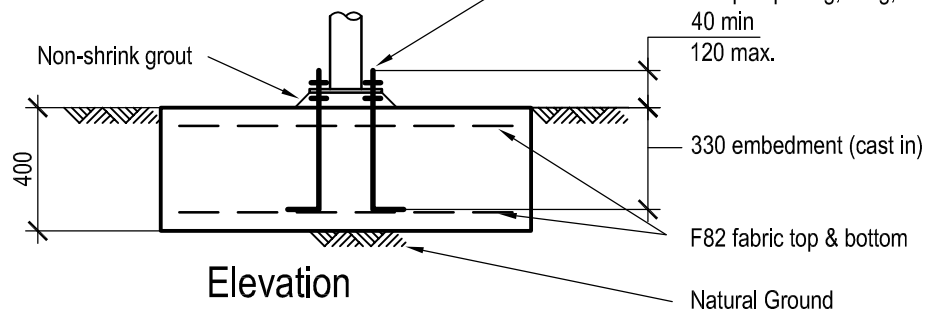
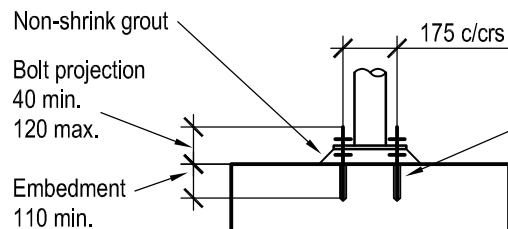


Plan



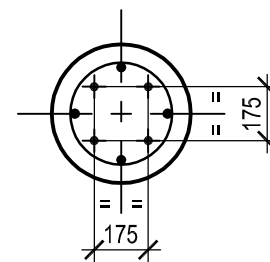
Elevation

CR53 - Pad Footing

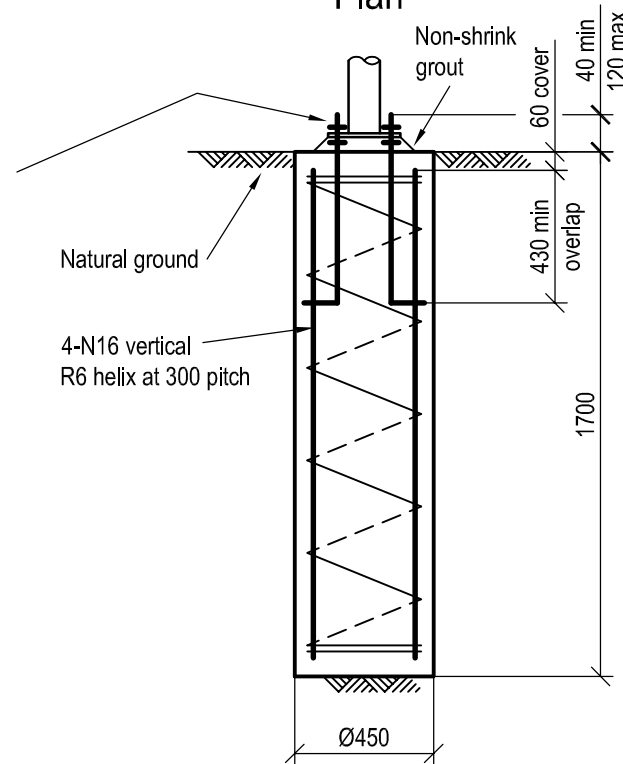


4-M12 H.D. bolts to be threaded rod grade 4.6/s hot dipped galvanised, or stainless steel Gr.316. Supplied with nuts, washers and levelling nuts. Chemical anchors, at 175 x 175 centres to be 'Hilti HVU', or engineer approved equivalent, and to be installed in accordance with the manufacturer's instructions. Hole to be clean and dry at time of installation.

Chemical Anchor Detail



Plan



Elevation

CR53 - Pier Footing

Notes:

Design wind speed 33m/sec (W33)

Assumed soil conditions:

Pad - bearing capacity 100kPa

Pier - $c_u=50$ kPa (stiff clay)

Minimum 60mm cover to all reinforcement

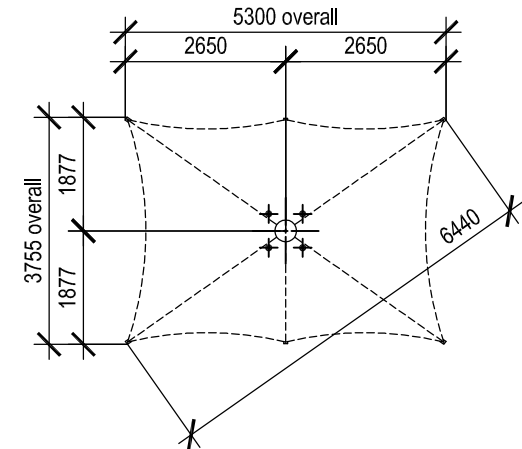
Concrete grade to be N25

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.

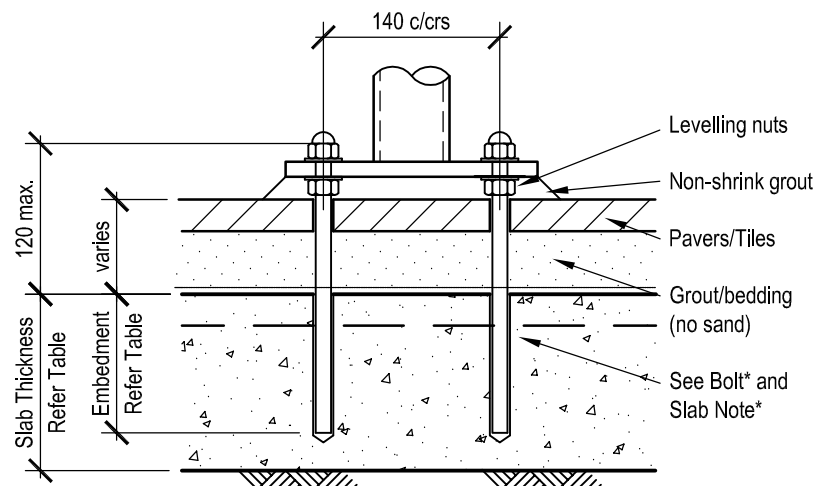


H.D. Bolt Layout Plan

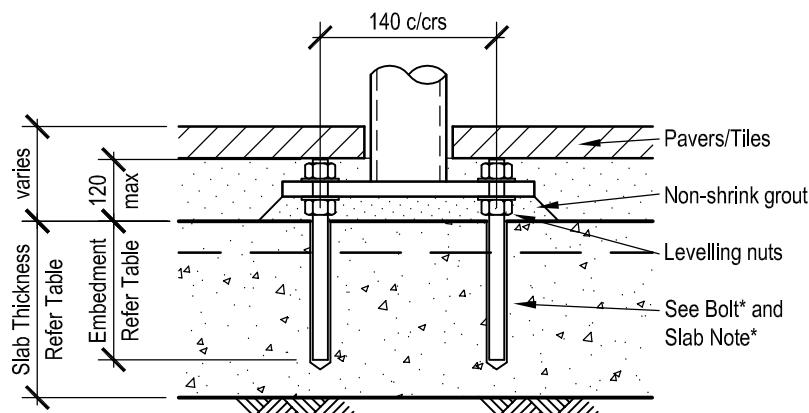
Not to scale

Centra Model CR53
Architectural Umbrellas

MakMax
Australia

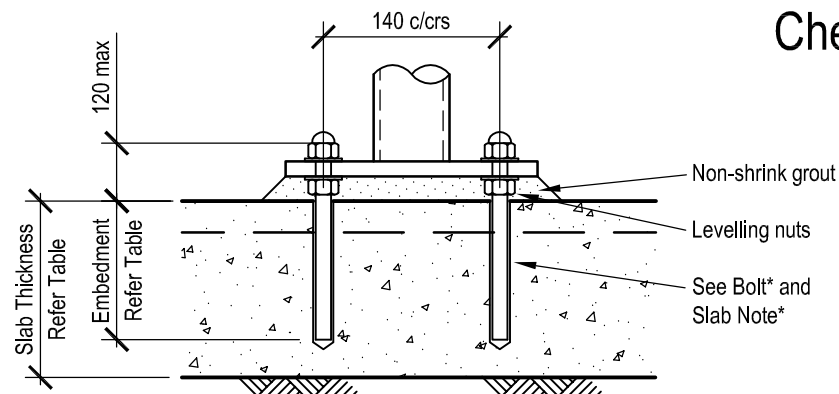


Over Pavers



Under Pavers

Chemical Anchor Fixing to Slab on Ground



On Slab

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.

Installation Detail - Model CS32

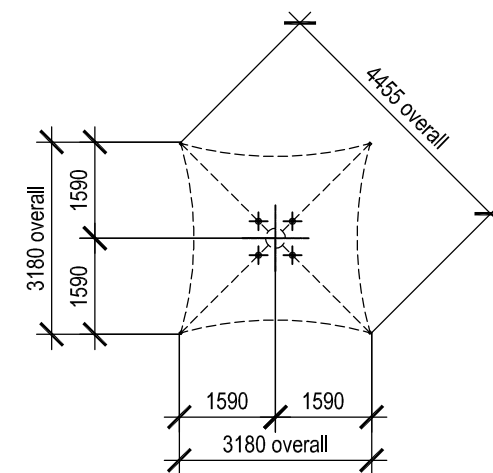
* H.D. BOLT NOTE

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

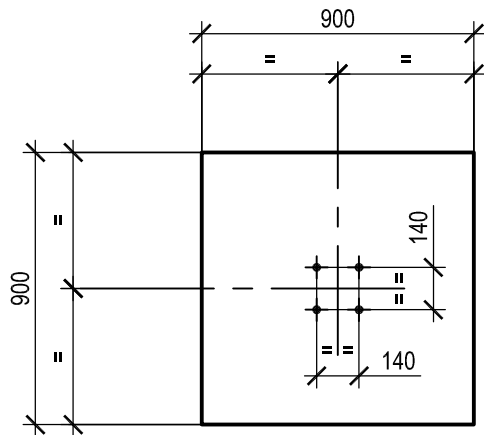
The existing reinforced concrete slab on
ground is to be approved for adequacy by
a Structural Engineer before installation.
Concrete strength - f_c 25MPa.
Installation requires **1 sq m** of continuous
reinforced slab with the pole centre 400mm
minimum from a slab edge or control joint.

Contact TMC Engineering & Design if the
slab does not meet any of the requirements.

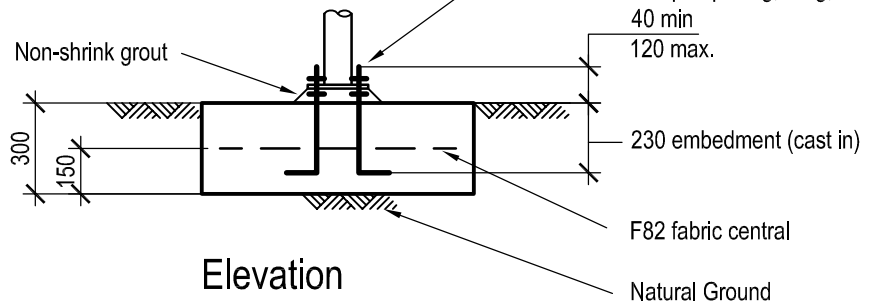


H.D. Bolt Layout Plan

Not to scale

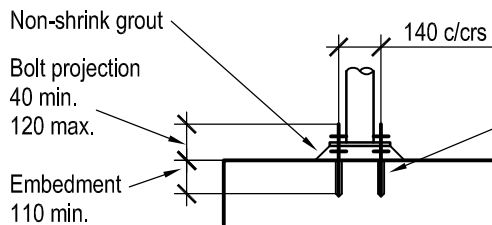


Plan



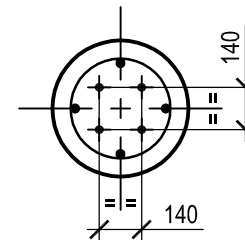
Elevation

CS32 - Pad Footing

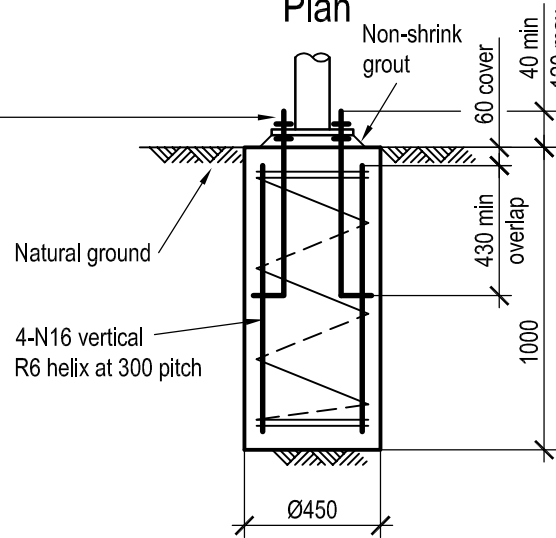


Chemical Anchor Detail

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

CS32 - Pier Footing

Notes:

Design wind speed 33m/sec (W33)

Assumed soil conditions:

Pad - bearing capacity 100kPa

Pier - $c_u=50\text{kPa}$ (stiff clay)

Minimum 60mm cover to all reinforcement

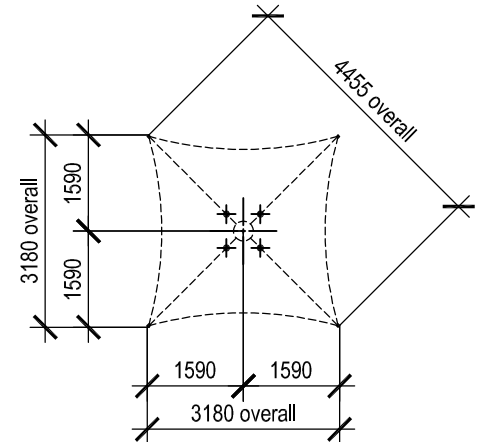
Concrete grade to be N25

20mm aggregate size

Slump 65mm

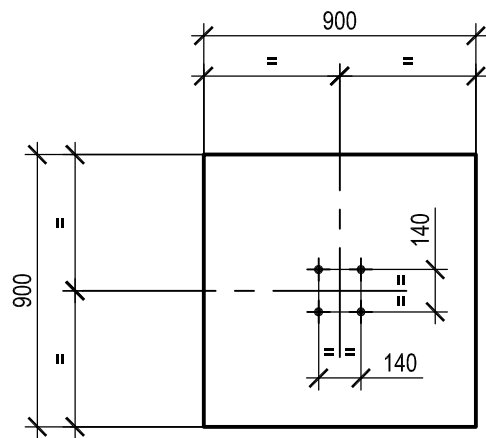
Anchor bolt location tolerances per Australian Standard AS 4100-1990

- 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.

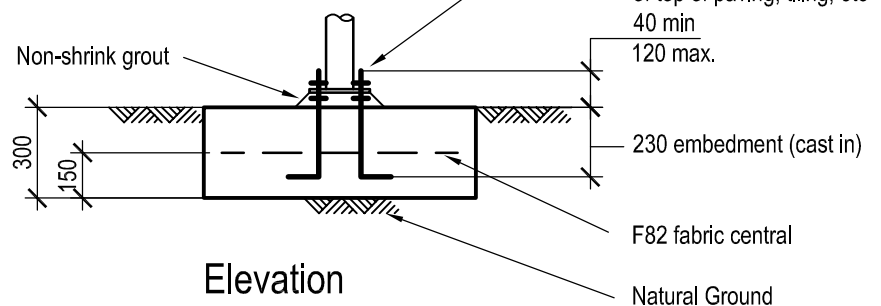


H.D. Bolt Layout Plan

Not to scale

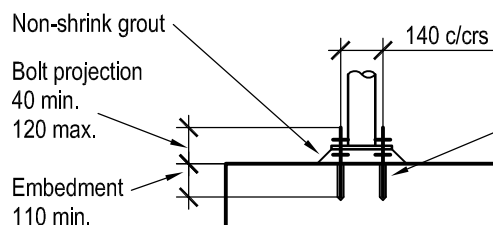


Plan



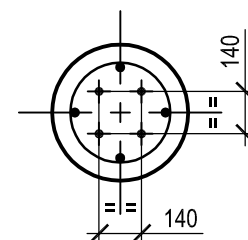
Elevation

CS38 - Pad Footing

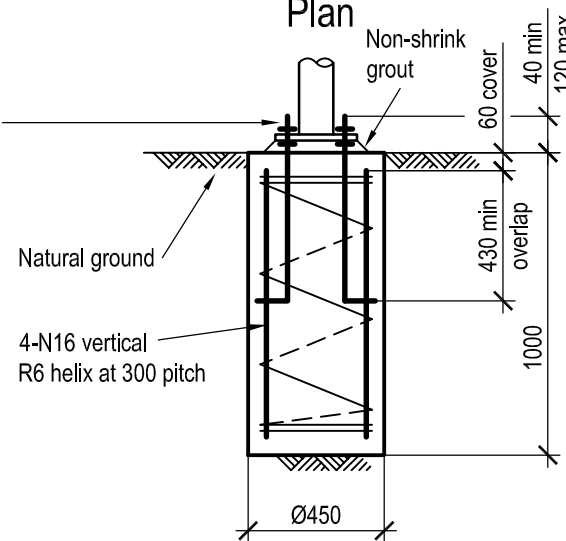


Chemical Anchor Detail

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

CS38 - Pier Footing

Notes:

Design wind speed 33m/sec (W33)

Assumed soil conditions:

Pad - bearing capacity 100kPa

Pier - $c_u = 50$ kPa (stiff clay)

Minimum 60mm cover to all reinforcement

Concrete grade to be N25

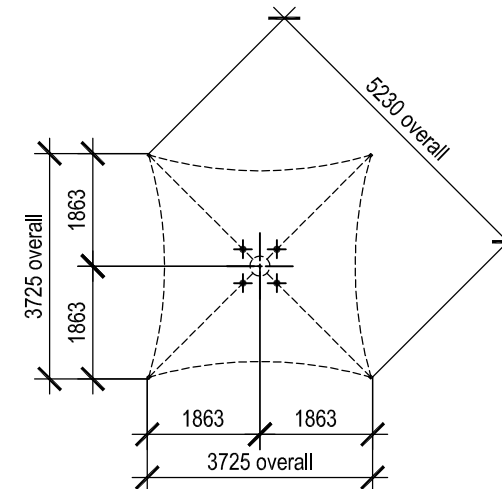
20mm aggregate size

Slump 65mm

Anchor bolt location tolerances per

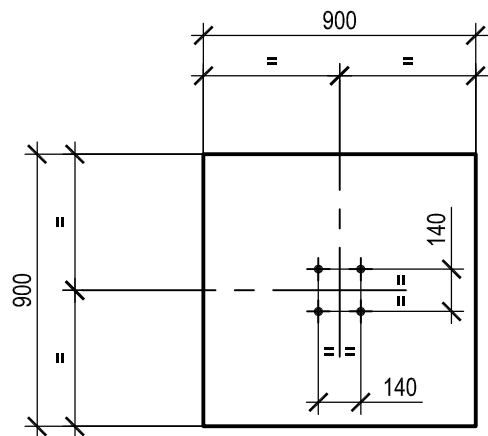
Australian Standard AS 4100-1990

- 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.

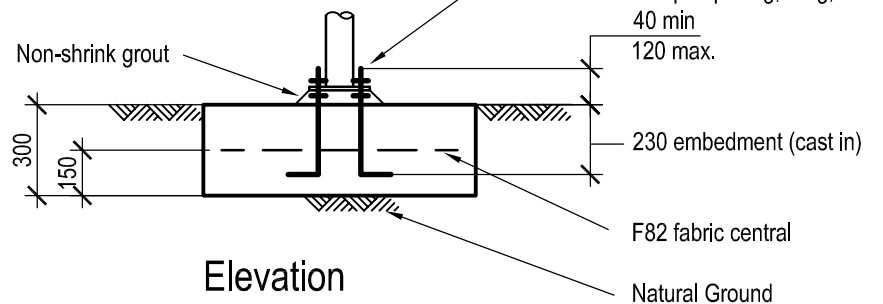


H.D. Bolt Layout Plan

Not to scale

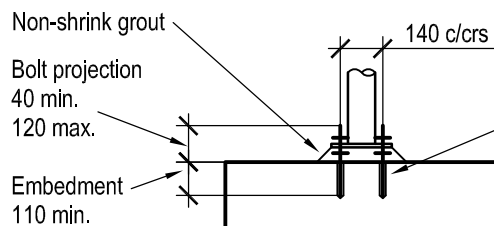


Plan



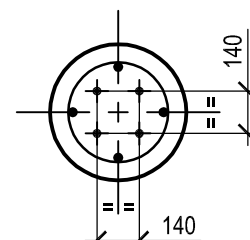
Elevation

CS40 - Pad Footing

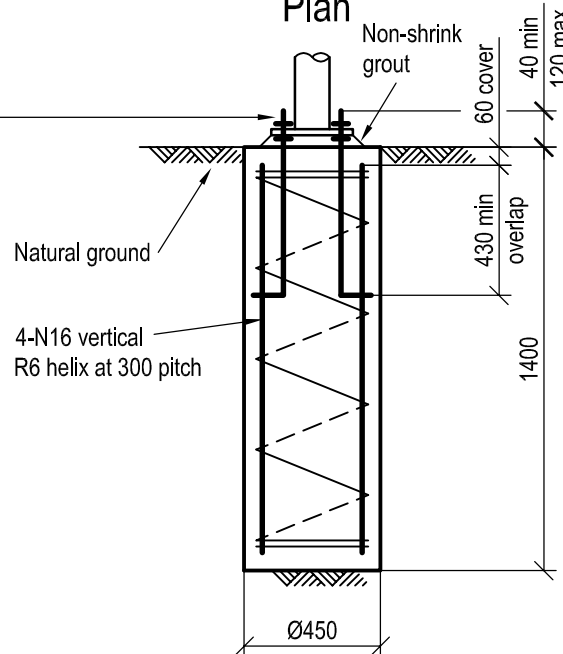


Chemical Anchor Detail

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

CS40 - Pier Footing

Notes:

Design wind speed 33m/sec (W33)

Assumed soil conditions:

Pad - bearing capacity 100kPa

Pier - $c_u=50\text{kPa}$ (stiff clay)

Minimum 60mm cover to all reinforcement

Concrete grade to be N25

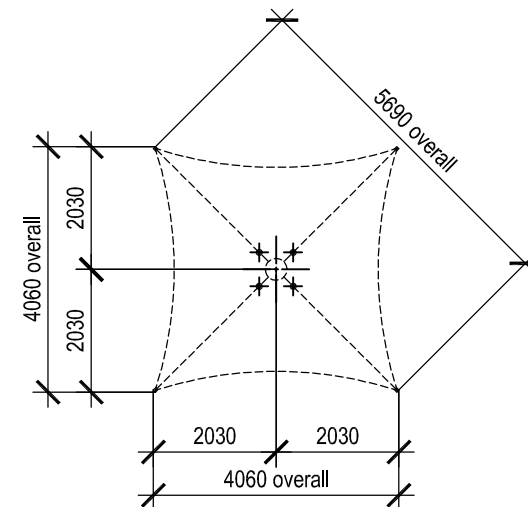
20mm aggregate size

Slump 65mm

Anchor bolt location tolerances per

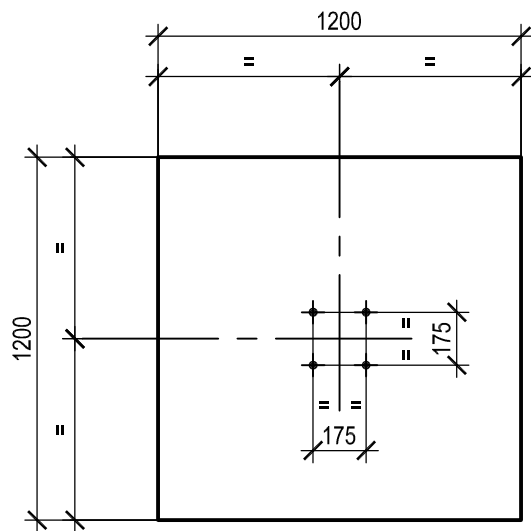
Australian Standard AS 4100-1990

- 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.

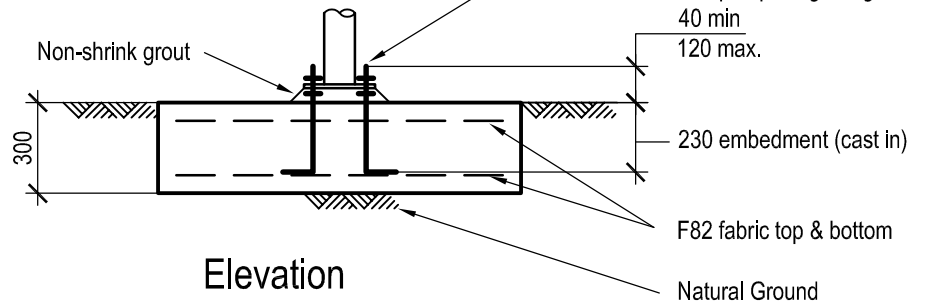


H.D. Bolt Layout Plan

Not to scale

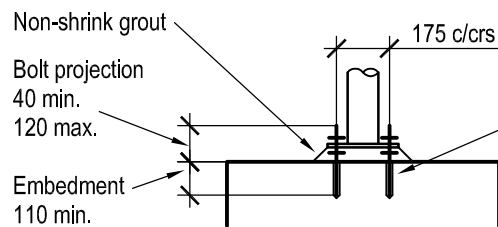


Plan



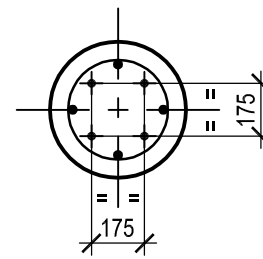
Elevation

CS50 - Pad Footing

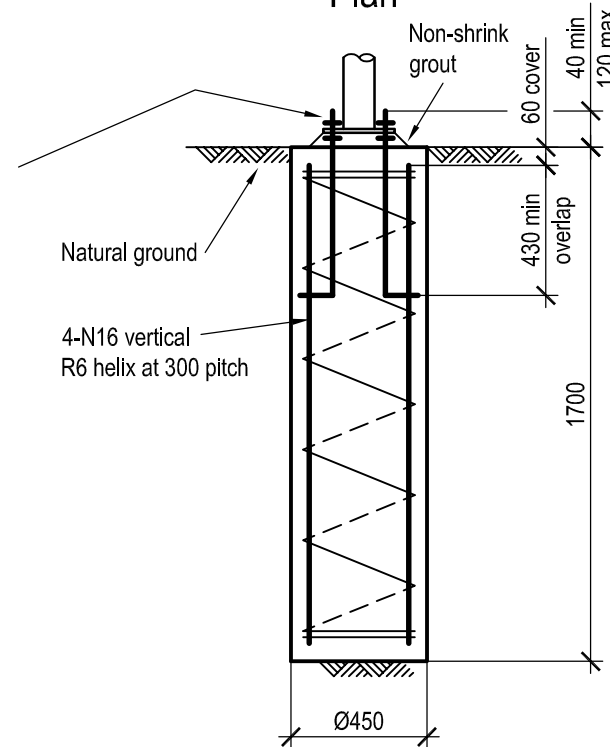


4-M12 H.D. bolts to be threaded rod grade 4.6/s hot dipped galvanised, or stainless steel Gr.316. Supplied with nuts, washers and levelling nuts. Chemical anchors, at 175 x 175 centres to be 'Hilti HVU', or engineer approved equivalent, and to be installed in accordance with the manufacturer's instructions. Hole to be clean and dry at time of installation.

Chemical Anchor Detail



Plan



Elevation

CS50 - Pier Footing

Notes:

Design wind speed 33m/sec (W33)

Assumed soil conditions:

Pad - bearing capacity 100kPa

Pier - $c_u=50$ kPa (stiff clay)

Minimum 60mm cover to all reinforcement

Concrete grade to be N25

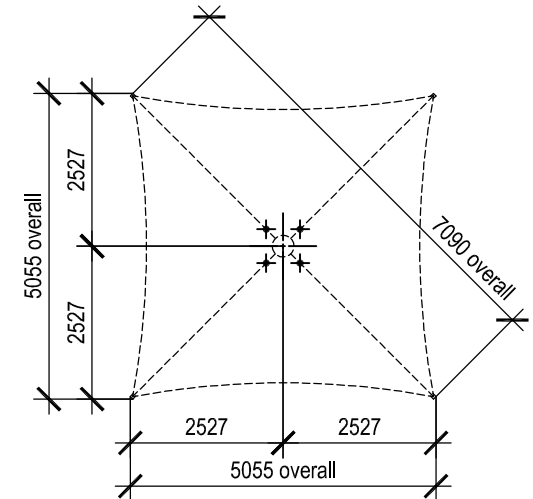
20mm aggregate size

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