Gr.316. Supplied with nuts, washers and levelling nuts. Chemical anchors, at 140 x 140 centres to be 'Hilti HVU', or engineer approved equivalent, and to be installed in accordance with the manufacturer's instructions. Hole to be clean and dry at time of installation.



Plan



Elevation

### SUA-CS38 - Pier Footing

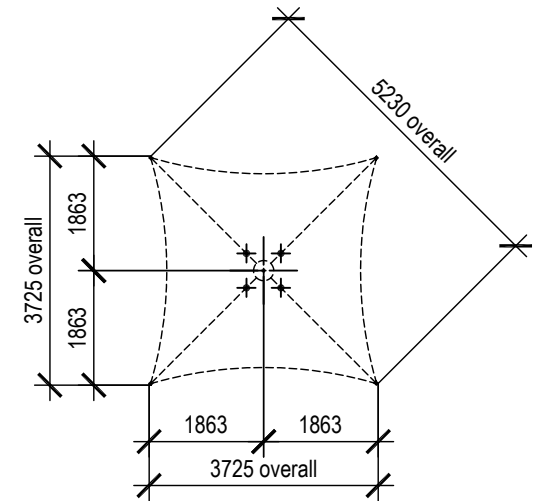
**Notes:**  
 Design wind speed 33m/sec (W33)

Assumed soil conditions:  
 Pad - bearing capacity 100kPa  
 Pier - cu=50kPa (stiff clay)

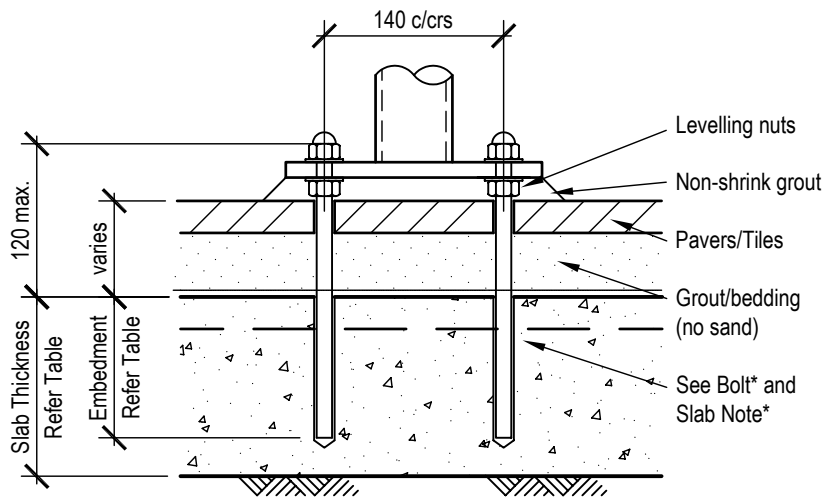
Minimum 60mm cover to all reinforcement  
 Concrete grade to be N25  
 20mm aggregate size  
 Slump 65mm

**Anchor bolt location tolerances** per Australian Standard AS 4100-1990

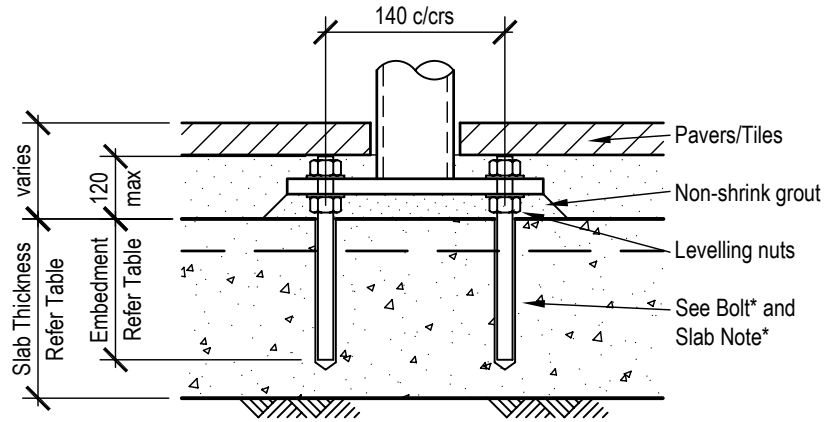
- 3mm for anchor bolt centres within an anchor bolt group.
- 6mm for adjacent anchor bolt group centres.
- Maximum accumulation of 6mm per 30m not to exceed a total of 25mm.
- 6mm from anchor bolt group centre to column line centre.



H.D. Bolt Layout Plan  
 Not to scale



Over Pavers



Under Pavers

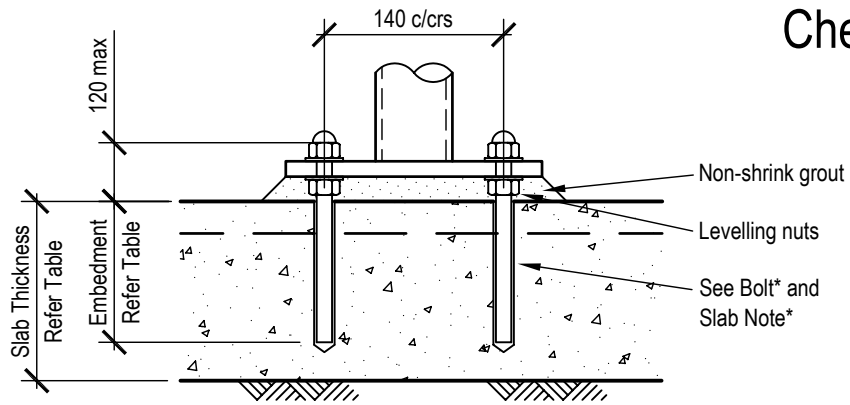
**\* H.D. BOLT NOTE**

Structure pole has 200 x 200 x 12 base plate.  
4-M12 H.D. bolts to be threaded rod grade 4.6/s hot dipped galvanised, or stainless steel Gr.316. at 140 x 140 centres.

**\* SLAB ON GROUND NOTE**

The existing reinforced concrete slab on ground is to be approved for adequacy by a Structural Engineer before installation. Concrete strength - f'c 25MPa.  
Installation requires **1 sq m** of continuous reinforced slab with the pole centre 400mm minimum from a slab edge or control joint.

Contact SUA Delaer if the slab does not meet any of the requirements.

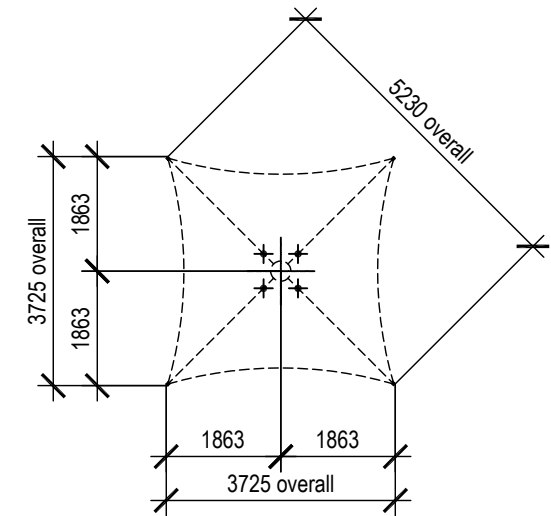


On Slab

## Chemical Anchor Fixing to Slab on Ground

Slab Thickness	Chemical Anchor	Min. Embedment	H.D. Bolts*	Min. Slab Edge Distance*
100	Ramset Reo 502 (or Hilti HIT-RE 500)	80	4-M12 at 140 c/crs	400
110	Ramset Reo 502 (or Hilti HIT-RE 500)	90	4-M12 at 140 c/crs	400
120	Ramset Reo 502 (or Hilti HIT-RE 500)	100	4-M12 at 140 c/crs	400
130	Hilti HVU	110	4-M12 at 140 c/crs	400
140 plus	Hilti HVU	110	4-M12 at 140 c/crs	400

Chemical anchor to be as above or Engineer approved equivalent, and to be installed in accordance with the manufacturer's instructions.



H.D. Bolt Layout Plan

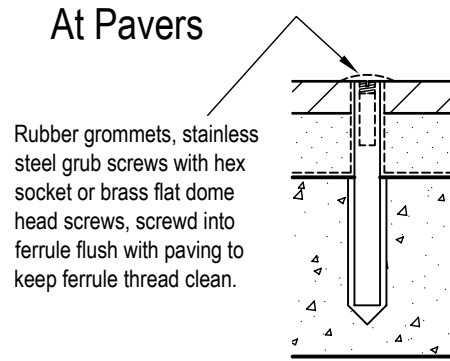
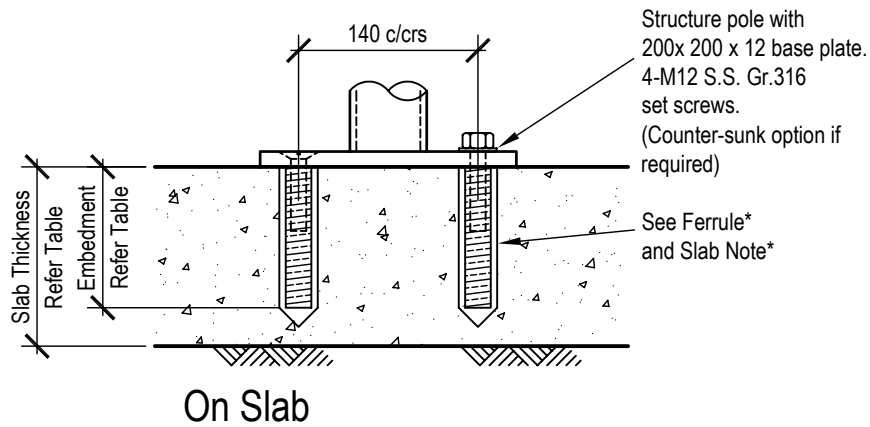
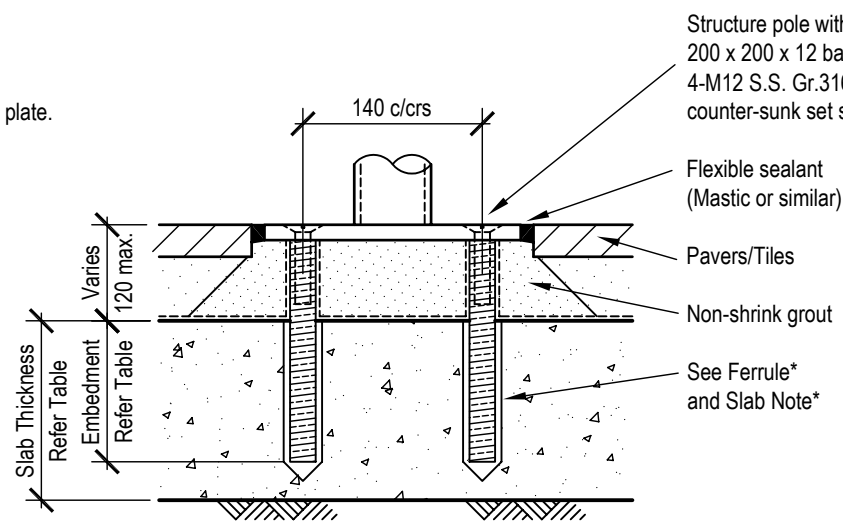
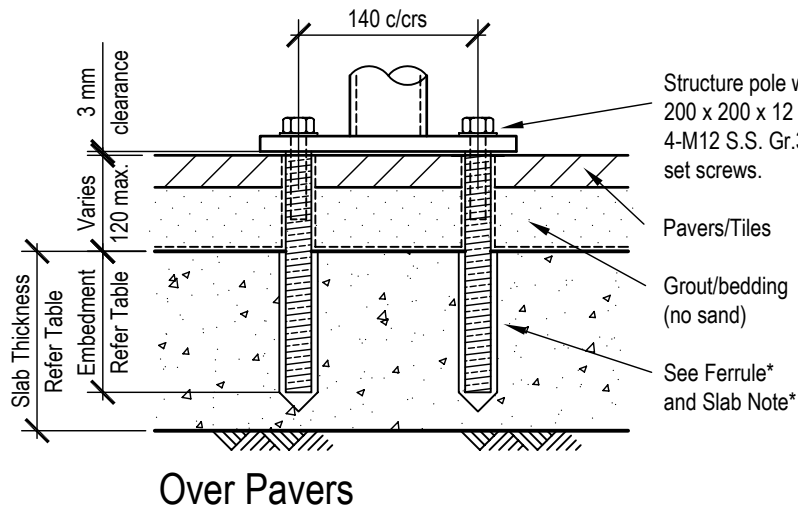
Not to scale

# Installation Detail - Model SUA-CS38

Centre Support Square Umbrella  
Model:SUA-SC38



Existing Slab on Ground



Ferrule Fixing with Umbrella Removed

**\* FERRULE NOTE**  
 Ferrules at 140 x 140 centres are M20 stainless steel Gr.316 threaded rods tapped for M12.

**\* SLAB ON GROUND NOTE**  
 The existing reinforced concrete slab on ground is to be approved for adequacy by a Structural Engineer before installation. Concrete strength -  $f_c$  25MPa. Installation requires **1 sq m** of continuous reinforced slab with the pole centre 400mm minimum from a slab edge or control joint.

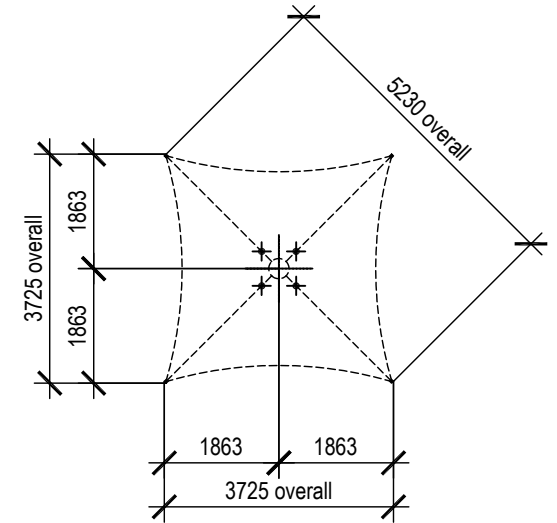
Contact SUA Dealer if the slab does not meet any of the requirements.

## Chemical Anchor Fixing to Slab on Ground

Slab Thickness	Chemical Anchor	Min. Embedment	Ferrules*	Min. Slab Edge Distance*
100	Ramset Reo 502 (or Hilti HIT-RE 500)	80	4-M12 at 140 c/crs	400
110	Ramset Reo 502 (or Hilti HIT-RE 500)	90	4-M12 at 140 c/crs	400
120	Ramset Reo 502 (or Hilti HIT-RE 500)	100	4-M12 at 140 c/crs	400
130	Hilti HVU	110	4-M12 at 140 c/crs	400
140 plus	Hilti HVU	110	4-M12 at 140 c/crs	400

Chemical anchor to be as above or Engineer approved equivalent, and to be installed in accordance with the manufacturer's instructions.

## Ferrule Detail - Model SUA-CS38



H.D. Bolt Layout Plan  
 Not to scale

Centre Support Square Umbrella  
 Model:SUA-CS38

Ferrule Fixing

street  
 umbrellas  
 Australia