



PEER Consulting Engineers Pty Ltd
PROJECT MANAGEMENT • CIVIL • STRUCTURAL

info@peerce.com.au www.peerce.com.au 07 3841 2046 4B/2404 Logan Road, Eight Mile Plains QLD 4113

Generic Structural Design Certificate LEVELMASTER – Adjustable Post Heads

01/05/2024

To whom it may concern,

We, **PEER Consulting Engineers** certify that we have designed and reviewed the LevelMaster Adjustable Post Heads as detailed on the listed drawing below, and they have been designed in accordance with widely accepted engineering principles and the referenced codes of practice. This certificate is limited to the structural design only and no responsibility is taken for any loss, damage or failure resulting from the method of construction or wind exceeding the design wind rating nominated.

Referenced Codes of Practice and Manuals:

NCC 2022 Building Code of Australia
AS 1170.0 2002 Structural design action – General principals
AS 1170.1 2002 Permanent, Imposed and Other Actions
AS 1170.2 2021 Structural Design Actions – Wind Actions
AS 4100 2020 Steel Structures

Referenced Design Documents:

PEER Consulting Engineers Pty Ltd - Drawing Set PCE2247.1 - Rev 1, MAY 2024

PEER Consulting Engineers maintains indemnity insurance concordant with the scope of the undertaken works to the satisfaction of its Client; however, our involvement in this shall in no way be construed of relieving other parties of their legal obligations.

If you require any further information, please do not hesitate to contact us at any time.

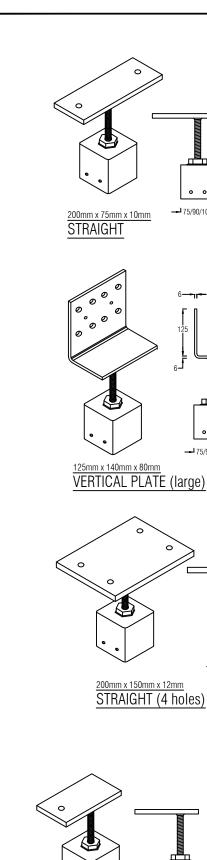
Sincerely,

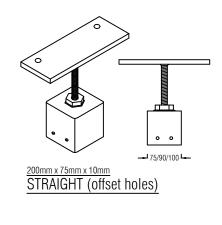
Mengting (Nike) Zhao

B.Eng (1ST Class Hons.) MIEAust, RPEQ, RPEng Director/ Principal Civil and Structural Engineer

r inicipal civil and Structural Engineer

*This certificate expires on 31/07/2024.



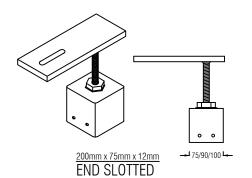


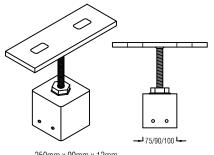
150mm x 150mm x 10mm

CORNER (4 holes)

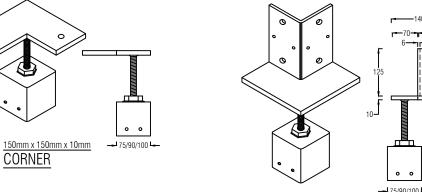
200mm x 220mm x 12mm

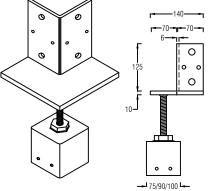
LARGE STRAIGHT (4 holes)



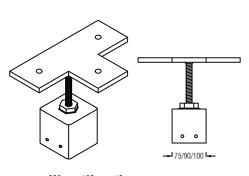


250mm x 90mm x 12mm STRAIGHT SLOTTED





VERTICAL LARGE CORNER (8 holes)



225mm x 150mm x 10mm TEE

GENERAL NOTES

- FOR REQUIRED VERTICAL LOAD < 35kN, MIN. 4 SCREWS (2 EACH OPPOSITE FACE) TO BE USED FOR CAP TO COLUMN CONNECTION.
- ALL SCREWS FOR CAP TO COLUMN CONNECTION TO BE MIN. CLASS 4 - 12g - 24TPI SCREWS (ICCONS PTY LTD) OR EQUIVALENT.
- FOR LARGE VERTICAL LOAD, THE PROJECT ENGINEER TO DESIGN CAP TO COLUMN CONNECTION.
- FOR ECCENTRICALLY LOADED CONDITIONS, LIMIT THE COMPRESSION LOAD TO MAX. 10kN; TENSION LOAD TO MAX. 5kN.
- ALL STEEL MATERIALS TO BE (MIN.) G250 (U.N.O.)

PRODUCT CAPACITY				
MAX. UPLIFT	15kN			
MAX. DOWNWARDS	70kN			
SPECIFIED CAPACITIES ARE FOR CONCENTRIC VERTICAL LOAD				

TRANSFER ONLY.

THE CAPACITIES ARE FOR MAX. 150mm ADJUSTABLE HEIGHT.

THE CAPACITIES ARE FOR THE POST HEAD PRODUCT ITSELF. OTHER ELEMENTS SUCH AS SCREWS AND TIMBER ARE NOT CONSIDERED.

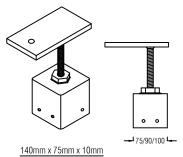
	NET UPLIFT PRESSURE AT STUMP (kN/m ²)						m ²)
	WIND CLASS	N2	N3	N4	C1	C2	С3
UPWARDS - 1.01 1.82 1.20 2						2.10	3.80
	*THIS TABLE IS VALID FOR RESIDENTIAL STRUCTURES ONL *THIS TABLE IS FOR REFERENCE ONLY. THE PROJECT ENGINEER TO CONFIRM THE REQUIRED UPLIFT.					ONLY.	

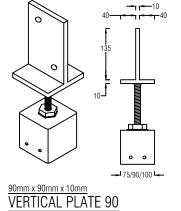
TYPICAL LOADS (I	kN/m^2)
DOMESTIC FLOOR	2.85
SHEET ROOF	0.86
CLADWALLS	0.42

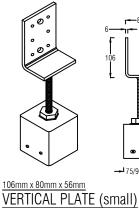
FLOOR LOAD <u>3m</u> OF WALL FRAME <u>2.4m</u> HIGH IN AN <u>N3</u> WIND AREA.

N3 WIND UPLIFT = $9m^2 \times 1.01 \text{kN/m}^2 = 9.09 \text{ kN total}$.

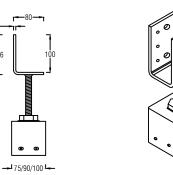
SO USE LEVEL MASTER CENTRE LOADED ADJUSTABLE TOP/POST HEAD BECAUSE: 36.4 kN < 70 kN AND 9.09 kN < 15 kN.





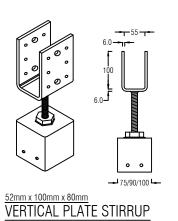


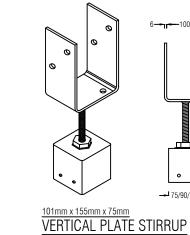
75/90/100

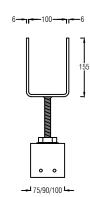


VERTICAL PLATE (xlarge)

-- 75/90/100 L-







 $\frac{95\text{mm} \times 57\text{mm} \times 20\text{mm}}{\text{CONTAINER LOCK - CL}}$

DO NOT SCALE FROM DRAWING

ALL SCALES ARE AS SHOWN (A3)					
REV.	DESCRIPTION	DATE	INIT.		
Α	A PRELIMINARY ISSUE		-		
0	FOR CERTIFICATION	MAY2023	-		
1	1 FOR CERTIFICATION		-		

END OF BEARER



-- 75/90/100 **-**-

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.eveLMaster

CONTACT DETAILS

75/90/100

www.levelmaster.com.au PHONE 1300 538 356

EMAIL info@levelmaster.com.au

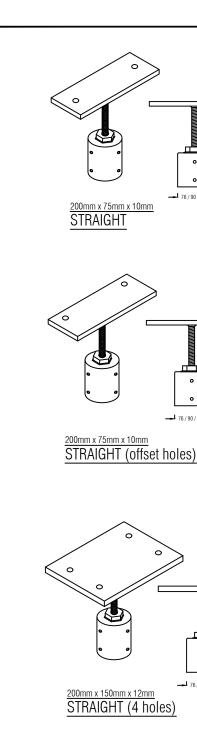
PROJECT

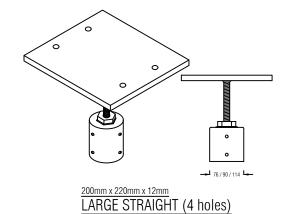
ADJUSTABLE POST **HEADS**

SCREW ON CONNECTORS (SHS)

	DRAWN	DESIGNED	DATE	
	-	-	MA'	Y 2024
•	CHECKED	APPROVED		
)	N.Z.			
	DRAWING No.			REV.
	PCE224	₊7.1 – S01		1

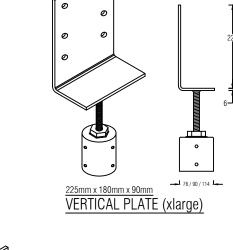
--- 75/90/100 l--





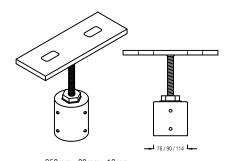
 $\frac{200\text{mm} \times 75\text{mm} \times 12\text{mm}}{END\ SLOTTED}$

CORNER

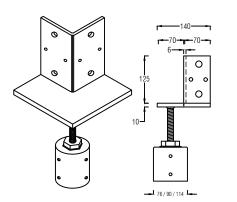


125mm x 140mm x 80mm VERTICAL PLATE (large)

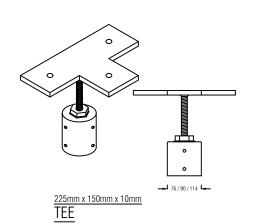
Torner (4 holes)



STRAIGHT SLOTTED



VERTICAL LARGE CORNER (8 holes)



GENERAL NOTES

- FOR REQUIRED VERTICAL LOAD < 35kN, MIN. 4 SCREWS (2 EACH OPPOSITE FACE) TO BE USED FOR CAP TO COLUMN CONNECTION.
- ALL SCREWS FOR CAP TO COLUMN CONNECTION TO BE MIN. CLASS 4 - 12g - 24TPI SCREWS (ICCONS PTY LTD) OR EQUIVALENT.
- FOR LARGE VERTICAL LOAD, THE PROJECT ENGINEER TO DESIGN CAP TO COLUMN CONNECTION.
- FOR ECCENTRICALLY LOADED CONDITIONS, LIMIT THE COMPRESSION LOAD TO MAX. 10kN; TENSION LOAD TO MAX. 5kN.
- ALL STEEL MATERIALS TO BE (MIN.) G250 (U.N.O.)

PRODUCT CAPACITY				
MAX. UPLIFT 15kN				
MAX. DOWNWARDS 70kN				
SPECIFIED CAPACITIES ARE FOR CONCENTRIC VERTICAL LOAD				

TRANSFER ONLY.

THE CAPACITIES ARE FOR MAX. 150mm ADJUSTABLE HEIGHT.

THE CAPACITIES ARE FOR THE POST HEAD PRODUCT ITSELF. OTHER ELEMENTS SUCH AS SCREWS AND TIMBER ARE NOT CONSIDERED.

	NET UPLIFT PRESSURE AT STUMP (kN/m²)						
	WIND CLASS	N2	N3	N4	C1	C2	С3
UPWARDS - 1.01 1.82 1.20 2.10 3						3.80	
	*THIS TABLE IS VALID FOR RESIDENTIAL STRUCTURES ONLY						ONLY.
	*THIS TABLE IS FOR REFERENCE ONLY. THE PROJECT ENGINEER TO CONFIRM THE REQUIRED UPLIFT.						

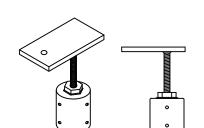
TYPICAL LOADS (kN/m ²)				
DOMESTIC FLOOR	2.85			
SHEET ROOF	0.86			
CLAD WALLS	0.42			

* LEVEL MASTER STUMP SUPPORTING $9m^2$ OF ROOF LOAD AND $9m^2$ OF FLOOR LOAD 3m OF WALL FRAME 2.4m HIGH IN AN N3 WIND AREA.

 $\overline{\text{DOWNWARDS} = 9\text{m}^2 \times 0.86\text{kN/m}^2 \text{ (roof)} + 9\text{m}^2 \times 2.85\text{kN/m}^2 \text{ (floor)} +$ 3m wall x 2.4 high x $0.42kN/m^2$ (wall) = 36.4 kN total.

N3 WIND UPLIFT = $9m^2 \times 1.01 \text{kN/m}^2 = 9.09 \text{ kN total}$

SO USE LEVEL MASTER CENTRE LOADED ADJUSTABLE TOP/POST HEAD BECAUSE: $36.4\,\mathrm{kN} < 70\,\mathrm{kN}$ AND 9.09 kN < 15 kN.



END OF BEARER

DO NOT SCALE FROM DRAWING ALL SCALES ARE AS SHOWN (A3) DESCRIPTION DATE PRELIMINARY ISSUE MAY2023 FOR CERTIFICATION MAY2023 FOR CERTIFICATION MAY2024



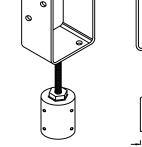
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90mm x 90mm x 10mm VERTICAL PLATE 90

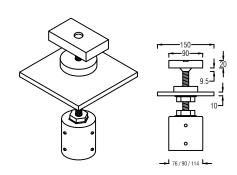


CONTACT DETAILS

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101mm x 155mm x 75mm VERTICAL PLATE STIRRUP



95mm x 57mm x 20mm CONTAINER LOCK - CL

ADJUSTABLE POST **HEADS**

PROJECT

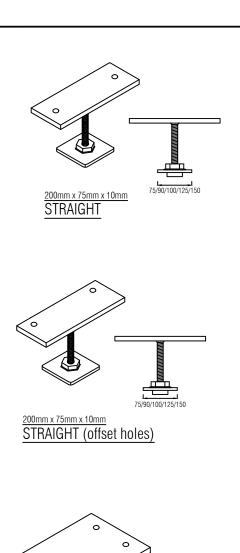
52mm x 100mm x 80mm VERTICAL PLATE STIRRUP

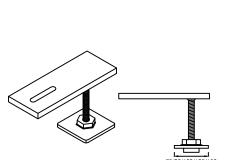
SCREW ON CONNECTORS (CHS)

DRAWN	DESIGNED	DATE	
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CHECKED	APPROVED		
N.Z.			
DRAWING No.			REV.
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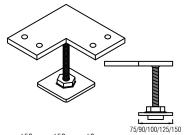
EMAIL info@levelmaster.com.au





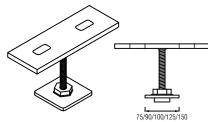
CORNER

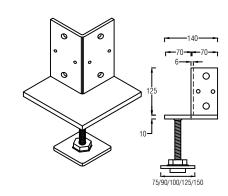




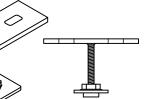
Torner (4 holes)

125mm x 140mm x 80mm VERTICAL PLATE (large)

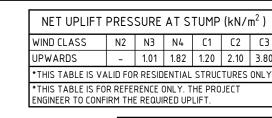




 $\frac{_{150\text{mm}\,x\,150\text{mm}\,x\,10\text{mm}}}{\text{VE}\underline{\text{RTICAL LARGE CORNER (8 holes)}}}$



 $\frac{250\text{mm} \times 90\text{mm} \times 12\text{mm}}{\text{STRAIGHT SLOTTED}}$



SPECIFIED CAPACITIES ARE FOR CONCENTRIC VERTICAL LOAD TRANSFER ONLY.

THE CAPACITIES ARE FOR MAX. 150mm ADJUSTABLE HEIGHT. THE CAPACITIES ARE FOR THE POST HEAD PRODUCT ITSELF. OTHER ELEMENTS SUCH AS SCREWS AND TIMBER ARE NOT CONSIDERED.

FOR ECCENTRICALLY LOADED CONDITIONS, LIMIT THE

ALL STEEL MATERIALS TO BE (MIN.) G250 (U.N.O.)

COMPRESSION LOAD TO MAX. 10kN; TENSION LOAD TO MAX. 5kN.

*PRODUCT CAPACITY

15kN

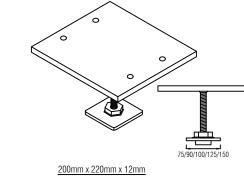
70kN

GENERAL NOTES

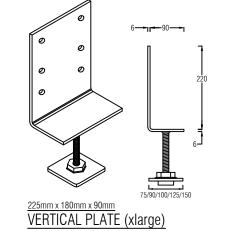
MAX. UPLIFT

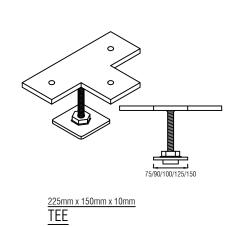
MAX. DOWNWARDS

TYPICAL LOADS (F	(N/m^2)
DOMESTIC FLOOR	2.85
SHEET ROOF	0.86
CLAD WALLS	0.42



LARGE STRAIGHT (4 holes)

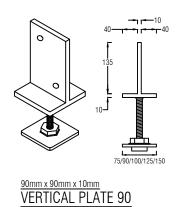


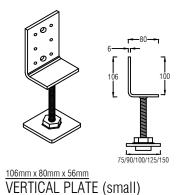


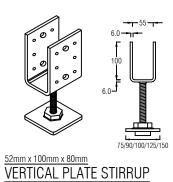


200mm x 150mm x 12mm

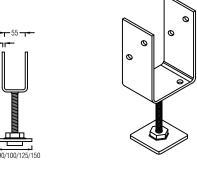
STRAIGHT (4 holes)







PROJECT



 $\frac{95\text{mm} \times 57\text{mm} \times 20\text{mm}}{\text{CONTAINER LOCK}} - \text{CL}$

101mm x 155mm x 75mm VERTICAL PLATE STIRRUP

DO NOT SCALE FROM DRAWING

ALL SLA	ALES ARE AS SHUWN (A3)		
REV.	DESCRIPTION	DATE	INIT.
Α	A PRELIMINARY ISSUE		-
0 FOR CERTIFICATION		MAY2023	-
1	1 FOR CERTIFICATION		-
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CONTACT DETAILS

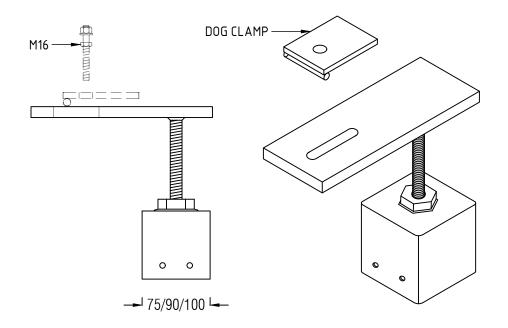
www.levelmaster.com.au PHONE 1300 538 356

EMAIL info@levelmaster.com.au

ADJUSTABLE POST **HEADS**

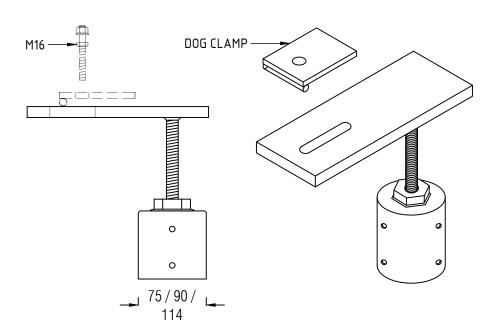
WELD ON CONNECTORS (SHS)

	DRAWN	DESIGNED	DATE	
	-	-	MA`	Y 2024
	CHECKED	APPROVED		
	N.Z.			
	DRAWING No.	-		REV.
PCE2247.1 - S03				1



100mm x 75mm x 8mm

SCREW ON (SHS)



100mm x 75mm x 8mm

SCREW ON (CHS)

GENERAL NOTES

- FOR REQUIRED VERTICAL LOAD < 35kN, MIN. 4 SCREWS (2 EACH OPPOSITE FACE) TO BE USED FOR CAP TO COLUMN CONNECTION.
- ALL SCREWS FOR CAP TO COLUMN CONNECTION TO BE MIN. CLASS 4 - 12g - 24TPI SCREWS (ICCONS PTY LTD) OR EQUIVALENT.
- FOR LARGE VERTICAL LOAD, THE PROJECT ENGINEER TO DESIGN CAP TO COLUMN CONNECTION.
- FOR ECCENTRICALLY LOADED CONDITIONS, LIMIT THE COMPRESSION LOAD TO MAX. 10kN.
- ALL STEEL BASEPLATES TO BE G250 (U.N.O.). ALL STEEL TUBES TO BE G350. (U.N.O.)

*PRODUCT CAPACITY				
MAX. UPLIFT	4kN			
MAX. DOWNWARDS 70kN				
CLAMPING CAPACITY 35kN				
THE CLAMPING FORCE MAY VARY DEPENDING ON THE APPLIED TORQUE				

DURING CONSTRUCTION. THE CLAMPING CAPACITY IS ESTIMATED

BASED ON THE TYPICAL TIGHTENING TORQUE OF M16 BOLT (GRADE 8.8).

THE CAPACITIES ARE RASED ON THE ASSUMPTION OF BEING.

THE CAPACITIES ARE BASED ON THE ASSUMPTION OF BEING CENTRALLY LOADED ONLY.

THE CAPACITIES ABOVE COVER ALL PRODUCTS SHOWN IN THIS PAGE OF DRAWING (FOR DOG CLAMP)

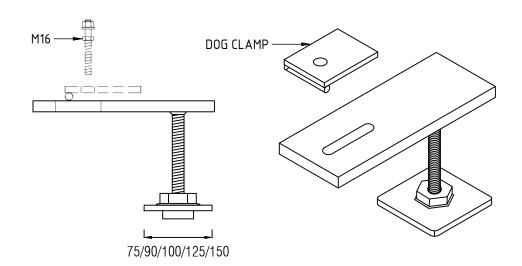
THE CAPACITIES ARE FOR THE POST HEAD PRODUCT ITSELF. OTHER ELEMENTS SUCH AS SCREWS AND TIMBER ARE NOT CONSIDERED.

NET UPLIFT	PRES	SURE	AT S	TUMP	(kN/ı	m ²)
WIND CLASS	N2	N3	N4	C1	C2	С3
UPWARDS	-	1.01	1.82	1.20	2.10	3.80
*THIS TABLE IS VALID FOR RESIDENTIAL STRUCTURES ONI						ONLY.

*THIS TABLE IS VALID FOR RESIDENTIAL STRUCTURES ON

*THIS TABLE IS FOR REFERENCE ONLY. THE PROJECT
ENGINEER TO CONFIRM THE REQUIRED UPLIFT.

TYPICAL LOADS (I	kN/m²)
DOMESTIC FLOOR	2.85
SHEET ROOF	0.86
CLAD WALLS	0.42



100mm x 75mm x 8mm

WELD ON (SHS)

DO NOT SCALE FROM DRAWING ALL SCALES ARE AS SHOWN (A3)

REV.	DESCRIPTION	DATE	INIT.	I
Α	PRELIMINARY ISSUE	MAY2023	1	l
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CONTACT DETAILS

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ADJUSTABLE POST HEADS

PROJECT

DOG CLAMP CONNECTORS

DRAWN DESIGNED DATE

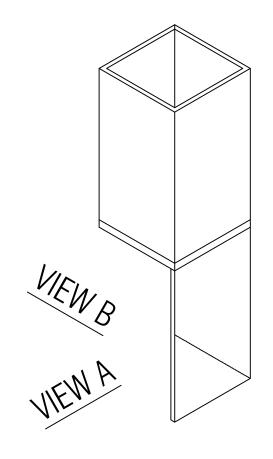
- MAY 2024

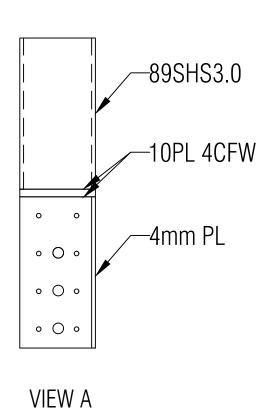
CHECKED APPROVED

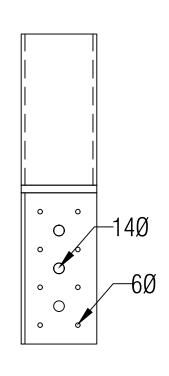
N.Z.

DRAWING No. REV.

PCE2247.1 — \$04







VIEW B

LEVELMASTER POST HEADS MAY BE USED TO RETROFIT EXISTING COLUMNS AND ARE AVAILABLE WITH ONE SIDE REMOVED. *EXISTING COLUMNS & FIXINGS STEEL (SHS) 3.0mm THICK (min) TIMBER CONCRETE 9/14g TEK SCREWS 15/TYPE 17 #14 SCREWS, 35mm long. SCREWS

*LEVELMASTER RETROFIT BRACKET CAPACITIES (kN)			
6 / M12-100 ANCHOR SCREWS TO CONCRETE	36		
8 / 14g SCREWS (22mm) TO 3mm STEEL COLUMN (min)	36		
12 / 14g SCREWS (22mm) TO 3mm STEEL COLUMN (min)	42		
12 / #14 TYPE 17 SCREWS (40mm) TO HWD COLUMN	36		
16 / #14 TYPE 17 SCREWS (40mm) TO HWD COLUMN	42		

ENSURE ALL SCREWS ARE DIVIDED EQUALLY TO BOTH SIDE CLEATS. (EG - 12/SCREWS REQUIRED, PROVIDE 6/SCREWS EACH CLEAT)

*THIS TABLE BASED ON THE ASSUMPTION THAT ALL CARE HAS BEEN TAKEN WITH ITS PREPARATION.

DO NOT SCALE FROM DRAWING ALL SCALES ARE AS SHOWN (A3)

REV.	DESCRIPTION	DATE	INIT.
Α	PRELIMINARY ISSUE	MAY2023	-
0	FOR CERTIFICATION	MAY2023	-
1	FOR CERTIFICATION	MAY2024	-

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CONTACT DETAILS

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PROJECT

ADJUSTABLE POST HEADS TITLE

BASE PLATE (SHS)

DRAWN DESIGNED DATE

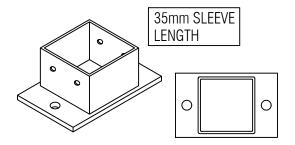
- MAY 2024

CHECKED APPROVED

N.Z.

DRAWING No.

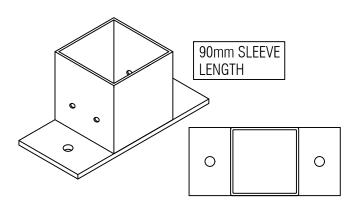
PCE2247.1 — \$05



SUIT 75mm & 89mm POST CAST IN BASEPLATE

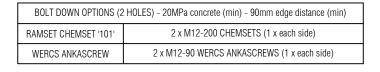
TO CONCRETE

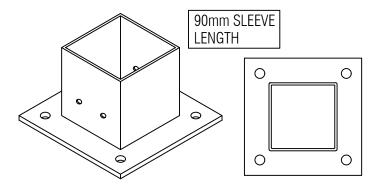
MAX UPLIFT = 36.0 kN



SUIT 75mm, 89mm & 100mm POST BOLT DOWN BASEPLATE (2 HOLES)

MAX UPLIFT = 36.0 kN





SUIT 75mm, 89mm & 100mm POST - 4 holes
BOLT DOWN BASEPLATE
(4 HOLES)

MAX UPLIFT = 36.0 kN

BOLT DOWN OPTIONS (4 HOLES) - 20MPa concrete (min) - 90mm edge distance (min)			
RAMSET CHEMSET '101' 4 x M12-100 CHEMSETS (1 x each corner)			
WERCS ANKASCREW 4 x M12-60 WERCS ANKASCREWS (1 x each corner			

GENERAL NOTES

- FOR REQUIRED VERTICAL LOAD < 35kN, MIN. 4 SCREWS (2 EACH OPPOSITE FACE) TO BE USED FOR CAP TO COLUMN CONNECTION.
- 2 ALL SCREWS FOR CAP TO COLUMN CONNECTION TO BE MIN. CLASS 4 - 12g - 24TPI SCREWS (ICCONS PTY LTD) OR EQUIVALENT.
- 3 FOR LARGE VERTICAL LOAD, THE PROJECT ENGINEER TO DESIGN CAP TO COLUMN CONNECTION.
- 4 FOR ECCENTRICALLY LOADED CONDITIONS, LIMIT THE COMPRESSION LOAD TO MAX. 10kN; TENSION LOAD TO MAX. 5kN.
- 5 ALL STEEL BASEPLATES TO BE G250 (U.N.O.). ALL STEEL TUBES TO BE G350. (U.N.O.)

*REFERENCE COLUMN HEIGHTS					
COLUMN TYPE	MAX. COMPRESSION (kN)	MAX. HEIGHT (mm)			
100SHS4.0	150	4500			
89SHS5.0	150	4000			
75SHS4.0	3000				
ALL OTHER COLUMNS/HEIGHTS TO BE SITE SPECIFIC DESIGNED.					

	NET UPLIFT PRESSURE AT STUMP (kN/m ²)						
	WIND CLASS	N2	N3	N4	C1	C2	C3
UPWARDS - 1.01 1.8					1.20	2.10	3.80
	*THIS TABLE IS VALID FOR RESIDENTIAL STRUCTURES ONLY.						ONLY.
	*THIS TABLE IS FOR REFERENCE ONLY. THE PROJECT						

TYPICAL LOADS (kN/m²)					
DOMESTIC FLOOR	2.85				
SHEET ROOF	0.86				
CLAD WALLS	0.42				

DO NOT SCALE FROM DRAWING ALL SCALES ARE AS SHOWN (A3)

REV.	DESCRIPTION	DATE	INIT.	
Α	PRELIMINARY ISSUE	MAY2023	-	
0	FOR CERTIFICATION	MAY2023	1	
1	FOR CERTIFICATION	MAY2024	-	
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PROJECT

ADJUSTABLE POST HEADS

TITLE

RETROFIT JOINER

DRAWN DESIGNED DATE

- MAY 2024

CHECKED APPROVED

N.Z.

DRAWING No.

PCE2247.1 — S06