apollo ROOFING SOLUTIONS

Non-Cyclonic Engineering Manual

Eighth Edition, July 2025

Contents

Edition 8 (Update of Edition 7) – APOLLO ® Engineering Manual is current from July 2025 .

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General Non-Cyclonic Notes

Verify all dimensions on site before making temporary drawings or commencing fabrication. Stability of building during construction including propping, bracing, and excavation in the vicinity of neighbouring buildings is the responsibility of the contractor. Approval of all proposals must be granted in writing prior to commencement of work. All support beams to be propped up in the centre of posts spans to create a minimum of a 10mm camber, for spans of 6 metres or greater.
All workmanship and materials are to be in accordance with current Australian Standards, local Government Ordinances and The Building Code of Australia.

NOTE 1: THIS ENGINEERING MANUAL COVERS PRODUCTS WITH AN APOLLO ® AUSTRALIA PART NUMBER. USE OF PRODUCTS WITHOUT AN APOLLO ® AUSTRALIA PART NUMBER WITHIN ANY SYSTEM APPROVED BY THIS MANUAL WILL VOID ENGINEERING APPROVALS AND ANY WARRANTIES EXPRESSED OR IMPLIED FOR THE ENTIRE STRUCTURE IN WHICH THE UNAPPROVED PRODUCT IS USED.

NOTE 2: FOR SPANS EXCEEDING 3000mm, APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE APOLLO LIGHT PANELS.

NOTE 3: FOR CASE A - OPEN 3 SIDES, HEIGHT OF PATIO FROM GROUND IS TO BE NO MORE THAN 75% OF ROOF HEIGHT. IF PATIO HEIGHT EXCEEDS 75% USE FIGURES FROM CASE B - OPEN 2 SIDES.

NOTE 4: WHEREVER AN ATTACHMENT IS MADE TO A RAFTER TRUSS OVERHANG, ADDITONAL TIE DOWN MUST BE PROVIDED. THIS CAN BE AN EXTRA FRAMING ANCHOR WITH FOUR NAILS EACH LEG RAFTER TRUSS TO TOP PLATE OR AN EXTRA TIE DOWN STRAP. TIE DOWN CAPACITY IS TO BE CONFIRMED AS ADEQUATE.

NOTE 5: APOLLO ® ENGINEERING MANUAL ALLOWS FOR A MINIMUM OF ONE DEGREE FALL PER METRE FOR ROOF SHEETING AND IS DESIGNED TO DISSIPATE RAIN WATER FROM PATIO CATCHMENT AREA ONLY. NO OTHER WATER IS TO BE DIRECTED ONTO PATIO CATCHMENT AREA.

Steelwork Notes

Structural steelwork to be executed in accordance with the latest editions of the following Australian Standards:

- AS/NZS 1554.1:2014 Structural Steel Welding – Welding of steel structures
- AS/NZS 1554.2:2021 Structural Steel Welding – Stud welding (steel studs to steel)
- AS 4100:2020 Steel Structures
- AS 1163:2016 Structural Steel Hollow Sections
- AS/NZS 3678: 2016 Structural Steel – Hot Rolled Plates, Floor Plates and Slabs
- AS 3679.1: 2016 Structural Steel – Hot Rolled Bars and Sections
- AS 3679.2: 2016 Structural Steel – Welded Sections

All welding to be laid down with structural grade covered electrodes in accordance with the welding code. All welds are to be 6 CFW. UNO Category GP.

Fixings

Bolts shall be strength grade 4.6 or better in accordance with AS 1111–2015.
Fixing screws shall be to AS 356601-2002 Class 3, not to be used within 400m of ocean, or marine environment.

Concrete

Concrete shall be grade N25, 10mm aggregate minimum, 80mm slump, in accordance with AS1379:2007, and AS3600:2018.
Reinforcing shall have 50mm cover and be in accordance with AS4671:2019.

Wind Loading

Wind Classification is to be calculated in accordance with AS4055, or in accordance with the wind category design guide in this manual. Note: The approach shown in this manual reflects the requirements of AS4055 and is appropriate for the type of structure under consideration.

Foundation

Footings are to be founded in natural ground consisting of dense sand or firm to stiff clay, with a minimum bearing capacity of 100kPa. Refer to engineer if site conditions vary. Footing material to be verified by geotechnical engineer as complying with these requirements prior to placing concrete.

Certification

This is to certify that the allowable span data shown complies with the following Australian Standards:

- AS/NZS 1664.1:1997 Aluminium Structures – Limit state design
- AS 1562.1:2018 Design and Installation of Roof Sheet and Wall Cladding - Metal
- AS/NZS 4600:2018 Cold Formed Steel Structures
- AS 3600:2018 Concrete Structures
- AS 4100-2020 Steel Structures
- AS/NZS 1170.1:2002 Structural Design actions – Permanent, imposed and other actions
- AS/NZS 1170.2:2021 Structural Design actions – Wind actions
- AS 4055:2021 Wind loads for housing.

I am satisfied that a structure built in accordance with these details is adequate to withstand wind forces resulting from a specific selection of basic wind velocity, terrain category and appropriate pressure co-efficient.

Certification is conditional upon the following conditions:

- No pedestrian loading is permitted directly on the roof sheeting.
- The correct design criteria are selected.
- Materials used comply with the design data.
- Assembly and installation comply with the procedures set out in the Apollo ® Installation & Engineering Manuals.
- The existing structure providing support is to be assessed as adequate or supplemented as required for additional loads applied.

Engineers Notes

The individual patio systems in this manual may be combined together to form one entire system. If different systems are combined, the following will apply:

- Beams are not to be loaded other than that allowed by its individual systems.
- Posts shall include reactions from beams not considered within the patio systems.
- Any post that is common to two or more different patio systems shall have a reaction equal to the addition of the reactions from all the systems it is common to.
- All beams shall be checked for adequacy according to its particular design table.

If the patio does not conform to any of the patio systems within this manual, or to the notes above, advice should be sought from Apollo Patio Roofing Australia via a Design Certification Request through your state head office from Milanovic Neale Consulting Engineers. Please note that requests must follow this protocol to be considered for certification.

Reaction Calculation

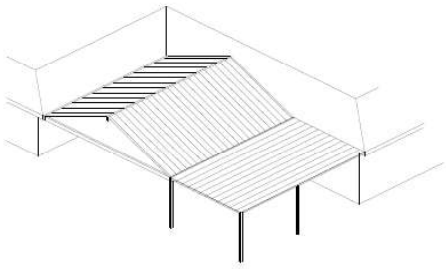
The reactions on the posts for non-enclosed patio systems shall be calculated as follows:

- The basic pressures for the patio system are selected from the table below.
- These pressures can be multiplied by load widths to get loadings on beams in kN/m. This load can then be multiplied by the beam load-width on a post to get kN force. Alternatively, the contributing area in m^2 can be calculated first; then multiplied by the pressure to get a kN force.

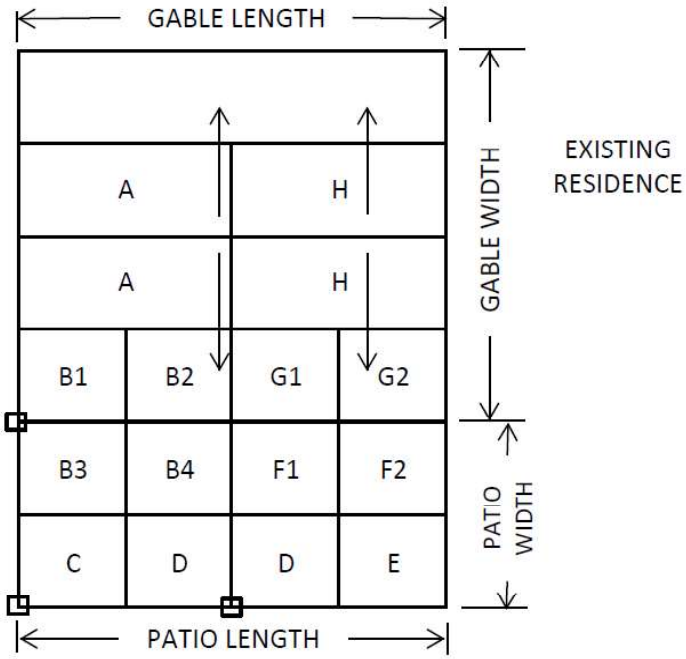
  For example, for a patio with N3 rating, three sides open, with roofing spanning 3m with 0.6m overhang, fixed to a beam with 3m double span, with 0.5m overhangs each side:
  Pressure = 1.05kPa (kN/m^2)
  Load on beam = 1.05 x (3/2 + 0.6) = 2.21kN/m
  Load on centre post = 2.21 x (3 + 3)/2 = 6.63kN
  Load on outer posts – 2.21 x (3/2 + 0.5) = 4.42kN

Wind Table

Wind Class	Vu m/s	Open Sides (kPa)		
		3	2	1
N1	**34**	0.49	0.69	0.83
N2	**40**	0.67	0.96	1.15
N3	**50**	1.05	1.50	1.80
N4	**61**	1.56	2.23	2.68
N5	**74**	2.30	3.29	3.94



SIMPLE ELEVATION VIEW



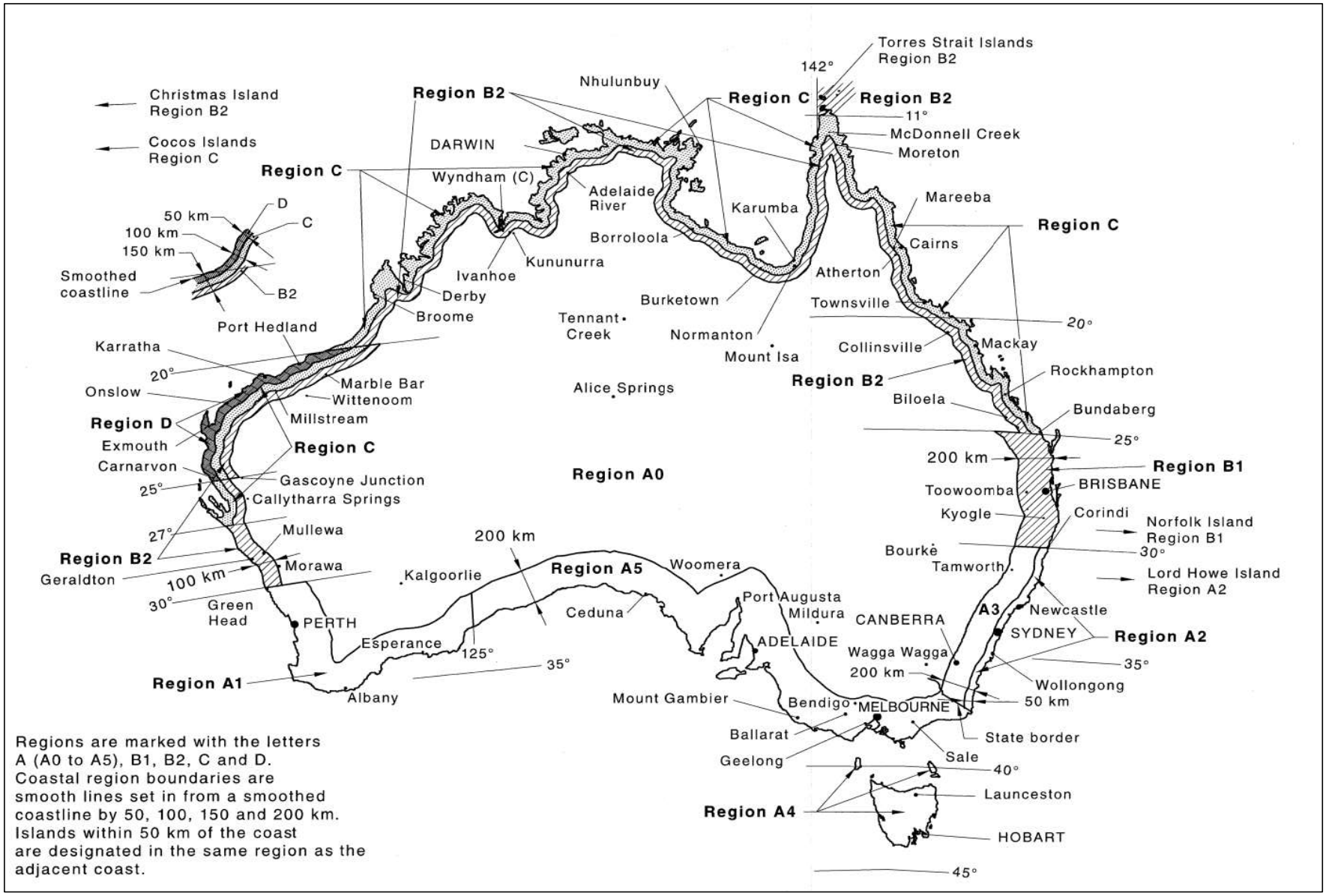
Romain Decommer
RPEQ 17323, PE 0005318

Date: 31/07/2025

THESE ENGINEERING STANDARDS COMPLY WITH THE NATIONAL CONSTRUCTION CODE OF AUSTRALIA (2022)

MILANOVIC NEALE
CONSULTING ENGINEERS

CIVIL STRUCTURAL PROJECT MANAGEMENT



Regions are marked with the letters A (A0 to A5), B1, B2, C and D. Coastal region boundaries are smooth lines set in from a smoothed coastline by 50, 100, 150 and 200 km. Islands within 50 km of the coast are designated in the same region as the adjacent coast.

Wind Regions

The map defines area D which extends along the West Coast of Western Australia from the latitude 20° south to latitude 25° south and extends inland for 50 kilometres. The next 50 kilometres inland becomes region C, and the next 50 kilometres, region B2.

Region C extends northwards on the East Coast of Eastern Australia from the 25° latitude South. With the exception of the Region D portion, the northern coastline of Australia from 25° south in the east (approximately Bundaberg) to 27° south in the west is Region C.

Region C extends from the shoreline inwards 50 kilometres, and is the tropical cyclone area. The next 50 kilometres inland is region B2.

Region B1 extends from the coastline to 100km inland for the areas described below:
In the west, between latitude 30 and 27. In the east, between latitude 30 and 25.

Region A is that area of Australia not affected by regions D, C, and B.

This explanation of wind regions is for general information only. It is not intended that it detract from the standards from which it was derived. If necessary, consult the below standards directly.

The codes referring to wind forces are:

- Australian Standard AS/NZS 1170.2:2021
- Australian Standard AS 4055 2021 Wind Loadings for Housing

The Design wind loading for a building site can be determined from the following information charts:

A. Geographic Regions

The Geographic Regions of a site are A, B, C, and D as indicated on the map of Australia in the preceding page.

B. Terrain Category Classification

Being **T.C.1, 2, 2.5, 3** as shown on the Terrain Category and Shielding Classification Chart and allowing for construction likely to happen five years hence. This is a simple and acceptable way of establishing the classification of any block of land anywhere in Australia. Refer Table 1. For TC4 refer to structural engineer for guidance.

C. Shielding Classification

The Shielding Classification of a building can only be one of these classifications:

1. Full shielding
2. Partial shielding
3. No shielding

These can be determined from the terrain category charts TC1 & TC2. It follows that when you establish the terrain category of the land you can also determine the degree of shielding of that block and house site.

D. Topographical Classification

There are six Topographical Classifications to a site: T0, T1, T2, T3, T4 and T5, and these are defined on Table 3.
The Topographical Classification zones are those referring to the position of that block of land on a hill or an escarpment.

Table 2 defines the wind classification chart for the design of buildings and structures for regions A, B, C and D.

TC1
TERRAIN CATEGORY AND SHIELDING CLASSIFICATION EXAMPLE WHERE THERE IS OPEN WATER, SUBURBAN HOUSING AND A LARGE PARK

Description	**Ocean**	**Waterfront Suburbia**		**Residential Suburbia**					**Large Park > 250,000 m²**
Surface roughness	Open Water (TC1)	Houses > 10 per hectare (TC3)							Scattered trees (TC2)
Design TC for houses in this area	N/A	500m → TC1 A			TC3	500m ← B TC2			N/A
Shielding for houses in this area	N/A	1st row NS	2nd row PS	FS	FS	FS	2nd row PS	1st row NS	N/A
Design criteria for houses in this area	N/A	TC1, N5	TC1, PS	TC1, FS	TC3, FS	TC2, FS	TC2, PS	TC2, NS	N/A

TC2
TERRAIN CATEGORY AND SHIELDING CLASSIFICATION
EXAMPLE WHERE THERE IS CLOSED WATER AND SUBURBAN AND ACERAGE HOUSING

Description	**Lake**	**Waterfront Suburbia**			**Residential Suburbia**			**Small park < 250,000m², 150m across**	**Residential Suburbia**					**Acerage Suburbia**
Surface roughness	Closed Water (TC1)	Houses > 10 per hectare (TC3)						Scattered trees in small area	Houses > 10 per hectare (TC3)					Houses < 10 per hectare (TC2.5)
Design TC for houses in this area	N/A	500m → TC1			TC3 C			N/A	TC3			← 500m TC2.5		TC2.5 D
Sheilding for houses in this area	N/A	1st row NS	2nd row PS	FS	FS	2nd row PS	1st row NS	N/A	1st row NS	2nd row PS	FS	FS	1st row PS	PS
Design criteria for houses in this area	N/A	TC1, NS	TC1, PS	N/A	TC3, FS	TC3, PS	TC3, NS	N/A	TC3, NS	TC3, PS	TC3, FS	TC2.5, FS	TC2.5, PS	TC2.5, PS

Table 2
Wind Classification From Wind Region and Site Conditions

Wind Region	TC	Topographic Class												
		T0			T1			T2			T3		T4	T5
		FS	PS	NS	FS	PS	NS	FS	PS	NS	PS	NS	NS	NS
A	3	N1	N1	N1	N1	N2	N2	N2	N2	N2	N3	N3	N3	N4
	2.5	N1	N1	N2	N1	N2	N2	N2	N3	N3	N3	N3	N4	N4
	2	N1	N2	N2	N2	N2	N3	N2	N3	N3	N3	N3	N4	N4
	1	N2	N2	N3	N2	N3	N3	N3	N3	N3	N4	N4	N4	N5
B1	3	N2	N2	N3	N2	N3	N3	N3	N3	N4	N4	N4	N4	N5
	2.5	N2	N3	N3	N3	N3	N3	N3	N4	N4	N4	N4	N5	N5
	2	N2	N3	N3	N3	N3	N4	N3	N4	N4	N4	N5	N5	N6
	1	N3	N3	N4	N3	N4	N4	N4	N4	N5	N5	N5	N6	N6
B2	3	C1	C1	C1	C1	C1	C2	C1	C2	C2	C2	C2	C3	C3
	2.5	C1	C1	C1	C1	C2	C2	C2	C2	C2	C3	C3	C3	C4
	2	C1	C2	C2	C1	C2	C2	C2	C2	C3	C3	C3	C4	C4
	1	C1	C2	C2	C2	C2	C3	C2	C3	C3	C3	C4	C4	NA
C	3	C1 (0-50)	C2 (0-15) C1 (15-50)	C2 (0-30) C1 (30-50)	C2 (0-5) C1 (5-50)	C2 (0-45) C1 (45-50)	C2 (0-50)	C2 (0-35) C1 (35-50)	C3 (0-10) C2 (10-50)	C3 (0-25) C2 (25-50)	C3 (0-35) C2 (35-50)	C3 (0-50)	C4 (0-15) C3 (15-50)	C4 (0-50)
	2.5	C1 (0-50)	C2 (0-35) C1 (35-50)	C2 (0-50)	C2 (0-30) C1 (30-50)	C2 (0-50)	C3 (0-20) C2 (20-50)	C2 (0-50)	C3 (0-30) C2 (30-50)	C3 (0-45) C2 (45-50)	C3 (0-50)	C4 (0-10) C3 (10-50)	C4 (0-40) C3 (40-50)	N/A (0-25) C4 (25-50)
	2	C2 (0-20) C1 (20-50)	C2 (0-50)	C2 (0-50)	C2 (0-50)	C3 (0-20) C2 (20-50)	C3 (0-35) C2 (35-50)	C3 (0-15) C2 (15-50)	C3 (0-50)	C3 (0-50)	C4 (0-15) C3 (15-50)	C4 (0-30) C3 (30-50)	N/A (0-10) C4 (10-50)	N/A (0-45) C4 (45-50)
	1	C2 (0-50)	C3 (0-20) C2 (20-50)	C3 (0-35) C2 (35-50)	C3 (0-15) C2 (15-50)	C3 (0-50)	C4 (0-5) C3 (5-50)	C3 (0-40) C4 (40-50)	C4 (0-15) C3 (15-50)	C4 (0-35) C3 (35-50)	C4 (0-45) C3 (45-50)	N/A (0-10) C4 (10-50)	N/A (0-40) C4 (40-50)	N/A (0-50)

LEGEND:

FS = Full shielding

PS = Partial shielding

NS = No shielding

N/A = Not applicable, that is, beyond the scope of this Standard (use AS/NZS 1170.2)

N = Non-cyclonic

C = Cyclonic

TC = Terrain category

TC1: Flat poorly grassed plains

TC1.5: Open water surface

TC2: Open terrain & grasslands

TC2.5: Rural; 2 to 10 houses per hectare

TC3: Built-up; 10 or more houses per hectare

Table 3
Topographic Classification for Hills, Ridges or Escarpments

Maximum Slope		Site Location				
		Lower-third zone (L)	Mid-third zone (M)	Top-third zone (T)		
				H <10m	10m< H<30m	H > 30m
< 1:20 (<2.9°)		T0	T0	T0	T0	T0
≥ 1:20 (≤ 2.9°)	≤ 1:10 (≤ 5.7°)	T0	T0	T1	T1	T1
≥ 1:10 (≤ 5.7)	≤ 1:7.5 (≤ 7.6°)	T0	T1	T1	T2	T2
≥ 1:7.5 (≥ 7.6°)	≤ 1:5 (≤ 11.3°)	T0	T1	T2	T2	T3
≥ 1:5 (≥ 11.3°)	≤ 1:3 (≤ 18.4°)	T0	T2	T2	T3	T4
≥ 1:3 (≥ 18.4°)		T0	T2	T3	T4	T5

PATIO COVER
FOOTING & POST SELECTION
ANZFC01 Edition 8

Square Pad Footings in cohesive soils (excl. sand)

Width(mm)	Depth(mm)	Capacity(kN)
300	500	3.57
400	600	7.02
500	600	9.44
600	600	12.26
600	700	15.58
600	900	23.69
900	900	41.36

Piers in cohesive soils (excl. sand)

Dia(mm)	Depth(mm)	Uplift Capacity(kN)
300	600	8.40
300	800	12.50
300	1000	16.60
300	1200	20.70
450	600	13.40
450	800	18.80
450	1000	26.20
450	1200	32.70
600	600	19.00
600	800	27.80
600	1000	36.70
600	1200	45.60

Post Selection

Posts		Ultimate Axial	Max Height (mm)
60x50x2.01	RHS AL	13.5 kN	3000
90x75x2.01	RHS AL	30 kN	3600
50x3.0	SHS	20 kN	3600
75x3.0	SHS	40 kN	4200
89x4.0	SHS	50 kN	5000
100x4.0	SHS	60 kN	5500

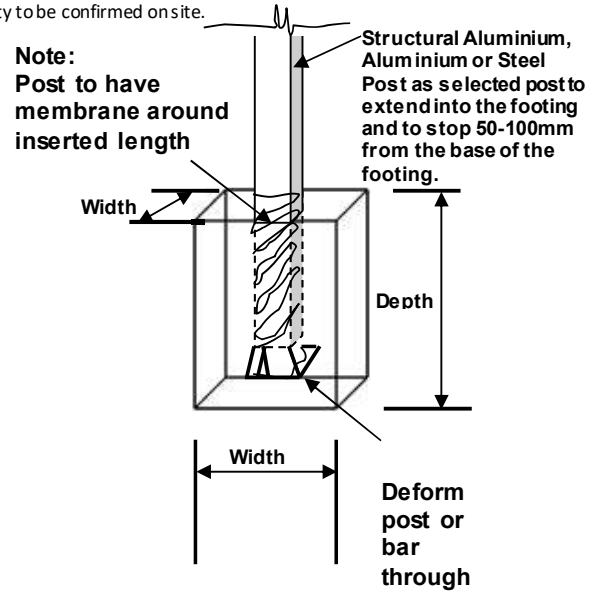
Note: Footing designs are applicable only on sites with residential dwelling immediately adjacent to the Apollo structure. It is based on a minimum allowable bearing capacity of 100kPa, and not more than 200mm of topsoil. If excessive topsoil or soft or moist or poorly graded material is encountered in the hole then seek further engineering advice before proceeding. Minimum bearing capacity to be confirmed on site.

Timber Post Selection

Post		Capacity	Max Height
100 x 100	F17 HWD	36kN	3600

Structural Aluminium Post Capacities (SAL)

Height	Capacity
2.5m	60kN
3.0m	45kN
3.5m	35kN
4.0m	25kN
4.5m	20kN

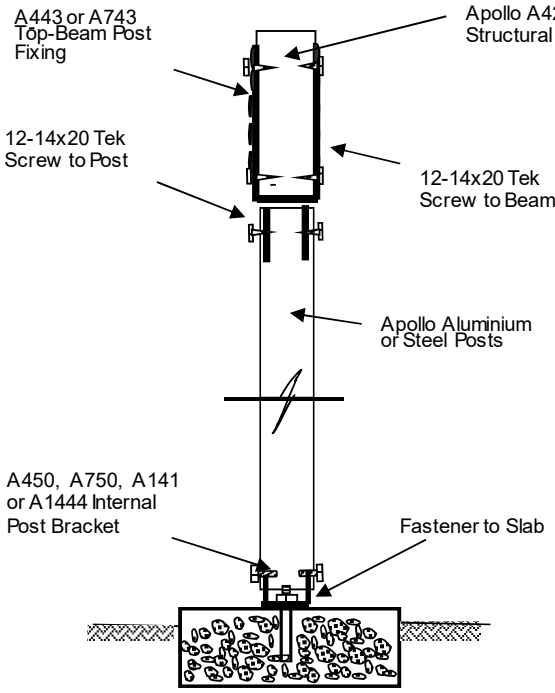


Freestanding Footing and Attachment Details

Post	Required Footings	Max Ht	Base Plate
75 SAL	450Ø x 1000 deep bored piers	2400	N/A
75 x 3.0 SHS	450Ø x 1300 deep bored piers	3000	12mm Base Plate, 4-M12 Chemsets Anchors (MIN 100 Edge Distance, 120mm embedment)
140 x 3.0 SHSAL	450Ø x 1300 deep bored piers	3000	12mm Base Plate, 4-M12 Chemsets Anchors (MIN 100 Edge Distance, 120mm embedment)
90 x 3.5 SHS	450Ø x 1600 deep bored piers	3600	16mm Base Plate, 4-M16 Chemset Anchors (MIN 100 Edge Distance, 120mm embedment)
100 x 4.0 SHS	450Ø x 1900 deep bored piers	4200	16mm Base Plate, 4-M16 Chemset Anchors (MIN 100 Edge Distance, 140mm embedment)

POST FIXING DETAILS

ANZFC01 **Edition 8**



No. of 12-14x20 screws	Capacity to	
	140 Beam	170 Beam
4	11.0kN	17.3kN
8	15.0kN	24.2kN

Note: For 8 fasteners, please use A744 hold-down strap.

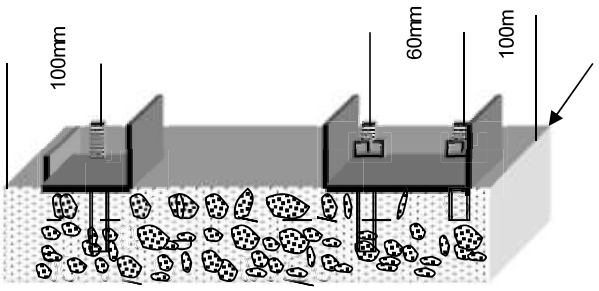
Base Fixing Detail 1

Note: Fixings for footings are to be stainless steel or hot dip galvanized. The capacity of chemical anchors depends greatly on following manufacturer's requirements regarding cleaning the drillhole, and correct use of the adhesive.

Fixings	Capacity (tension)	Notes
M12x70 Dynabolts plus	10kN	75mm Min Slab thickness
M16x110 Dynabolts plus	15kN	100mm Min Slab thickness
1/M12 Chemset 801	16kN	90mm Min Embed Depth
2/M12 Chemset 801	30kN	90mm Min Embed Depth
1/M16 Chemset 801	25kN	110mm Min Embed Depth
2/M16 Chemset 801	40kN	110mm Min Embed Depth

Fixing Clearances

Note: Capacity for dual fixings is based on a 60mm diagonal separation.



PATIO COVER
ALLOWABLE ROOF SPANS

Edition 8

Allowable Unilink Roof Roofing Span (mm)

Wind Region	Sides Open		
	3	2	1
N1	4700	4700	4700
N2	4700	4700	4700
N3	4700	4700	4700
N4	4700	4700	4000
N5	4600	3100	2500

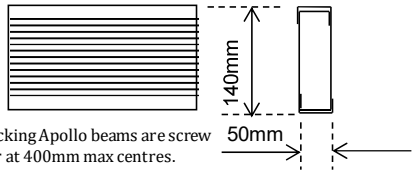
Allowable Unilink Roof Roofing Overhangs(mm)

Wind Region	Sides Open		
	3	2	1
N1	900	900	900
N2	900	900	900
N3	900	900	900
N4	900	900	900
N5	900	800	600

Note: Rear back channel foam and Profile inserts can be utilized in all attached structures on both APOLLO ® roof profiles.

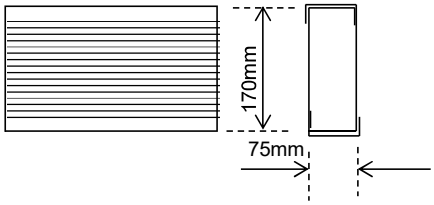
APOLLO ® BEAM SECTIONS

140x50 Interlocking C - Section Beam



Note: Interlocking Apollo beams are screw fixed together at 400mm max centres.

170x75 Interlocking C - Section Beam

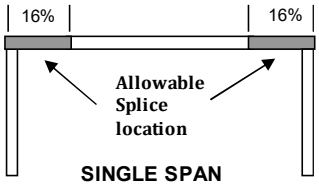


CONNECTION CAPACITIES

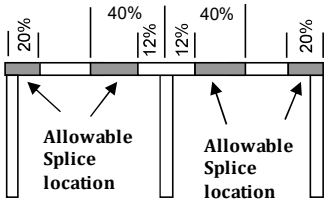
Beam Size	# Screws	Capacity
140x50 Beam	4	11.0kN
140x50 Beam	8	15.0kN
170x75 Beam	4	17.3kN
170x75 Beam	8	24.2kN

BEAM SPLICES

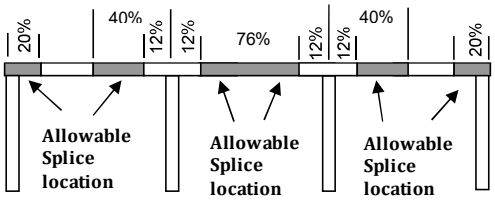
- For single spans splices allowable within 16% span from post.
- For multi spans, splices allowed within 20% from outside post and within 40% from internal post but not within 12% from internal post.
- Splices not allowed on external cantilevers.



SINGLE SPAN



DOUBLE SPAN



MULTI SPAN

PATIO COVER
ALLOWABLE ROOF SPANS

Edition 8

APOLLO DURASHEEN ®:

Paint Finish: 80% gloss underside, 50% gloss topside

.42 mm BMT steel G550 Zincalume coated APOLLO UNILINK 2000 ® Profile

.48 mm BMT steel G550 Zincalume coated APOLLO UNILINK 2000 ® Mark II Outdoor Profile

APOLLO MAXISATIN:

Paint Finish: 25% gloss underside, 25% gloss topside

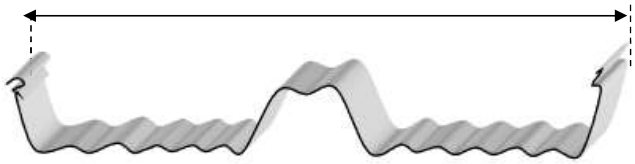
.42 mm BMT steel G550 Zincalume coated APOLLO UNILINK 2000 ® Profile

Min 4x12-14x20 Tek screws with neos to Front or Central beams

Min 4x10-12x16 Tek screws no neo or 4 x #6 Rivets underside rear back channel

APOLLO UNILINK 2000 ® (Unilink)

450mm Coverage



APOLLO UNILINK 2000 ® OUTDOOR (FLAT) MARK II (Outdoor Flat)

302mm & 333mm Coverage

APOLLO LIGHT PANELS

WIDTH - 115mm

ALLOWABLE BEAM SPANS FOR INSULATED ROOF

APPINS-P01 Edition 8

Refer to manufacturers specifications for allowable roof spans, overhangs, and required fixing details for insulated roof panels.

Refer to ANZFC01 for post and footing details

Refer to APPINS-P02 for load calculations

140x50 Apollo Beam

Span	Allowable Load (kN/m)
2000	6.40
2400	5.33
2800	4.57
3200	4.00
3600	3.31
4000	2.63
4400	2.12
4800	1.74
5200	1.45
5600	1.22
6000	1.03

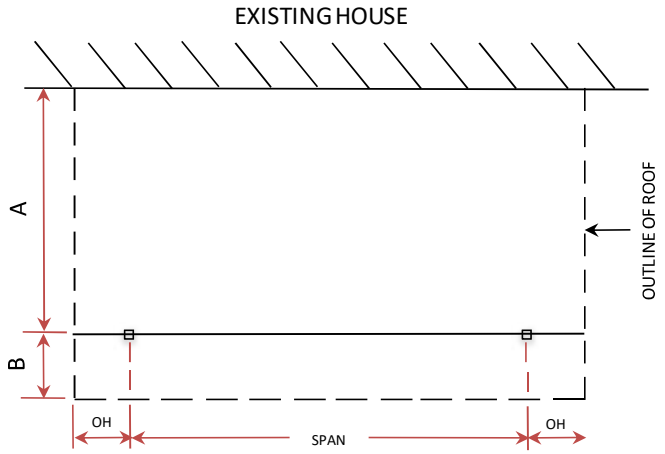
170x75 Apollo Beam

Span	Allowable Load (kN/m)
2000	17.70
2400	14.75
2800	12.64
3200	11.06
3600	9.83
4000	8.00
4400	6.46
4800	5.56
5200	4.73
5600	4.08
6000	3.56
6400	3.13
6800	2.77
7200	2.47
7600	2.17
8000	1.80

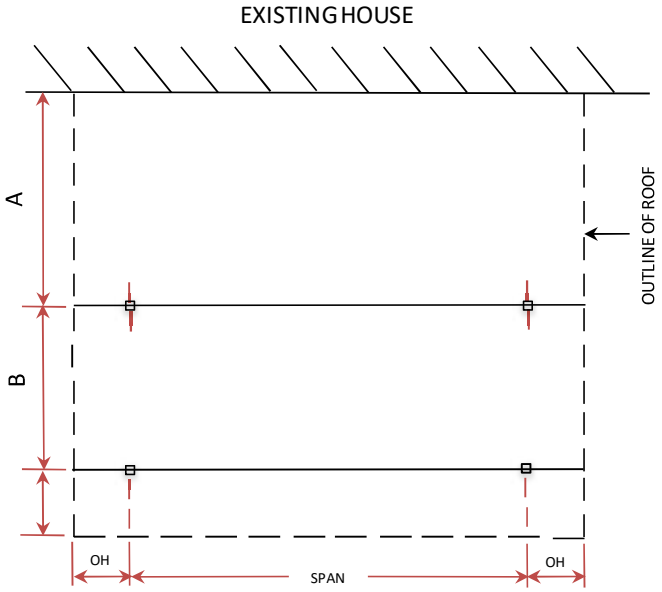
Note: It is acceptable to substitute Apollo single skin roof sheeting with insulated roof panels up to 125mm thick throughout this design manual.

Refer to manufacturers specifications for allowable spans, overhangs, and fixing details

Calculation Examples for Determining Beam Span



Load Width, LW = A/2 + B
Wind Pressure, P = From wind table
Beam Load = P x LW
Notes: OH Equals 0.3 x Span Max



Load Width, LW = A/2 + B/2
Wind Pressure, P = From wind table
Beam Load = P x LW
Notes: OH Equals 0.3 x Span Max

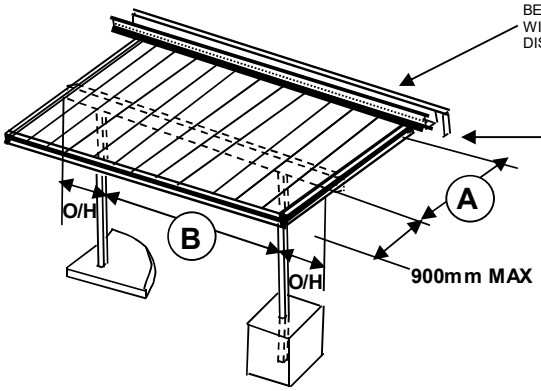
Refer to manufacturers specifications for allowable spans, overhangs, and fixing details

PATIO COVER

140 x 50 SINGLE BEAM

ANZPC23

Edition 8



PRIOR TO WALKING ON ROOF - A TEMPORARY WALKWAY SHALL BE SUPPORTED ON PURLINS OR ROOF BEAMS IN ACCORDANCE WITH AS 1562.1-2018 (A SIGN TO THIS EFFECT IS TO BE DISPLAYED ON THE ROOF)

REFER BACK CHANNEL FIXING DETAILS
A = ROOF PANEL SPAN
B = POST SPACING
O/H = 30% OF (B) MAX. 1500mm

FOR CASE A - OPEN 3 SIDES, HEIGHT OF PATIO FROM GROUND TO BE NO MORE THAN 75% OF MAXIMUM ROOF HEIGHT. IF PATIO HEIGHT EXCEEDS 75% USE FIGURES FROM CASE B - OPEN 2 SIDES

NOTE 1 : THIS ENGINEERING MANUAL COVERS PRODUCTS SUPPLIED BY APOLLO ® AUSTRALIA. PRODUCTS NOT APPROVED BY APOLLO ® AUSTRALIA WILL VOID ENGINEERING APPROVALS AND ANY WARRANTIES EXPRESSED OR IMPLIED.

NOTE 2 : APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE APOLLO LIGHT PANELS AT SPANS GREATER THAN 3000mm.

SPAN TABLES - SIMPLE SPAN

PERMISSIBLE BEAM LENGTH FOR FRONT BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

CASE A THREE SIDES OPEN

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	6200
2700	6000
3000	5850
3300	5700
3600	5600
3900	5450
4200	5350
4400	5250
4700	5150

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5050
2700	5000
3000	4950
3300	4900
3600	4850
3900	4800
4200	4750
4400	4700
4700	4650

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4200
2700	4150
3000	4100
3300	4050
3600	4000
3900	3950
4200	3950
4400	3900
4700	3850

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3500
2700	3450
3000	3400
3300	3400
3600	3300
3900	3250
4200	3150
4400	3100
4600	3000

apollo ROOFING SOLUTIONS

PATIO COVER

140 x 50 SINGLE BEAM

ANZPC23

Edition 8

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4600
2700	4450
3000	4350
3300	4200
3600	4100
3900	4000
4200	3900
4400	3850
4700	3800

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3750
2700	3600
3000	3500
3300	3400
3600	3250
3900	3100
4200	2950
4400	2850
4700	2700

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	2800
2700	2600
3000	2450
3300	2300
3600	2150
3900	2050
4200	1950
4400	1850
4700	1800

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	2200
2100	2000
2400	1850
2700	1750
3000	1650
3100	1600

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4200
2700	4100
3000	3950
3300	3850
3600	3750
3900	3650
4200	3600
4400	3550
4700	3450

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3400
2700	3250
3000	3050
3300	2850
3600	2700
3900	2550
4200	2400
4400	2350
4700	2250

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	2700
2100	2500
2400	2300
2700	2150
3000	2000
3300	1900
3600	1800
3900	1700
4000	1650

N5

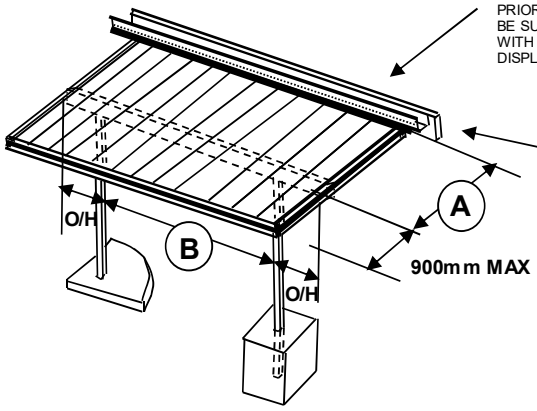
A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	1800
2100	1650
2400	1550
2500	1500

PATIO COVER

170 X 75 SINGLE BEAM

ANZPC28

Edition 8



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REFER BACK CHANNEL FIXING DETAILS
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B = POST SPACING
O/H = 30% OF (B) MAX. 1500mm

FOR CASE A - OPEN 3 SIDES, HEIGHT OF PATIO FROM GROUND TO BE NO MORE THAN 75% OF MAXIMUM ROOF HEIGHT. IF PATIO HEIGHT EXCEEDS 75% USE FIGURES FROM CASE B - OPEN 2 SIDES

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SPAN TABLES - SIMPLE SPAN

PERMISSIBLE BEAM LENGTH FOR FRONT BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

THREE SIDES OPEN
CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	9200
2700	9100
3000	8950
3300	8850
3600	8750
3900	8650
4200	8550
4400	8450
4700	8400

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	8300
2700	8300
3000	8250
3300	8200
3600	8150
3900	8100
4200	8000
4400	8000
4700	7950

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	7400
2700	7300
3000	7250
3300	7150
3600	7050
3900	6950
4200	6850
4400	6800
4700	6700

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	6050
2700	5950
3000	5900
3300	5850
3600	5750
3900	5700
4200	5600
4400	5550
4600	5500

apollo ROOFING SOLUTIONS

PATIO COVER
170 X 75 SINGLE BEAM
ANZPC28 **Edition 8**

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	7850
2700	7700
3000	7600
3300	7450
3600	7200
3900	7000
4200	6850
4400	6750
4700	6550

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	6500
2700	6250
3000	6050
3300	5850
3600	5700
3900	5550
4200	5400
4400	5300
4700	5200

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5250
2700	5100
3000	4950
3300	4800
3600	4650
3900	4500
4200	4400
4400	4350
4700	4250

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	4650
2100	4500
2400	4300
2700	4200
3000	4050
3100	4000

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	7450
2700	7200
3000	6950
3300	6750
3600	6550
3900	6400
4200	6200
4400	6100
4700	5950

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5900
2700	5700
3000	5500
3300	5350
3600	5200
3900	5050
4200	4900
4400	4850
4700	4750

N4

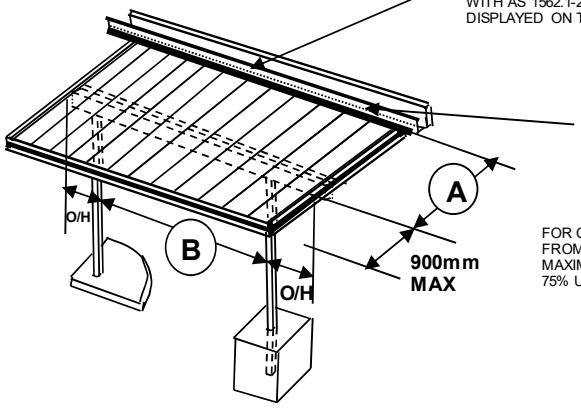
A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	5200
2100	5000
2400	4800
2700	4650
3000	4500
3300	4350
3600	4250
3900	4100
4000	4100

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	4250
2100	4100
2400	3950
2500	3900

PATIO COVER
WITH DOUBLE 140 X 50 BEAM SPANS
ANZPC24

Edition 8



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REFER BACK CHANNEL FIXING DETAILS
A = ROOF PANEL SPAN
B = POST SPACING
O/H = 30% OF (B) MAX. 1500mm

FOR CASE A - OPEN 3 SIDES, HEIGHT OF PATIO FROM GROUND TO BE NO MORE THAN 75% OF MAXIMUM ROOF HEIGHT. IF PATIO HEIGHT EXCEEDS 75% USE FIGURES FROM CASE B - OPEN 2 SIDES

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SPAN TABLES - SIMPLE SPAN

PERMISSIBLE BEAM LENGTH FOR FRONT BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

THREE SIDES OPEN
CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	8050
2700	7850
3000	7700
3300	7500
3600	7350
3900	7200
4200	7050
4400	6950
4700	6850

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	6750
2700	6700
3000	6650
3300	6600
3600	6550
3900	6450
4200	6400
4400	6350
4700	6250

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5650
2700	5650
3000	5600
3300	5500
3600	5450
3900	5400
4200	5350
4400	5300
4700	5250

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4750
2700	4750
3000	4700
3300	4650
3600	4600
3900	4500
4200	4450
4400	4450
4600	4400

apollo ROOFING SOLUTIONS

PATIO COVER

WITH DOUBLE 140 X 50 BEAM SPANS

ANZPC24 **Edition 8**

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	6200
2700	6000
3000	5850
3300	5700
3600	5550
3900	5450
4200	5300
4400	5250
4700	5150

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5050
2700	4900
3000	4800
3300	4650
3600	4550
3900	4450
4200	4650
4400	4250
4700	4200

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4250
2700	4100
3000	4000
3300	3900
3600	3800
3900	3700
4200	3600
4400	3550
4700	3450

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	3800
2100	3650
2400	3550
2700	3450
3000	3300
3100	3200

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5700
2700	5550
3000	5400
3300	5250
3600	5150
3900	5000
4200	4900
4400	4800
4700	4700

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4650
2700	4550
3000	4400
3300	4300
3600	4200
3900	4050
4200	4000
4400	3900
4700	3850

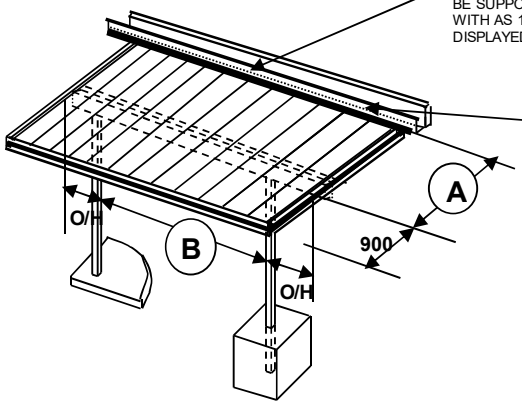
N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	4150
2100	4050
2400	3900
2700	3750
3000	3650
3300	3550
3600	3450
3900	3400
4000	3350

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	3500
2100	3350
2400	3100
2500	3050

PATIO COVER
WITH DOUBLE 170 X 75 BEAM SPANS
ANZPC29 Edition 8



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REFER BACK CHANNEL FIXING DETAILS
A = ROOF PANEL SPAN
B = POST SPACING
O/H = 30% OF (B) MAX. 1500mm

FOR CASE A - OPEN 3 SIDES, HEIGHT OF PATIO FROM GROUND TO BE NO MORE THAN 75% OF MAXIMUM ROOF HEIGHT. IF PATIO HEIGHT EXCEEDS 75% USE FIGURES FROM CASE B - OPEN 2 SIDES

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NOTE 2 : APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE APOLLO LIGHT PANELS AT SPANS GREATER THAN 3000mm.

SPAN TABLES - SIMPLE SPAN — PERMISSIBLE BEAM LENGTH FOR FRONT BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

THREE SIDES OPEN
CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	10300
2700	10200
3000	10100
3300	10000
3600	9950
3900	9850
4200	9750
4400	9700
4700	9650

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	9750
2700	9750
3000	9700
3300	9650
3600	9600
3900	9550
4200	9500
4400	9450
4700	9400

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	8850
2700	8850
3000	8800
3300	8750
3600	8700
3900	8650
4200	8600
4400	8550
4700	8500

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	8050
2700	8000
3000	7950
3300	7900
3600	7850
3900	7800
4200	7700
4400	7700
4600	7650

apollo ROOFING SOLUTIONS

PATIO COVER

WITH DOUBLE 170 X 75 BEAM SPANS

ANZPC29

Edition 8

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	9350
2700	9200
3000	9100
3300	8950
3600	8850
3900	8750
4200	8600
4400	8550
4700	8450

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	8350
2700	8200
3000	8050
3300	7950
3600	7800
3900	7700
4200	7600
4400	7500
4700	7350

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	7450
2700	7200
3000	7000
3300	6750
3600	6600
3900	6400
4200	6250
4400	6150
4700	6000

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	6600
2100	6350
2400	6150
2700	5900
3000	5750
3100	5650

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	8900
2700	8750
3000	8650
3300	8500
3600	8400
3900	8250
4200	8150
4400	8100
4700	8000

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	7950
2700	7800
3000	7650
3300	7550
3600	7350
3900	7150
4200	6950
4400	6850
4700	6700

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	7350
2100	7050
2400	6800
2700	6550
3000	6350
3300	6150
3600	6000
3900	5850
4000	5800

N5

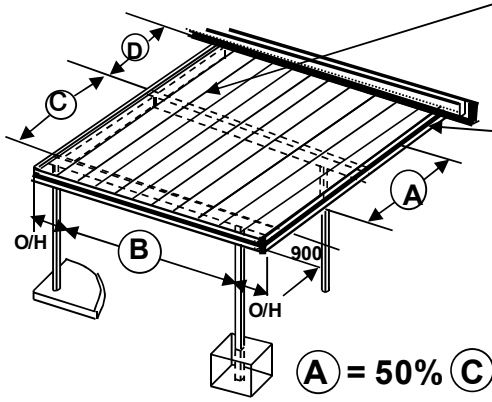
A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	6050
2100	5800
2400	5600
2500	5500

PATIO COVER

140 X 50 CENTRAL BEAM SPANS

ANZPC26

Edition 8



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REFER BACK CHANNEL FIXING DETAILS
A = ROOF PANEL SPAN
B = POST SPACING
O/H = 30% OF (B) MAX. 1500mm

FOR CASE A - OPEN 3 SIDES, HEIGHT OF PATIO FROM GROUND TO BE NO MORE THAN 75% OF MAXIMUM ROOF HEIGHT. IF PATIO HEIGHT EXCEEDS 75% USE FIGURES FROM CASE B - OPEN 2 SIDES

A = 50% C + 50% D

IF EDGE BEAMS ARE REQUIRED PLEASE SELECT FROM ANZPLB35, 36, 37.

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SPAN TABLES - SIMPLE SPAN PERMISSIBLE BEAM LENGTH FOR INTERNAL BEAMS, REFER TO APPLICABLE CHARTS FOR FRONT BEAMS OR EDGE BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

THREE SIDES OPEN
CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5850
2700	5600
3000	5350
3300	5150
3600	4950
3900	4800
4200	4650
4400	4550
4700	4400

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5100
2700	4950
3000	4800
3300	4650
3600	4550
3900	4400
4200	4300
4400	4250
4700	4150

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4250
2700	4100
3000	3950
3300	3850
3600	3750
3900	3650
4200	3550
4400	3500
4700	3400

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3550
2700	3400
3000	3200
3300	3000
3600	2800
3900	2650
4200	2500
4400	2400
4600	2300

apollo ROOFING SOLUTIONS

PATIO COVER

140 X 50 CENTRAL BEAM SPANS

ANZPC26 **Edition 8**

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4350
2700	4100
3000	3900
3300	3750
3600	3600
3900	3450
4200	3350
4400	3200
4700	3000

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3500
2700	3250
3000	2950
3300	2650
3600	2450
3900	2250
4200	2100
4400	2000
4700	1850

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	2450
2700	2150
3000	1950
3300	1750
3600	1600
3900	1500
4200	1400
4400	1300
4700	1250

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	2200
2100	1850
2400	1650
2700	1450
3000	1300
3100	1250

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3950
2700	3750
3000	3600
3300	3450
3600	3200
3900	2950
4200	2750
4400	2600
4700	2450

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3050
2700	2700
3000	2400
3300	2200
3600	2000
3900	1850
4200	1700
4400	1650
4700	1550

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	2700
2100	2300
2400	2000
2700	1800
3000	1600
3300	1450
3600	1350
3900	1250
4000	1200

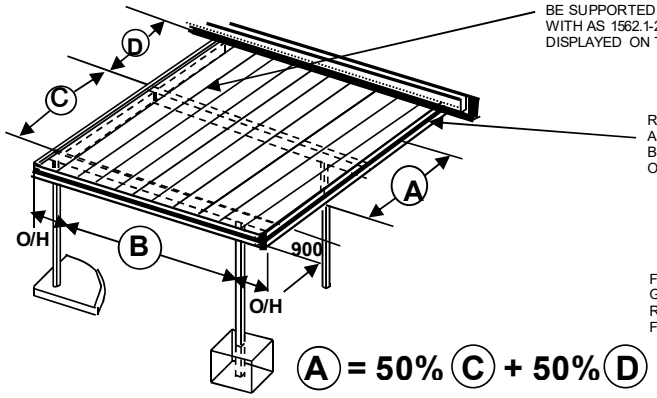
N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	1800
2100	1550
2400	1350
2500	1300

PATIO COVER

170 X 75 CENTRAL BEAM SPANS

ANZPC22 **Edition 8**



PRIOR TO WALKING ON ROOF - A TEMPORARY WALKWAY SHALL BE SUPPORTED ON PURLINS OR ROOF BEAMS IN ACCORDANCE WITH AS 1562.1-2018 (A SIGN TO THIS EFFECT IS TO BE DISPLAYED ON THE ROOF)

REFER BACK CHANNEL FIXING DETAILS
A = ROOF PANEL SPAN
B = POST SPACING
O/H = 30% OF (B) MAX. 1500mm

FOR CASE A - OPEN 3 SIDES, HEIGHT OF PATIO FROM GROUND TO BE NO MORE THAN 75% OF MAXIMUM ROOF HEIGHT. IF PATIO HEIGHT EXCEEDS 75% USE FIGURES FROM CASE B - OPEN 2 SIDES

A = 50% C + 50% D

IF EDGE BEAMS ARE REQUIRED PLEASE SELECT FROM ANZPLB35, 36, 37.

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NOTE 2 : APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE APOLLO LIGHT PANELS AT SPANS GREATER THAN 3000mm.

SPAN TABLES - SIMPLE SPAN PERMISSIBLE BEAM LENGTH FOR INTERNAL BEAMS, REFER TO APPLICABLE CHARTS FOR FRONT BEAMS OR EDGE BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

THREE SIDES OPEN
CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	8950
2700	8750
3000	8550
3300	8350
3600	8200
3900	8000
4200	7850
4400	7750
4700	7650

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	8400
2700	8200
3000	8050
3300	7950
3600	7800
3900	7650
4200	7550
4400	7450
4700	7250

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	7500
2700	7200
3000	6950
3300	6700
3600	6500
3900	6300
4200	6100
4400	6000
4700	5850

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	6100
2700	5850
3000	5650
3300	5450
3600	5300
3900	5150
4200	5000
4400	4900
4600	4800

apollo ROOFING SOLUTIONS

PATIO COVER

170 X 75 CENTRAL BEAM SPANS

ANZPC22 **Edition 8**

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	7600
2700	7200
3000	6850
3300	6500
3600	6250
3900	6000
4200	5800
4400	5650
4700	5450

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	6050
2700	5700
3000	5400
3300	5150
3600	4950
3900	4750
4200	4550
4400	4450
4700	4300

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4950
2700	4650
3000	4400
3300	4200
3600	4000
3900	3850
4200	3700
4400	3650
4700	3450

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	4650
2100	4300
2400	4050
2700	3800
3000	3600
3100	3500

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	6950
2700	6550
3000	6200
3300	5900
3600	5650
3900	5450
4200	5250
4400	5100
4700	4950

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5500
2700	5200
3000	4900
3300	4700
3600	4500
3900	4300
4200	4150
4400	4050
4700	3900

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	5200
2100	4800
2400	4500
2700	4250
3000	4000
3300	3800
3600	3650
3900	3450
4000	3350

N5

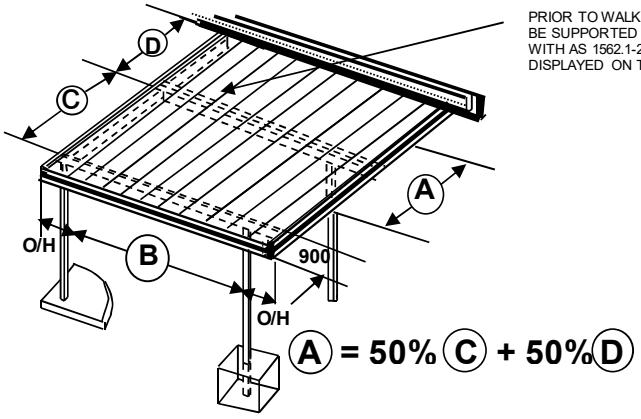
A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	4250
2100	3950
2400	3700
2500	3600

PATIO COVER

DOUBLE CENTRAL 140 X 50 BEAM SPANS

ANZPC25

Edition 8



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REFER BACK CHANNEL FIXING DETAILS
A = ROOF PANEL SPAN
B = POST SPACING
O/H = 30% OF (B) MAX. 1500mm

FOR CASE A - OPEN 3 SIDES, HEIGHT OF PATIO FROM GROUND TO BE NO MORE THAN 75% OF MAXIMUM ROOF HEIGHT. IF PATIO HEIGHT EXCEEDS 75% USE FIGURES FROM CASE B - OPEN 2 SIDES

IF EDGE BEAMS ARE REQUIRED PLEASE SELECT FROM ANZPLB35, 36, 37.

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NOTE 2 : APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE APOLLO LIGHT PANELS AT SPANS GREATER THAN 3000mm.

SPAN TABLES - SIMPLE SPAN — PERMISSIBLE BEAM LENGTH FOR INTERNAL BEAMS, REFER TO APPLICABLE CHARTS FOR EDGE BEAMS OR FRONT BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

THREE SIDES OPEN
CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	7700
2700	7350
3000	7050
3300	6800
3600	6600
3900	6400
4200	6200
4400	6100
4700	5900

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	6850
2700	6650
3000	6450
3300	6250
3600	6100
3900	5950
4200	5800
4400	5750
4700	5600

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5750
2700	5550
3000	5400
3300	5250
3600	5100
3900	4950
4200	4850
4400	4750
4700	4650

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4800
2700	4650
3000	4500
3300	4350
3600	4250
3900	4150
4200	4050
4400	3950
4600	3900

apollo ROOFING SOLUTIONS

PATIO COVER

DOUBLE CENTRAL 140 X 50 BEAM SPANS

ANZPC25

Edition 8

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5850
2700	5550
3000	5300
3300	5100
3600	4900
3900	4750
4200	4600
4400	4500
4700	4350

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4800
2700	4550
3000	4350
3300	4150
3600	4000
3900	3850
4200	3700
4400	3650
4700	3550

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4000
2700	3800
3000	3600
3300	3450
3600	3250
3900	3000
4200	2800
4400	2650
4700	2500

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	3800
2100	3550
2400	3300
2700	2900
3000	2600
3100	2550

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5400
2700	5150
3000	4900
3300	4700
3600	4500
3900	4350
4200	4200
4400	4150
4700	4000

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4400
2700	4200
3000	4000
3300	3800
3600	3650
3900	3550
4200	3400
4400	3300
4700	3100

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	4150
2100	3900
2400	3650
2700	3450
3000	3250
3300	2950
3600	2700
3900	2500
4000	2400

N5

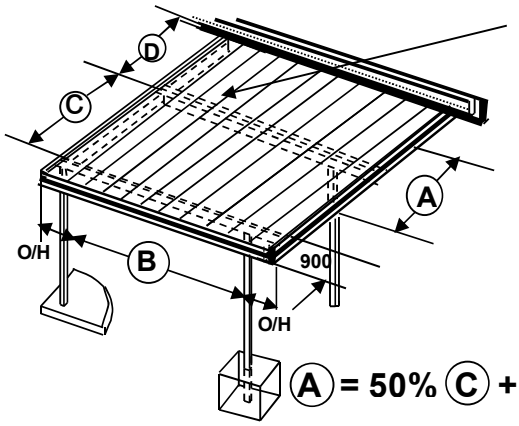
A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	3500
2100	3100
2400	2750
2500	2600

PATIO COVER

DOUBLE CENTRAL 170 X 75 BEAM SPANS

ANZPC27

Edition 8



$$A = 50\%\,C + 50\%\,D$$

IF EDGE BEAMS ARE REQUIRED PLEASE SELECT

PRIOR TO WALKING ON ROOF - A TEMPORARY WALKWAY SHALL BE SUPPORTED ON PURLINS OR ROOF BEAMS IN ACCORDANCE WITH AS 1562.1-2018 (A SIGN TO THIS EFFECT IS TO BE DISPLAYED ON THE ROOF)

REFER BACK CHANNEL FIXING DETAILS
A = ROOF PANEL SPAN
B = POST SPACING
O/H = 30% OF (B) MAX. 1500mm

FOR CASE A - OPEN 3 SIDES, HEIGHT OF PATIO FROM GROUND TO BE NO MORE THAN 75% OF MAXIMUM ROOF HEIGHT. IF PATIO HEIGHT EXCEEDS 75% USE FIGURES FROM CASE B - OPEN 2 SIDES

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NOTE 2 : APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE APOLLO LIGHT PANELS AT SPANS GREATER THAN 3000mm.

SPAN TABLES - SIMPLE SPAN

PERMISSIBLE BEAM LENGTH FOR INTERNAL BEAMS, REFER TO APPLICABLE CHARTS FOR EDGE BEAMS OR FRONT BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

THREE SIDES OPEN
CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	10100
2700	9950
3000	9750
3300	9600
3600	9450
3900	9350
4200	9200
4400	9100
4700	9000

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	9700
2700	9600
3000	9450
3300	9350
3600	9200
3900	9100
4200	9000
4400	8900
4700	8800

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	8900
2700	8750
3000	8600
3300	8500
3600	8350
3900	8200
4200	8100
4400	8050
4700	7900

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	8100
2700	7950
3000	7750
3300	7600
3600	7500
3900	7250
4200	7050
4400	6950
4600	6800

apollo ROOFING SOLUTIONS

PATIO COVER

DOUBLE CENTRAL 170 X 75 BEAM SPANS

ANZPC27 **Edition 8**

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	9000
2700	8800
3000	8550
3300	8350
3600	8200
3900	8000
4200	7850
4400	7750
4700	7600

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	8050
2700	7800
3000	7600
3300	7300
3600	7000
3900	6700
4200	6450
4400	6300
4700	6100

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	7000
2700	6600
3000	6250
3300	5950
3600	5700
3900	5450
4200	5250
4400	5150
4700	5000

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	6600
2100	6150
2400	5750
2700	5400
3000	5100
3100	5050

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	8650
2700	8400
3000	8150
3300	7950
3600	7800
3900	7600
4200	7450
4400	7250
4700	7000

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	7650
2700	7350
3000	6950
3300	6650
3600	6350
3900	6100
4200	5900
4400	5750
4700	5550

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	7350
2100	6800
2400	6350
2700	6000
3000	5700
3300	5400
3600	5200
4000	4900

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	6050
2100	5600
2400	5200
2500	5100

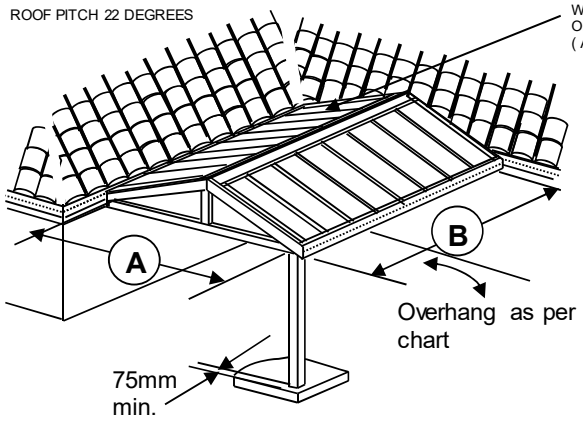
PATIO COVER 140 X 50 BEAM

GABLE PATIO - ATTACHED

ANZGAC31

Edition 8

ROOF PITCH 22 DEGREES



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A = ROOF GABLE SPAN
B = POST SPACING

REFER TO GABLE CONNECTION DETAILS FOR ATTACHMENT DETAILS

FOR CASE A - OPEN 3 SIDES, HEIGHT OF PATIO FROM GROUND TO BE NO MORE THAN 75% OF MAXIMUM ROOF HEIGHT. IF PATIO HEIGHT EXCEEDS 75% USE FIGURES FROM CASE B - OPEN 2 SIDES

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AE-170G2.RGA 170 x 75 RIDGEBEAM IN GABLE PATIO & AE-140G2.RGA 140 x 50 FRONT & EDGEBEAM — PERMISSIBLE BEAM LENGTH FOR RIDGEBEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

THREE SIDES OPEN
CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	6200	1500
2700	6000	1500
3000	5800	1500
3300	5650	1500
3600	5500	1500
3900	5300	1500
4200	5200	1500
4500	5100	1500
4700	5000	1500

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	5350	1500
2700	5100	1500
3000	4900	1450
3300	4750	1400
3600	4600	1350
3900	4450	1300
4200	4300	1250
4500	4150	1200

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	4550	1350
2700	4350	1300
3000	4150	1200
3300	4000	1200
3600	3750	1100

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	3750	1100
2700	3450	1000
3000	3200	950
3300	2950	850
3600	2750	800

apollo ROOFING SOLUTIONS

PATIO COVER 140 X 50 BEAM

GABLE PATIO - ATTACHED

ANZGAC31

Edition 8

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	5250	1500
2700	5050	1500
3000	4900	1450
3300	4750	1400
3600	4600	1350
3900	4500	1350
4200	4400	1300
4500	4300	1250
4700	4200	1250

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	4500	1350
2700	4350	1300
3000	4200	1250
3300	4050	1200
3600	3900	1150
3900	3750	1100
4200	3600	1050
4500	3500	1050

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	3900	1150
2700	3650	1050
3000	3500	1050
3300	3300	950
3600	3150	900

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	3200	950
2700	3000	900
3000	2850	850

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	4950	1450
2700	4750	1400
3000	4600	1350
3300	4450	1300
3600	4300	1250
3900	4200	1250
4200	4100	1200
4500	4050	1200
4700	3900	1150

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	4250	1250
2700	4050	1200
3000	3900	1150
3300	3700	1100
3600	3550	1050
3900	3400	1000
4200	3300	950
4500	3150	900

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	3550	1050
2700	3350	1000
3000	3150	900
3300	3000	900
3600	2900	850

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	2900	850

FLAT GABLE PATIO

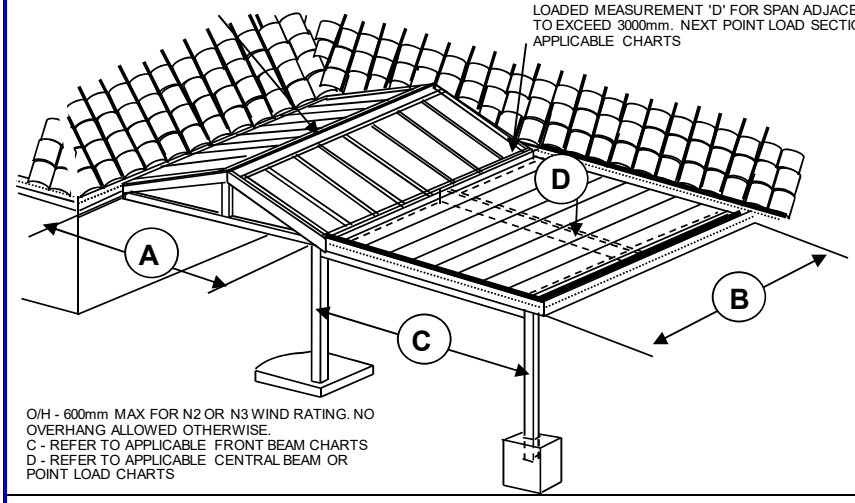
140 X 50

ANZGAC38 **Edition 8**

PRIOR TO WALKING ON ROOF - A TEMPORARY WALKWAY SHALL BE SUPPORTED ON PURLINS OR ROOF BEAMS IN ACCORDANCE WITH AS 1562.1-2018 (A SIGN TO THIS EFFECT WILL BE DISPLAYED ON THE ROOF)

A = ROOF GABLE SPAN
B = RIDGE BEAM LENGTH

IMPORTANT NOTE :
IF 'B' IS LESS THAN OR EQUAL TO PERMISSIBLE ROOF SPAN - DESIGN GABLE AND FLAT PORTIONS AS SEPARATE STRUCTURES IN ACCORDANCE WITH GENERAL NOTES. IF FLAT SECTION IS POINT LOADED MEASUREMENT 'D' FOR SPAN ADJACENT TO GABLE IS NOT TO EXCEED 3000mm. NEXT POINT LOAD SECTION DESIGNED AS PER APPLICABLE CHARTS



THESE FIGURES REFER TO GABLE STRUCTURE ONLY. FLAT PATIO DESIGNED AS PER APPLICABLE CHARTS. FLAT SECTION SIDE CHANNEL TO FIX TO GABLE PROJECTION BEAM, WITH M10X16 TEK SCREWS AT 300MM CENTRES.

O/H - 600mm MAX FOR N2 OR N3 WIND RATING. NO OVERHANG ALLOWED OTHERWISE.
C - REFER TO APPLICABLE FRONT BEAM CHARTS
D - REFER TO APPLICABLE CENTRAL BEAM OR POINT LOAD CHARTS

SPAN TABLE - GABLE RIDGE — PERMISSIBLE BEAM LENGTH FOR RIDGE BEAM

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

THREE SIDES OPEN
CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4150
2700	4100
3000	4100
3300	4100
3600	4100
3900	4100
4200	4050
4400	4050
4700	4050

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3250
2700	3250
3000	3250
3300	3250
3600	3250
3900	3250
4200	3250
4500	3200

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	2600
2700	2650
3000	2650
3300	2650
3600	2650

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	2150
2700	2150
3000	2150
3300	2150
3600	2150

apollo ROOFING SOLUTIONS

FLAT GABLE PATIO

140 X 50

ANZGAC38

Edition 8

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3450
2700	3350
3000	3300
3300	3250
3600	3200
3900	3100
4200	3050
4500	3050
4700	3000

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	2700
2700	2650
3000	2600
3300	2550
3600	2500
3900	2450
4200	2450
4500	2400

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	2200
2700	2150
3000	2100
3300	2100
3600	2050

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	1800
2700	1750
3000	1750

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3100
2700	3050
3000	3000
3300	2950
3600	2900
3900	2850
4200	2800
4400	2750
4700	2700

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	2450
2700	2400
3000	2350
3300	2300
3600	2300
3900	2250
4200	2200
4500	2150

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	2000
2700	1950
3000	1950
3300	1900
3600	1850
4000	1800

N5

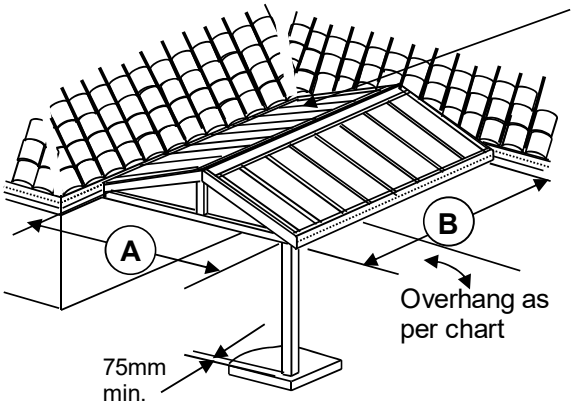
A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	1650

PATIO COVER 170 X 75 BEAM

GABLE PATIO - ATTACHED

ANZGAC32

Edition 8



PRIOR TO WALKING ON ROOF - A TEMPORARY WALKWAY SHALL BE SUPPORTED ON PURLINS OR ROOF BEAMS IN ACCORDANCE WITH AS 1562.1-2018 (A SIGN TO THIS EFFECT IS TO BE DISPLAYED ON THE ROOF)

A = ROOF PANEL SPAN
B = POST SPACING

REFER TO GABLE CONNECTION

DETAILS FOR ATTACHMENT DETAILS

FOR CASE A - OPEN 3 SIDES, HEIGHT OF PATIO FROM GROUND TO BE NO MORE THAN 75% OF MAXIMUM ROOF HEIGHT. IF PATIO HEIGHT EXCEEDS 75% USE FIGURES FROM CASE B - OPEN 2 SIDES

NOTE 1 : THIS ENGINEERING MANUAL COVERS PRODUCTS SUPPLIED BY APOLLO ® AUSTRALIA. PRODUCTS NOT APPROVED BY APOLLO ® AUSTRALIA WILL VOID ENGINEERING APPROVALS AND ANY WARRANTIES EXPRESSED OR IMPLIED.

NOTE 2 : APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE APOLLO LIGHT PANELS AT SPANS GREATER THAN 3000mm.

170 x 75 RIDGE BEAM IN GABLE PATIO. 170 x 75 EDGE & FRONT BEAM — PERMISSIBLE BEAM LENGTH FOR RIDGE BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

THREE SIDES OPEN
CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	10000	1500
3000	9850	1500
3600	9450	1500
4200	9150	1500
4800	8850	1500
5400	8600	1500
6000	8350	1500
6600	8100	1500
7200	7900	1500
7800	7700	1500
8400	7550	1500

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	9300	1500
3000	8800	1500
3600	8400	1500
4200	8050	1500
4800	7700	1500
5400	7350	1500
6000	6850	1500
6600	6450	1500
7200	6050	1500

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	8350	1500
3000	7850	1500
3600	7300	1500
4200	6600	1500
4800	6050	1500
5400	5550	1500
6000	5200	1500

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	7350	1500
3000	6300	1500
3600	5600	1500
4200	5050	1450
4800	4600	1000

apollo ROOFING SOLUTIONS

PATIO COVER 170 X 75 BEAM

GABLE PATIO - ATTACHED

ANZGAC32

Edition 8

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	8650	1500
3000	8200	1500
3600	7800	1500
4200	7500	1500
4800	7000	1500
5400	6600	1500
6000	6250	1500
6600	5950	1500
7200	5700	1500
7800	5450	1500
8400	5250	1500

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	7700	1500
3000	7000	1500
3600	6400	1500
4200	5900	1500
4800	5500	1500
5400	5200	1500
6000	4950	1350
6600	4700	1100
7200	4500	950

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	6400	1500
3000	5700	1500
3600	5200	1500
4200	4800	1250
4800	4500	900
5400	4250	700
6000	4000	550

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	5400	1500
3000	4800	1500
3600	4250	1100
4200	3850	700
4800	3550	450

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	8250	1500
3000	7800	1500
3600	7350	1500
4200	6800	1500
4800	6350	1500
5400	6000	1500
6000	5650	1500
6600	5400	1500
7200	5150	1500
7800	4950	1400
8400	4800	1200

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	7150	1500
3000	6350	1500
3600	5800	1500
4200	5350	1500
4800	5000	1450
5400	4750	1150
6000	4500	900
6600	4300	700
7200	4100	600

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	6700	1500
3000	5800	1500
3600	5200	1500
4200	4750	1150
4800	4400	800
5400	4100	600
6000	3850	400

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing	O/Hang
2400	5500	1500
3000	4750	1200
3600	4250	700
4200	3900	400
4800	3600	200

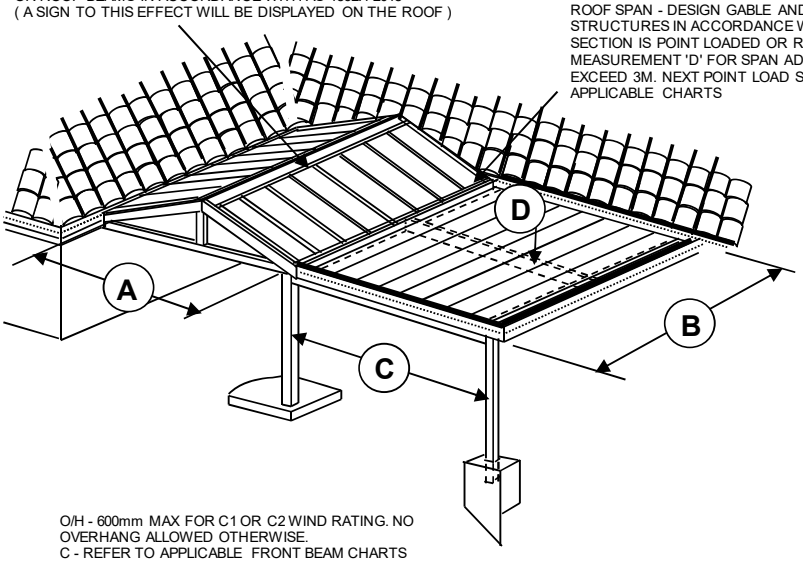
FLAT GABLE PATIO

170 X 75

ANZGAC39 **Edition 8**

PRIOR TO WALKING ON ROOF - A TEMPORARY WALKWAY SHALL BE SUPPORTED ON PURLINS OR ROOF BEAMS IN ACCORDANCE WITH AS 1562.1-2018 (A SIGN TO THIS EFFECT WILL BE DISPLAYED ON THE ROOF)

A = ROOF GABLE SPAN
B = RIDGE BEAM LENGTH
IMPORTANT NOTE : IF 'B' IS LESS THAN OR EQUAL TO PERMISSIBLE ROOF SPAN - DESIGN GABLE AND FLAT PORTIONS AS SEPARATE STRUCTURES IN ACCORDANCE WITH GENERAL NOTES. IF FLAT SECTION IS POINT LOADED OR REQUIRES A CENTRAL BEAM MEASUREMENT 'D' FOR SPAN ADJACENT TO GABLE IS NOT TO EXCEED 3M. NEXT POINT LOAD SECTIONS DESIGNED AS PER APPLICABLE CHARTS



THESE FIGURES REFER TO GABLE STRUCTURE ONLY. FLAT PATIO DESIGNED AS PER APPLICABLE CHARTS.FLAT SECTION SIDE CHANNEL TO FIX TO GABLE PROJECTION BEAM, WITH M1016 TEK SCREWS AT 300MM CENTRES.

O/H - 600mm MAX FOR C1 OR C2 WIND RATING. NO OVERHANG ALLOWED OTHERWISE.
C - REFER TO APPLICABLE FRONT BEAM CHARTS
D - REFER TO APPLICABLE CENTRAL BEAM OR POINT LOAD CHARTS

SPAN TABLE - GABLE RIDGE — PERMISSIBLE BEAM LENGTH FOR RIDGE BEAM

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

THREE SIDES OPEN
CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	6700
3000	6750
3600	6750
4200	6750
4800	6700
5400	6650
6000	6600
6600	6550
7200	6450
7800	6400
8400	6350

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5300
3000	5300
3600	5300
4200	5300
4800	5250
5400	5200
6000	5150
6600	5100
7200	5050

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4300
3000	4300
3600	4300
4200	4300
4800	4250
5400	4200
6000	4200

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3500
3000	3550
3600	3500
4200	3500
4800	3500

apollo ROOFING SOLUTIONS

FLAT GABLE PATIO

170 X 75

ANZGAC39

Edition 8

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5600
3000	5400
3600	5200
4200	5050
4800	4850
5400	4750
6000	4600
6600	4500
7200	4350
7800	4250
8400	4150

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4450
3000	4250
3600	4100
4200	4000
4800	3850
5400	3750
6000	3650
6600	3550
7200	3450

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3600
3000	3500
3600	3350
4200	3250
4800	3150
5400	3050
6000	2950

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	2950
3000	2850
3600	2750
4200	2650
4800	2550

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5100
3000	4900
3600	4750
4200	4550
4800	4450
5400	4300
6000	4200
6600	4050
7200	3950
7800	3850
8400	3800

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4050
2700	3900
3000	3750
3300	3600
3600	3500
3900	3400
4200	3300
4500	3200
4700	3150

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3300
3000	3150
3600	3050

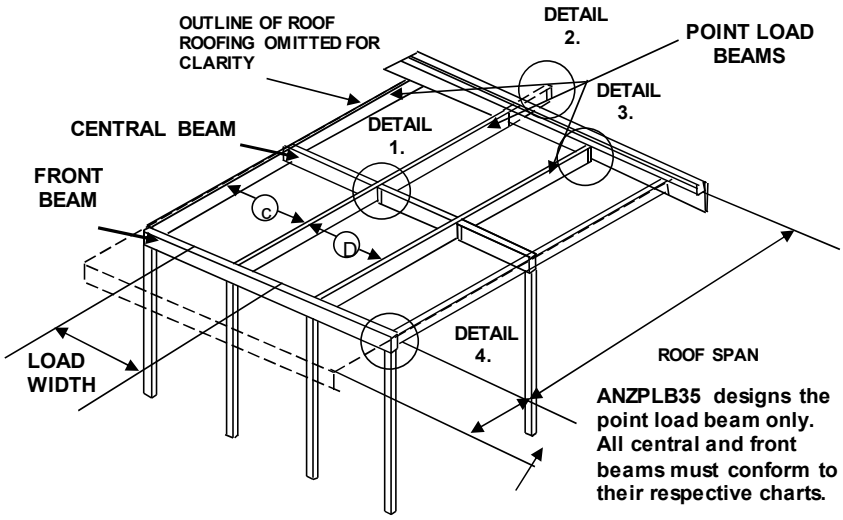
N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	2700
3000	2600

apollo ROOFING SOLUTIONS

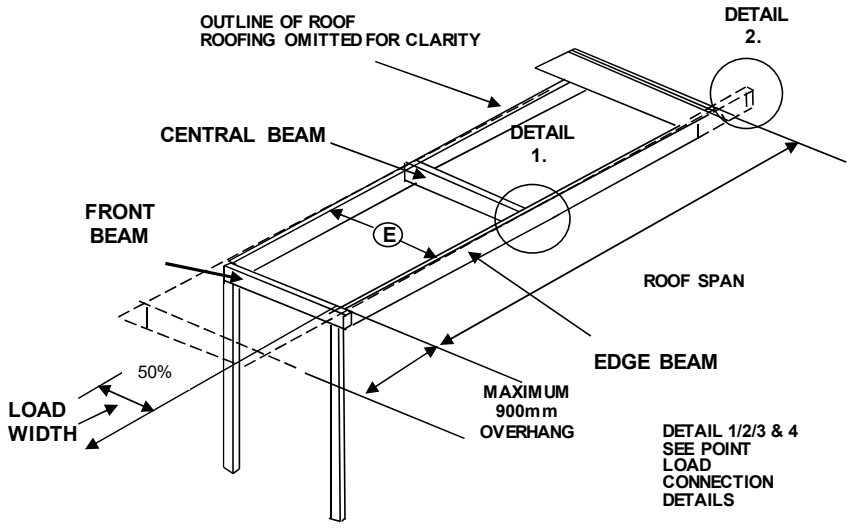
POINT LOAD BEAM DESIGN SELECTION
140 X 50 SINGLE BEAM
ANZPLB35 **Edition 8**

MULTIPLE MAXIMUM LOAD WIDTH



LOAD WIDTH=50% C + 50% D

SINGLE MAXIMUM LOAD WIDTH



LOAD WIDTH = 50% E

apollo ROOFING SOLUTIONS

POINT LOAD BEAM DESIGN SELECTION
140 X 50 SINGLE BEAM
ANZPLB35 **Edition 8**

THREE SIDES OPEN

CASE A

N1 & N2		N3	
Roof Span (mm)	Load Width (mm)	Roof Span (mm)	Load Width (mm)
4800	2400	3900	2400
5100	2100	4200	2000
5400	1900	4500	1800
5700	1600	4800	1500
6000	1500	5100	1300
6300	1300	5400	1200
6600	1200	5700	1000
6900	1000	6000	900
7200	900	6300	800

N4		N5	
Roof Span (mm)	Load Width (mm)	Roof Span (mm)	Load Width (mm)
3600	1900	3000	1800
3900	1600	3300	1500
4200	1400	3600	1300
4500	1200	3900	1100
4800	1000	4200	900
5100	900	4500	800
5400	800		

TWO SIDES OPEN

CASE B

N1 & N2		N3	
Roof Span (mm)	Load Width (mm)	Roof Span (mm)	Load Width (mm)
4200	2200	3600	2000
4500	1900	3900	1700
4800	1700	4200	1400
5100	1500	4500	1200
5400	1300	4800	1100
5700	1100	5100	900
6000	1000	5400	800
6300	900		
6600	800		

N4		N5	
Roof Span (mm)	Load Width (mm)	Roof Span (mm)	Load Width (mm)
3000	1900	3000	1300
3300	1600	3300	1000
3600	1300	3600	900
3900	1100	3900	700
4200	900		
4500	800		

ONE SIDE OPEN

CASE C

N1 & N2		N3	
Roof Span (mm)	Load Width (mm)	Roof Span (mm)	Load Width (mm)
3600	2600	3600	1600
3900	2200	3900	1400
4200	1900	4200	1200
4500	1600	4500	1000
4800	1400	4800	900
5100	1200	5100	800
5400	1100		
5700	900		
6000	800		

N4		N5	
Roof Span (mm)	Load Width (mm)	Roof Span (mm)	Load Width (mm)
3000	1500	3000	1000
3300	1300	3300	900
3600	1100	3600	700
3900	900		
4200	800		

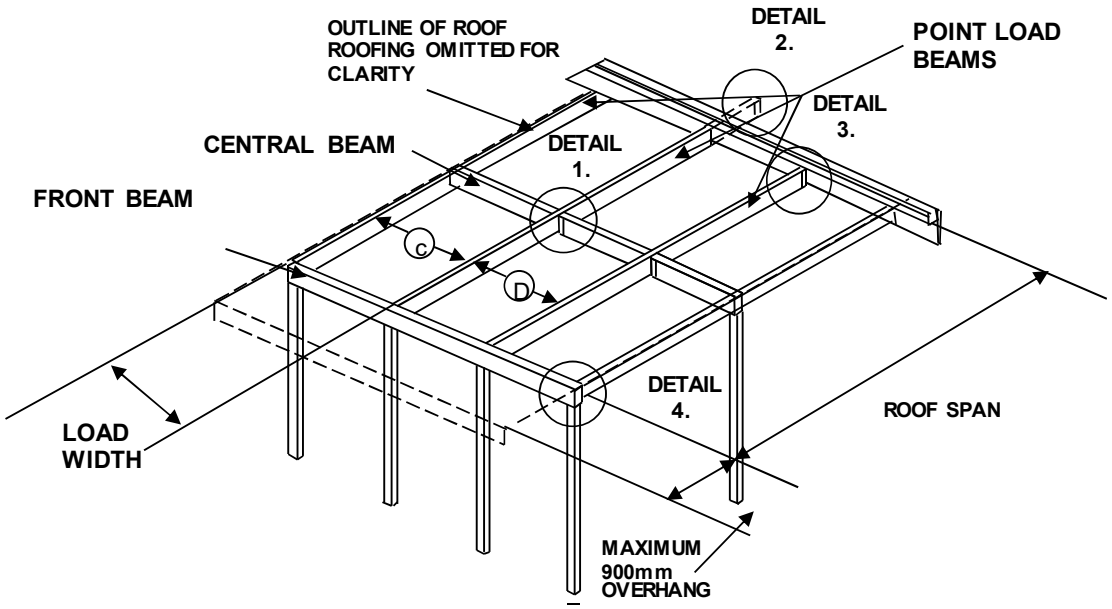
apollo ROOFING SOLUTIONS

POINT LOAD BEAM DESIGN

170 X 75 SINGLE BEAM

ANZPLB36 Edition 8

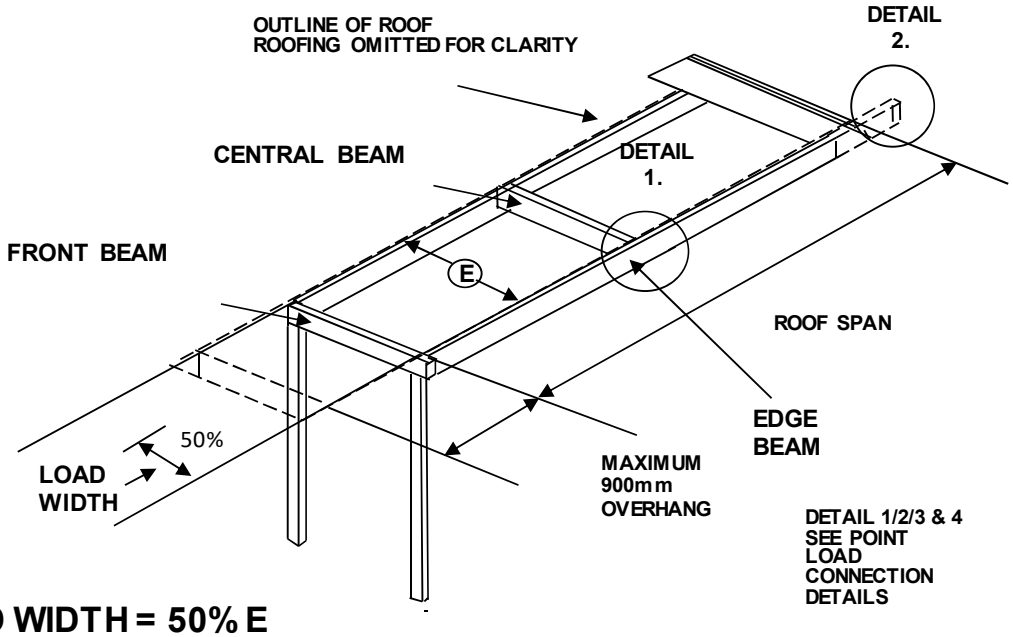
MULTIPLE MAXIMUM ROOF LOAD WIDTH



LOAD WIDTH=50% C + 50% D

ANZPLB36 designs the point load beam only. All central and front beams must conform to their respective charts

SINGLE MAXIMUM LOAD WIDTH



LOAD WIDTH = 50% E

apollo ROOFING SOLUTIONS

POINT LOAD BEAM DESIGN

170 X 75 SINGLE BEAM

ANZPLB36 **Edition 8**

CASE A THREE SIDES OPEN

N1 & N2

Roof Span (mm)	Load Width (mm)
4500	9400
4800	8200
5100	7300
5400	6500
5700	5800
6000	5200
6300	4700
6600	4300
6900	4000
7200	3600
7500	3300
7800	2900
8100	2500
8400	2200
8700	1900
9000	1600
9400	1300

N3

Roof Span (mm)	Load Width (mm)
4500	6000
4800	5200
5100	4600
5400	4100
5700	3700
6000	3300
6300	3000
6600	2700
6900	2500
7200	2100
7500	1850
7800	1650
8100	1400
8400	1300
8700	1200
9000	1000
9200	900

N4

Roof Span (mm)	Load Width (mm)
4000	5100
4200	4600
4500	4000
4800	3500
5100	3100
5400	2800
5700	2500
6000	2200
6300	2000
6600	1800
6900	1550
7200	1450
7500	1300
7800	1100
8100	1000
8400	900

N5

Roof Span (mm)	Load Width (mm)
3600	4200
3900	3600
4200	3100
4500	2700
4800	2400
5100	2100
5400	1900
5700	1700
6000	1500
6300	1300
6600	1200
6900	1000
7200	900

apollo ROOFING SOLUTIONS

POINT LOAD BEAM DESIGN

170 X 75 SINGLE BEAM

ANZPLB36 **Edition 8**

CASE B TWO SIDES OPEN

N1 & N2

Roof Span (mm)	Load Width (mm)
4500	6500
4800	5700
5100	5100
5400	4500
5700	4100
6000	3700
6300	3300
6600	3000
6900	2800
7200	2500
7500	2300
7800	2000
8100	1700
8400	1500
8700	1300
9000	1100
9400	900

N3

Roof Span (mm)	Load Width (mm)
4500	4200
4800	3700
5100	3200
5400	2900
5700	2600
6000	2300
6300	2100
6600	1900
6900	1700
7200	1500
7500	1300
7800	1200
8100	1000
8400	900
8700	800
9000	700
9200	600

N4

Roof Span (mm)	Load Width (mm)
4000	3500
4200	3200
4500	2800
4800	2400
5100	2200
5400	1900
5700	1700
6000	1500
6300	1400
6600	1200
6900	1100
7200	1000
7500	900
7800	750
8100	700
8400	600

N5

Roof Span (mm)	Load Width (mm)
3600	2900
3900	2500
4200	2200
4500	1900
4800	1600
5100	1500
5400	1300
5700	1200
6000	1000
6300	900
6600	800
6900	750
7200	650

apollo ROOFING SOLUTIONS

POINT LOAD BEAM DESIGN

170 X 75 SINGLE BEAM

ANZPLB36 **Edition 8**

CASE C ONE SIDE OPEN

N1 & N2

Roof Span (mm)	Load Width (mm)
4500	5400
4800	4800
5100	4200
5400	3800
5700	3400
6000	3000
6300	2700
6600	2500
6900	2300
7200	2000
7500	1800
7800	1600
8100	1400
8400	1200
8700	1100
9000	900
9400	700

N3

Roof Span (mm)	Load Width (mm)
4500	3500
4800	3000
5100	2700
5400	2400
5700	2100
6000	1900
6300	1700
6600	1600
6900	1400
7200	1300
7500	1200
7800	1000
8100	900
8400	800
8700	700
9000	600
9200	500

N4

Roof Span (mm)	Load Width (mm)
4000	2900
4200	2700
4500	2300
4800	2000
5100	1800
5400	1600
5700	1400
6000	1300
6300	1200
6600	1000
6900	900
7200	800
7500	700
7800	600
8100	550
8400	500

N5

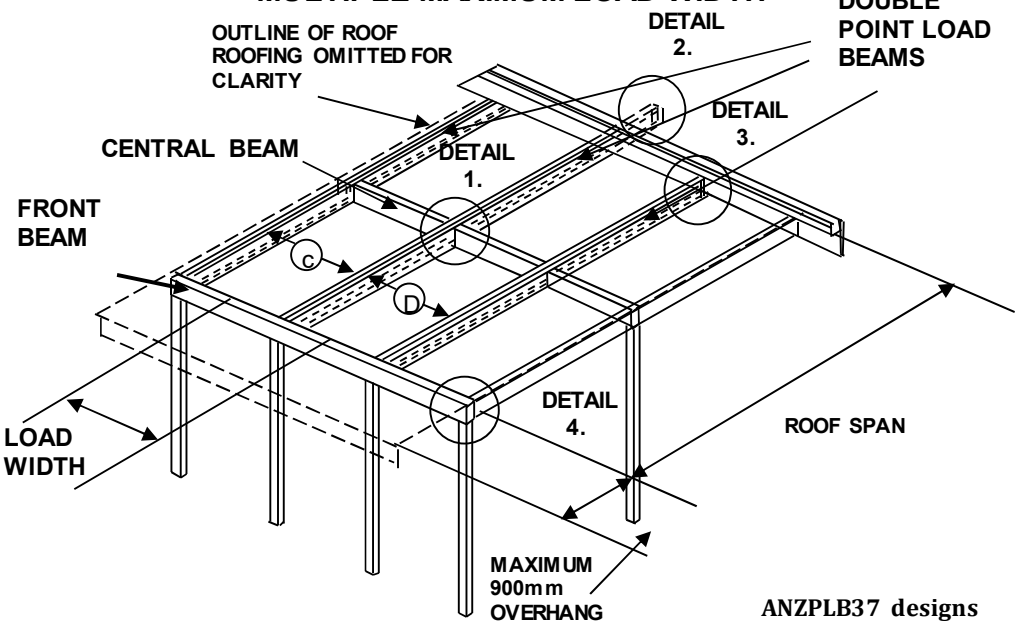
Roof Span (mm)	Load Width (mm)
3600	2300
3900	2000
4200	1800
4500	1600
4800	1400
5100	1200
5400	1100
5700	1000
6000	900
6300	800
6600	700
6900	600
7200	550

DOUBLE POINT LOAD BEAM DESIGN

2 X 170 X 75 BEAMS

ANZPLB37 **Edition 8**

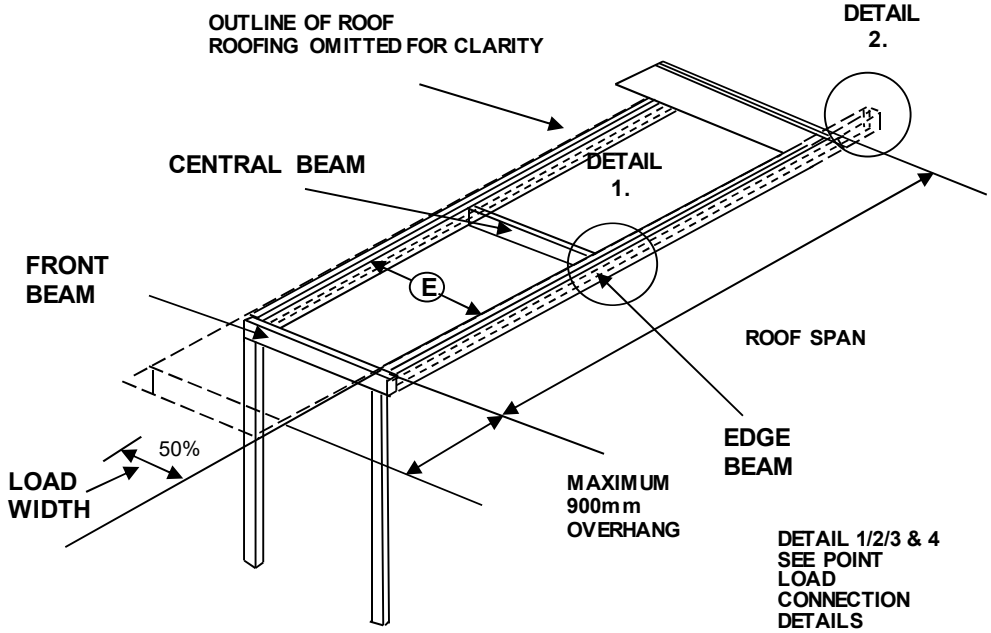
MULTIPLE MAXIMUM LOAD WIDTH



LOAD WIDTH =50% C + 50% D

ANZPLB37 designs the point load beam only. All central and front beams must conform to their respective charts

SINGLE MAXIMUM LOAD WIDTH



LOAD WIDTH = 50% E

apollo ROOFING SOLUTIONS

DOUBLE POINT LOAD BEAM DESIGN

2 X 170 X 75 BEAMS

ANZPLB37 **Edition 8**

CASE A THREE SIDES OPEN

N1 & N2

Roof Span (mm)	Load Width (mm)
4500	18800
4800	16500
5100	14600
5400	13000
5700	11700
6000	10500
6300	9500
6600	8700
6900	8000
7200	7300
7500	6700
7800	5800
8100	5100
8400	4400
8700	3800
9000	3200
9400	2600

N3

Roof Span (mm)	Load Width (mm)
4500	12000
4800	10500
5100	9300
5400	8300
5700	7500
6000	6700
6300	6100
6600	5500
6900	5100
7200	4200
7500	3700
7800	3300
8100	2800
8400	2600
8700	2400
9000	2100
9200	1900

N4

Roof Span (mm)	Load Width (mm)
4000	10200
4200	9200
4500	8000
4800	7100
5100	6300
5400	5600
5700	5000
6000	4500
6300	4100
6600	3700
6900	3100
7200	2900
7500	2600
7800	2200
8100	2100
8400	1900

N5

Roof Span (mm)	Load Width (mm)
3600	8500
3900	7300
4200	6300
4500	5500
4800	4800
5100	4200
5400	3800
5700	3400
6000	3000
6300	2600
6600	2500
6900	2000
7200	1800

apollo ROOFING SOLUTIONS

DOUBLE POINT LOAD BEAM DESIGN

2 X 170 X 75 BEAMS

ANZPLB37 **Edition 8**

CASE B TWO SIDES OPEN

N1 & N2

Roof Span (mm)	Load Width (mm)
4500	13100
4800	11500
5100	10200
5400	9100
5700	8200
6000	7400
6300	6700
6600	6100
6900	5600
7200	5100
7500	4700
7800	4100
8100	3500
8400	3000
8700	2600
9000	2300
9400	1800

N3

Roof Span (mm)	Load Width (mm)
4500	8400
4800	7400
5100	6500
5400	5800
5700	5200
6000	4700
6300	4200
6600	3900
6900	3500
7200	3000
7500	2600
7800	2400
8100	2000
8400	1900
8700	1700
9000	1400
9200	1300

N4

Roof Span (mm)	Load Width (mm)
4000	7100
4200	6500
4500	5600
4800	4900
5100	4400
5400	3900
5700	3500
6000	3100
6300	2800
6600	2400
6900	2200
7200	2000
7500	1900
7800	1550
8100	1500
8400	1300

N5

Roof Span (mm)	Load Width (mm)
3600	5900
3900	5100
4200	4400
4500	3800
4800	3300
5100	3000
5400	2600
5700	2400
6000	2100
6300	1900
6600	1700
6900	1500
7200	1300

apollo ROOFING SOLUTIONS

DOUBLE POINT LOAD BEAM DESIGN

2 X 170 X 75 BEAMS

ANZPLB37 **Edition 8**

CASE C ONE SIDE OPEN

N1 & N2

Roof Span (mm)	Load Width (mm)
4500	10900
4800	9600
5100	8500
5400	7600
5700	6800
6000	6100
6300	5500
6600	5100
6900	4600
7200	4000
7500	3600
7800	3200
8100	2900
8400	2500
8700	2200
9000	1900
9400	1500

N3

Roof Span (mm)	Load Width (mm)
4500	7000
4800	6100
5100	5400
5400	4800
5700	4300
6000	3900
6300	3500
6600	3200
6900	2900
7200	2700
7500	2500
7800	2100
8100	1900
8400	1600
8700	1400
9000	1200
9200	1100

N4

Roof Span (mm)	Load Width (mm)
4000	5900
4200	5400
4500	4700
4800	4100
5100	3600
5400	3200
5700	2900
6000	2600
6300	2400
6600	2100
6900	1800
7200	1600
7500	1400
7800	1200
8100	1150
8400	1100

N5

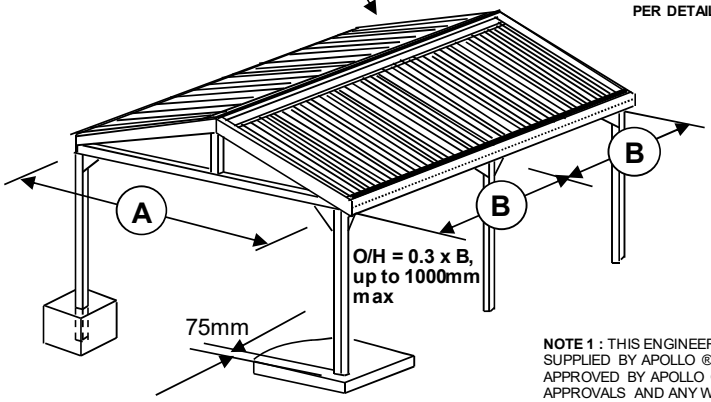
Roof Span (mm)	Load Width (mm)
3600	4600
3900	4000
4200	3600
4500	3200
4800	2800
5100	2500
5400	2200
5700	2000
6000	1800
6300	1600
6600	1400
6900	1300
7200	1100

FREESTANDING GABLE

140 x 50 BEAM

ANZGAC34 **Edition 8**

PRIOR TO WALKING ON ROOF - A TEMPORARY WALKWAY SHALL BE SUPPORTED ON PURLINS OR ROOF BEAMS IN ACCORDANCE WITH AS 1562.1-2018 (A SIGN TO THIS EFFECT WILL BE DISPLAYED ON THE ROOF)



ALL GABLE ENDS AND GABLES BETWEEN INTERMEDIATE POSTS ARE TO BE TRUSSED AS PER DETAILS.

ALL POSTS ARE TO HAVE GUSSET CONNECTIONS TO ALL SUPPORTED BEAMS AND TRUSSED GABLES. THE GABLE ENDS OF THE PATIO ARE NOT TO BE SHEETED. THE MAXIMUM POST HEIGHTS ARE AS PER ANZFC01

1 = RIDGE BEAM CONNECTION
2 = POSTS TO BEAM CONNECTION
REFER SEPARATE DIAGRAMS

A = ROOF PANEL SPAN
B = POST SPACING

NOTE 1 : THIS ENGINEERING MANUAL COVERS PRODUCTS SUPPLIED BY APOLLO ® AUSTRALIA. PRODUCTS NOT APPROVED BY APOLLO ® AUSTRALIA WILL VOID ENGINEERING APPROVALS AND ANY WARRANTIES EXPRESSED OR IMPLIED.
NOTE 2 : APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE APOLLO LIGHT PANELS AT SPANS GREATER THAN 3M

SPAN TABLES - SIMPLE SPAN

PERMISSIBLE BEAM LENGTH FOR RIDGE BEAM

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	6100	75 x 3.0 SHS
2700	5900	75 x 3.0 SHS
3000	5750	75 x 3.0 SHS
3300	5600	75 x 3.0 SHS
3600	5450	75 x 3.0 SHS
3900	5350	75 x 3.0 SHS
4200	5200	75 x 3.0 SHS
4400	5150	75 x 3.0 SHS
4700	5050	75 x 3.0 SHS

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	5350	75 x 3.0 SHS
2700	5150	75 x 3.0 SHS
3000	5000	75 x 3.0 SHS
3300	4850	75 x 3.0 SHS
3600	4700	75 x 3.0 SHS
3900	4600	75 x 3.0 SHS
4200	4500	75 x 3.0 SHS
4500	4400	75 x 3.0 SHS

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	4700	75 x 3.0 SHS
2700	4500	75 x 3.0 SHS
3000	4350	75 x 3.0 SHS
3300	4200	75 x 3.0 SHS
3600	4100	75 x 3.0 SHS
3900	3950	90 x 3.5 SHS

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	4100	75 x 3.0 SHS
2700	3900	90 x 3.5 SHS
3000	3700	90 x 3.5 SHS
3300	3550	90 x 3.5 SHS
3600	3400	90 x 3.5 SHS

For footing and slab attachment details refer to ANZFC01

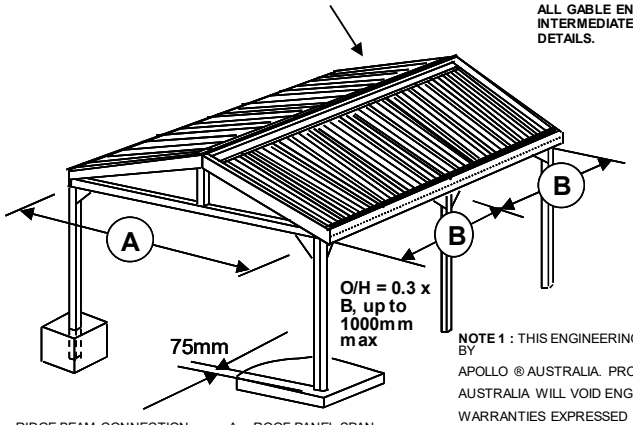
FREESTANDING GABLE

170 X 75 BEAM

ANZGAC35 **Edition 8**

PRIOR TO WALKING ON ROOF - A TEMPORARY WALKWAY SHALL BE SUPPORTED ON PURLINS OR ROOF BEAMS IN ACCORDANCE WITH AS 1562.1-2018 (A SIGN TO THIS EFFECT IS TO BE DISPLAYED PERMANENTLY ON THE ROOF)

ALL GABLE ENDS AND GABLES BETWEEN INTERMEDIATE POSTS ARE TO BE TRUSSED AS PER DETAILS.



ALL POSTS ARE TO HAVE GUSSET CONNECTIONS TO ALL SUPPORTED BEAMS AND TRUSSED GABLES. THE GABLE ENDS OF THE PATIO ARE NOT TO BE SHEETED. THE MAXIMUM POST HEIGHTS ARE AS PER ANZFC01

1 = RIDGE BEAM CONNECTION
2 = POSTS TO BEAM CONNECTION
REFER SEPARATE DIAGRAMS

A = ROOF PANEL SPAN
B = POST SPACING

NOTE 1 : THIS ENGINEERING MANUAL COVERS PRODUCTS SUPPLIED BY APOLLO ® AUSTRALIA. PRODUCTS NOT APPROVED BY APOLLO ® AUSTRALIA WILL VOID ENGINEERING APPROVALS AND ANY WARRANTIES EXPRESSED OR IMPLIED.

NOTE 2 : APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE LIGHT PANELS AT SPANS GREATER THAN 3M.

SPAN TABLES - SIMPLE SPAN — PERMISSIBLE BEAM LENGTH FOR RIDGE BEAM

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	9750	75 x 3.0 SHS
3000	9300	75 x 3.0 SHS
3600	8950	75 x 3.0 SHS
4200	8650	90 x 3.5 SHS
4800	8350	90 x 3.5 SHS
5400	8100	90 x 3.5 SHS
6000	7900	90 x 3.5 SHS
6600	7700	90 x 3.5 SHS
7200	7500	100 x 4.0 SHS
7800	7200	100 x 4.0 SHS
8400	6950	100 x 4.0 SHS

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	8800	75 x 3.0 SHS
3000	8350	90 x 3.5 SHS
3600	7950	90 x 3.5 SHS
4200	7600	90 x 3.5 SHS
4800	7250	100 x 4.0 SHS
5400	6800	100 x 4.0 SHS
6000	6450	100 x 4.0 SHS
6600	6150	100 x 4.0 SHS
7200	5900	100 x 4.0 SHS

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	7950	90 x 3.5 SHS
3000	7450	90 x 3.5 SHS
3600	6800	100 x 4.0 SHS
4200	6250	100 x 4.0 SHS
4800	5850	100 x 4.0 SHS
5400	5550	100 x 4.0 SHS
6000	5250	100 x 4.0 SHS

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	6800	100 x 4.0 SHS
3000	6100	100 x 4.0 SHS
3600	5550	100 x 4.0 SHS
4200	5150	100 x 4.0 SHS
4800	4500	100 x 4.0 SHS

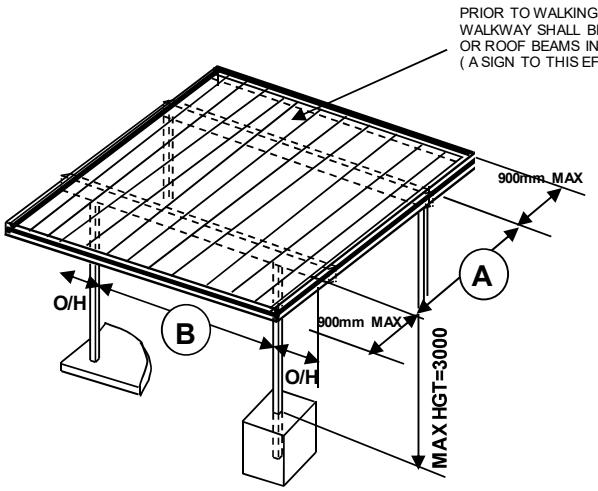
For footing and slab attachment details refer to ANZFC01

FREESTANDING PATIO

140 X 50 SINGLE BEAM

ANZFS23

Edition 8



NOTE 1 : APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE APOLLO LIGHT PANELS AT SPANS GREATER THAN 3M.

A = ROOF PANEL SPAN
B = POST SPACING
O/H = 30% OF (B) MAX. 1500mm

SPAN TABLES - SIMPLE SPAN

PERMISSIBLE BEAM LENGTH FOR BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

CASE A

	N1 & N2	
A (mm)	B (mm)	
Panel	Max. Post	Post
Spacing	Spacing	Required
2400	5200	75 x 3.0 SHS
2700	5050	75 x 3.0 SHS
3000	4900	75 x 3.0 SHS
3300	4800	75 x 3.0 SHS
3600	4650	75 x 3.0 SHS
3900	4550	75 x 3.0 SHS
4200	4450	75 x 3.0 SHS
4400	4400	75 x 3.0 SHS
4700	4300	75 x 3.0 SHS

	N3	
A (mm)	B (mm)	
Panel	Max. Post	Post
Spacing	Spacing	Required
2400	4200	75 x 3.0 SHS
2700	4100	75 x 3.0 SHS
3000	3950	90 x 3.5 SHS
3300	3850	90 x 3.5 SHS
3600	3750	90 x 3.5 SHS
3900	3650	90 x 3.5 SHS
4200	3600	90 x 3.5 SHS
4400	3550	90 x 3.5 SHS
4700	3450	90 x 3.5 SHS

	N4	
A (mm)	B (mm)	
Panel	Max. Post	Post
Spacing	Spacing	Required
2400	3500	90 x 3.5 SHS
2700	3400	90 x 3.5 SHS
3000	3200	90 x 3.5 SHS
3300	3000	90 x 3.5 SHS
3600	2850	90 x 3.5 SHS
3900	2700	90 x 3.5 SHS
4200	2550	100 x 4.0 SHS
4400	2450	100 x 4.0 SHS
4700	2350	100 x 4.0 SHS

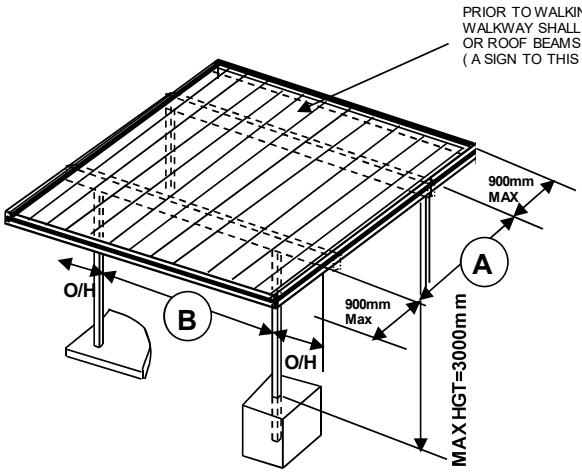
	N5	
A (mm)	B (mm)	
Panel	Max. Post	Post
Spacing	Spacing	Required
1800	2850	90 x 3.5 SHS
2100	2650	90 x 3.5 SHS
2400	2450	100 x 4.0 SHS
2700	2300	100 x 4.0 SHS
3000	2150	100 x 4.0 SHS
3100	2100	100 x 4.0 SHS

For footing and slab attachment details refer to ANZFC01

FREESTANDING PATIO

170 X 75 SINGLE BEAM

ANZFS28 **Edition 8**



NOTE 1 : APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE APOLLO LIGHT PANELS AT SPANS GREATER THAN 3M.

A = ROOF PANEL SPAN
B = POST SPACING
O/H = 30% OF (B) MAX. 1500mm

SPAN TABLES - SIMPLE SPAN — PERMISSIBLE BEAM LENGTH FOR BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	8500	75 x 3.0 SHS
2700	8300	75 x 3.0 SHS
3000	8200	75 x 3.0 SHS
3300	8050	75 x 3.0 SHS
3600	7900	75 x 3.0 SHS
3900	7800	75 x 3.0 SHS
4200	7700	90 x 3.5 SHS
4400	7650	90 x 3.5 SHS
4700	7550	90 x 3.5 SHS

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	7500	90 x 3.5 SHS
2700	7200	90 x 3.5 SHS
3000	6950	90 x 3.5 SHS
3300	6750	90 x 3.5 SHS
3600	6550	90 x 3.5 SHS
3900	6350	90 x 3.5 SHS
4200	6200	90 x 3.5 SHS
4400	6100	90 x 3.5 SHS
4700	5950	90 x 3.5 SHS

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	6050	90 x 3.5 SHS
2700	5850	90 x 3.5 SHS
3000	5650	90 x 3.5 SHS
3300	5450	100 x 4.0 SHS
3600	5300	100 x 4.0 SHS
3900	5200	100 x 4.0 SHS
4200	5050	100 x 4.0 SHS
4400	4950	100 x 4.0 SHS
4700	4850	100 x 4.0 SHS

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
1800	5350	100 x 4.0 SHS
2100	5150	100 x 4.0 SHS
2400	4950	100 x 4.0 SHS
2700	4800	100 x 4.0 SHS
3000	4600	100 x 4.0 SHS
3100	4600	100 x 4.0 SHS

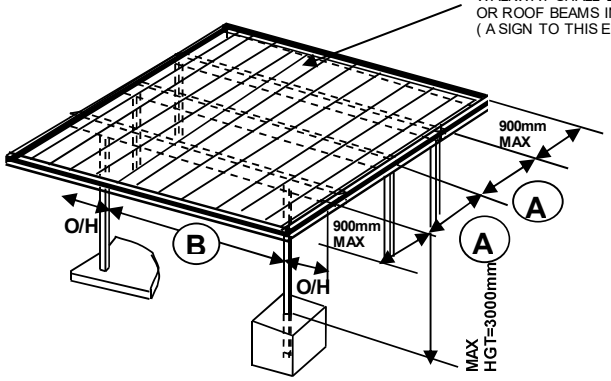
For footing and slab attachment details refer to ANZFC01

FREESTANDING PATIO

140 X 50 CENTRAL BEAM SPANS

ANZFS24

Edition 8



NOTE 1 : APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE APOLLO LIGHT PANELS AT SPANS GREATER THAN 3M.

A = ROOF PANEL SPAN
B = POST SPACING
O/H = 30% OF (B) MAX. 1500mm

SPAN TABLES - SIMPLE SPAN PERMISSIBLE BEAM LENGTH FOR INTERNAL BEAMS, REFER TO APPLICABLE CHARTS FOR FRONT & REAR BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	4900	75 x 3.0 SHS
2700	4650	75 x 3.0 SHS
3000	4450	75 x 3.0 SHS
3300	4250	75 x 3.0 SHS
3600	4100	75 x 3.0 SHS
3900	3950	75 x 3.0 SHS
4200	3800	75 x 3.0 SHS
4400	3750	75 x 3.0 SHS
4700	3650	75 x 3.0 SHS

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	3950	75 x 3.0 SHS
2700	3750	75 x 3.0 SHS
3000	3600	90 x 3.5 SHS
3300	3450	90 x 3.5 SHS
3600	3200	90 x 3.5 SHS
3900	2950	90 x 3.5 SHS
4200	2750	90 x 3.5 SHS
4400	2600	90 x 3.5 SHS
4700	2450	90 x 3.5 SHS

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	3200	90 x 3.5 SHS
2700	2850	90 x 3.5 SHS
3000	2550	90 x 3.5 SHS
3300	2300	90 x 3.5 SHS
3600	2100	90 x 3.5 SHS
3900	1950	90 x 3.5 SHS
4200	1800	100 x 4.0 SHS
4400	1750	100 x 4.0 SHS
4700	1600	100 x 4.0 SHS

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
1800	2850	90 x 3.5 SHS
2100	2450	90 x 3.5 SHS
2400	2150	100 x 4.0 SHS
2700	1900	100 x 4.0 SHS
3000	1700	100 x 4.0 SHS
3100	1650	100 x 4.0 SHS

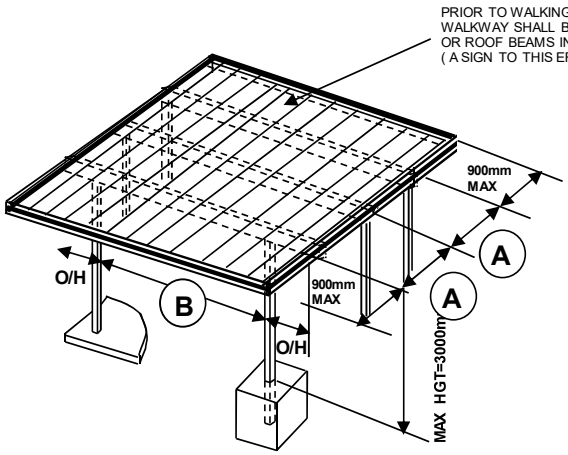
For footing and slab attachment details refer to ANZFC01

FREESTANDING PATIO

170 X 75 CENTRAL BEAM SPANS

ANZFS29

Edition 8



SPAN TABLES - SIMPLE SPAN PERMISSIBLE BEAM LENGTH FOR INTERNAL BEAMS REFER TO APPLICABLE CHARTS FOR FRONT & REAR BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	8200	75 x 3.0 SHS
2700	7950	75 x 3.0 SHS
3000	7750	75 x 3.0 SHS
3300	7500	75 x 3.0 SHS
3600	7250	75 x 3.0 SHS
3900	6950	75 x 3.0 SHS
4200	6700	90 x 3.5 SHS
4400	6500	90 x 3.5 SHS
4700	6300	90 x 3.5 SHS

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	7000	90 x 3.5 SHS
2700	6600	90 x 3.5 SHS
3000	6250	90 x 3.5 SHS
3300	5950	90 x 3.5 SHS
3600	5700	90 x 3.5 SHS
3900	5450	90 x 3.5 SHS
4200	5250	90 x 3.5 SHS
4400	5150	90 x 3.5 SHS
4700	4950	90 x 3.5 SHS

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
2400	5650	90 x 3.5 SHS
2700	5350	90 x 3.5 SHS
3000	5050	90 x 3.5 SHS
3300	4800	100 x 4.0 SHS
3600	4600	100 x 4.0 SHS
3900	4450	100 x 4.0 SHS
4200	4250	100 x 4.0 SHS
4400	4150	100 x 4.0 SHS
4700	4050	100 x 4.0 SHS

N5

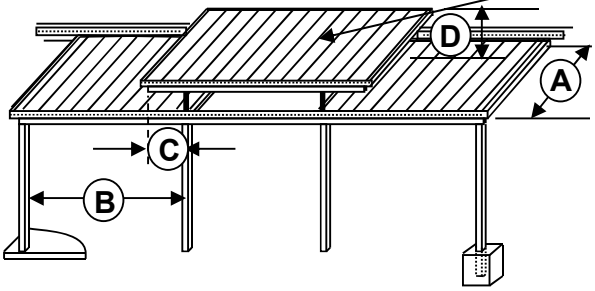
A (mm) Panel Spacing	B (mm) Max. Post Spacing	Post Required
1800	5350	100 x 4.0 SHS
2100	4950	100 x 4.0 SHS
2400	4650	100 x 4.0 SHS
2700	4350	100 x 4.0 SHS
3000	4150	100 x 4.0 SHS
3100	4050	100 x 4.0 SHS

For footing and slab attachment details refer to ANZFC01

BREEZE WAY PATIO COVER

140 X 50 BEAM

ANZBW20 **Edition 8**



PRIOR TO WALKING ON ROOF - A TEMPORARY WALKWAY SHALL BE SUPPORTED ON PURLINS OR ROOF BEAMS IN ACCORDANCE WITH AS 1562.1-2018 (A SIGN TO THIS EFFECT WILL BE DISPLAYED ON THE ROOF)

A = ROOF PANEL SPAN
B = POST SPACING
C = 30% OF (E) MAX. 1500mm
D = MAX HEIGHT 1100MM

FOR CASE A - OPEN 3 SIDES, HEIGHT OF PATIO FROM GROUND TO BE NO MORE THAN 75% OF ROOF HEIGHT. IF PATIO HEIGHT EXCEEDS 75% USE FIGURES FROM CASE B - OPEN 2 SIDES

NOTE 1 : APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE APOLLO LIGHT PANELS AT SPANS GREATER THAN 3M.

SPAN TABLES - SIMPLE SPAN

PERMISSIBLE BEAM LENGTH FOR EDGE BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

THREE SIDES OPEN
CASE A

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	6200
2700	6000
3000	5850
3300	5700
3600	5600
3900	5450
4200	5350
4400	5250
4700	5150

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5050
2700	5000
3000	4950
3300	4900
3600	4850
3900	4800
4200	4750
4400	4700
4700	4650

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4200
2700	4150
3000	4100
3300	4050
3600	4000
3900	3950
4200	3950
4400	3900
4700	3850

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3500
2700	3450
3000	3400
3300	3400
3600	3300
3900	3250
4200	3150
4400	3100
4600	3000

apollo ROOFING SOLUTIONS

BREEZE WAY PATIO COVER

140 X 50 BEAM

ANZBW20 **Edition 8**

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4600
2700	4450
3000	4350
3300	4200
3600	4100
3900	4000
4200	3900
4400	3850
4700	3800

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3750
2700	3600
3000	3500
3300	3400
3600	3250
3900	3100
4200	2950
4400	2850
4700	2700

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	2800
2700	2600
3000	2450
3300	2300
3600	2150
3900	2050
4200	1950
4400	1850
4700	1800

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	2200
2100	2000
2400	1850
2700	1750
3000	1650
3100	1600

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4200
2700	4100
3000	3950
3300	3850
3600	3750
3900	3650
4200	3600
4400	3550
4700	3450

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	3400
2700	3250
3000	3050
3300	2850
3600	2700
3900	2550
4200	2400
4400	2350
4700	2250

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	2700
2100	2500
2400	2300
2700	2150
3000	2000
3300	1900
3600	1800
3900	1700
4000	1650

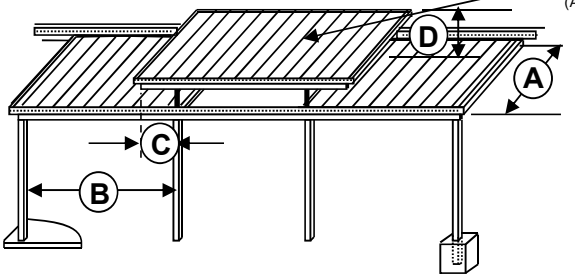
N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	1800
2100	1650
2400	1550
2500	1500

BREEZE WAY PATIO COVER

170 X 75 BEAM

ANZBW21 **Edition 8**



PRIOR TO WALKING ON ROOF - A TEMPORARY WALKWAY SHALL BE SUPPORTED ON PURLINS OR ROOF BEAMS IN ACCORDANCE WITH AS 1562.1-2018 (A SIGN TO THIS EFFECT WILL BE DISPLAYED ON THE ROOF)

A = ROOF PANEL SPAN
B = POST SPACING
C = 30% OF (E) MAX. 1500mm
D = MAX HEIGHT 1100MM

FOR CASE A - OPEN 3 SIDES, HEIGHT OF PATIO FROM GROUND TO BE NO MORE THAN 75% OF ROOF HEIGHT. IF PATIO HEIGHT EXCEEDS 75% USE FIGURES FROM CASE B - OPEN 2 SIDES

NOTE 1 : APOLLO LIGHT PANELS MUST BE INSTALLED WITH A MINIMUM OF 2 COMPLETE SHEETS BETWEEN SUCCESSIVE APOLLO LIGHT PANELS AT SPANS GREATER THAN 3M.

SPAN TABLES - SIMPLE SPAN

PERMISSIBLE BEAM LENGTH FOR EDGE BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

THREE SIDES OPEN
CASE A

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	9200
2700	9100
3000	8950
3300	8850
3600	8750
3900	8650
4200	8550
4400	8450
4700	8400

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	8300
2700	8300
3000	8250
3300	8200
3600	8150
3900	8100
4200	8000
4400	8000
4700	7950

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	7400
2700	7300
3000	7250
3300	7150
3600	7050
3900	6950
4200	6850
4400	6800
4700	6700

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	6050
2700	5950
3000	5900
3300	5850
3600	5750
3900	5700
4200	5600
4400	5550
4600	5500

apollo ROOFING SOLUTIONS

BREEZE WAY PATIO COVER

170 X 75 BEAM

ANZBW21 **Edition 8**

TWO SIDES OPEN
CASE B

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	7850
2700	7700
3000	7600
3300	7450
3600	7200
3900	7000
4200	6850
4500	6750
4700	6550

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	6500
2700	6250
3000	6050
3300	5850
3600	5700
3900	5550
4200	5400
4500	5300
4700	5200

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5250
2700	5100
3000	4950
3300	4800
3600	4650
3900	4500
4200	4400
4500	4350
4700	4250

N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	4650
2100	4500
2400	4300
2700	4200
3000	4050
3100	4000

ONE SIDE OPEN
CASE C

N1 & N2

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	7450
2700	7200
3000	6950
3300	6750
3600	6550
3900	6400
4200	6200
4400	6100
4700	5950

N3

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	5900
2700	5700
3000	5500
3300	5350
3600	5200
3900	5050
4200	4900
4500	4800
4700	4700

N4

A (mm) Panel Spacing	B (mm) Max. Post Spacing
2400	4800
2700	4650
3000	4500
3300	4350
3600	4250
3900	4200
4000	4100

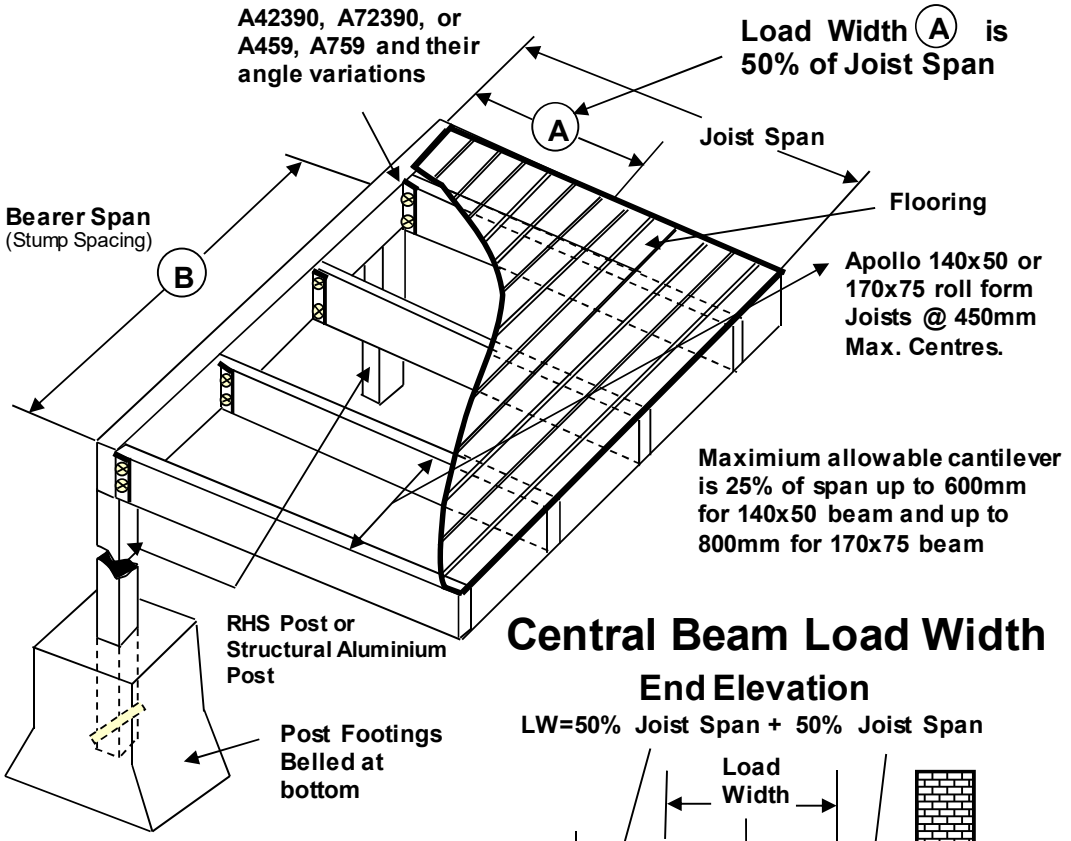
N5

A (mm) Panel Spacing	B (mm) Max. Post Spacing
1800	4250
2100	4100
2400	3950
2500	3900

apollo ROOFING SOLUTIONS

STEEL FLOORING STRUCTURES
FOR APOLLO 140 X 50 OR 170 X 75 BEAMS
Drawing No : ANZS.R.B.F.B.31 **Edition 8**

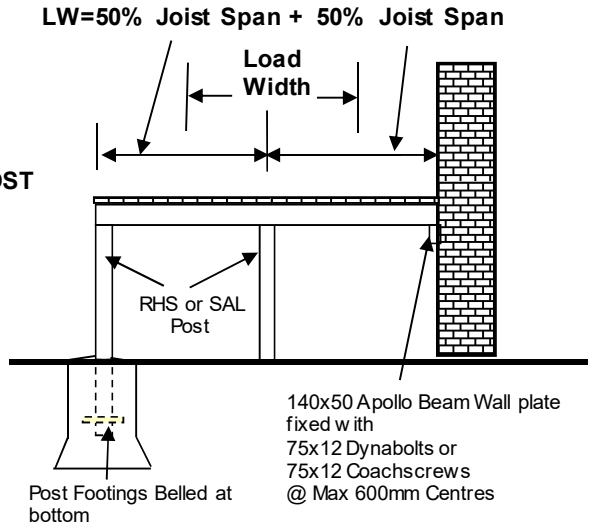
LAY OUT DETAIL SINGLE SPAN



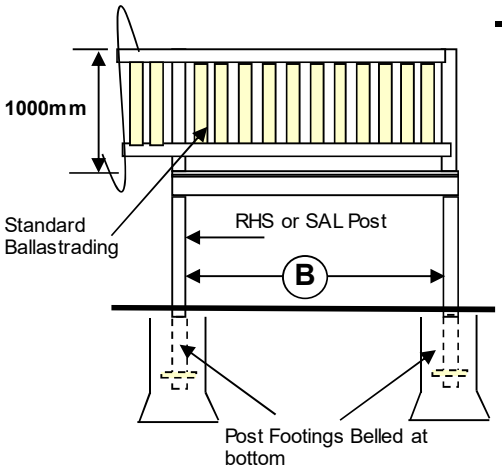
POST TO BEARER DETAIL AS PER POST

Central Beam Load Width

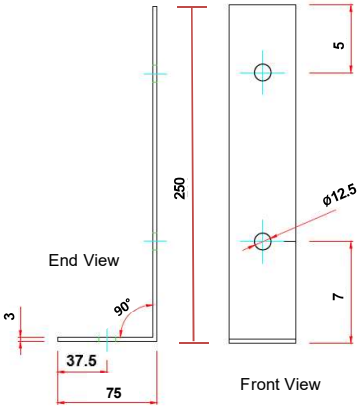
End Elevation



Front Elevation



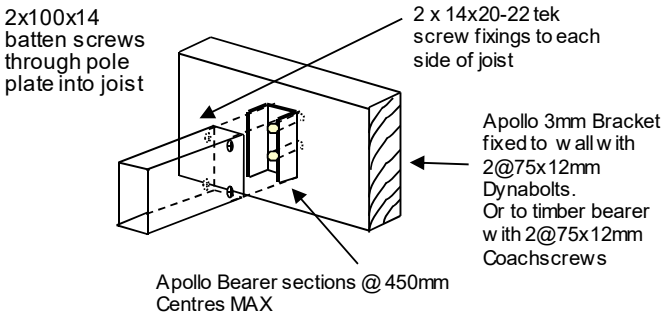
HOUSE JOIST POLE PLATE CLEAT - A278



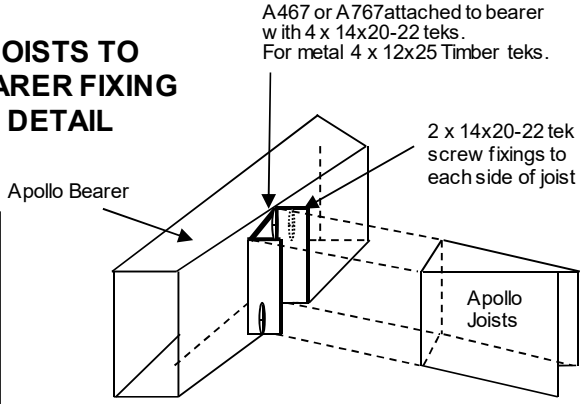
Fix with M12 bolts to suit

Capacity 5kN

JOISTS TO WALL FIXING DETAIL

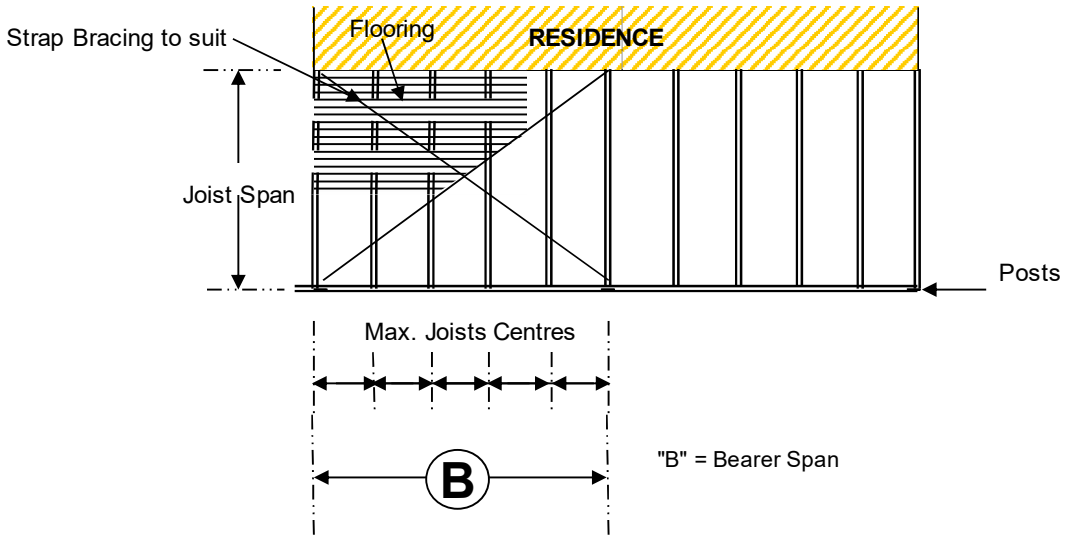


JOISTS TO BEARER FIXING DETAIL



MAXIMUM JOISTS CENTRES

FLOORING :	CENTRES :
19mm HARDWOOD	450mm MAX.
16mm COMPRESSED FIBRO	450mm MAX.
20mm COMPRESSED FIBRO	450mm MAX.
MODWOOD FLOORING	400mm MAX.
APOLLO ALUMINIUM DECKING	450mm MAX.



apollo ROOFING SOLUTIONS

STEEL FLOORING STRUCTURES (1 of 2)

FOR APOLLO 140 X 50 OR 170 X 75 BEAMS

ANZSF1 **Edition 8**

ALLOWABLE JOIST SPANS			
140x50 G300RFB		**170x75 G550RFB**	
1.5 kPa	3700mm	**1.5 kPa**	5200mm
2 kPa	3500mm	**2 kPa**	5000mm
4 kPa	3000mm	**4 kPa**	4400mm

LIVE LOAD	DESIGN LOAD
1.5kPa	2.6kPa
2 kPa	3.3kPa
4 kPa	6.3kPa

Note: The design load is the ultimate live load plus the factored dead load (0.25kPa).

The **1.5 kPa** rating applies to all balconies and decks for domestic residential activities up to 1m height.

The **2 kPa** rating applies to all balconies and decks for domestic residential activities above 1m height.

The **4 kPa** rating applies to all balconies and decks for communal access areas.

140X50 X0.8 G300 ROLLFORM BEAM (RFB) Bearer Span @ 1.5 kPa		140X50 X0.8 G300 ROLLFORM BEAM (RFB) Bearer Span @ 2 kPa	
Load Width Ⓐ	**Bearer Span Ⓑ**	**Load Width Ⓐ**	**Bearer Span Ⓑ**
1500	2840	1500	2580
1750	2700	1750	2450
2000	2580	2000	2340
2250	2480	2250	2180
2500	2390	2500	1870
2750	2220	2750	1630
3000	1950	3000	1460
3250	1740	3250	1400
3500	1560	3500	1350
3750	1470	3750	1300
4000	1420	4000	1240
4250	1380	4250	1200
4500	1340	4500	1150
4750	1290	4750	1100

140X50 X0.8 G300 ROLLFORM BEAM (RFB) Bearer Span @ 4 kPa	
Load Width Ⓐ	**Bearer Span Ⓑ**
1500	1710
1750	1420
2000	1320
2250	1220
2500	1140
2750	1060
3000	990
3250	930
3500	870
3750	820
4000	780
4250	730
4500	700
4750	660

apollo ROOFING SOLUTIONS

ANZSF1 STEEL FLOORING STRUCTURES (2 of 2)
FOR APOLLO 140 X 50 OR 170 X 75 BEAMS
Edition 8

170X75 G550 1.2 ROLLFORM BEAM (RFB)		170X75 G550 1.2 ROLLFORM BEAM (RFB)	
Bearer Span @ 1.5 kPa		Bearer Span @ 2 kPa	
Load Width Ⓐ	Bearer Span Ⓑ	Load Width Ⓐ	Bearer Span Ⓑ
1500	4110	1500	3730
1750	3900	1750	3550
2000	3730	2000	3390
2250	3590	2250	3260
2500	3470	2500	3150
2750	3360	2750	3050
3000	3260	3000	2960
3250	3180	3250	2880
3500	3100	3500	2810
3750	3030	3750	2750
4000	2960	4000	2530
4250	2900	4250	2310
4500	2850	4500	2120
4750	2650	4750	1960

170X75 G550 1.2 ROLLFORM BEAM (RFB)	
Bearer Span @ 4.0 kPa	
Load Width Ⓐ	Bearer Span Ⓑ
1500	2960
1750	2810
2000	2690
2250	2590
2500	2210
2750	1920
3000	1750
3250	1680
3500	1600
3750	1530
4000	1460
4250	1400
4500	1340
4750	1290

Footing Size mm	Floor Loading kPa		
	1.5kPa	2kPa	4kPa
300x300x400	4.0m²	3.2m²	1.8m²
400x400x400	7.0m²	5.6m²	3.1m²
500x500x400	11.0m²	8.8m²	4.9m²
600x600x400	15.8m²	12.7m²	7.0m²
700x700x400	21.6m²	17.2m²	9.6m²
800x800x400	28.2m²	22.5m²	12.5m²
900x900x400	35.6m²	28.5m²	15.8m²

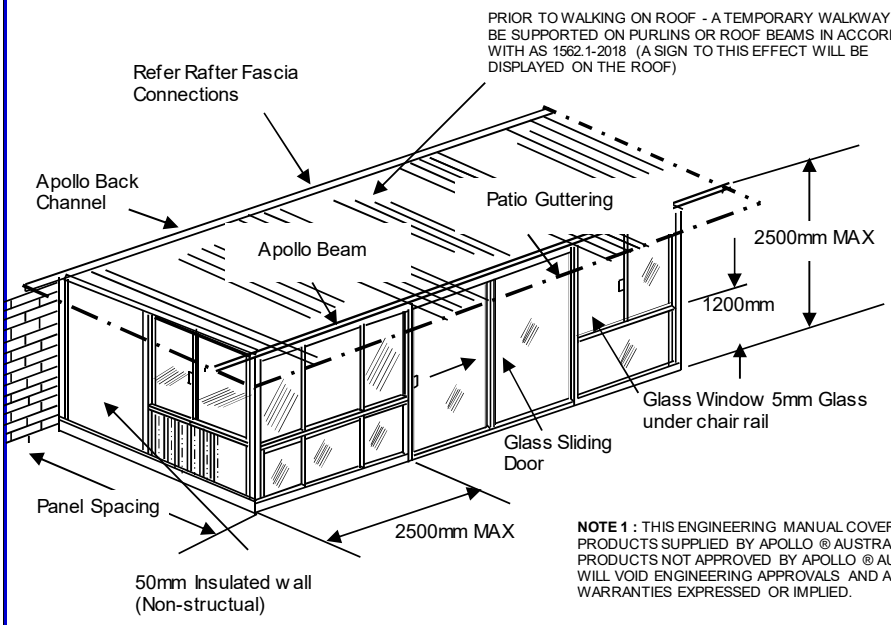
Note:Footings designed for a minimium of 100kPa allowable bearing pressure.

Note:If post is attached to patio roof,footing requirement for patio uplift is to be ascertained with largest footing size to apply.

GLASSED IN PATIO WITH 140 BEAM

SOLID WALL - NON CYCLONIC

ANZQG.V.Q.23.1 **Edition 8**



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SPAN TABLES - SIMPLE SPAN

PERMISSIBLE BEAM LENGTH FOR EDGE BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

ENCLOSED

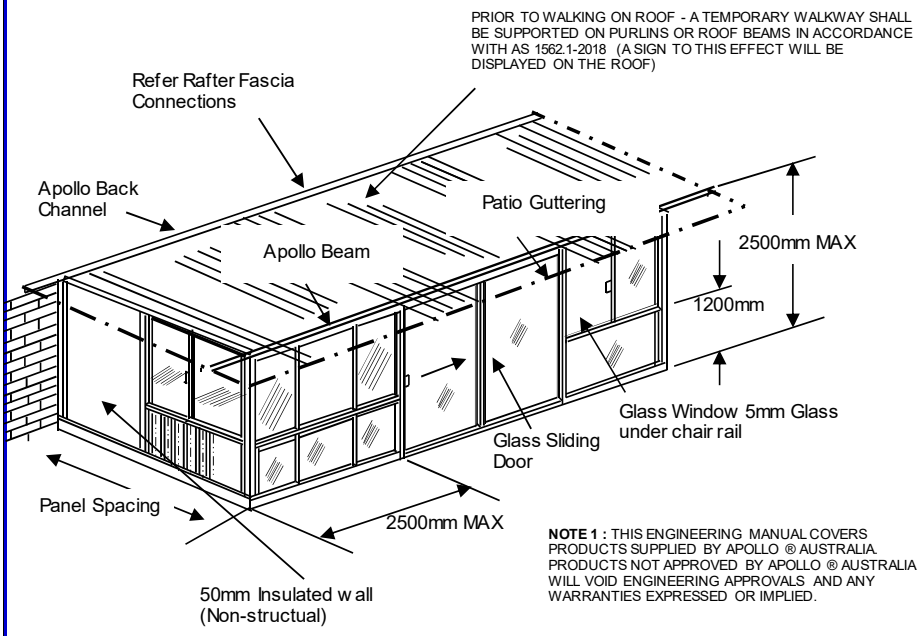
N1 & N2	
A (mm) Panel Spacing	**B (mm) Max. Post Spacing**
2400	4250
2700	4150
3000	4050
3300	3950
3600	3850
3900	3750
4200	3650
4400	3600
4700	3500

N3	
A (mm) Panel Spacing	**B (mm) Max. Post Spacing**
2400	3450
2700	3350
3000	3250
3300	3150
3600	3050
3900	2950
4200	2900
4500	2800

GLASSED IN PATIO WITH 170 BEAM

SOLID WALL - NON CYCLONIC

ANZQG.V.Q.23.2 **Edition 8**



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SPAN TABLES - SIMPLE SPAN

PERMISSIBLE BEAM LENGTH FOR EDGE BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

ENCLOSED

N1 & N2	
A (mm) Panel Spacing	**B (mm) Max. Post Spacing**
2400	7150
2700	6900
3000	6650
3300	6450
3600	6300
3900	6100
4200	5950
4400	5850
4700	5700

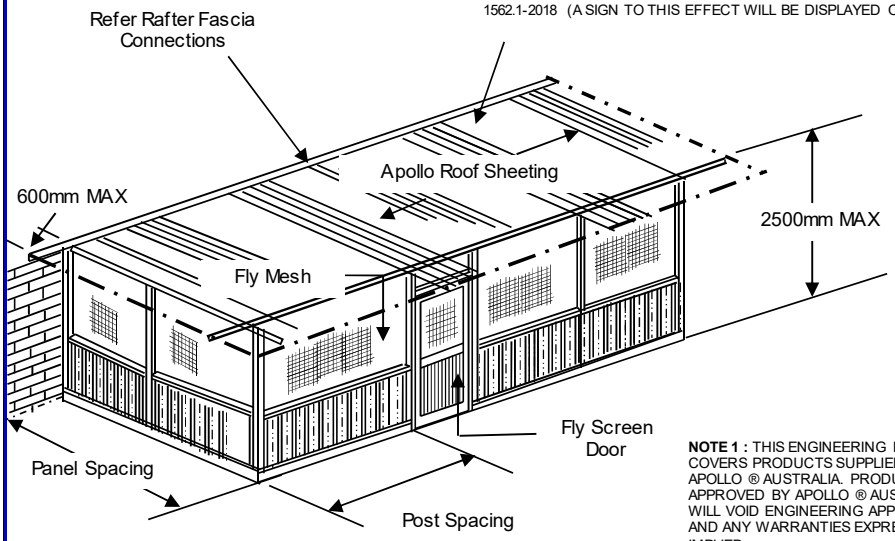
N3	
A (mm) Panel Spacing	**B (mm) Max. Post Spacing**
2400	5650
2700	5450
3000	5300
3300	5100
3600	5000
3900	4850
4200	4700
4500	4600

SCREEN ENCLOSURE WITH 140 BEAM

NON CYCLONIC

ANZQSEQ21.1 **Edition 8**

PRIOR TO WALKING ON ROOF - A TEMPORARY WALKWAY SHALL BE SUPPORTED ON PURLINS OR ROOF BEAMS IN ACCORDANCE WITH AS 1562.1-2018 (A SIGN TO THIS EFFECT WILL BE DISPLAYED ON THE ROOF)



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SPAN TABLES - SIMPLE SPAN

PERMISSIBLE BEAM LENGTH FOR EDGE BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

ENCLOSED

CASE A

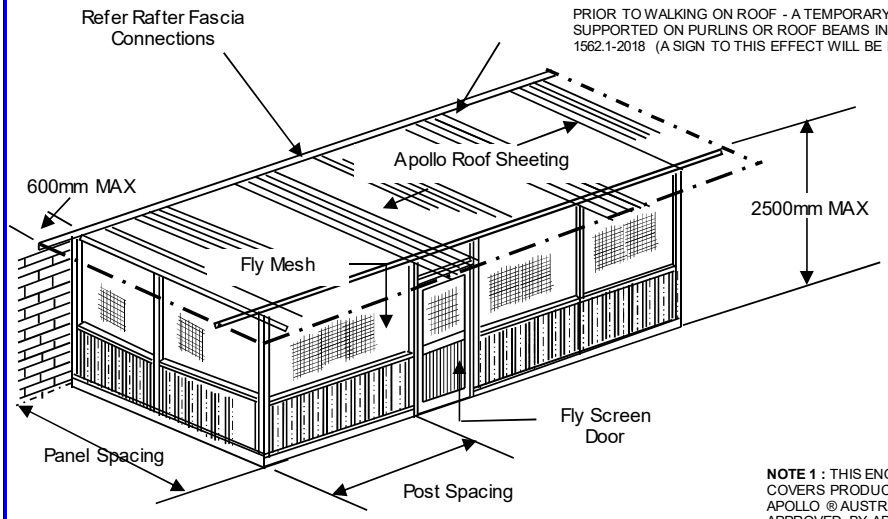
N1 & N2	
A (mm) Panel Spacing	**B (mm) Max. Post Spacing**
2400	3500
2700	3350
3000	3250
3300	3150
3600	3050
3900	3000
4200	2900
4400	2850
4700	2800

N3	
A (mm) Panel Spacing	**B (mm) Max. Post Spacing**
2400	2750
2700	2650
3000	2600
3300	2500
3600	2450
3900	2350
4200	2300
4500	2250

SCREEN ENCLOSURE WITH 170 BEAM

NON CYCLONIC

ANZQSEQ21.2 **Edition 8**



PRIOR TO WALKING ON ROOF - A TEMPORARY WALKWAY SHALL BE SUPPORTED ON PURLINS OR ROOF BEAMS IN ACCORDANCE WITH AS 1562.1-2018 (A SIGN TO THIS EFFECT WILL BE DISPLAYED ON THE ROOF)

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SPAN TABLES - SIMPLE SPAN

PERMISSIBLE BEAM LENGTH FOR EDGE BEAMS

THESE CALCULATIONS REPRESENT ALL APOLLO ROOFING PROFILES

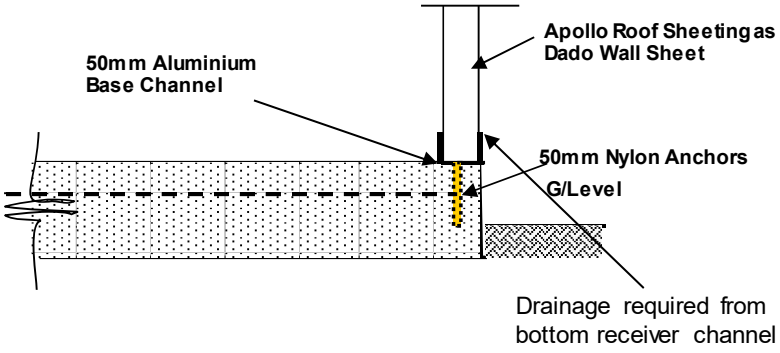
ENCLOSED

CASE A

N1 & N2	
A (mm) Panel Spacing	**B (mm) Max. Post Spacing**
2400	5700
2700	5500
3000	5350
3300	5150
3600	5000
3900	4900
4200	4750
4400	4700
4700	4550

N3	
A (mm) Panel Spacing	**B (mm) Max. Post Spacing**
2400	4550
2700	4350
3000	4250
3300	4100
3600	4000
3900	3900
4200	3800
4500	3700

FOOTING



FLASHINGS :

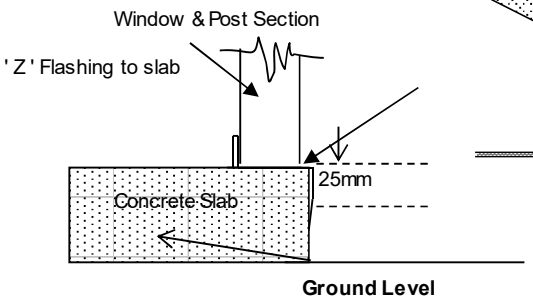
1 FLASH WINDOWS TO CONCRETE AS PER SEPARATE DIAGRAM " A "

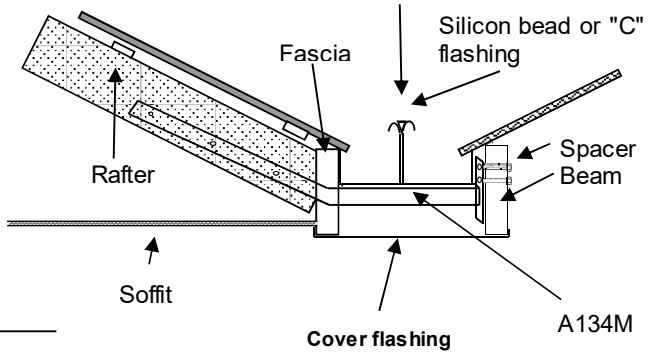
2 MAKE SURE ALL JOINTS ARE THOROUGHLY SEALED.

NOTES :

1 TO BE READ IN CONJUNCTION WITH SCREEN ENCLOSURE SPECIFICATION.
2 SPECIFICATIONS HAVE BEEN DESIGNED FOR WIND REGIONS **A ,B & C** AND MUST BE READ IN CONJUNCTION WITH APPROPRIATE ROOFING SPECIFICATION SHEET.

Kissing gutters or purpose folded box gutter. Seal top **only** overflows must not be obstructed

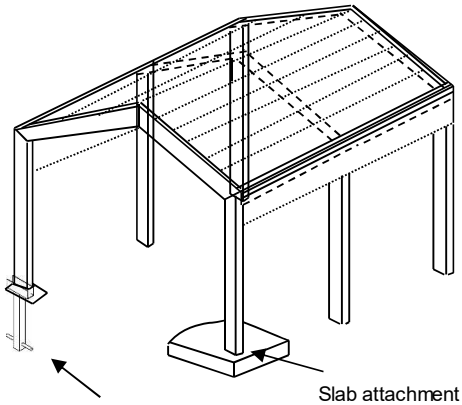




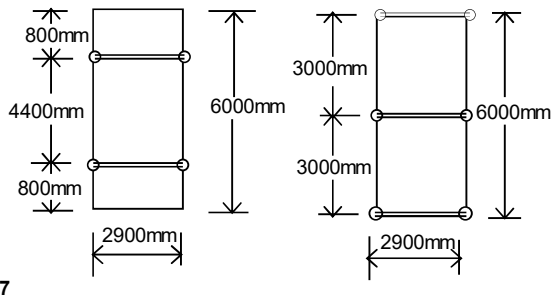
Rafter Brackets not required within 1800mm of a Valley or Hip. Maximum overhang = 900mm. Ties downs - Each rafter/truss overhang is to have one framing anchor with 4 nails each leg to each rafter/truss to top-plate.

APOLLO® CARAVAN & BOAT SHELTERS
CBS1-2T & CBS1-3T 6 x 2.9

Edition 8



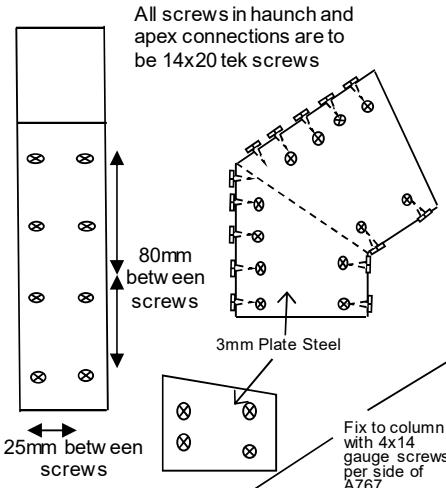
Portal & Footing Spaces



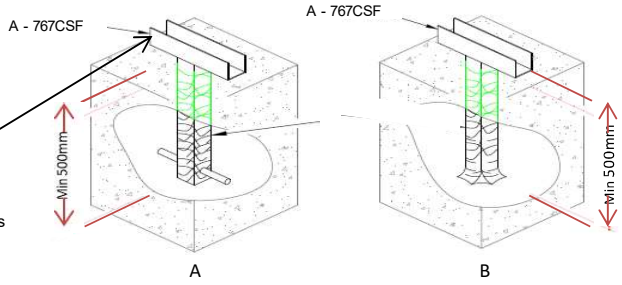
Notes

Beams connected with 4 x 10x16 tek screws per metre.
Roof sheets secured with 12x20 tek screws with neoprenes. Haunch and apex connections secured with 20 x 14x20 tek screws per leg (40 per connection).
Concrete to Apollo® Footing Code ANZFC01.
Beams may be square cut and flashed
Apex connector is **A757** 3mm plate steel
Knee connector is **A756** 3mm plate steel

Haunch Connection Details

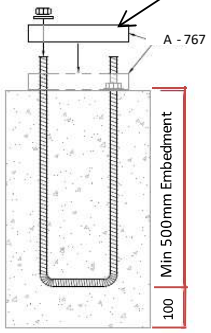


Post to Footings

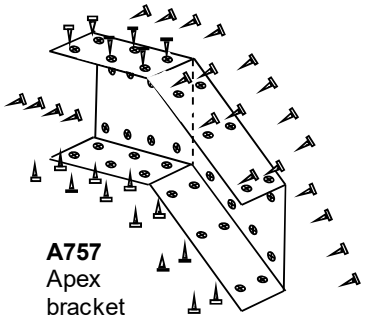


Option A: N12 Bar through post 50mm from end

Option B: Deform end of post

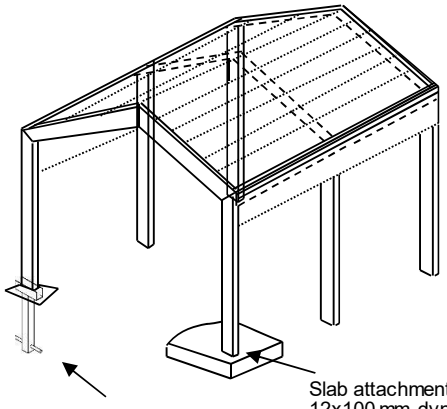


Post to Footings U-Bolt



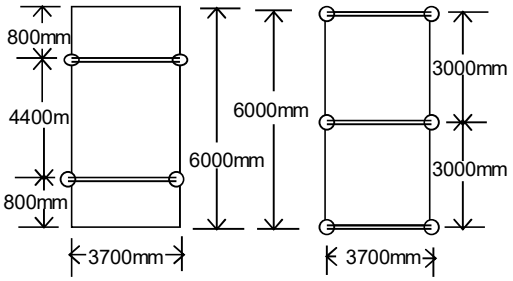
A757
Apex bracket

APOLLO® CARAVAN & BOAT SHELTERS
CBS2-2T & CBS2-3T 6 x 3.7
Edition 8



Portal & Footing Spaces

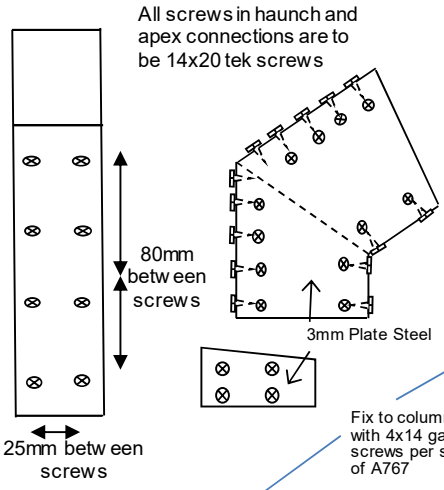
CBS2-2T N1 - N3 **CBS2-3T N1 - N4**



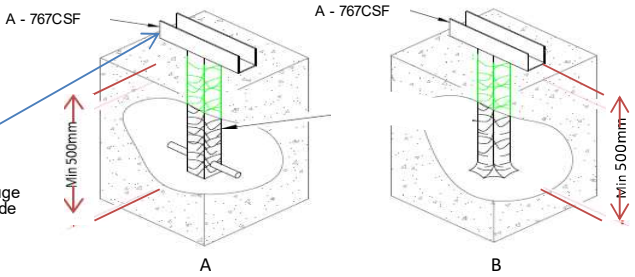
Notes

Beams connected with 4 x 10x16 tek screws per metre.
Roof sheets secured with 12x20 tek screws with neoprenes. Haunch and apex connections secured with 20 x 14x20 tek screws per leg (40 per connection).
Concrete to Apollo® Footing Code ANZFC01.
Beams may be square cut and flashed
Apex connector is **A757** 3mm plate steel
Knee connector is **A756** 3mm plate steel

Haunch Connection Details

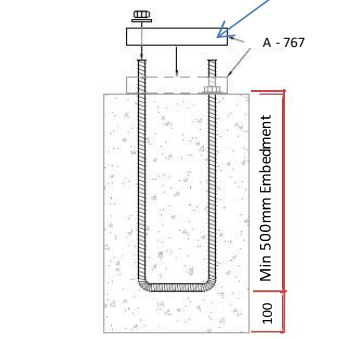


Post to Footings

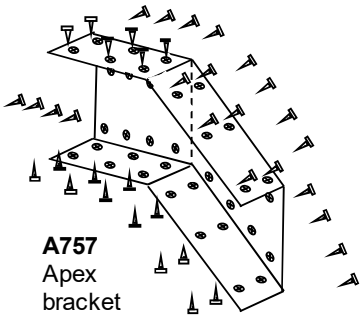


Option A: N12 Bar through post 50mm from end

Option B: Deformend of post



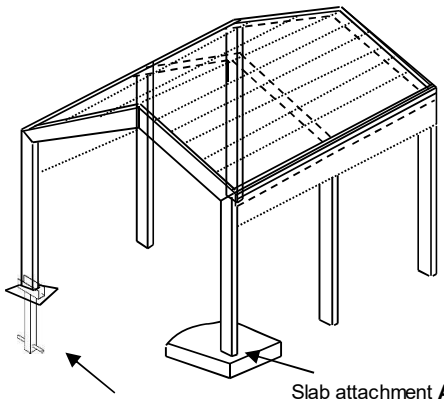
Post to Footings U-



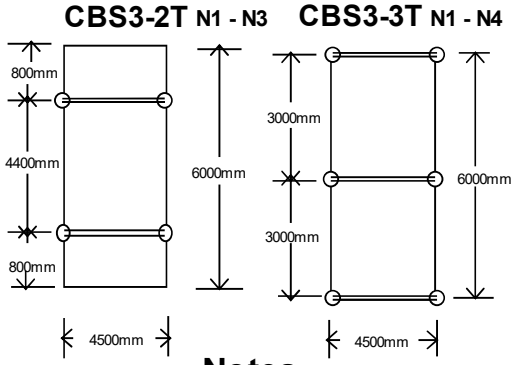
A757
Apex
bracket

APOLLO® CARAVAN & BOAT SHELTERS
CBS3-2T & CBS3-3T 6 x 4.5

Edition 8



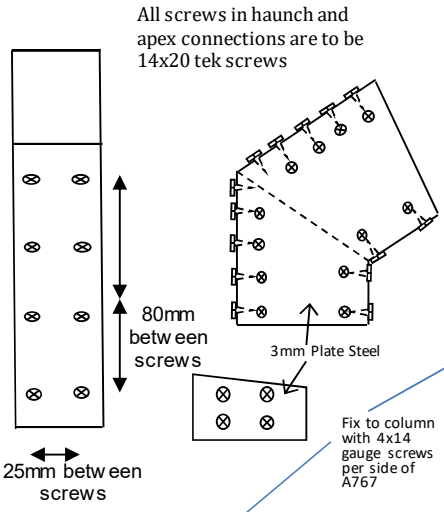
Portal & Footing Spaces



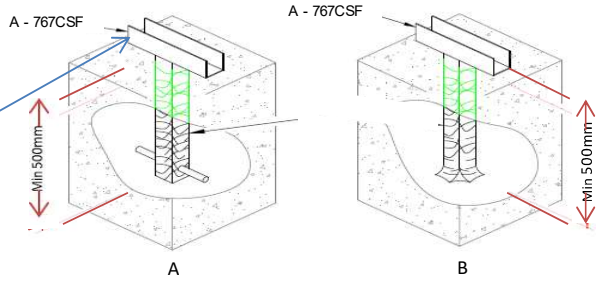
Notes

Beams connected with 4 x 10x16 tek screws per metre.
Roof sheets secured with 12x20 tek screws with neoprenes. Haunch and apex connections secured with 20 x 14x20 tek screws per leg (40 per connection).
Concrete to Apollo® Footing Code ANZFC01.
Beams may be square cut and flashed
Apex connector is **A757** 3mm plate steel
Knee connector is **A756** 3mm plate steel

Haunch Connection Details

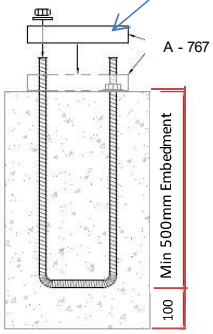


Post to Footings

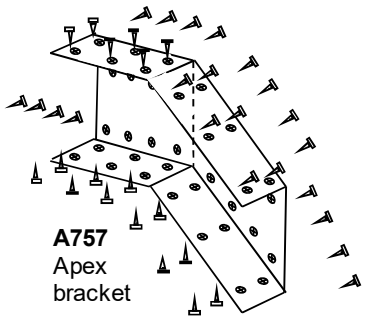


Option A: N12 Bar through post 50mm from end

Option B: Deform end of post

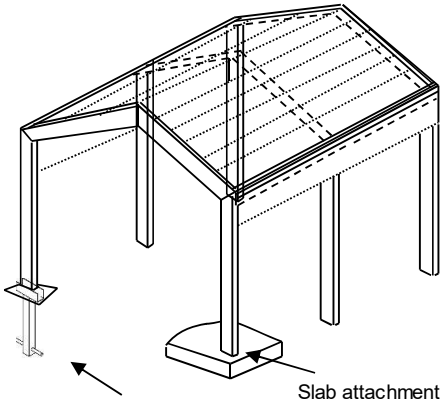


Post to Footings U-



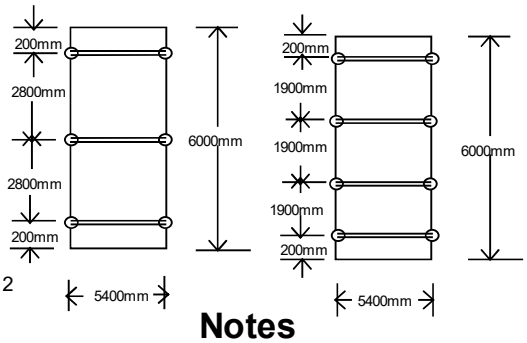
A757 Apex bracket

APOLLO® CARAVAN & BOAT SHELTERS
CBS4-3T & CBS4-4T 6 x 5.4
Edition 8



Portal & Footing Spaces

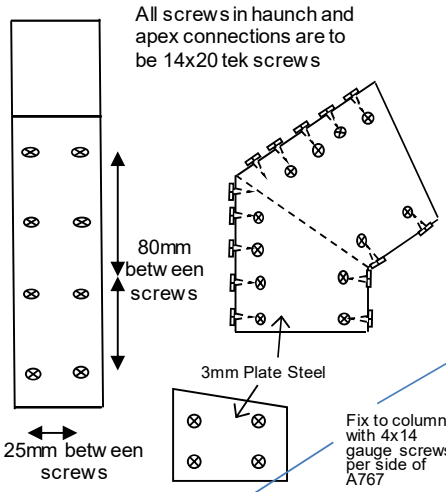
CBS4-3T N1 - N3 **CBS4-4T** N1 - N4



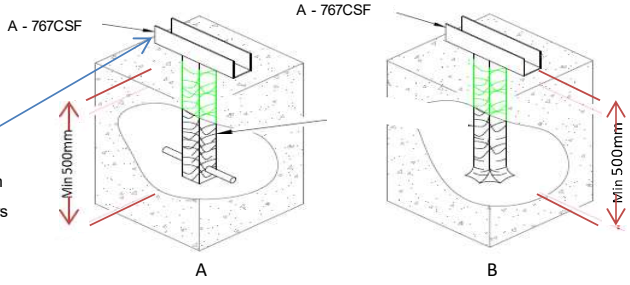
Notes

Beams connected with 4 x 10x16 tek screws per metre.
Roof sheets secured with 12x20 tek screws with neoprenes. Haunch and apex connections secured with 20 x 14x20 tek screws per leg (40 per connection).
Concrete to Apollo® Footing Code ANZFC01.
Beams may be square cut and flashed
Apex connector is **A757** 3mm plate steel
Knee connector is **A756** 3mm plate steel

Haunch Connection Details

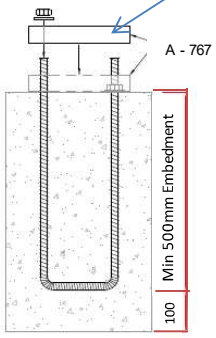


Post to Footings

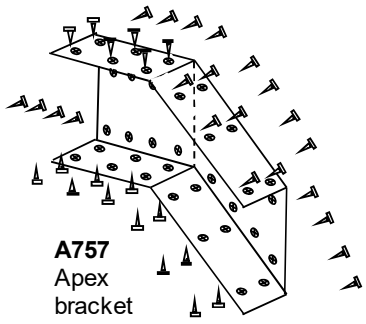


Option A: N12 Bar through post 50mm from end

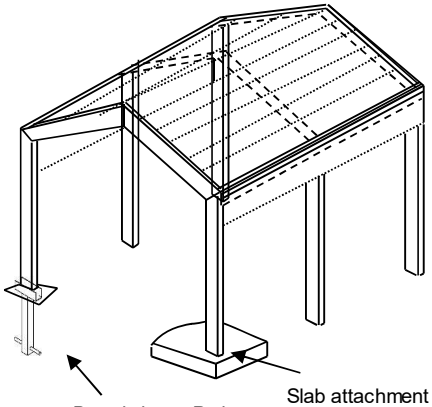
Option B: Deform end of post



Post to Footings U-Bolt



A757 Apex bracket

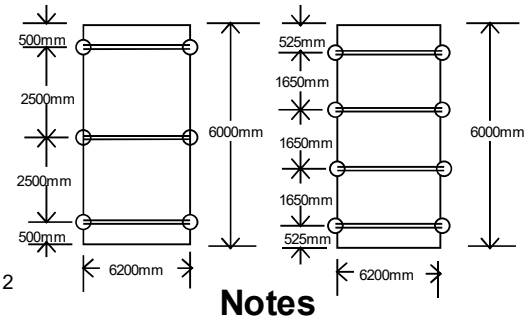


Bored pier or Pad Footings M12 U-Bolt 500mm embedment

Slab attachment **A767** with 2 x 12x100 mm dynabolts minimium

Portal & Footing Spaces

CBS5-3T N1 - N3 **CBS5-4T** N1 - N4

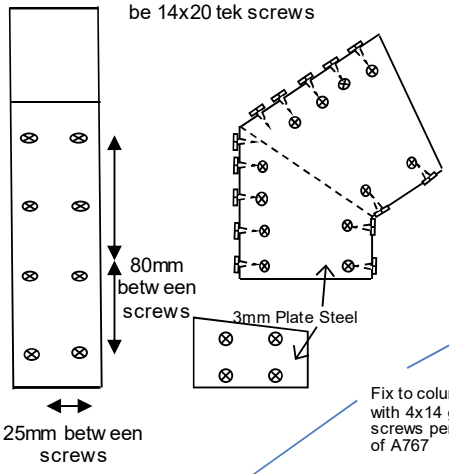


Notes

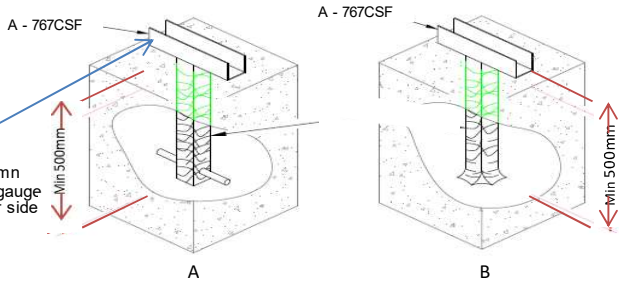
Roof sheets secured with 12x20 tek screws with neoprenes & Cyclone Washers. Haunch and apex connections secured with 20 x 14x20 tek screws per leg (40 per connection). Concrete to Apollo® Footing Code ANZFC01.
Beams may be squarecut and flashed
Apex connector is **A757** 3mm plate steel
Knee connector is **A756** 3mm plate steel

Haunch Connection Details

All screws in haunch and apex connections are to be 14x20 tek screws



Post to Footings

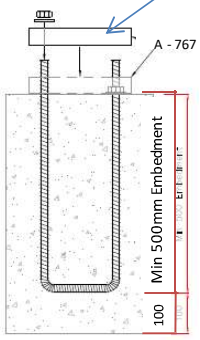


A

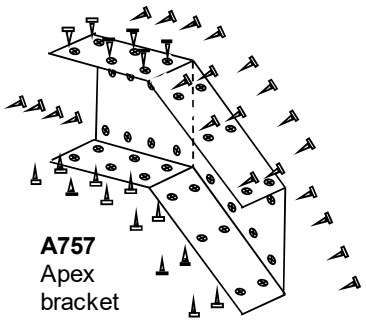
Option A: N12 Bar through post 50mm from end

B

Option B: Deformed end of post



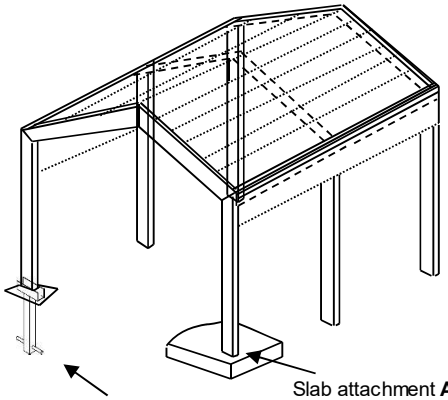
Post to Footings U-Bolt



A757
Apex bracket

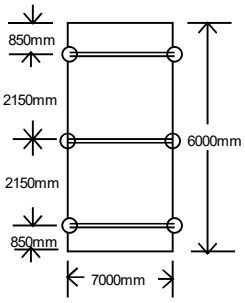
APOLLO® CARAVAN & BOAT SHELTERS
CBS6-3T & CBS6-4T 6 x 7.0

Edition 8

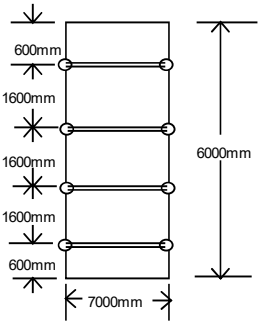


Portal & Footing Spaces

CBS6-3T N1 - N3



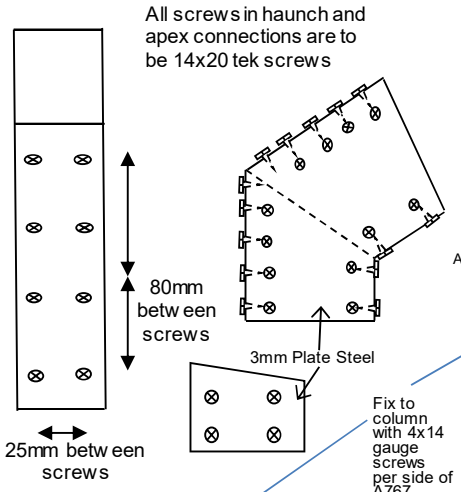
CBS6-4T N1 - N4



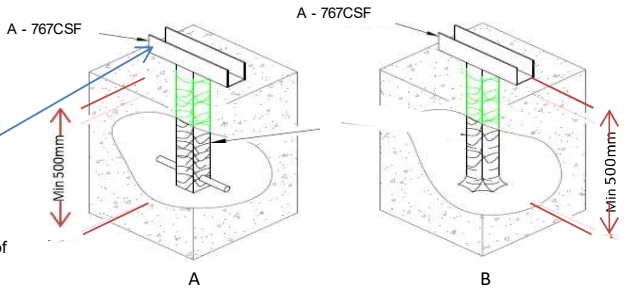
Notes

Beams connected with 4 x 10x16 tek screws per metre.
Roof sheets secured with 12x20 tek screws with neoprenes. Haunch and apex connections secured with 20 x 14x20 tek screws per leg (40 per connection).
Concrete to Apollo® Footing Code ANZFC01.
Beams may be square cut and flashed
Apex connector is **A757** 3mm plate steel
Knee connector is **A756** 3mm plate steel

Haunch Connection Details

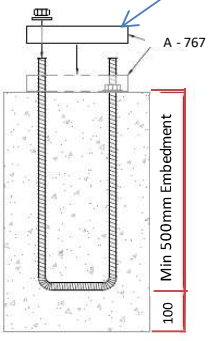


Post to Footings

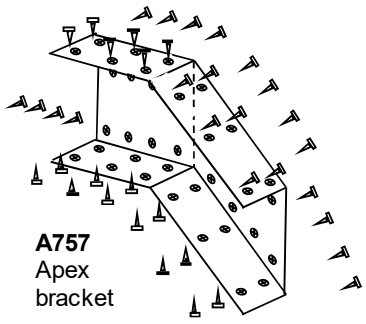


Option A: N12 Bar through post 50mm fromend

Option B: Deformend of post



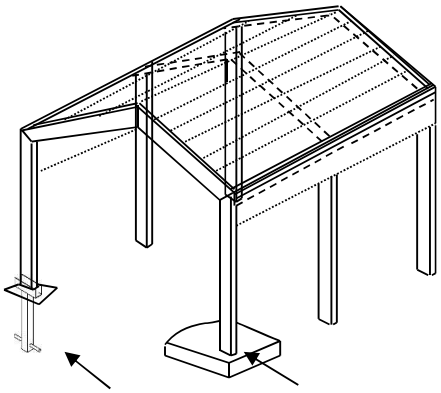
Post to Footings U-Bolt



A757
Apex bracket

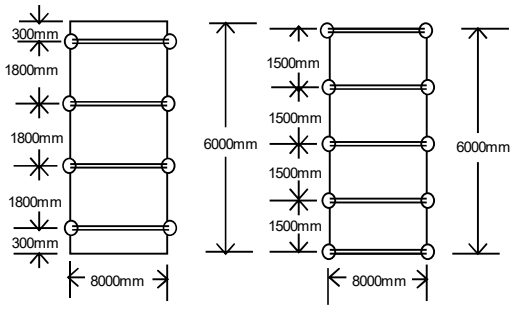
APOLLO® CARAVAN & BOAT SHELTERS
CBS7-4T & CBS7-5T 6 x 8.0

Edition 8



Portal & Footing Spaces

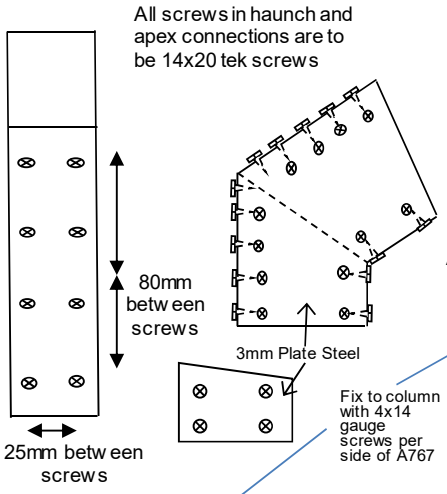
CBS7-4T N1 - N3 **CBS7-5T** N1 - N4



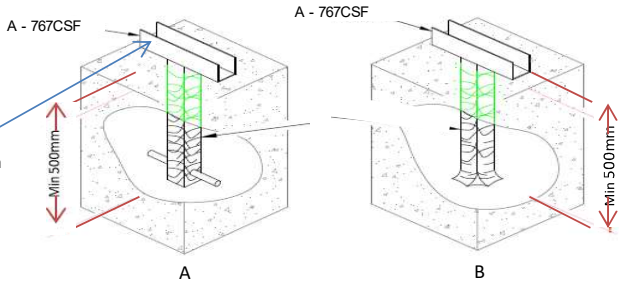
Notes

Beams connected with 4 x 10x16 tek screws per metre.
Roof sheets secured with 12x20 tek screws with neoprenes. Haunch and apex connections secured with 20 x 14x20 tek screws per leg (40 per connection).
Concrete to Apollo® Footing Code ANZFC01.
Beams may be square cut and flashed
Apex connector is **A757** 3mm plate steel
Knee connector is **A756** 3mm plate steel

Haunch Connection Details

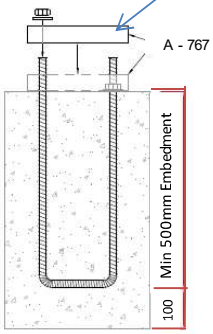


Post to Footings

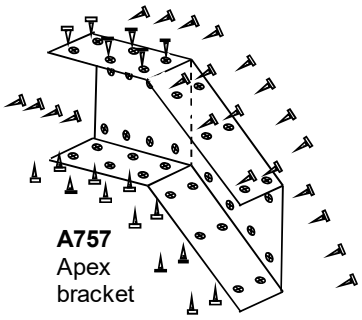


Option A: N12 Bar through post 50mm fromend

Option B: Deformend of post



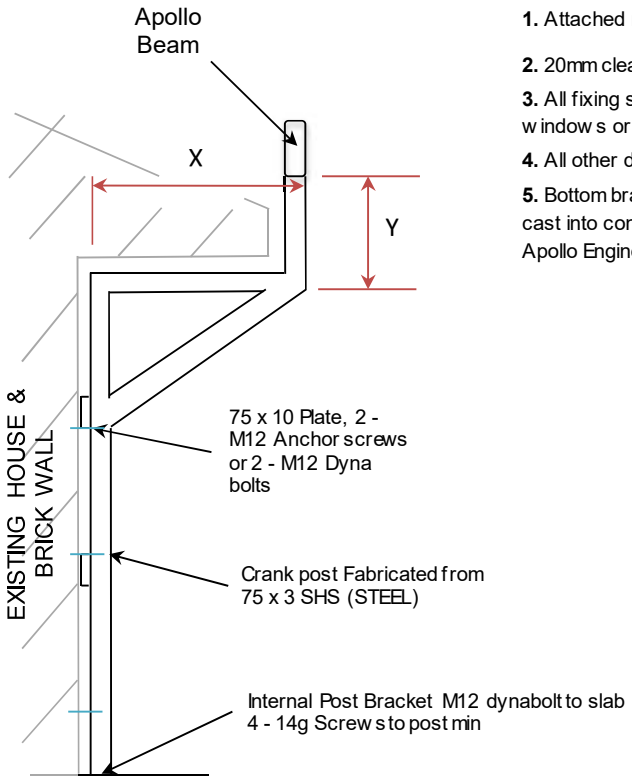
Post to Footings U-



A757 Apex bracket

APOLLO CRANK POST DETAILS
75mm x 3mm

Edition 8



Notes:

1. Attached roof to be max 5° pitch.

2. 20mm clearance shall be maintained to existing roof.

3. All fixing shall be kept a min of 100mm clear from doors, windows or edges of brickwork.

4. All other details to be as per Apollo Engineering manual.

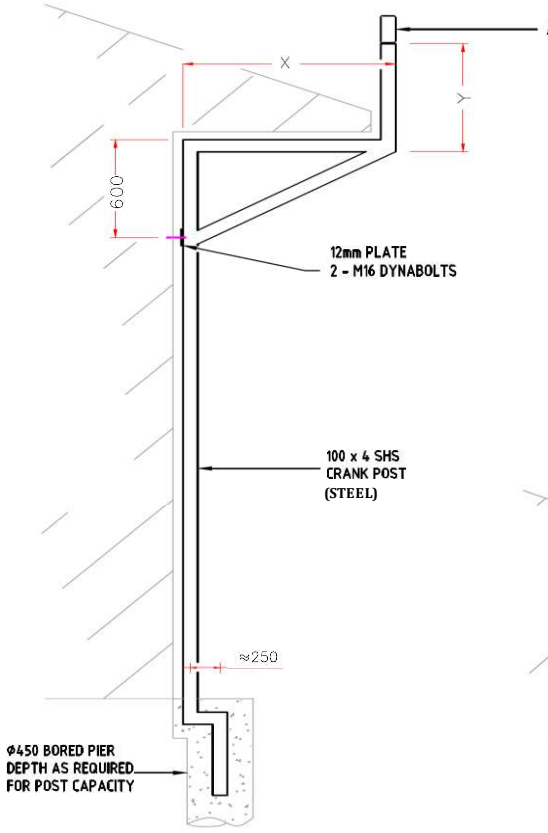
5. Bottom bracket details can be replaced with bottom of post cast into concrete footings of appropriate size. Refer to Apollo Engineering Manual for pad footing size.

Crank Post Capacity (kN)						
	0.6	**0.8**	**1**	**1.2**	**1.4**	(X (m))
0.0	10.0	8.0	6.4	5.4	4.6	
0.2	10.0	7.7	6.2	5.2	4.5	
0.4	9.6	7.4	6.0	5.1	4.4	
0.6	9.1	7.1	5.8	4.9	4.3	
0.8	8.6	6.8	5.6	4.8	4.2	
1.0	8.2	6.6	5.4	4.7	4.1	
1.2	7.9	6.3	5.3	4.5	4.0	
1.4	7.5	6.1	5.1	4.4	3.9	

(Y(m))

APOLLO CRANK POST DETAILS
100mm x 4mm

Edition 8



NOTES:

1. ATTACHED ROOF TO BE MAX 5° PITCH.
2. 20mm CLEARANCE SHALL BE MAINTAINED TO EXISTING ROOF.
3. ALL FIXING SHALL BE KEPT A MIN OF 100mm CLEAR FROM DOORS, WINDOWS OR EDGES OF BRICKWORK.
4. ALL OTHER DETAILS TO BE AS PER APOLLO ENGINEERING MANUAL.
5. TABLE - 1 - CAPACITIES APPLIES TO SLAB DRAWING
6. TABLE - 2 - CAPACITIES APPLIES TO BOTH DRAWINGS

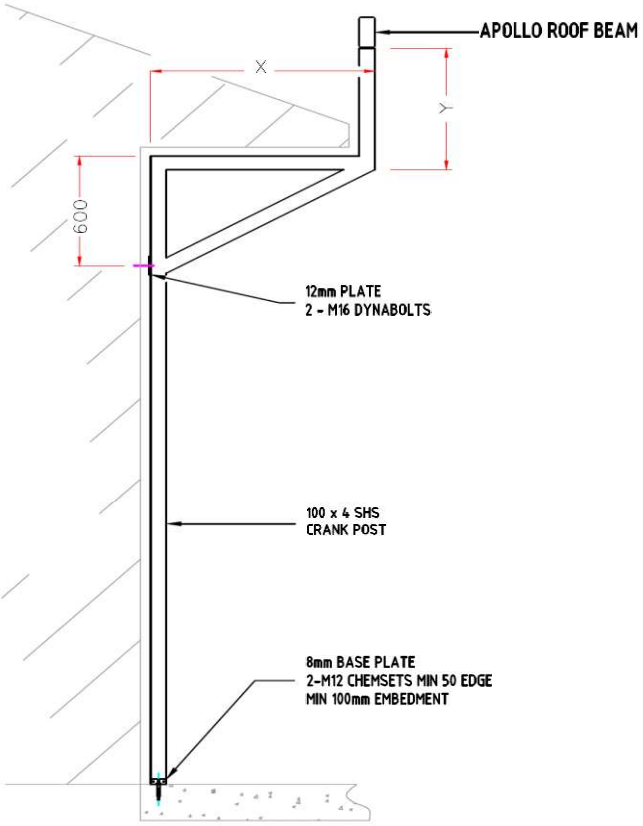


TABLE 1

Slab Uplift Capacity (kN)						
(B m)		2	2.5	3	3.5	4
(A m)	2	8.64	10.8	12.96	15.12	17.28
	2.5	10.8	13.5	16.2	18.9	21.6
	3	12.96	16.2	19.44	22.68	25.92
	3.5	15.12	18.9	22.68	26.46	30.24
	4	17.28	21.6	25.92	30.24	34.56

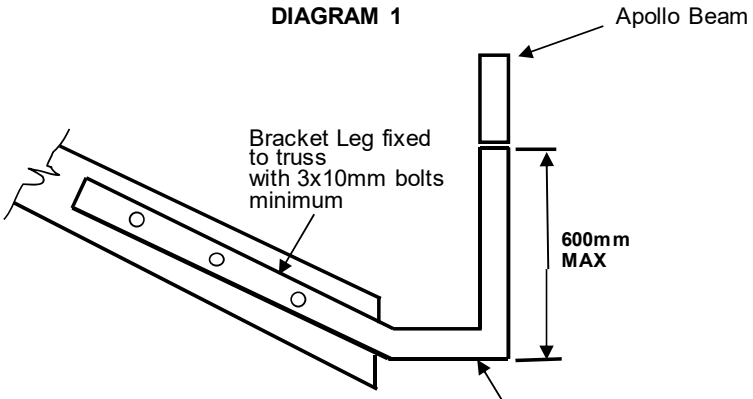
TABLE 2

Crank Post Capacity (kN)						
(X m)		0.6	0.8	1	1.2	1.4
(Y m)	0	27	21.6	18	15.5	13.5
	0.2	26.5	21.2	17.6	15.2	13.3
	0.4	25.8	20.8	17.4	15	13.1
	0.6	25.2	20.4	17.2	14.8	12.9
	0.8	24.6	20	17	14.6	12.7
	1	24.2	19.6	16.8	14.4	12.5
	1.2	23.8	19.2	16.6	14.2	12.3
	1.4	23.4	18.8	16.4	14	12.1

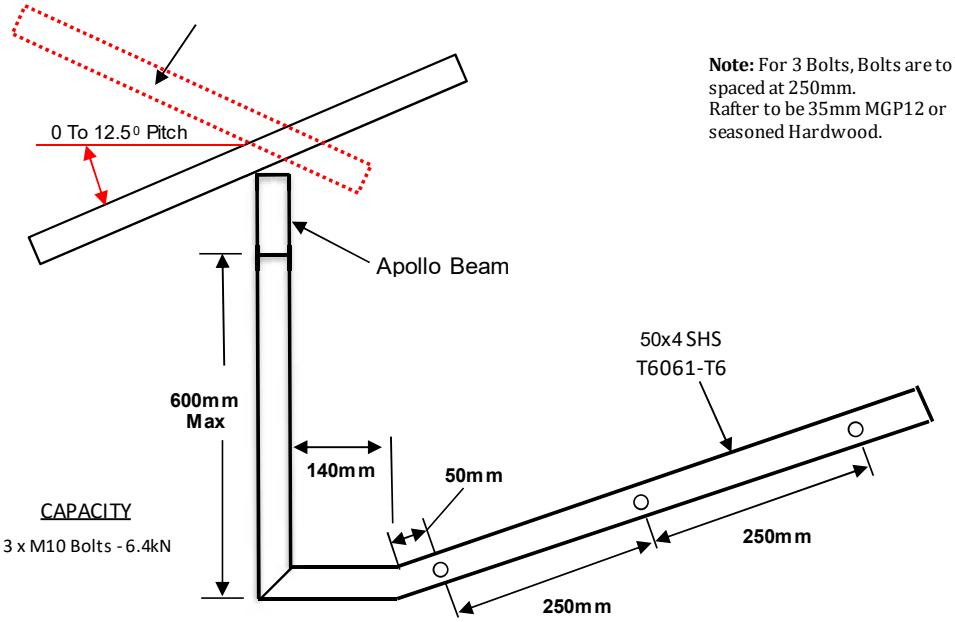
ALUMINIUM BUILT OVER ROOF STEEL FASCIA DETAILS

Edition 8

DIAGRAM 1

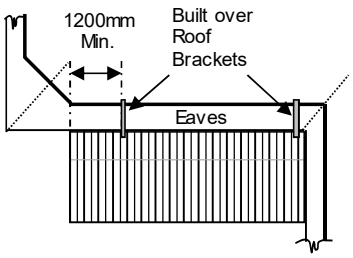


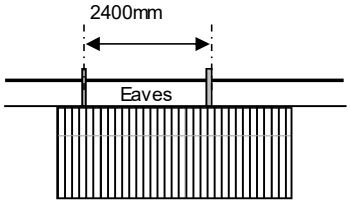
Note:Roof must not fall in this direction unless a suitably qualified individual has assessed if existing roof, gutters and downpipes can handle additional water load from increase in roof area.



Note: For 3 Bolts, Bolts are to be spaced at 250mm.
Rafter to be 35mm MGP12 or seasoned Hardwood.

PLAN





BUILT OVER ROOF
TIMBER FASCIA DETAILS

Edition 8

Diagram 1

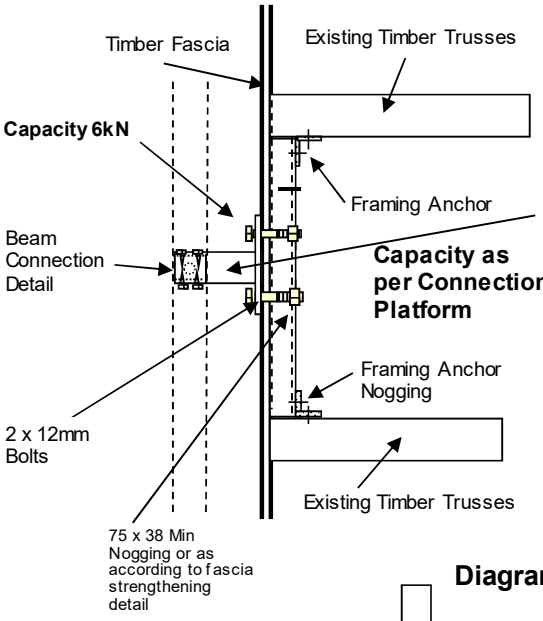


Diagram 2

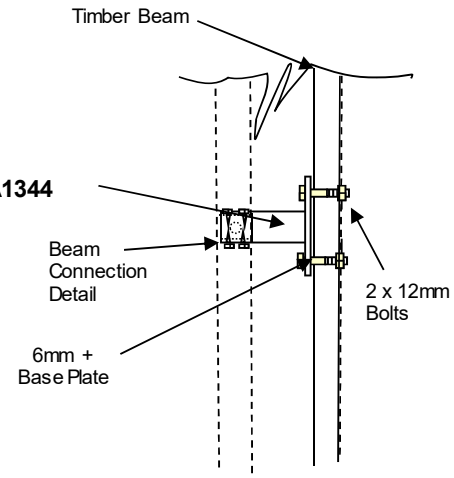


Diagram 3

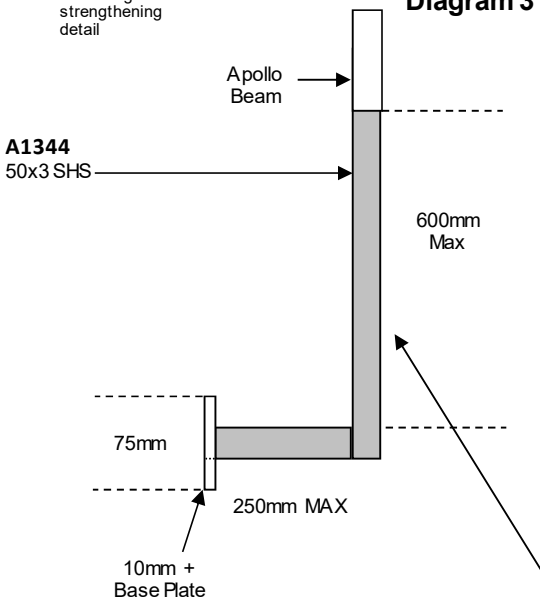
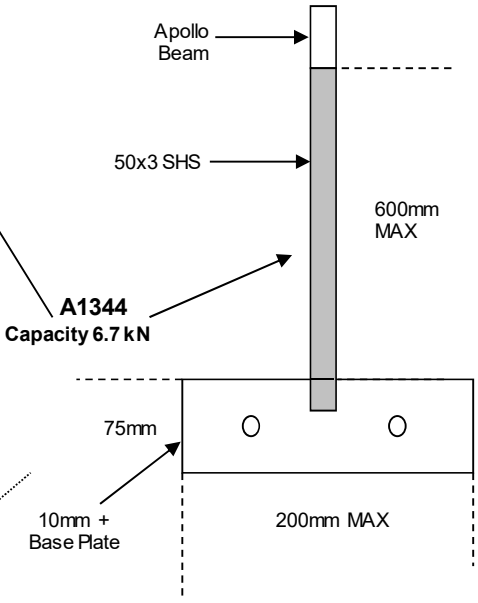
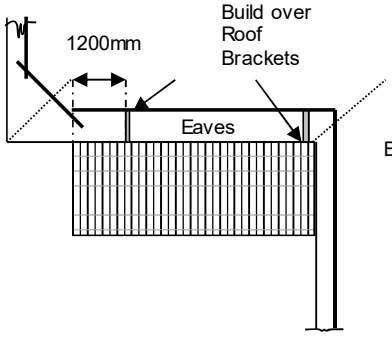


Diagram 4



PLAN



GABLE CONNECTION DETAILS

WITHOUT RAFTER TRUSSES

Edition 8

DIAGRAM 1

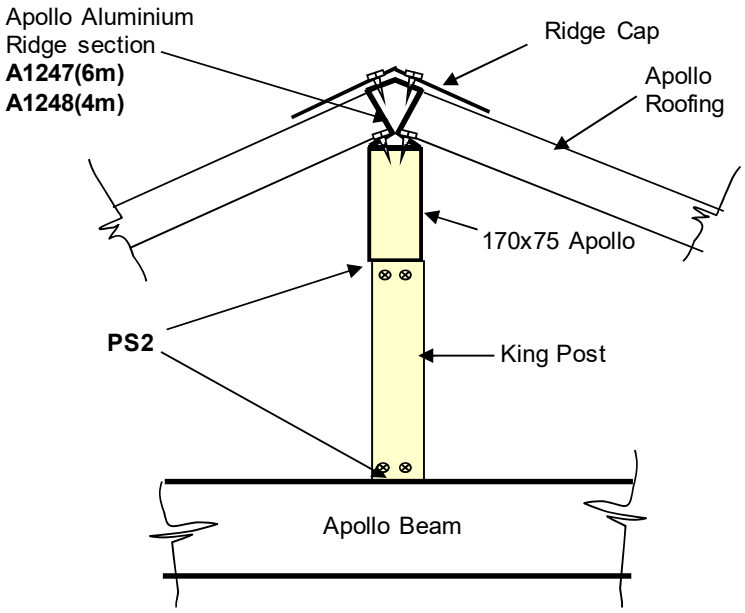
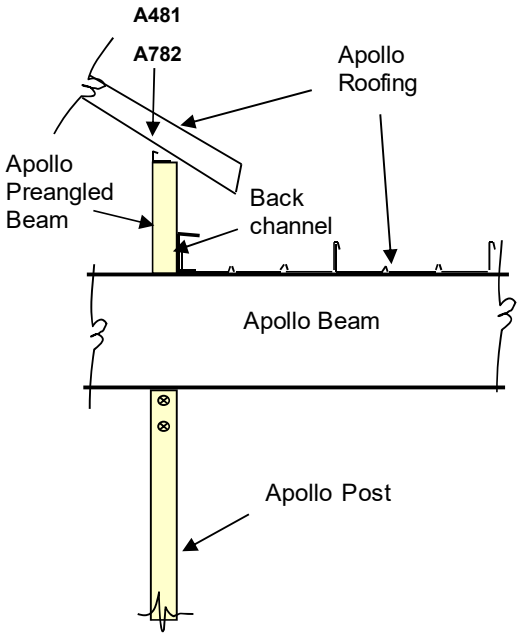


DIAGRAM 2



CONNECTION DETAILS FOR
GABLE WITH RAFTER TRUSS BEAMS

Edition 8

DIAGRAM 1

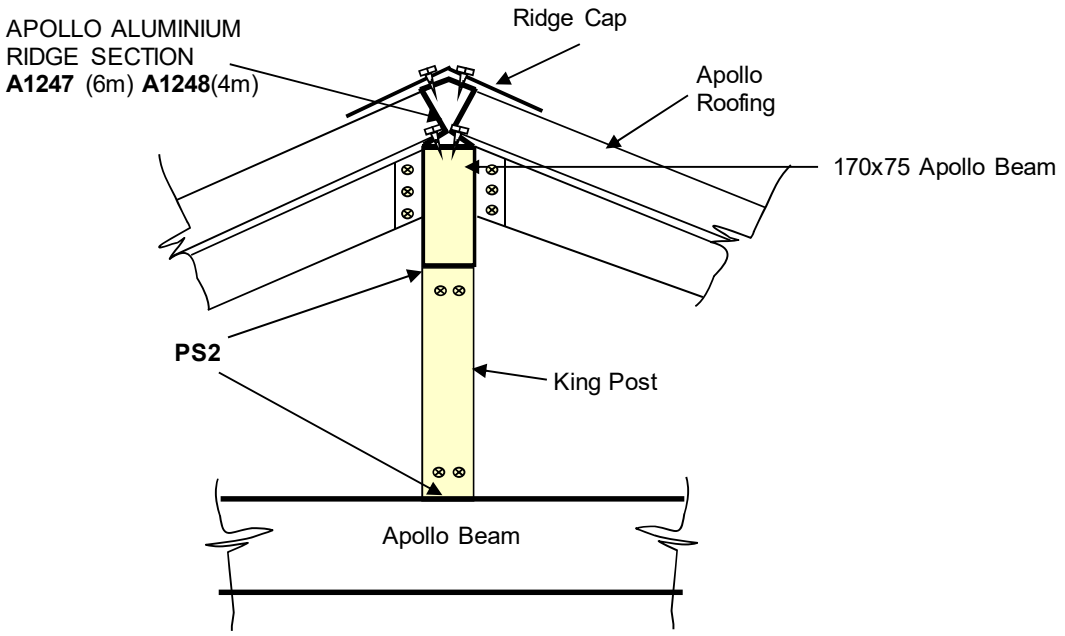


DIAGRAM 2

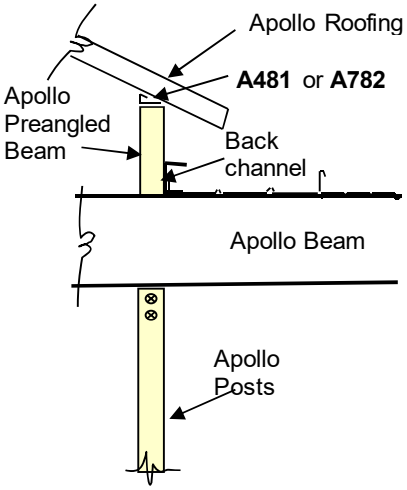
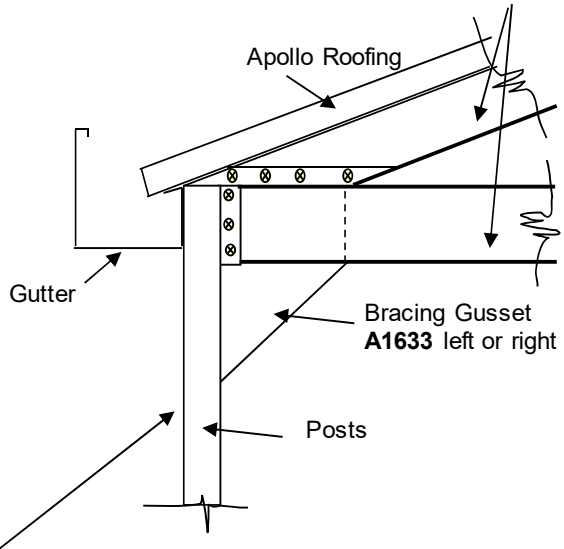


DIAGRAM 3



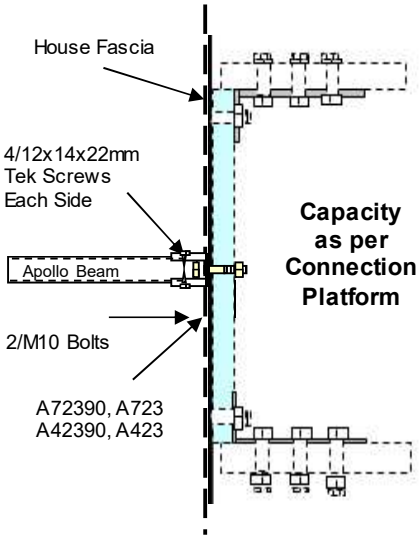
These connection details are applicable to all freestanding gables

GABLE CONNECTIONS DETAILS

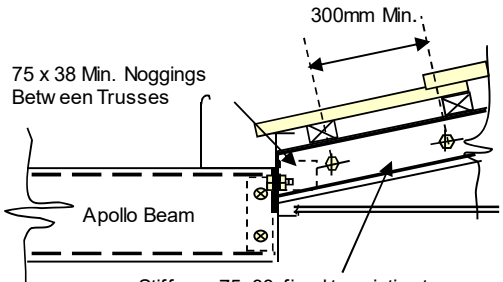
BEAM TO FASCIA

Edition 8

PLAN: SUSPENDED GABLE BEAM DETAIL



ELEVATION: SUSPENDED GABLE BEAM DETAIL



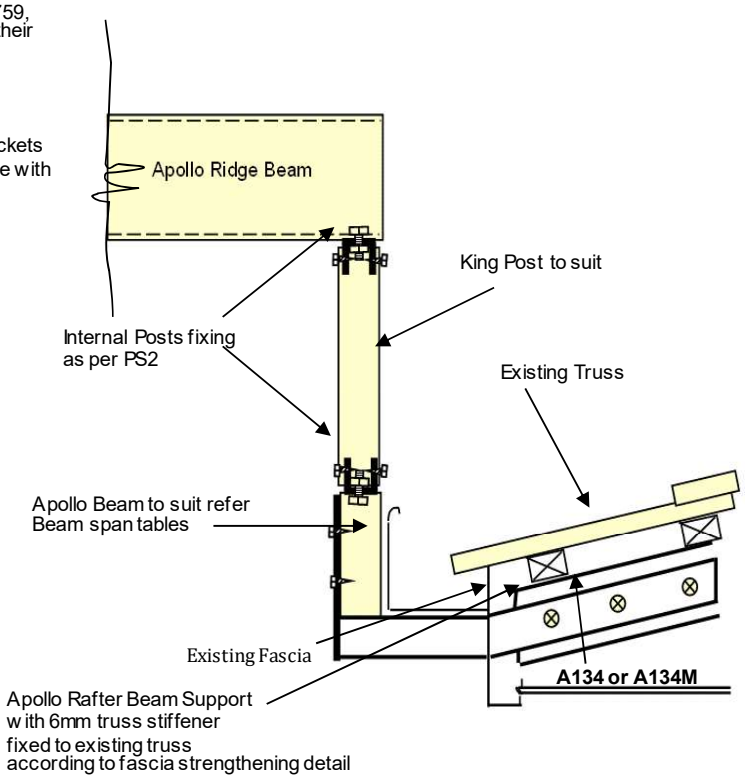
Stiffener 75x38, fixed to existing trusses with 2/M10 bolts @ 300mm centres or 3/14x50 type 17 timber teks hi/lo at 200mm centres or connection in accordance with fascia strengthening detail.

Rafter brackets not required w ithin 1800mm of a Valley or Hip.
Maximum overhang = 900mm.
Tie dow ns in accordance w ith NOTE 4 in the General Note section.

APOLLO BEAM SUPPORT BRACKET TOP DETAIL

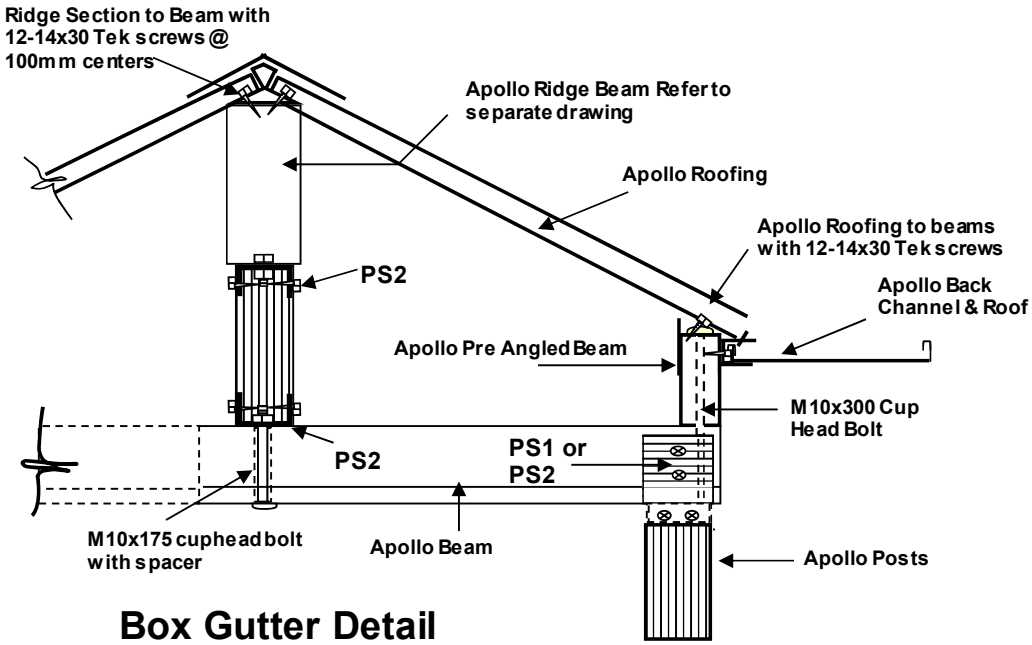
Note: Beam attachment to fascia can be internal or external using A459, A759, A453, A7355 including their angle variations.

Note:
Beam Support brackets fitted in accordance with roof load applied

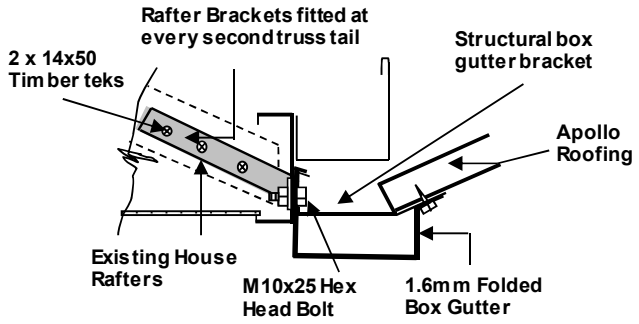


GABLE CONNECTIONS DETAILS
WITH RIDGE BEAMS

Edition 8

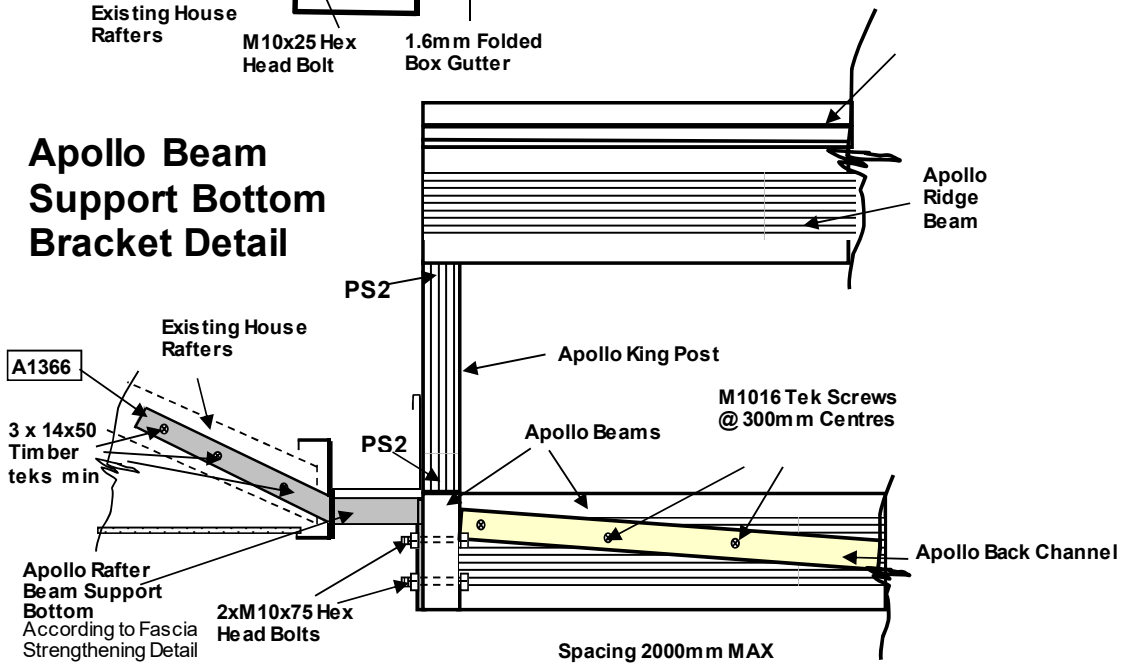


Box Gutter Detail



Note: Where attachment is made to rafter/truss overhangs, tie downs to be in accordance with NOTE 4 in the General Notes section.

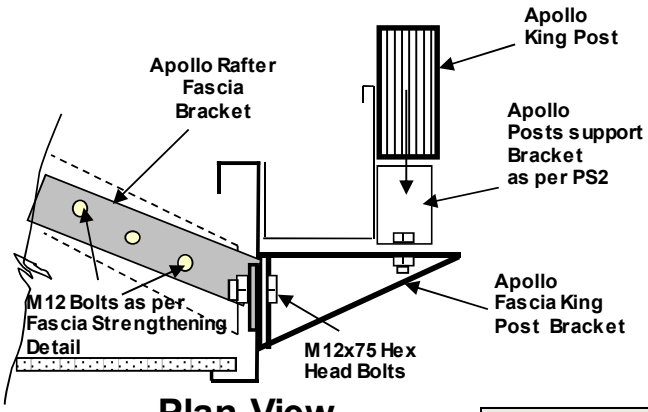
Apollo Beam Support Bottom Bracket Detail



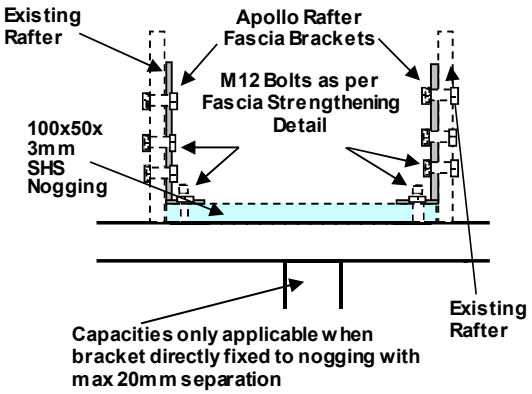
GABLE CONNECTIONS DETAILS

Edition 8

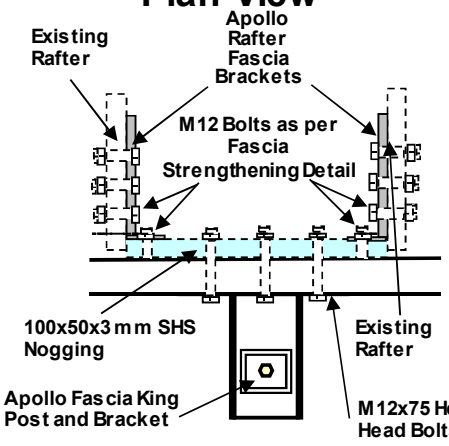
King Post Fixing Detail



Connection Platform



Plan View



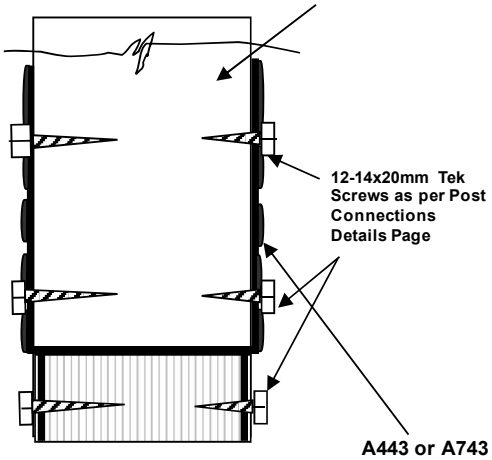
Type	Bracketry	Central Region	Middle Third	Elsewhere
CP1	2 x A151	7.7 kN	6.8 kN	4.5 kN
CP2	2 x A151C	10.3 kN	9.0 kN	6.0 kN
CP3	2 x A1511	10.7 kN	9.4 kN	6.24 kN
CP4	2 x A1511C	12.5 kN	11.0 kN	7.3 kN
CP5	2 x A1512	12.7 kN	11.2 kN	7.4 kN

Note 1: Additional loading from any attached receiver channel to be included in bracket uplift load.

Note 2: Central regions for 600-900mm rafter spacing are +/- 50mm from centre:- 900-1200mm rafter spacing are +/- 100mm from centre.

Note 3: Hanging brackets are to be fixed directly to nogging with no additional offset.

PS1 Details



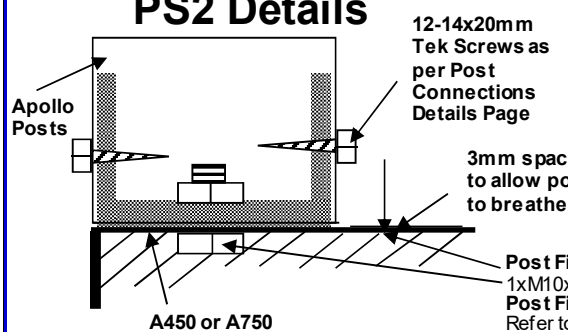
NOTE: External Aluminium Support Bracket

Type	Bracketry	Central Region	Middle Third	Elsewhere
CP1	2xA151	4.6 kN	4.0 kN	2.7 kN
CP2	2xA151C	7.5 kN	6.6 kN	4.4 kN
CP3	2xA1511	8.4 kN	7.4 kN	4.9 kN
CP4	2xA1511C	8.5 kN	8.5 kN	5.9 kN
CP5	2xA1512	8.5 kN	8.5 kN	6.3 kN

Note 1: Additional loading from any attached receiver channel to be included in bracket uplift load.

Note 2: Central regions for 600-900mm rafter spacing are +/- 50mm from centre:- 900-1200mm rafter spacing are +/- 100mm from centre.

PS2 Details



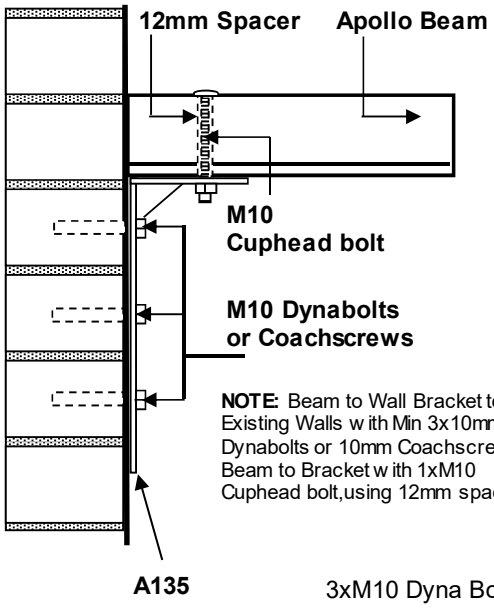
Post Fixings to Apollo Beam
1xM10x25 Hex Head Bolt.
Post Fixings to Concrete Slab
Refer to Post Connection Details Page

BEAM CONNECTIONS DETAILS

140x50 & 170x75 BEAMS

Edition 8

Beam to Wall Fixing

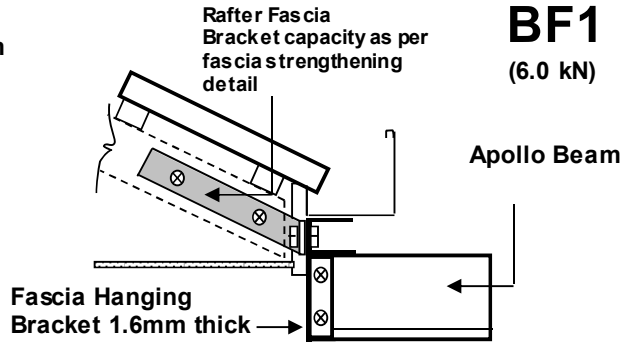


NOTE: Beam to Wall Bracket to Existing Walls with Min 3x10mm Dynabolts or 10mm Coachscrews, Beam to Bracket with 1xM10 Cuphead bolt,using 12mm spacer.

3xM10 Dyna Bolts to hollow Concrete Masonry - 9kN
3xM10 Dyna Bolts to Clay Masonry - 20kN
3xM10x75 Coach Screw to Unseasoned Hardwood - 6.8kN
3 Mungo Bolts to Clay Masonry - 8kN

Beam to Fascia Fixing

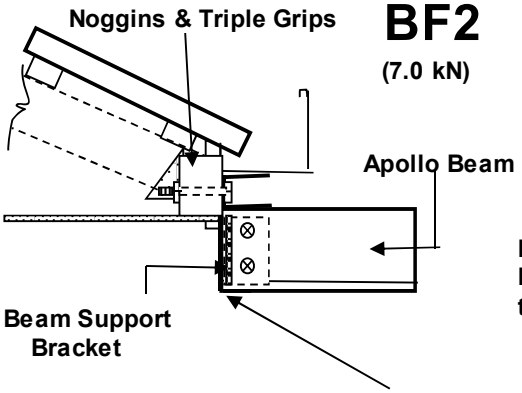
BF1
(6.0 kN)



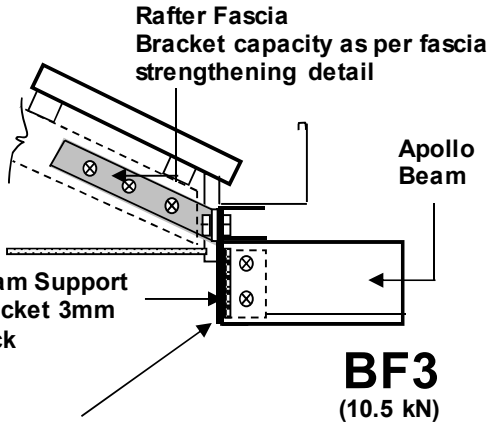
Rafter Brackets not required within 1800mm of a Valley or Hip. Maximum overhang = 900mm.

Beam to Fascia Fixing

BF2
(7.0 kN)



BF3
(10.5 kN)



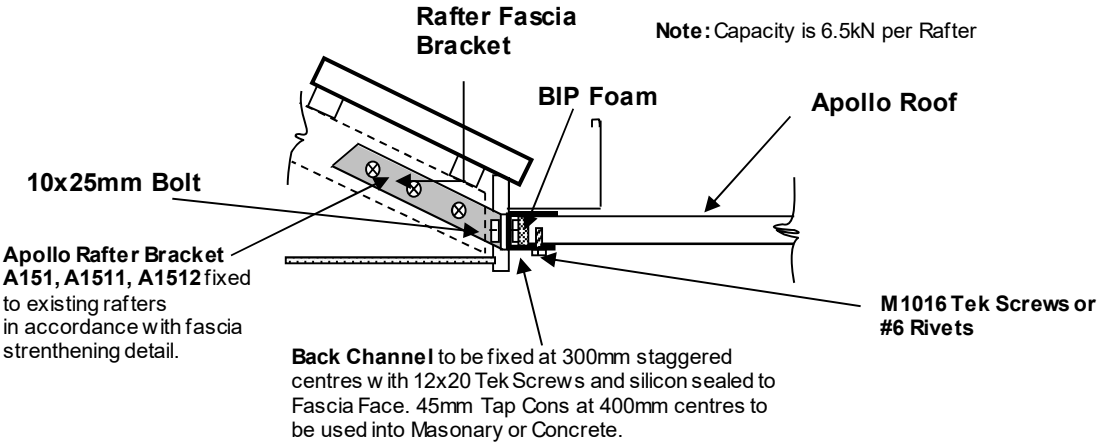
NOTE: Noggings 90x90 between rafters then B/Channel bolted through fascia & noggings with M10 bolts @ 450 Centres. Noggings to be triple gripped to existing rafters.

NOTE: Beam Support Brackets A42390, A72390, A4355, A7355, A453, A753 or their angle variations to Existing Fascia in accordance with fascia strengthening detail.

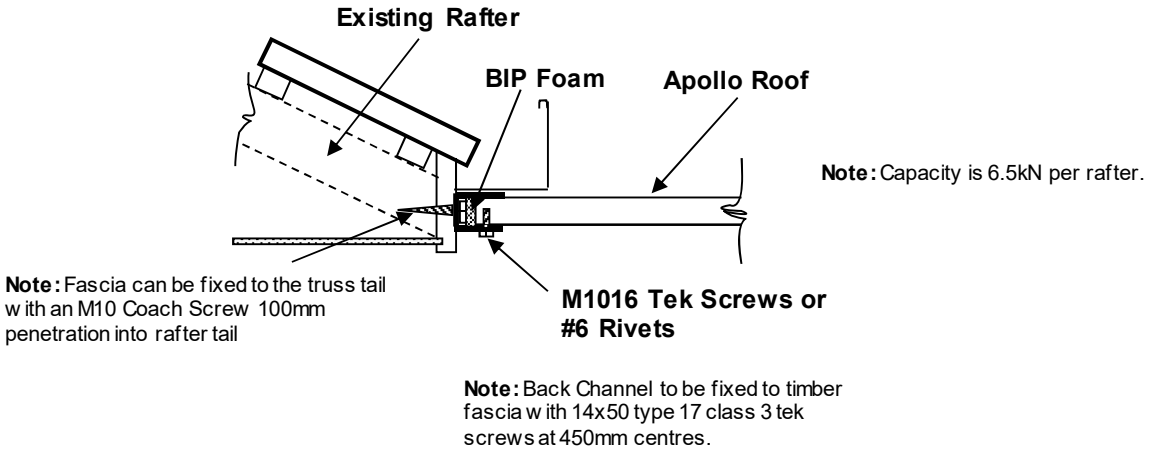
RAFTER FASCIA CONNECTION DETAILS

Edition 8

STEEL FASCIA FIXING



TIMBER FASCIA FIXING



Note:
- Verification of Fascia and Fascia clip fixing to be in accordance with current Australian Standards required.
- Rafter Brackets not required within 1800mm of a Valley or Hip.
- Maximum overhang = 900mm.
- Ties downs - Each rafter/truss overhang is to have one extra framing anchor 4 nails each end fixing to top plate for a capacity of 3.5kN per connection, 2 anchors to be used for a capacity of 7kN.

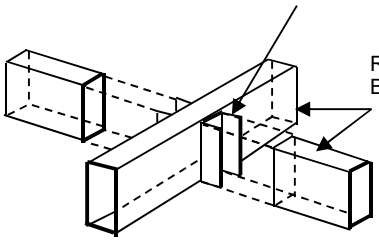
POINT LOAD CONNECTION DETAILS ANZPLB34

APPLICABLE TO ANZPLB 35, 36, 37.

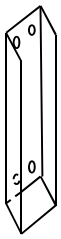
Edition 8

DETAIL " 1"
BEAM TO BEAM CONNECTION

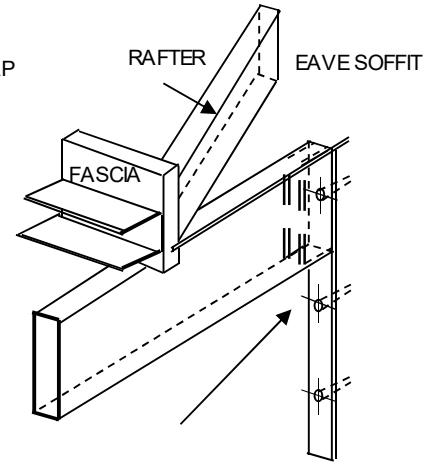
STRUCTUAL BEAM CAP WITH MINIMUM 8 x 14-20-22. SELF DRILLING SCREWS PER CAP



Connection - 140x50 beam - Part Number A42390 Capacity is 7.5kN.
Connection - 170 x 75 Beam - Part Number A72390 Capacity is 13.9kN.
This capacity applies to angle variations of these brackets

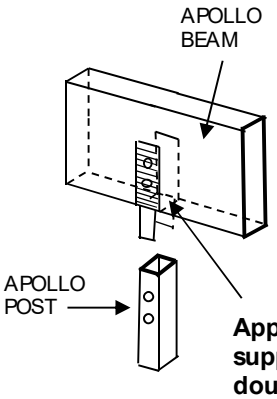


DETAIL "2"
WALL BRACKET : BEAM TO WALL



A135, A4355, A7355 and their angle variations. STEEL BRACKET FIXED TO WALL WITH M10 "Mungo Bolts" Minimium

DETAIL "4"
POST TO BEAM BRACKET

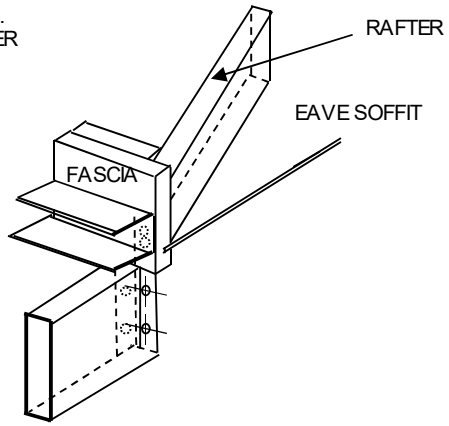


A443 OR A743 STRUCTUAL POST SUPPORT BRACKET WITH MINIMUM 8 x 14-20-22. SELF DRILLING SCREWS PER POST CONNECTION

Applicable double beam support brackets with double the fixings required for single attachments may be substituted.

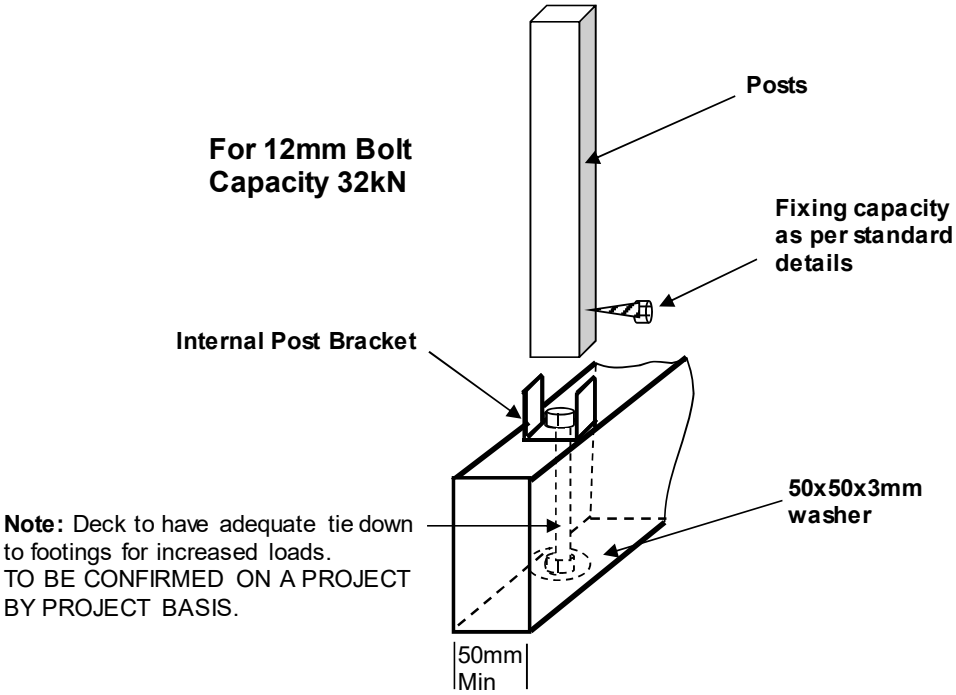
DETAIL "3"
BEAM TO FASCIA / RAFTER/ STEEL

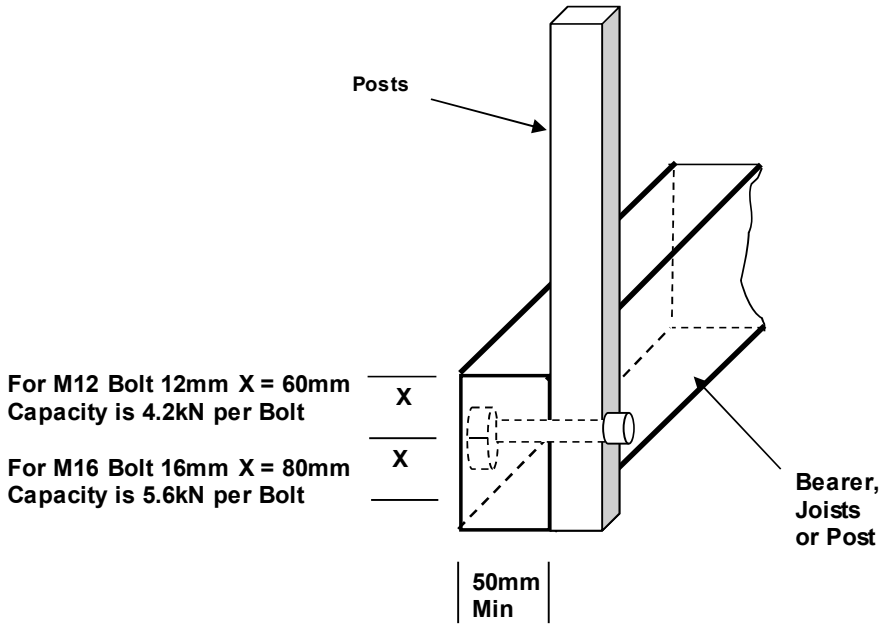
TIMBER BRIDGING BETWEEN RAFTERS WHERE NECESSARY or as according to Fascia strengthening detail



NOTE: Back Channel to be fixed at 300mm staggered centres with 12x20 Tek Screws and silicon sealed to Fascia Face.
Verification of Fascia and Fascia clip fixing to be in accordance with current S.A.A. Codes required.
Rafter Brackets not required within 1800mm of a Valley or Hip.
Maximum overhang = 900mm. Ties downs - Each rafter/truss overhang where connection is made is to have one extra framing anchor with 4 nails each leg to each rafter/truss to top-plate for an additional uplift capacity of 3.5kN per truss, increased fixing will be required if this capacity is exceeded.

Posts Connections to Decks



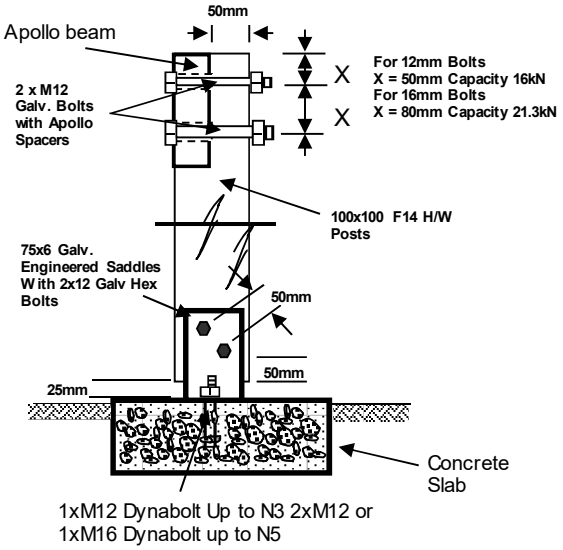


DECK POST CONNECTION DETAILS

Edition 8

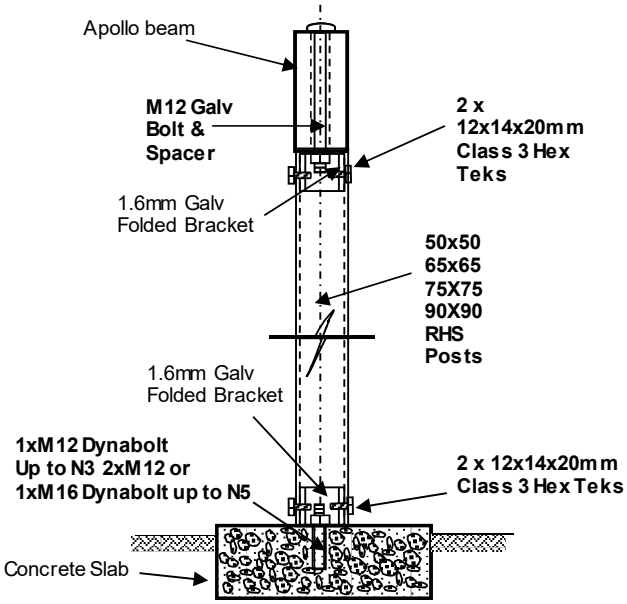
HARDWOOD POSTS

CONNECTION DETAILS TO SLAB:

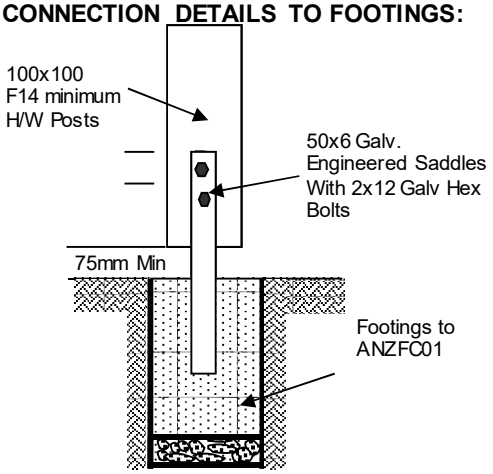


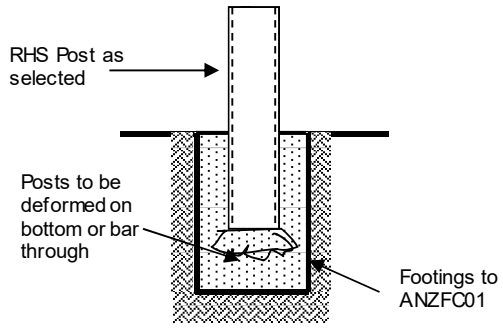
R.H.S. POSTS

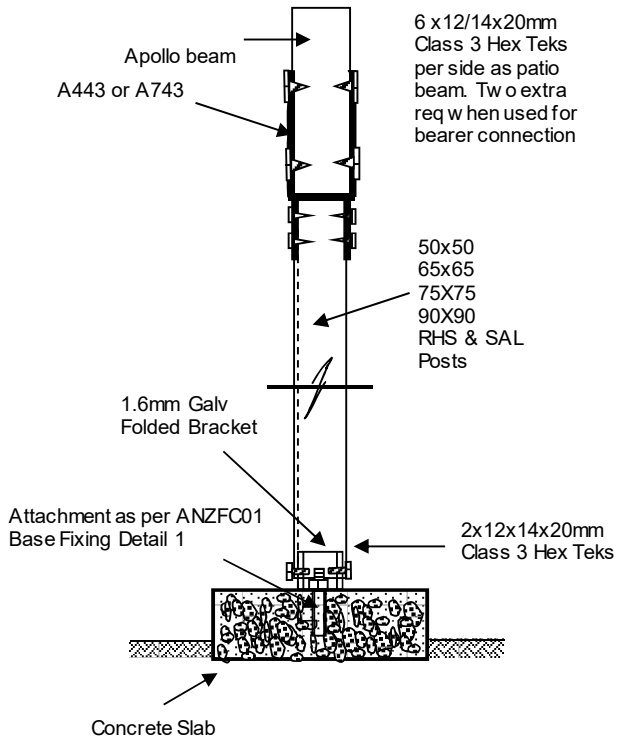
CONNECTION DETAILS TO SLAB:



CONNECTION DETAILS TO FOOTINGS:

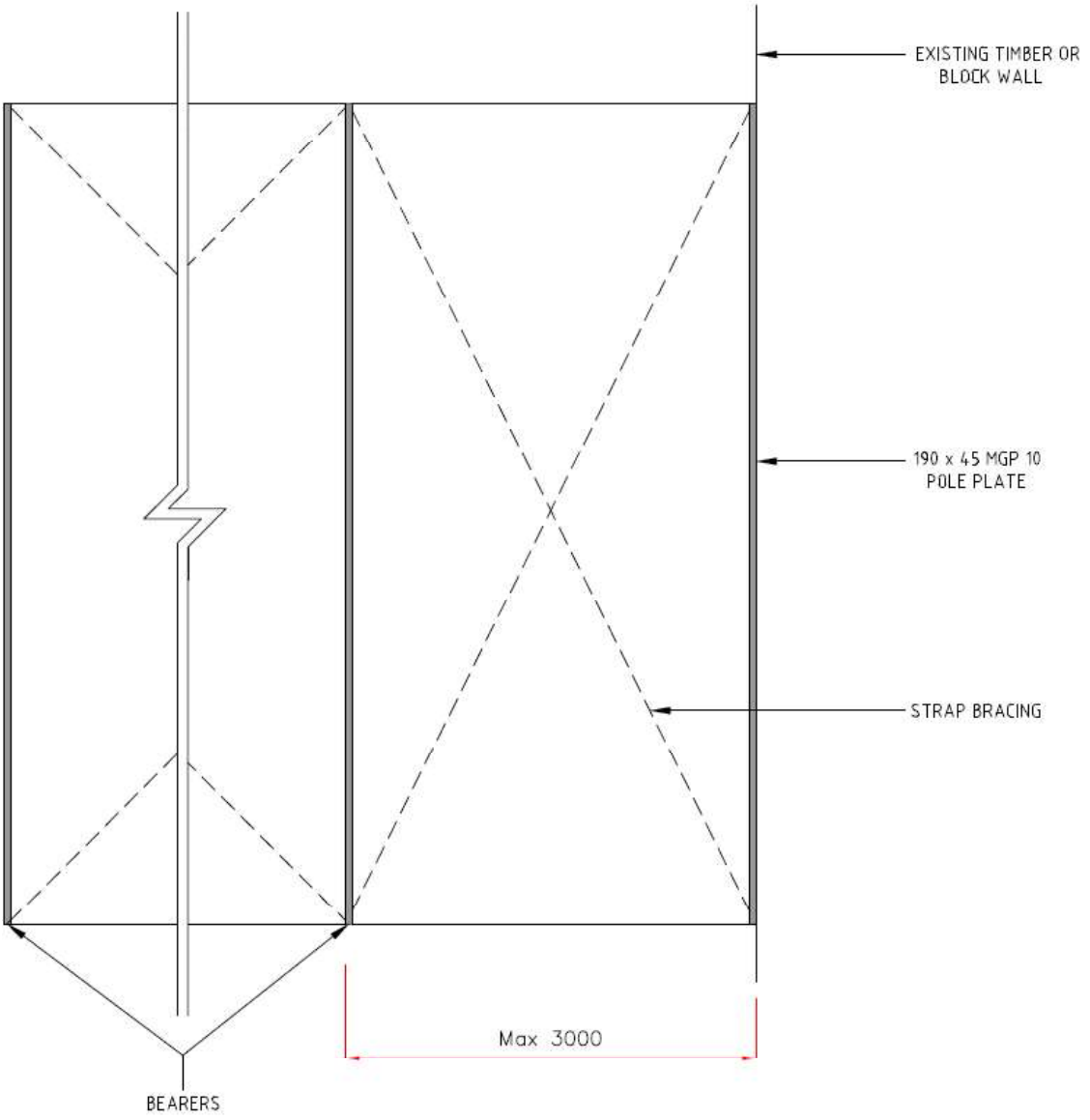






TYPICAL DECK CONNECTION

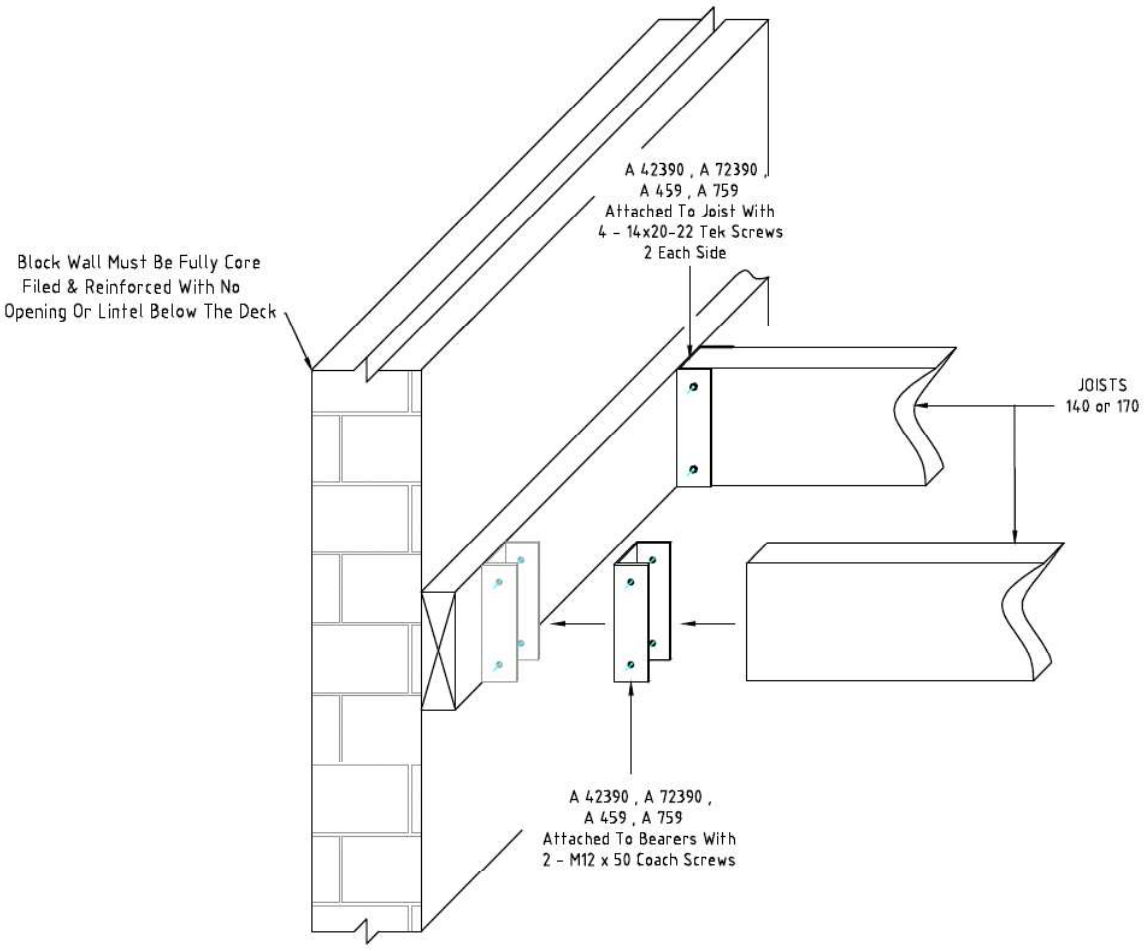
Edition 8



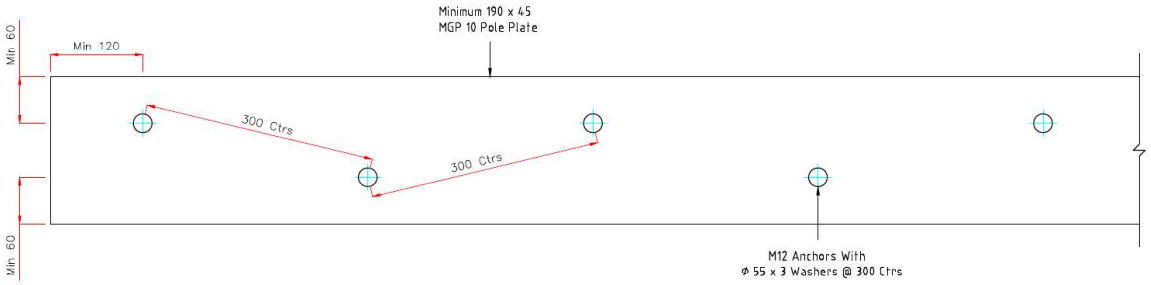
Minimum Requirements for Compliance With Clause H1D11 of NCC 2022 Volume 2
If the Deck structure & the proposed Deck comply with the requirements Shown on This Drawing, No further Assessment is required for Compliance with: Clause H1D11 of NCC 2022 Volume 2

TYPICAL DECK CONNECTION TO BLOCKWORK WALL

Edition 8

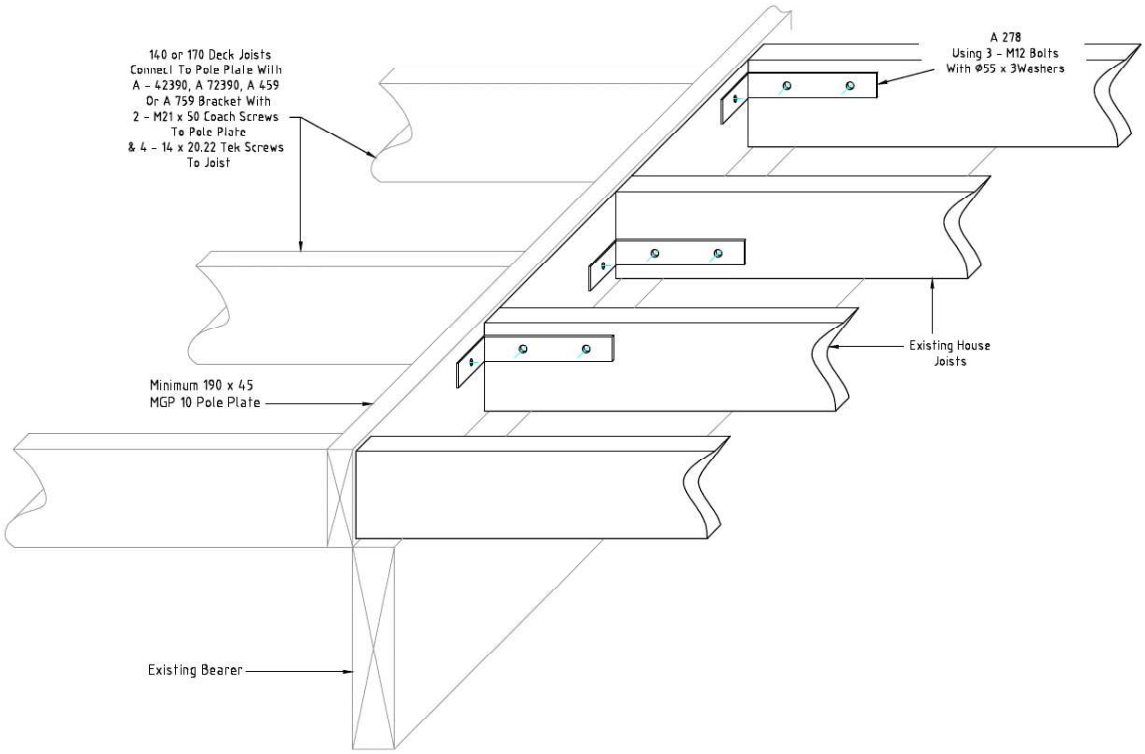


Minimum Requirements for Compliance With Clause H1D11 of NCC 2022 Volume2
If the Existing structure Complies with the requirements shown on this drawing, No further Assessment is required for Compliance with: Clause H1D11 of NCC Volume 2

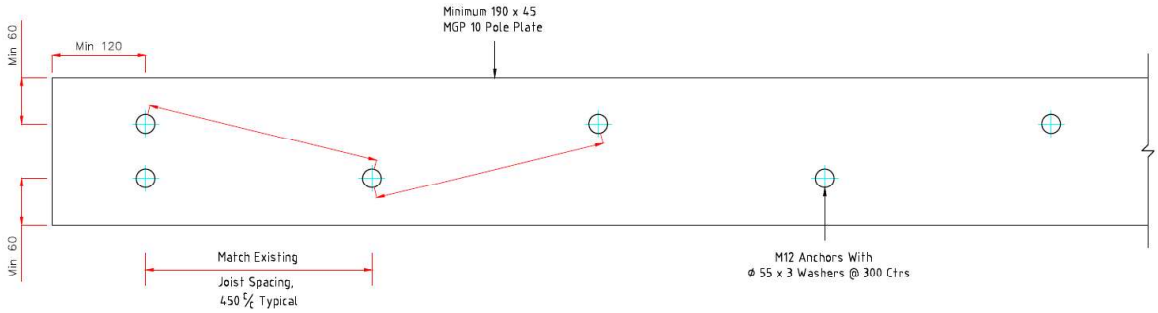


TYPICAL DECK CONNECTION TO HOUSE WALL

Edition 8

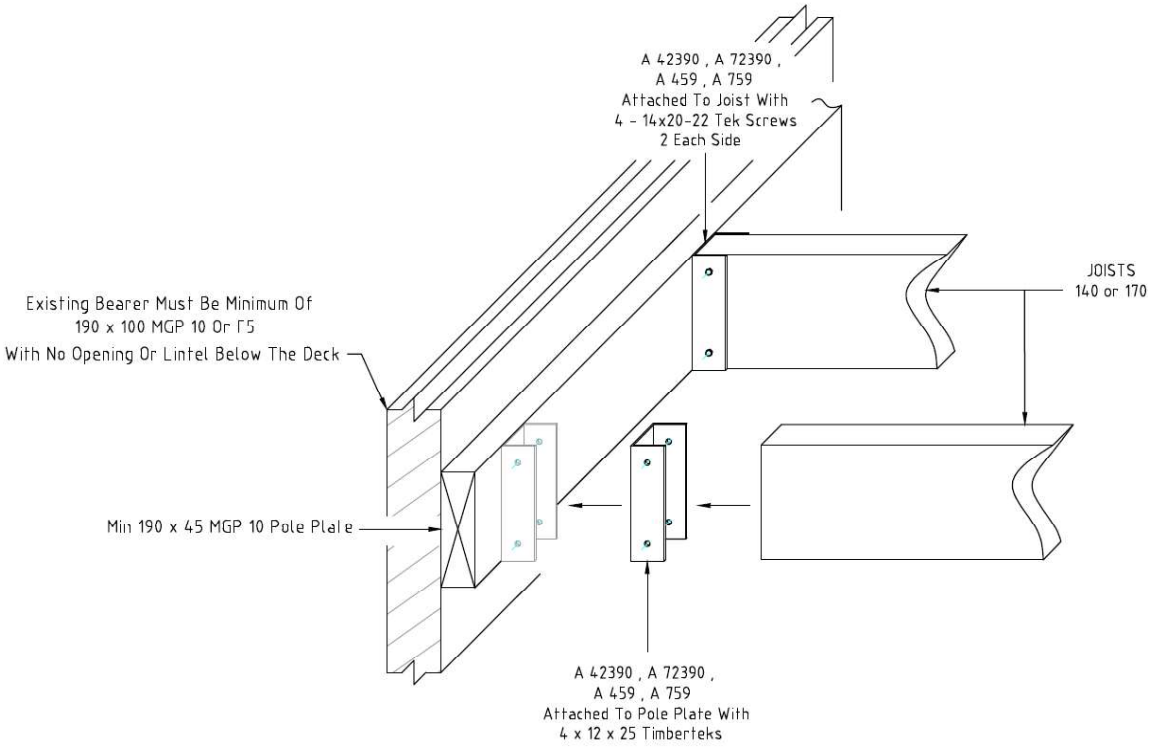


The Stuctural Arrangement shown on This drawing
Does NOT Comply with All the Requirements of:
Clause H1D11 of NCC 2022 Volume 2
The Adequacy of the Existing structure to Support
the Loads from the proposed Deck SHOULD be Assessed
on Site. Seek the assistance from a Structural Engineer if required.

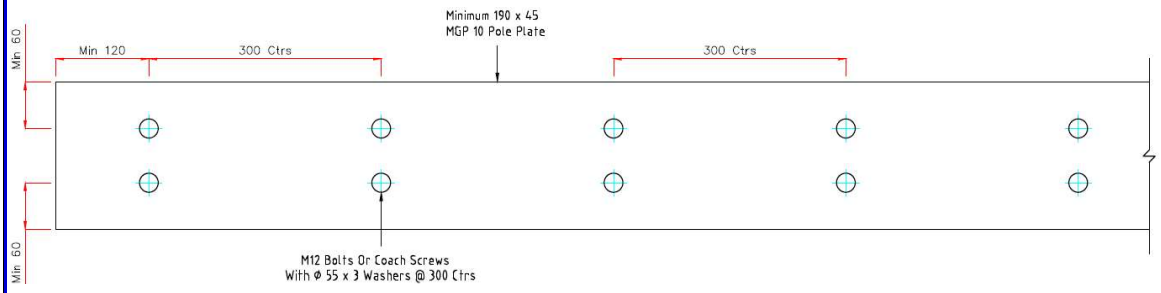


TYPICAL DECK CONNECTION TO TIMBER FRAMED WALL

Edition 8

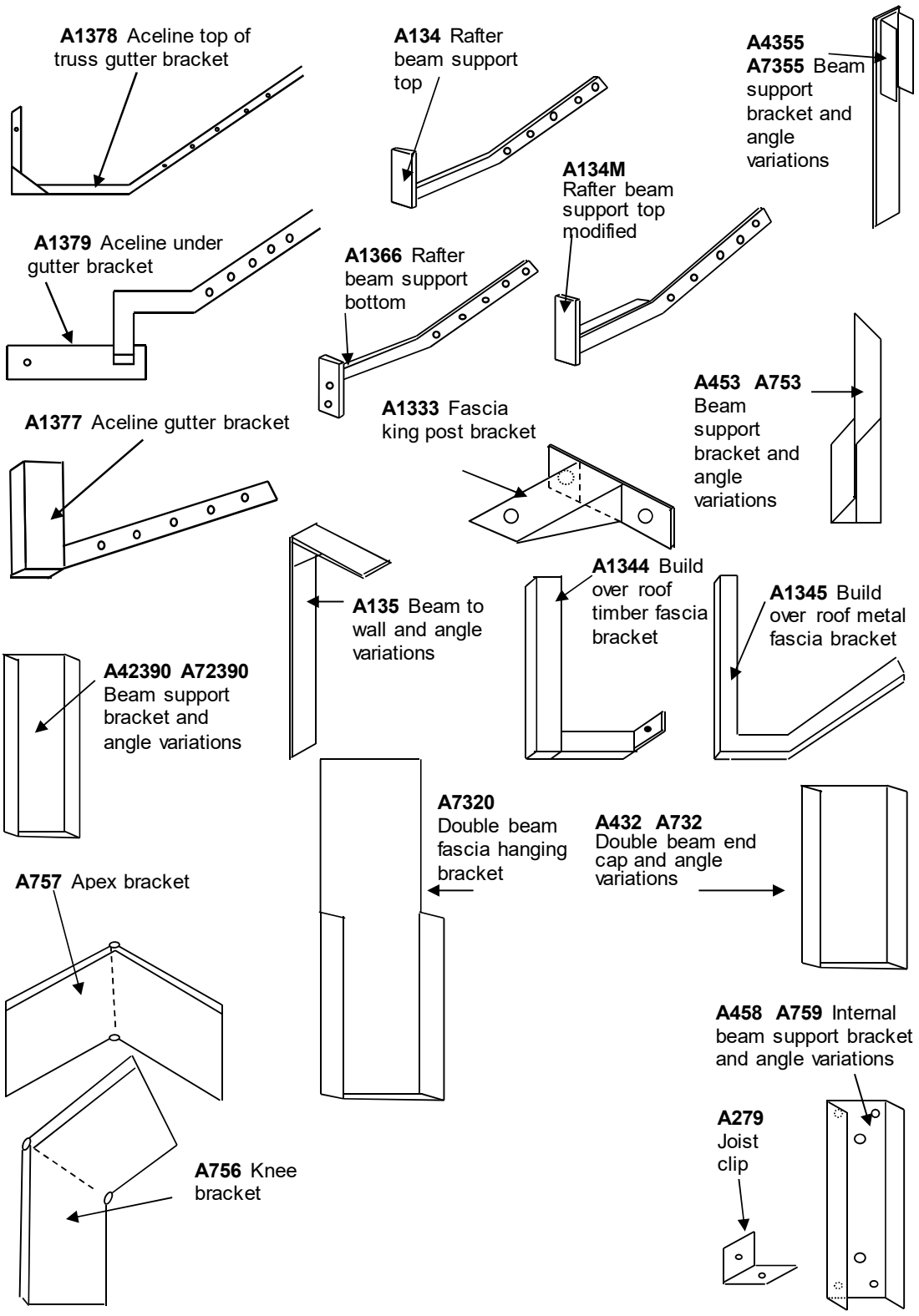


Minimum Requirements for Compliance With Clause H1D11 of NCC 2022 Volume2
If the Existing structure Complies with the requirements shown on this drawing, No further Assessment is required for Compliance with: Clause H1D11 of NCC Volume 2



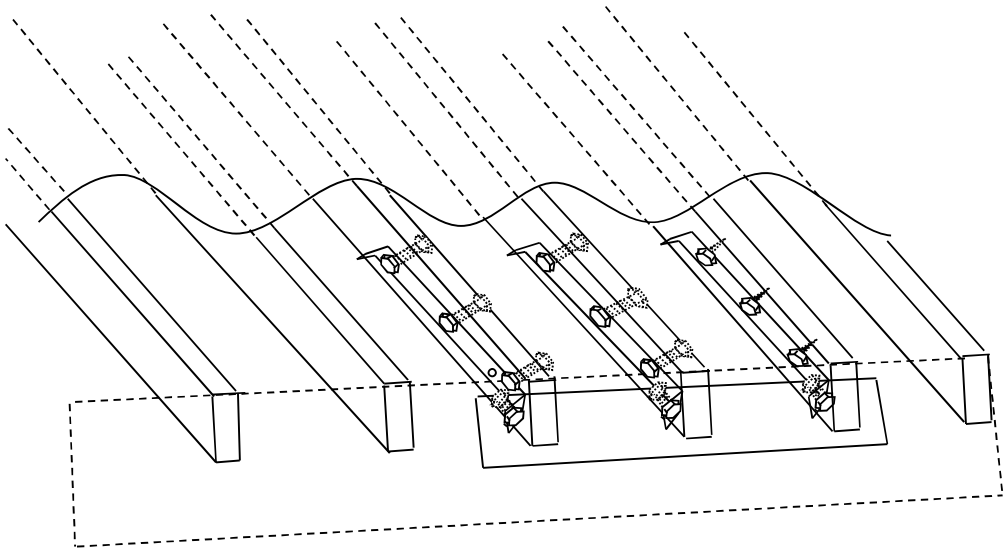
BEAM SUPPORT BRACKETS

Edition 8



FASCIA STRENGTHENING DETAIL

Edition 8



Note 1: Capacities stated for multiple bracket combinations are applicable only when rafter fascia brackets are connected to adjacent truss tails using metal nogging Apollo part No : A152 - 600mm, A1521-1200mm or A1522-1800mm.

Note 2: Capacity of existing rafter/truss tails are to be assessed by builder and strengthened if required.

1 Bracket (Capacity-kN)			
	Fixing Type		
Bracket	M12Bolts	M10Bolts	14gScrews
A151	4.5kN	3.8kN	2.4kN
A151C	6.0kN	5.0kN	3.3kN
A1511	6.24kN	5.2kN	3.4kN
A1511C	7.3kN	6.1kN	4.0kN
A1512	7.4kN	6.2kN	4.1kN

2 Bracket (Capacity-kN)			
	Fixing Type		
Bracket	M12Bolts	M10Bolts	14gScrews
A151	9.0kN	7.6kN	4.8kN
A151C	12kN	10kN	6.6kN
A1511	12.5kN	10.4kN	6.8kN
A1511C	14.6kN	12.2kN	8.0kN
A1512	14.8kN	12.2kN	8.2kN

3 Bracket (Capacity-kN)			
	Fixing Type		
Bracket	M12Bolts	M10Bolts	14gScrews
A151	13.5kN	11.4kN	7.2kN
A151C	18.0kN	15.0kN	9.9kN
A1511	18.7kN	15.6kN	10.2kN
A1511C	21.9kN	18.3kN	12.0kN
A1512	22.2kN	18.6kN	12.3kN

4 Bracket (Capacity-kN)			
	Fixing Type		
Bracket	M12Bolts	M10Bolts	14gScrews
A151	18kN	15.2kN	9.6kN
A151C	24kN	20.0kN	12.2kN
A1511	25kN	20.8kN	13.6kN
A1511C	29.2kN	24.4kN	16.0kN
A1512	29.6kN	24.8kN	16.4kN

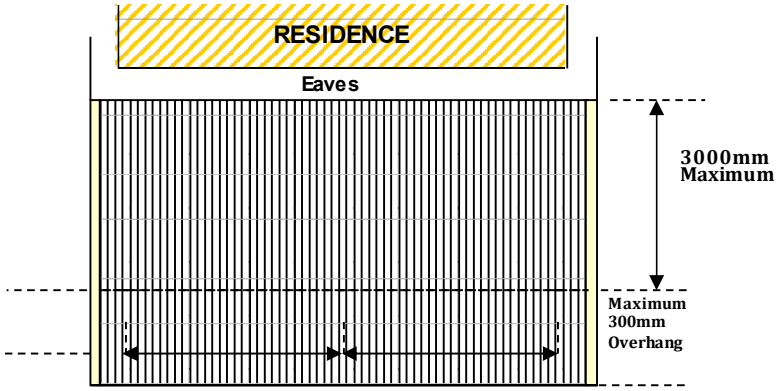
Bracket	Length of Bracket	No. of Fixings
A151	320mm	3 Fixings
A151C	550mm	4 Fixings
A1511	750mm	4 Fixings
A1511C	850mm	5 Fixings
A1512	1200mm	5 Fixings

NOTES :
Snow loading only effects sites with the following elevations above sea-level -
- New South Wales & Victoria - 600m
- Tasmania - 300m

The maximum allowed elevation above sea-level is as follows -
- Northern and Central New South Wales Tablelands - 900m
- Southern New South Wales and Victoria Tablelands - 750m
- Tasmania - 350m

The maximum allowed roof span is 3m, with a 300mm overhang. Patio snow - loading is to be checked utilising the figures for N3 "open two sides" wind loading case. The appropriate wind loading configuration for the patio shall also be checked

Diagram



Post Spacings to N3
To suit 3000mm Roof spans "open two sides"

Diagram