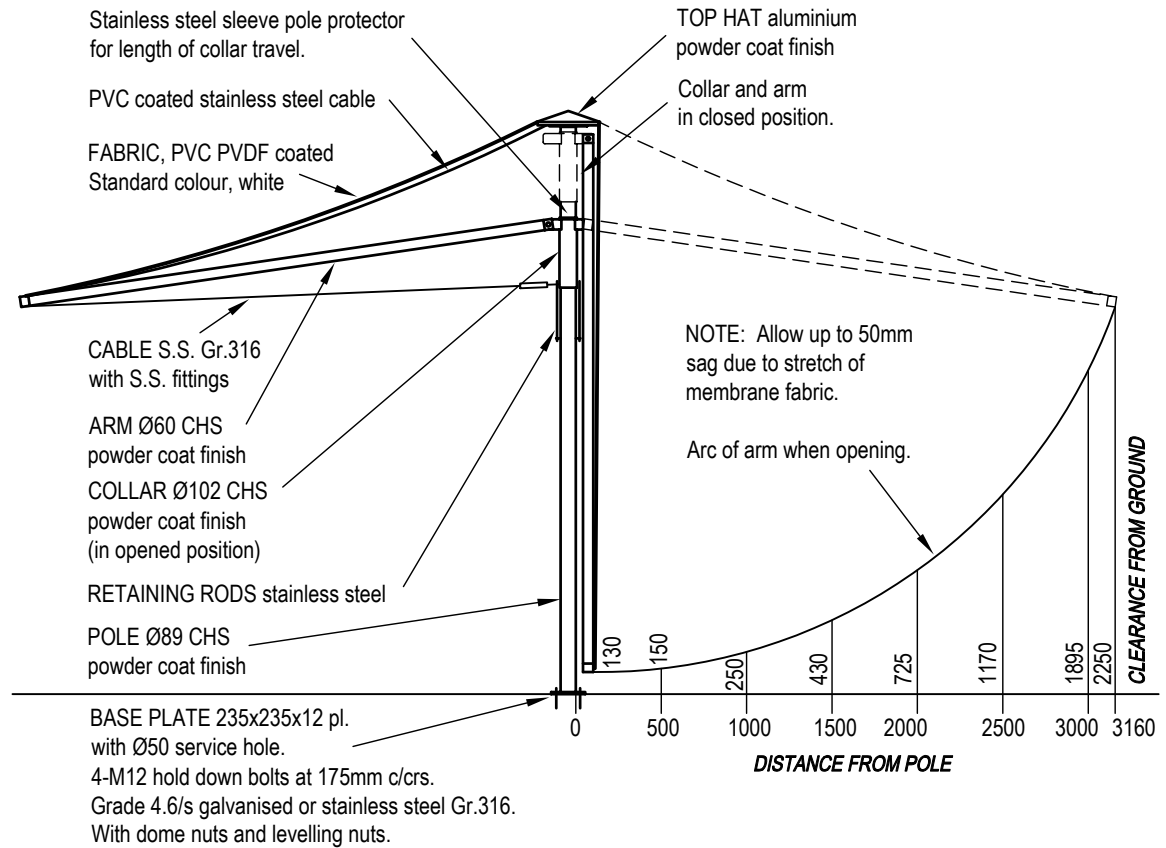


SQUARE 4.5m

Wind Rating: 33m/sec (120km/h)
 Rated when umbrella is fully erected.
 Umbrella weight: 100kg

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

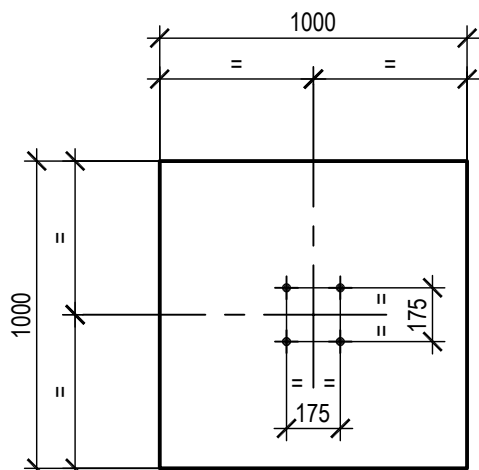
4.5m Centre Support Square Umbrella Model SUA-CS45



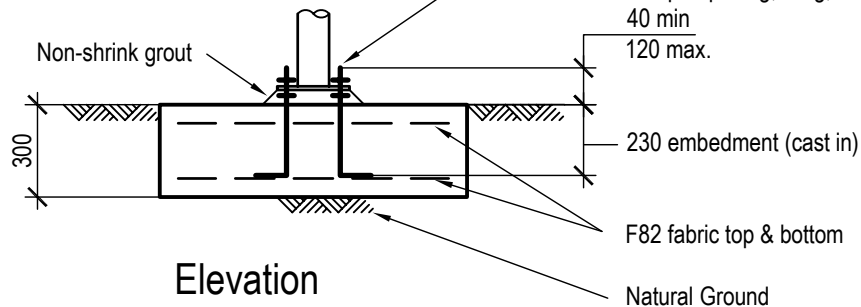
Centre Support Square Umbrella
 Model: SUA-CS45

Engineering Framing

street
umbrellas
Australia



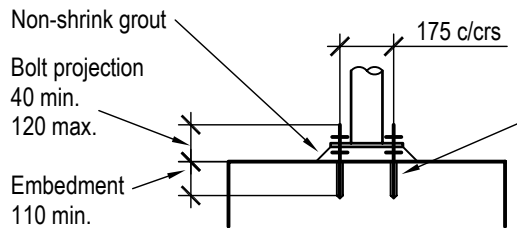
Plan



Elevation

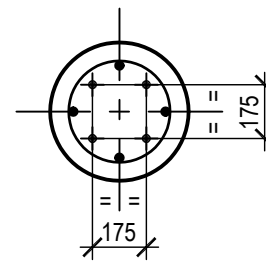
SUA-CS45 Pad Footing

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 top & bottom
 Natural Ground

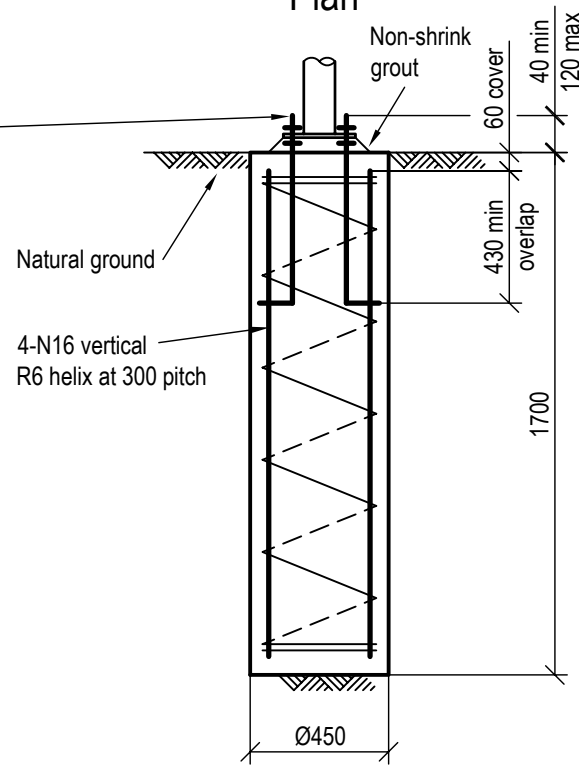


Chemical Anchor Detail

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 175 x 175 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

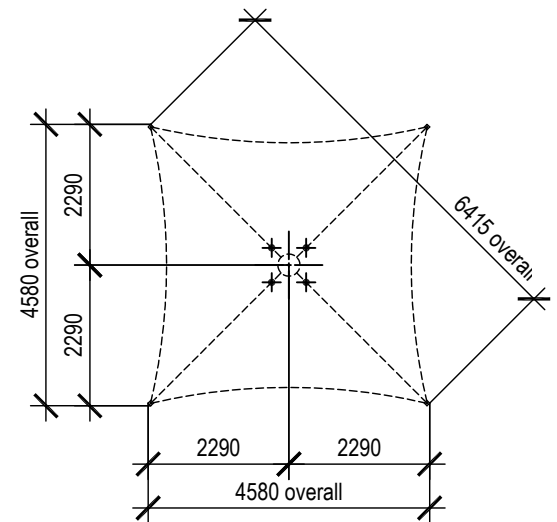
SUA-CS45 Pier Footing

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.

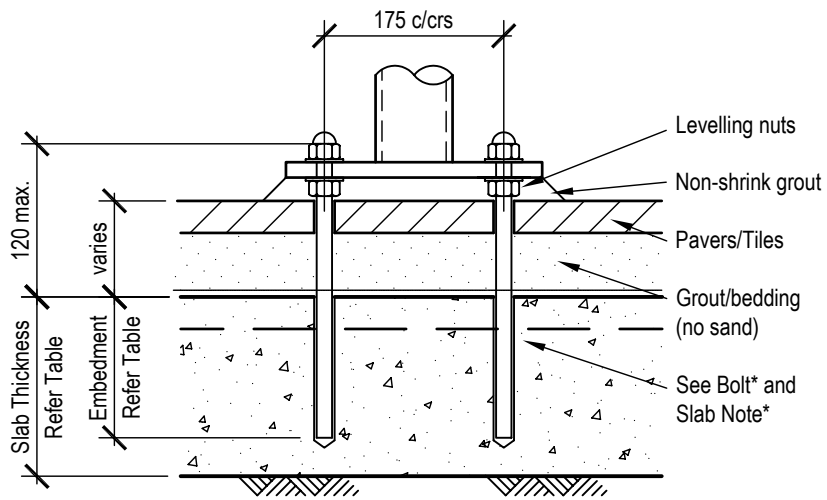


H.D. Bolt Layout Plan

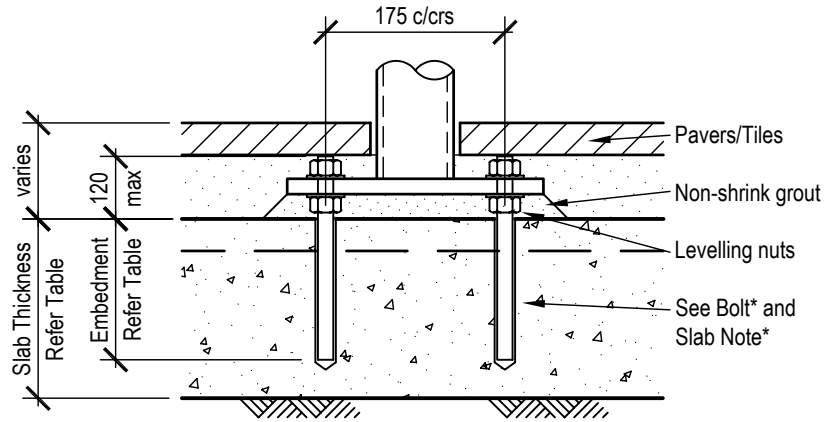
Not to scale

Centre Support Square Umbrella
 Model: SUA-CS45

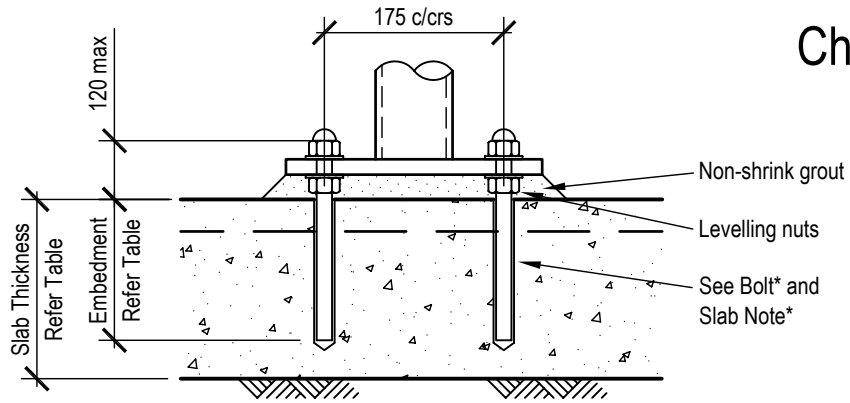




Over Pavers



Under Pavers



On Slab

Chemical Anchor Fixing to Slab on Ground

* H.D. BOLT NOTE

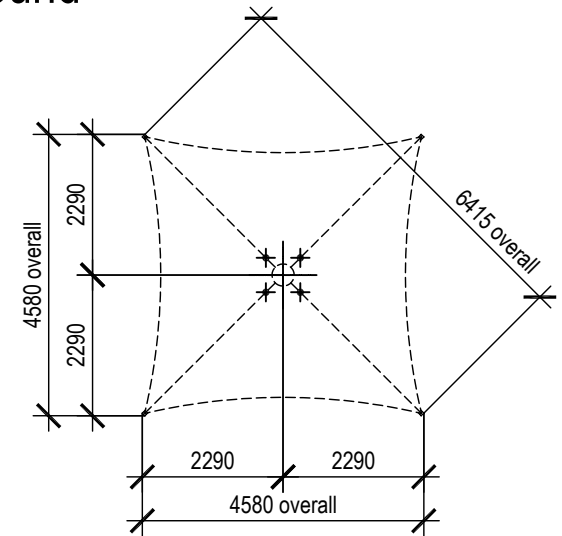
Structure pole has 235 x 235 x 12 base plate.
4-M12 H.D. bolts to be threaded rod grade 4.6/s hot dipped galvanised, or stainless steel Gr.316. at 175 x 175 centres.

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



H.D. Bolt Layout Plan

Not to scale

| 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 175 c/crs | 400 |
| 110 | Ramset Reo 502 (or Hilti HIT-RE 500) | 90 | 4-M12 at 175 c/crs | 400 |
| 120 | Ramset Reo 502 (or Hilti HIT-RE 500) | 100 | 4-M12 at 175 c/crs | 400 |
| 130 | Hilti HVU | 110 | 4-M12 at 175 c/crs | 400 |
| 140 plus | Hilti HVU | 110 | 4-M12 at 175 c/crs | 400 |

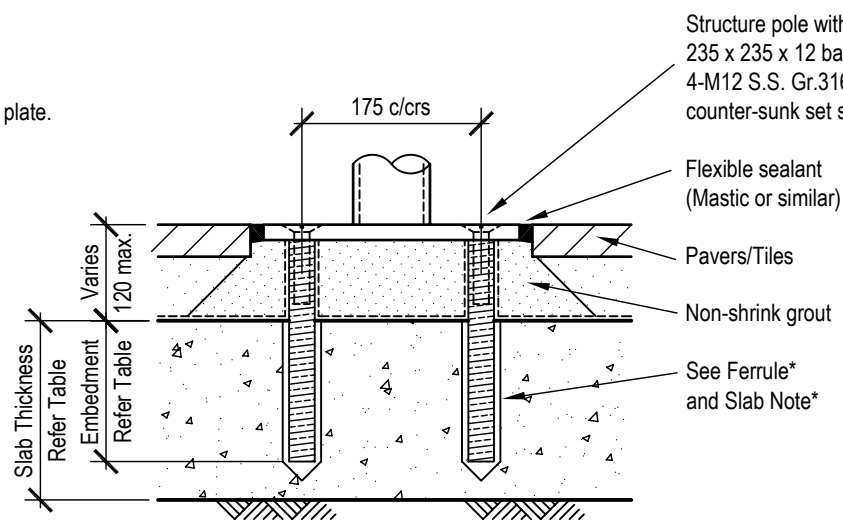
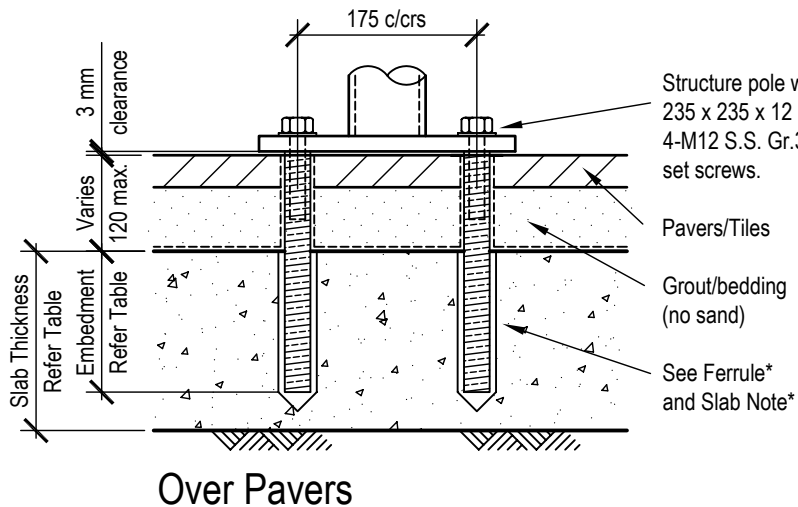
Chemical anchor to be as above or Engineer approved equivalent, and to be installed in accordance with the manufacturer's instructions.

Installation Detail - Model SUA-CS45

Centre Support Square Umbrella
Model:SUA-SC45

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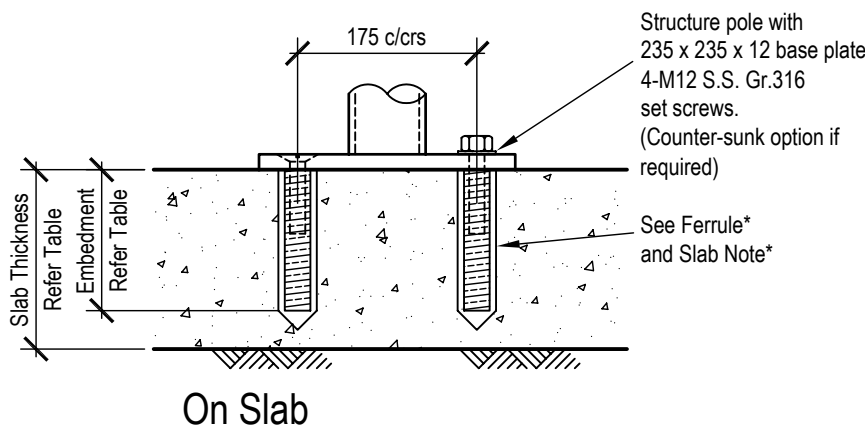
Existing Slab on Ground



*** FERRULE NOTE**
 Ferrules at 175 x 175 centres are M20 stainless steel Gr.316 threaded rods tapped for M12.

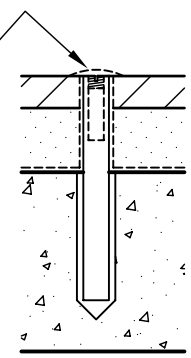
*** SLAB ON GROUND NOTE**
 The existing reinforced concrete slab on ground is to be approved for adequacy by a Structural Engineer before installation. Concrete strength - f_c 25MPa. Installation requires **1 sq m** of continuous reinforced slab with the pole centre 400mm minimum from a slab edge or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

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



At Pavers

Rubber grommets, stainless steel grub screws with hex socket or brass flat dome head screws, screwd into ferrule flush with paving to keep ferrule thread clean.

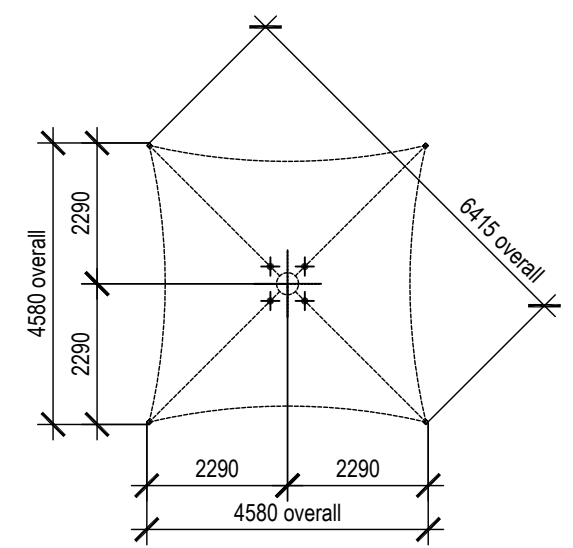


Ferrule Fixing with Umbrella Removed

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 175 c/crs | 400 |
| 110 | Ramset Reo 502 (or Hilti HIT-RE 500) | 90 | 4-M12 at 175 c/crs | 400 |
| 120 | Ramset Reo 502 (or Hilti HIT-RE 500) | 100 | 4-M12 at 175 c/crs | 400 |
| 130 | Hilti HVU | 110 | 4-M12 at 175 c/crs | 400 |
| 140 plus | Hilti HVU | 110 | 4-M12 at 175 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

Ferrule Detail - Model SUA-CS45

Centre Support Square Umbrella
 Model:SUA-CS45



Ferrule Fixing