



AGREEMENT LETTER

NOMINATED FABRICATOR = AKARANA TIMBERS CHRISTCHURCH (Ph: 03 347 8845)

DATE: **28 February 2023** CONSENT NO: **BC221264**
CLIENT: **SHC Limited T/A Stonewood Homes**
JOB NAME: **Lot 755 Ravenswood (GJEK Ltd)**
SITE ADDRESS: **38 Crossley Avenue, Woodend.**
JOB REF: **CH2300008**

Attn: Territorial Authority

We have manufactured the frames and trusses for the above project.
The following has been provided to both the building owner and your office:

- (1) A full 'as-built' layout and Producer Statement
- (2) Specific truss/truss fixings done as per NZS3604:2011, Clause 10.2.2.6.1
- (3) Specific top plate to stud fixings that comply with NZS3604:2011, Table 8.18
- (4) Specific lintel fixings outside NZS3604:2011

On advice from the building project owner, the structure has been designed under the following parameters

Roofing material:	Metal Tile	Wind zone:	High
Soffit:	600mm	Snow load:	0.441kPa (basic roof load)
Spacing:	900mm	Snow load:	0.900kPa (O/G snow load)
Roof pitch:	25.0°		

Treatment Definition:

Roof Trusses: **90x45mm SG KD (H1.2)**
External Walls: **90x45mm SG KD (H1.2) (Stud centers as per NZ3604:2011)**
Internal Walls: **90x45mm SG KD (H1.2) (Stud centers as per NZ3604:2011)**

It should be noted that the details provided have been designed to comply with the Building Code and relevant standards. Any increase above these standards is only at the preference and request of the building owner.



Correspondence from : **AUCKLAND**
40 Neales Road, East Tamaki 2013
PO Box 58-014, Botany 2163
Phone: 09 274 7109
Fax: 09 274 7100

CHRISTCHURCH
14 Pilkington Way, Wigram 8042
PO Box 8387, Riccarton 8440
Phone: 03 348 8691
Fax: 03 348 0314

www.mitek.nz.co.nz

MiTek 20/20 Engineering 4.7.346.0

Printed: 09:33:12 28 Feb 2023

PRODUCER STATEMENT for MiTek 20/20[®] TRUSS DESIGN - Version 4.7

ISSUED BY: **MiTek New Zealand Limited**
TO: **Akarana Timbers Christchurch**
IN RESPECT OF: **MiTek[®] Truss Designs**

This producer statement covers the MiTek 20/20[®] truss design and the structural performance of the GANG-NAIL[®] connector plate for the job reference **2300008** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

The MiTek 20/20[®] truss design program has been developed by MiTek New Zealand Limited for the design of MiTek[®] timber roof, floor and attic trusses in New Zealand. The truss designs computed by MiTek 20/20[®] are prepared using sound and widely accepted engineering principles, and in accordance with compliance documents of the New Zealand Building Code and Verification Method B1/VM1; and internationally accepted standard ANSI/TPI 1 - 2002 as an alternative solution, to satisfy the requirements of Clause B1 of the New Zealand Building Code.

On behalf of MiTek New Zealand Limited, and subject to:

- i) All proprietary products meeting their performance specification requirements
- ii) The provision of adequate roof bracing and overall building stability
- iii) Correct selection and placement of GANG-NAIL connector plates
- iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
- v) The design being undertaken by the accredited fabricator under the terms of the software licence
- vi) Timber is graded to the requirements of NZS 3603:1993
- vii) Minimum timber treatment for these MiTek[®] trusses shall be in accordance with B2/AS1 Table 1A and the relevant sections of NZS 3602:2003

I believe on reasonable grounds that the trusses, if constructed in accordance with the MiTek 20/20[®] truss design and shop drawings, will comply with the relevant provisions of the New Zealand Building Code.

MiTek New Zealand Limited holds a current policy of Professional Indemnity Insurance no less than \$500,000.

On behalf of MiTek New Zealand Limited,

Date: Tuesday, 28 February 2023

In Ling Ng, BE (Hons), CPEng, IntPE, MIPENZ (ID: 146585)
TECHNICAL SERVICES MANAGER, MiTek New Zealand Limited

Job: 2300008	Client: SHC Limited T/A Stonewood Homes	Site: New Home
Description: Building Consent No.: BC221264	Phone: ASBUILT TRUSS BC221264	Lot 755 Ravenswood 38 Crossley Avenue, Stonewood
MiTek 20/20 Engineering 4.7.346.0	MiTek New Zealand Limited	RECEIVED 28/02/2023 Phone: Printed: 09:33:12 28 Feb 2023

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **Akarana Timbers Christchurch**, being licensed to use the MiTek 20/20® software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

MiTek 20/20® TRUSS DESIGN DATA

The MiTek 20/20® computer design for this job is based on the following design parameters entered into the program. The Fabricator shall ensure that these job details are current and relevant to the project for the design of the MiTek® trusses.

Job Details		Importance Level :	2	Design Working Life :	50 years
Roof Truss					
Timber Group:	SGx45 H1.2	Pitch:	25.000 deg	Nominal Overhang:	600 mm
Roof		Ceiling		Wind	
Material:	Metal Tiles	Material:	Gib Board 13mm	Area:	High (44.0 m/s)
Dead Load:	0.210 kPa	Dead Load:	0.200 kPa	Pressure Coeff:	Cpe = varies; Cpi = -0.30, 0.20
Restraints:	400 mm centres	Restraints:	600 mm centres	Snow	
Live Load:	Qur = 0.250 kPa	Live Load:	Qc = 1.400 kN	Location:	Christchurch (N4) at 100 m
	Qc = 1.100 kN			Open Ground Load:	0.900 kPa
				Basic Roof Load:	0.526 kPa

The minimum timber treatment for these MiTek® trusses shall be in accordance with B2/AS1 Table 1A and the relevant sections of NZS 3602:2003. The timber for these MiTek® trusses shall be graded to the requirements of NZS 3603:1993. Proprietary fixings and timber connectors shall be selected in accordance with NZS3604:2011 Section 4 - Durability.

MiTek® Truss List

Legend: * = detail only, ? = input only, ✕ = failed design, Ø = non certified, Unmarked trusses = designed successfully, LB = lateral bracing required
GB = gable brace required

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
*HB01	2	6028	18.249	900	J01B	1	2762	25.000	900	J05C	1	2997	25.000	900
TG01	1	7370	25.000	900	J01	2	2762	25.000	900	*R01	1	1575	25.000	900
T01	4	7370	25.000	900	J01C	1	2762	25.000	900	*R01A	1	1575	25.000	900
T04	1	6248	25.000	900	J01A	1	2762	25.000	900	*R02	4	913	25.000	900
T04A	3	6248	25.000	900	J04A	2	1197	25.000	900	*R02A	2	913	25.000	900
HT04	1	5780	25.000	900	J04	2	1197	25.000	900	*R03	2	2701	25.000	900
T02	1	5780	25.000	900	J03	1	2097	25.000	900	*R04	1	820	25.000	900
HT03	1	5780	25.000	900	J03E	2	2097	25.000	900	*OT01	8	1305	0.000	815
HT02	1	5780	25.000	900	J03B	1	2097	25.000	900	*FR01	2	2190	25.000	900
HTG02	1	5780	25.000	900	J03C	1	2097	25.000	900	*HB02	1	2164	18.249	900
*HB03	2	7633	18.249	900	J03D	2	2097	25.000	900					
TG02	1	9640	25.000	900	V01	1	1324	25.000	900					
HTG01	1	7497	25.000	900	V02	1	1875	25.000	900					
*HB04	1	4536	18.249	900	V03	1	1914	25.000	900					
HT01	1	3180	25.000	900	V04	1	1014	25.000	900					
T03A	2	3180	25.000	900	J03A	1	2097	25.000	900					
T03	1	3180	25.000	900	J05A	1	2997	25.000	900					
J02	2	1862	25.000	900	J05	2	2997	25.000	900					
J02A	2	1862	25.000	900	J05B	2	2997	25.000	900					

Total quantity : 78

The computer design input has been carried out by:

Signed: 

Date: ...Tuesday, 28 February 2023....

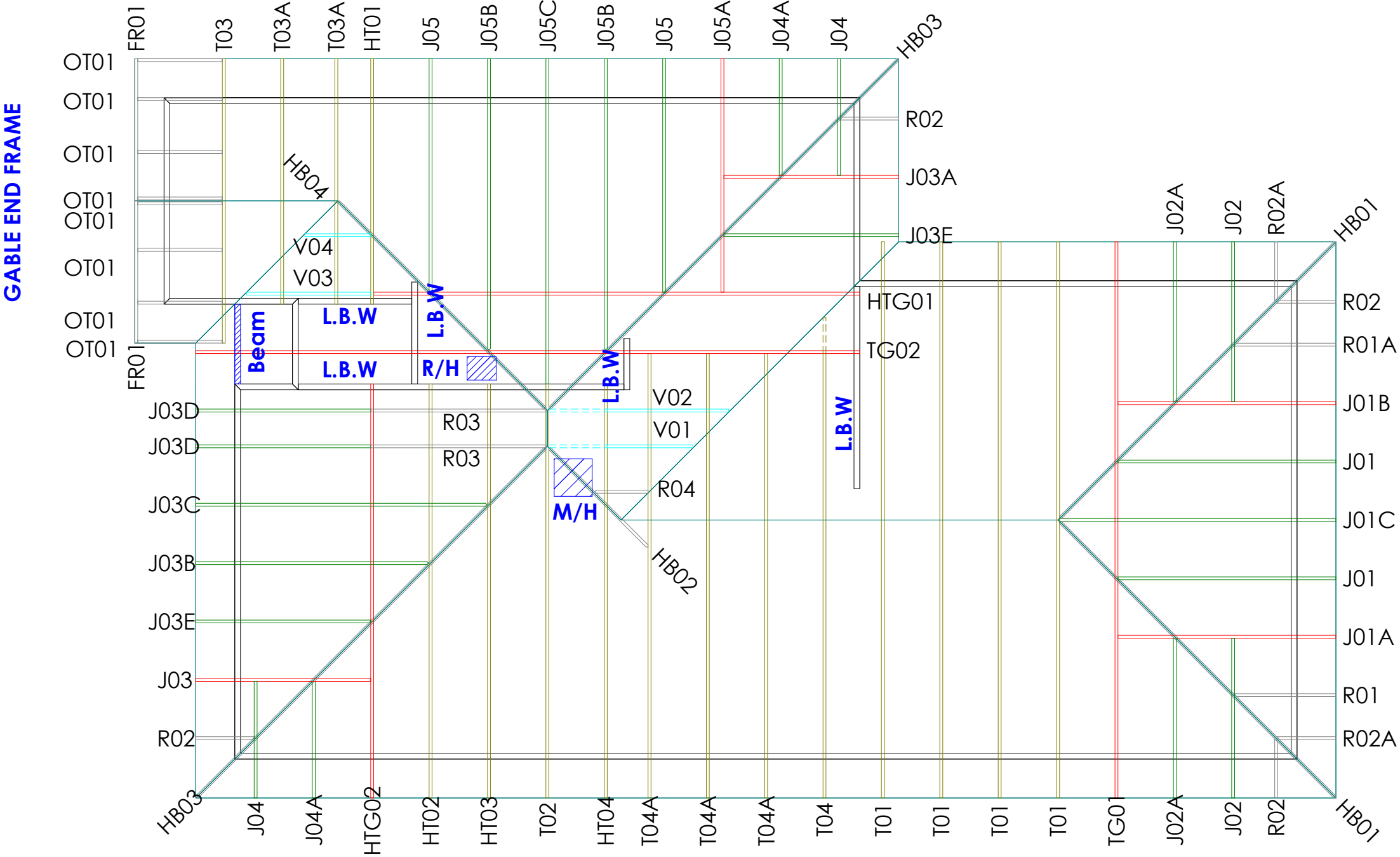
Name of Detailer: Theo Budel

Qualifications and Title: Detailer

On behalf of: Akarana Timbers Christchurch



18 Hynds Drive, I-Zone Industrial Park, Rolleston 7675, New Zealand
Phone: Ph 03 3478845



Truss Fixings



A - LUMBERLOK JH47x90 Joist Hanger



B - LUMBERLOK JH47x120 Joist Hanger



D - LUMBERLOK JH47x190 Joist Hanger



E - LUMBERLOK JH95x165 Joist Hanger



C - Pair of LUMBERLOK CT200 Ceiling Ties



M - Pair of LUMBERLOK Multi Grips



NP - LUMBERLOK Nailon Plate



N - LUMBERLOK N21 Diagonal Cleat



P - LUMBERLOK TTP 16kN Truss to Top Plate set

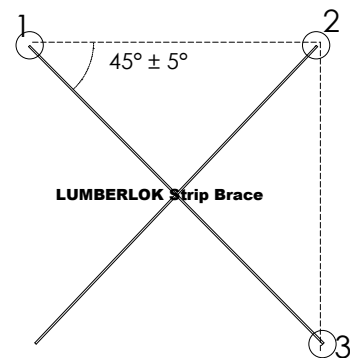


Q - LUMBERLOK TTP 9kN Truss to Top Plate set

Roof Bracing

Refer to:
LUMBERLOK Roof Bracing Specifications
brochure 08/2006 for end fixing details.

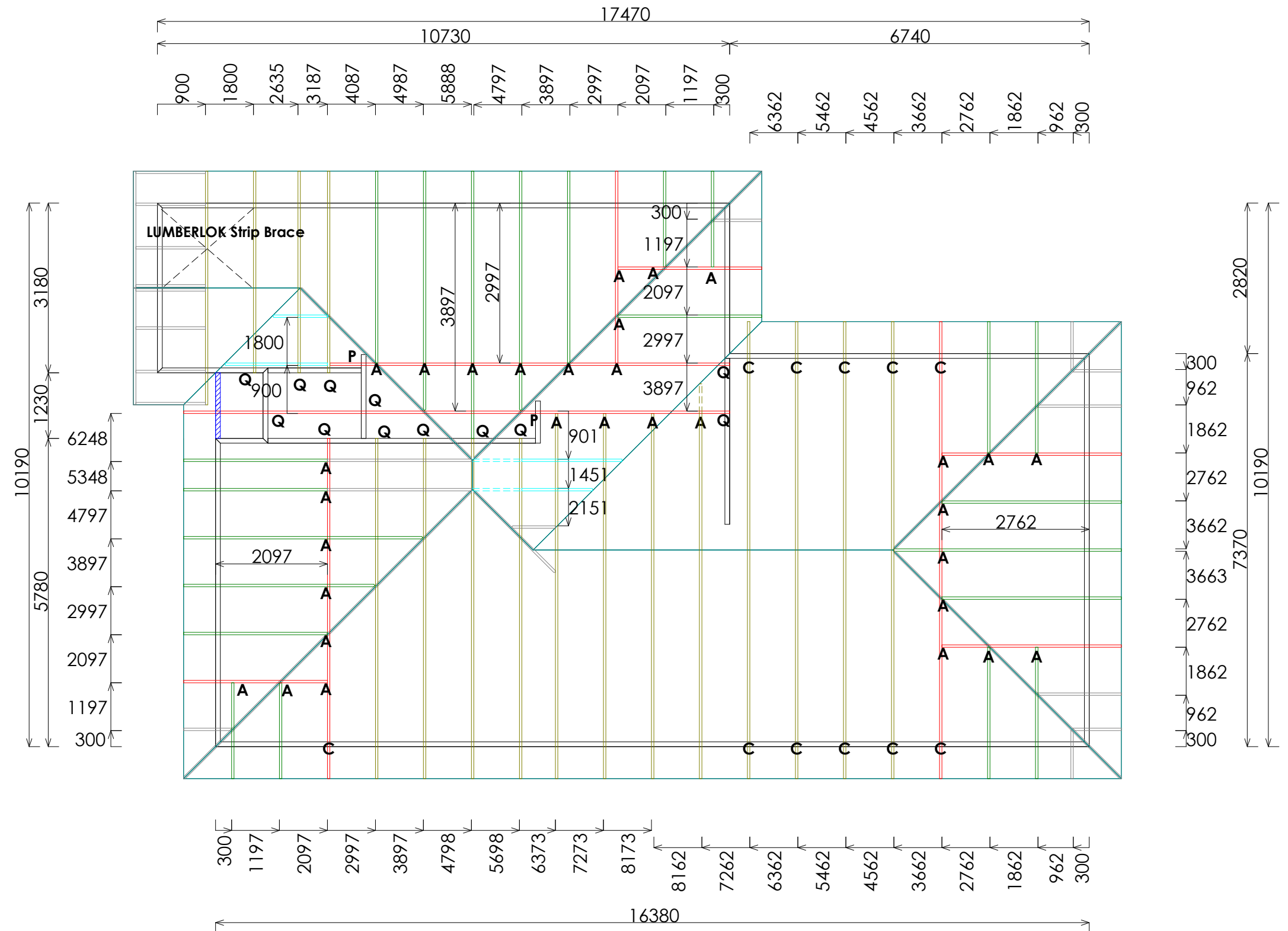
The brace must be located such that it forms an angle of $45^\circ \pm 5^\circ$ to the wall



NOTES:

All other areas must have at the minimum
2/ 90x3.15mm skew nails + 2 wire dogs
for truss to top plate connections.

Refer to:
LUMBERLOK Timber Connectors Characteristic
Loadings Data brochure 03/4



Akarana
timbers

Ph: 03 3477 818

Site Address :

New Home
Lot 755 Ravenswood
38 Crossley Avenue, Woodend

Sheet Title :

As Built Design
Truss Fixings & Roof Bracing

Date : Feb 17, 2023
Scale : 1: 100
Drawn : Theo Budel
System : MiTek 20/20

Job Details:

Roof Pitch : 25.00deg
Roof Material : Metal Tiles
Ceiling Material : Gib Board 13mm
Wind Zone : High
Roof Snow Load : 0.441kPa

Truss Centres : 900mm
Roof Live Load : 0.250kPa
Floor Live Load :
Wind Speed : 44m/s
Overhang : 600mm

PrimeCad v4.7.346

MiTek
MiTek

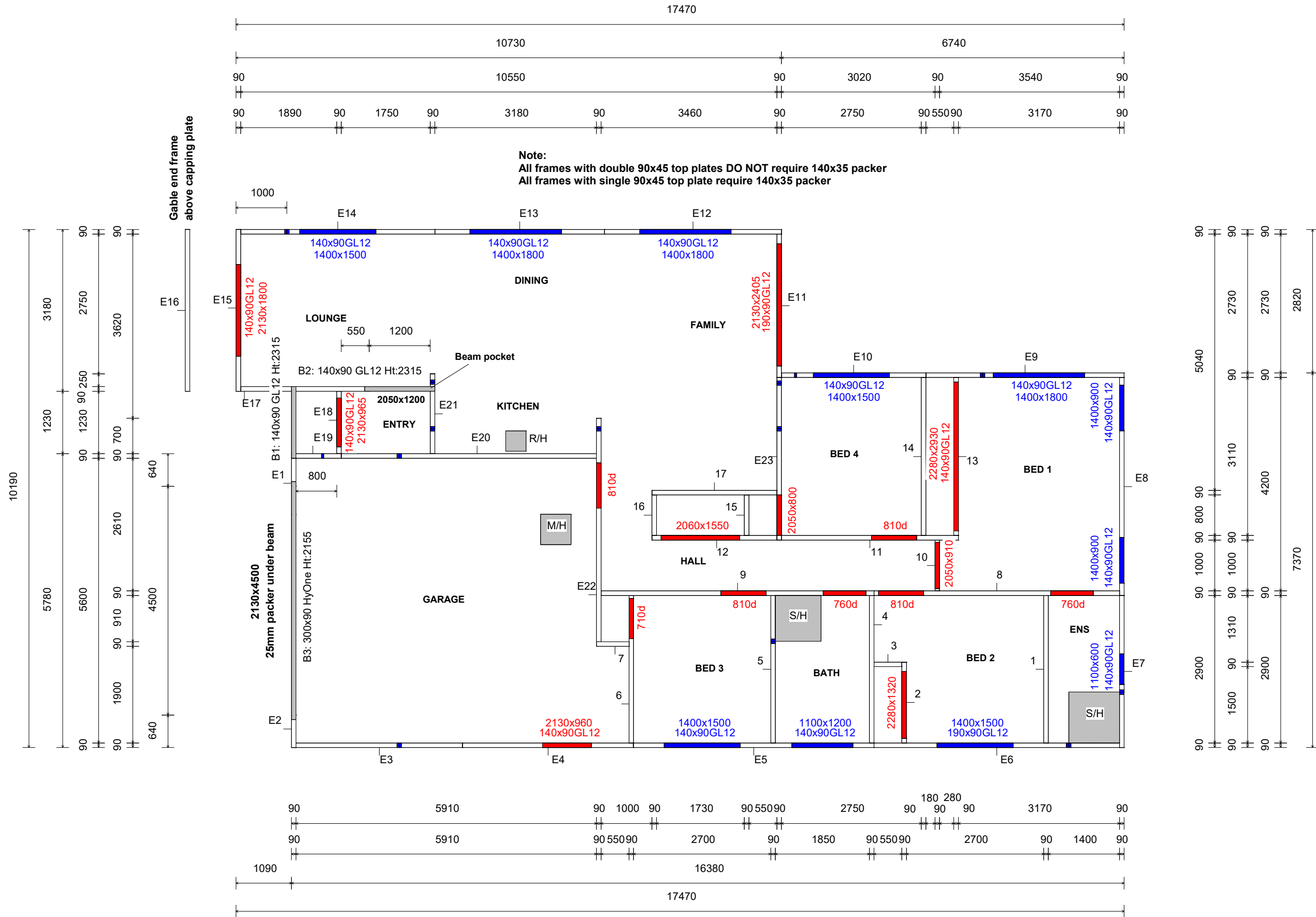
Job Title :

2300008

Sheet :

4

Revision Number :

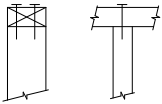


Stud to top plate
fixing details

Type A is minimum fixing required unless specified otherwise

FIXING TYPE A
0.7kN

2/90x3.33 plain steel wire
nails driven vertically into
stud.

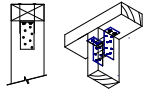


FIXING TYPE B
4.7kN

2 x 90mm x 3.15 dia. plain steel wire nails driven
vertically into stud.

AND

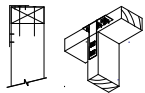
Plus 2x LUMBERLOK
CPC40



Recommended for
internal wall options to
avoid lining issues.

OR

Plus LUMBERLOK
Stud Strap
(One face only)



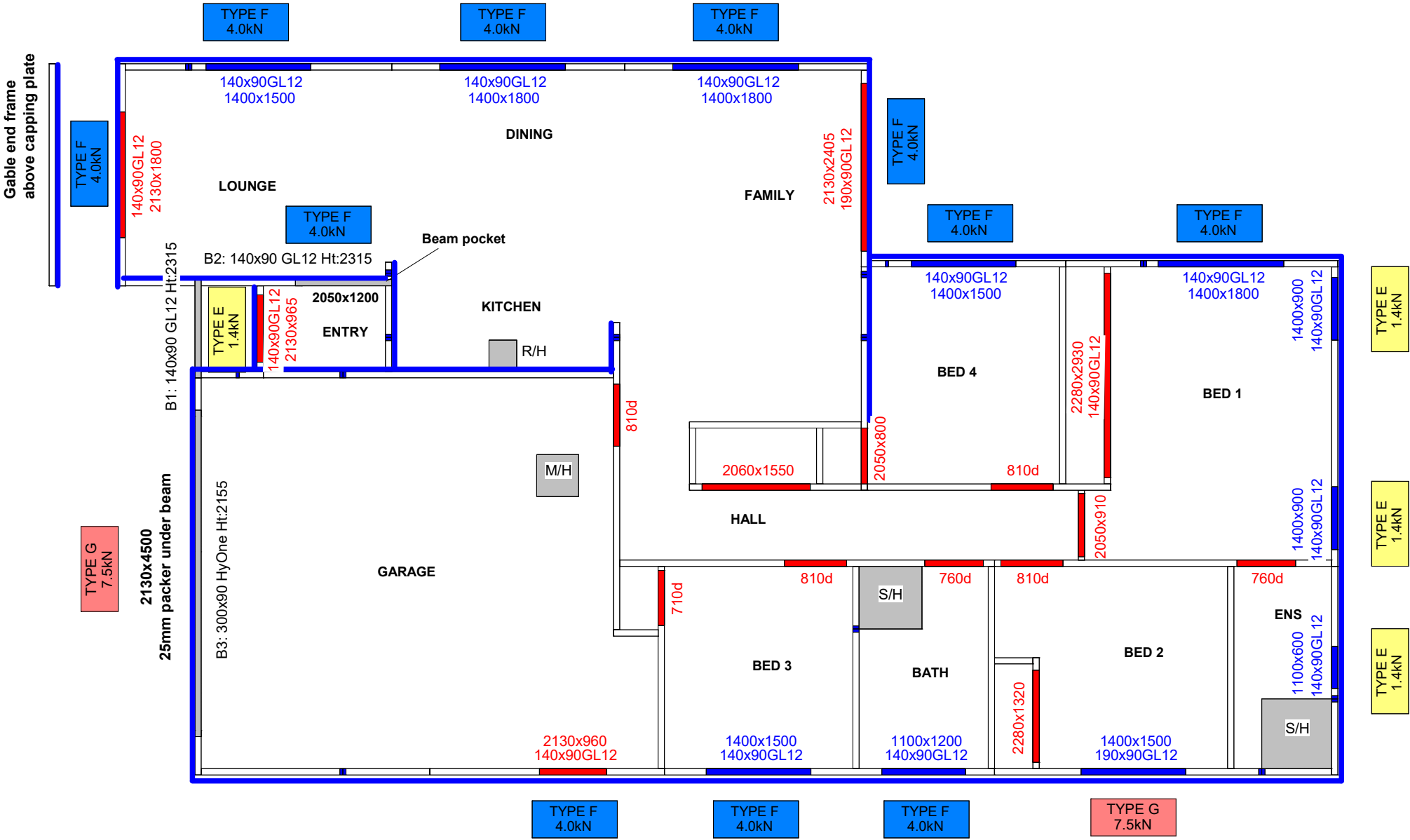
Lintel Fixing
Details

TYPE E
1.4kN

TYPE F
4.0kN

TYPE G
7.5kN

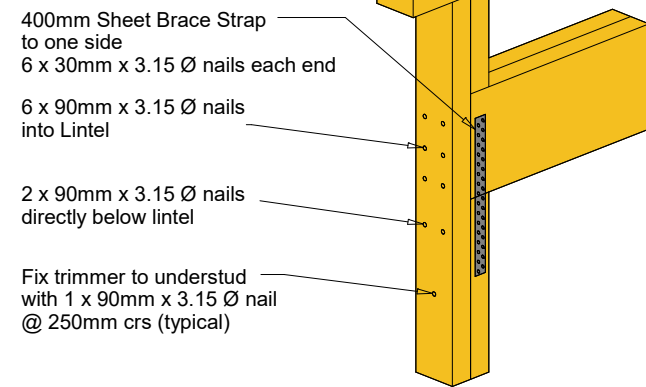
TYPE H
13.5kN



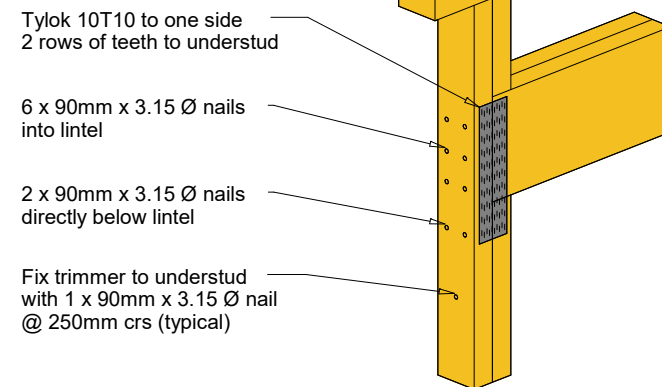
NOTES:
Refer to:
LUMBERLOK Wall Fixing Chart - Stud to Top Plate
Fixing Schedule 09/2011

(Alternative to NZS3604:2011 Table 8.18)

TYPE G
7.5 kN

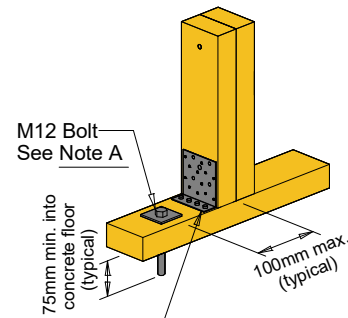


OR



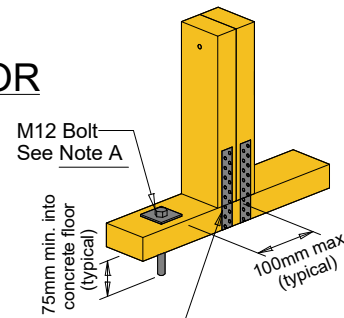
ASBUILT TRUSS BC221264

Note A:
M12 proprietary concrete fixing bolt with 50x50x3mm square washer
Or
M12 x 150mm coach screw with 50x50x3mm square washer into timber joist/bearer



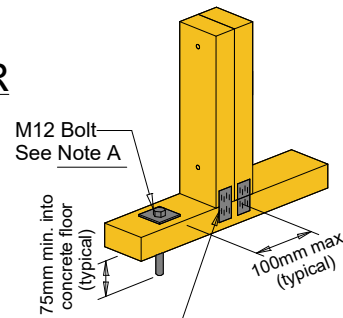
6kN Stud Anchor (CPC80)

OR



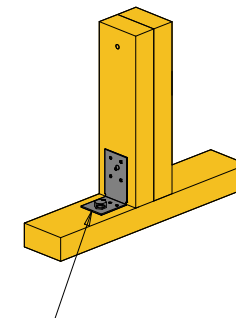
2 x 200mm Sheet Brace Strap to one side.
Each Strap to have 3 x 30mm x 3.15 Ø nails into stud & 3 x 30mm x 3.15 Ø nails into bottom plate

OR



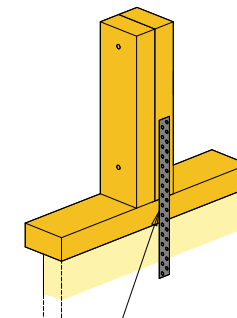
2 x Tylok 2T4 both sides for Radiata Pine
2 x Strap Nail both sides for Douglas Fir

OR



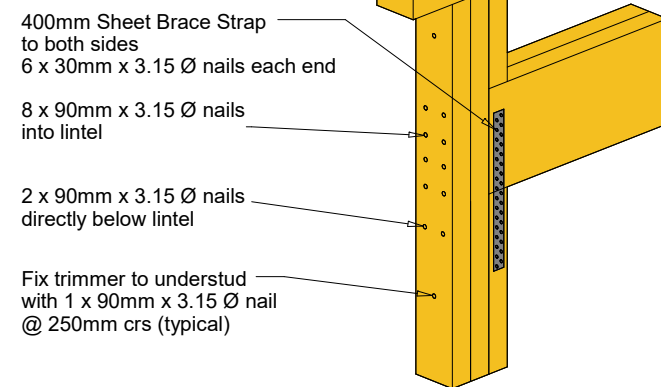
GIB HandiBrac

OR

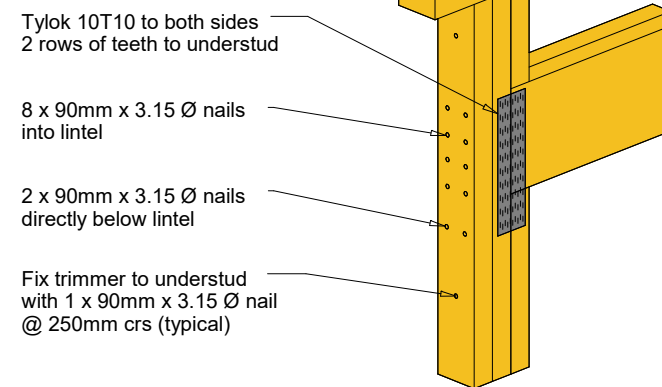


400mm Sheet Brace Strap to one side.
6 x 30mm x 3.15 Ø nails into stud.
3 x 30mm x 3.15 Ø nails into bottom plate.
6 x 30mm x 3.15 Ø nails into timber joist/bearer

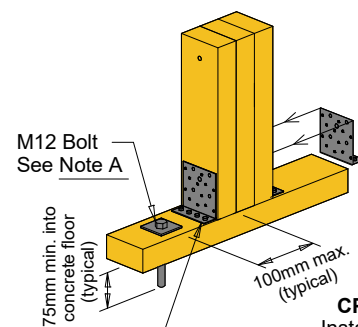
TYPE H
13.5 kN



OR



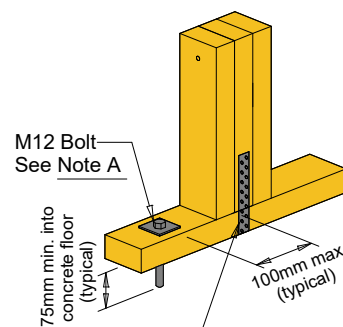
Note A:
M12 proprietary concrete fixing bolt with 50x50x3mm square washer
Or
M12 x 150mm coach screw with 50x50x3mm square washer into timber joist/bearer



2 x 6kN Stud Anchor (CPC80)

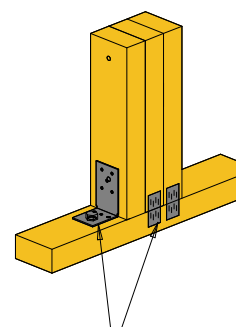


OR



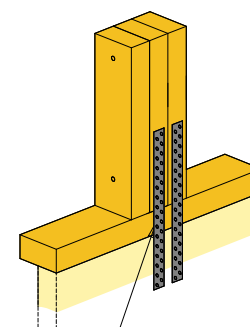
400mm Sheet Brace Strap wrap around bottom plate and up the other side.
6 x 30mm x 3.15 Ø nails into each side of stud.
3 x 30mm x 3.15 Ø nails into each side of bottom plate.

OR



GIB HandiBrac T M and
2 x Tylok 2T4 both sides

OR



2 x 400mm Sheet Brace Strap to one side.
6 x 30mm x 3.15 Ø nails into stud.
3 x 30mm x 3.15 Ø nails into bottom plate.
6 x 30mm x 3.15 Ø nails into timber joist/bearer



RECEIVED 28/02/2023



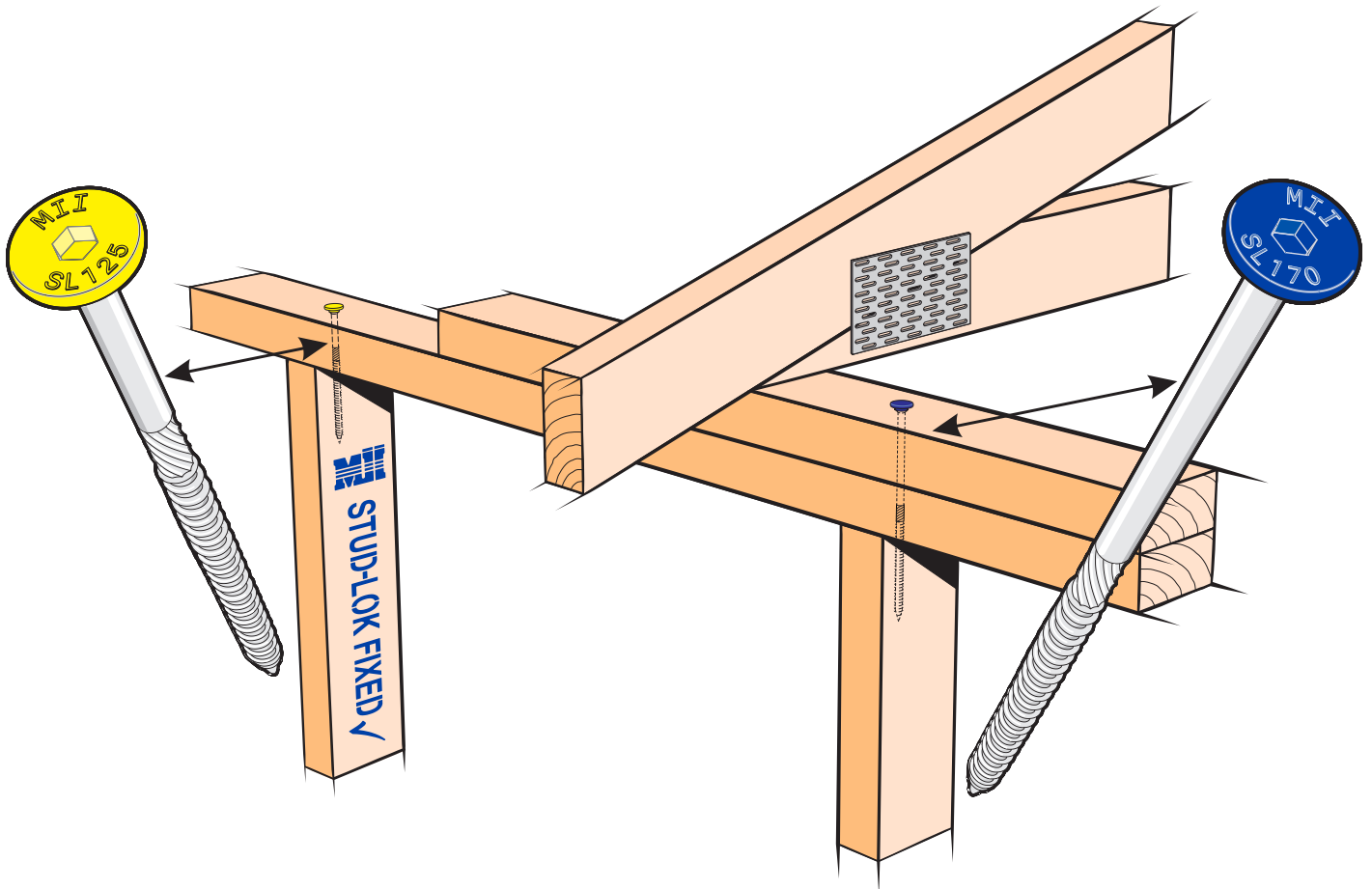
BOWMAC

ASBUILT TRUSS BC221264

RECEIVED 28/02/2023 11/2017

STUD-LOK

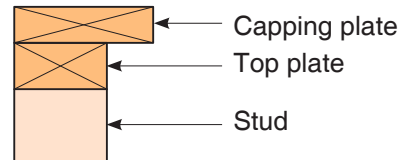
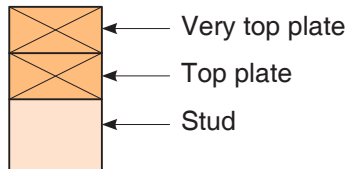
Provides a solution for top plate to stud fixings for residential timber frame buildings



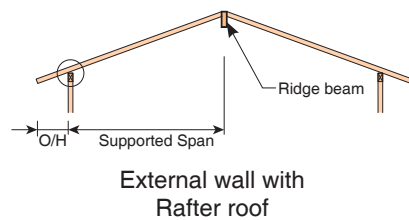
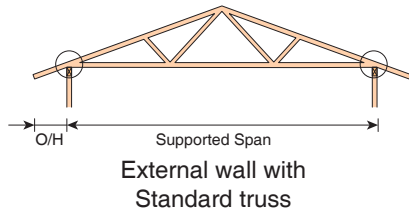
- ★ Complies with fixing requirements in Section 8 NZS 3604:2011
- ★ The BOWMAC® STUD-LOK forms an integral part of the MiTek Truss & Frame design and layout
- ★ Available in 2 lengths allowing for connections from stud to single top plate (SL125) and stud to double top plates (SL170)
- ★ Applied in the factory
- ★ Is a completely internal connection avoiding any clashes with wall linings

- NOTE:** ★ The STUD-LOK fixing is designed to resist vertical loads only.
- ★ Refer to Table 8.19 NZS 3604:2011 for nailing schedule to resist lateral loads.
- ★ The STUD-LOK connections assume that the correct choice of rafter/truss fixings have been made.
- ★ Wall framing arrangements under girder trusses are not covered in this schedule.
- ★ All timber selections are as per NZS 3604:2011 and include LVL8 timber grades.

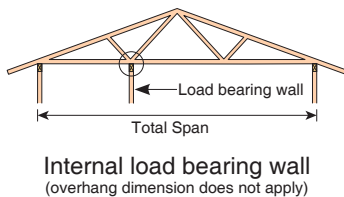
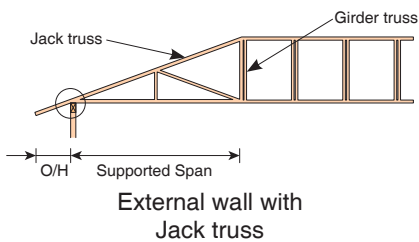
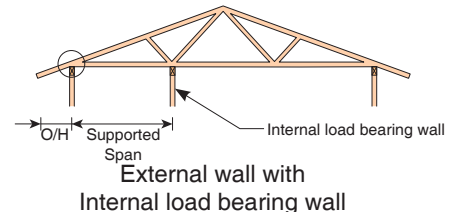
DOUBLE TOP PLATES DEFINITION



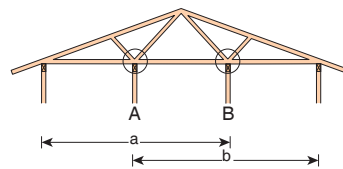
LOAD DIMENSION DEFINITION



EXTERNAL WALL
LOADED DIMENSION =
 $\frac{\text{SUPPORTED SPAN}}{2} + \text{O/H}$



INTERNAL LOAD BEARING WALL
LOADED DIMENSION =
 $\frac{\text{TOTAL SPAN}}{2}$



Multiple internal load bearing walls
(overhang dimension does not apply)

MULTIPLE INTERNAL LOAD
BEARING WALLS
LOADED DIMENSION FOR
WALL A = $a/2$
WALL B = $b/2$

FIXING SELECTION CHART

(Suitable for walls supporting roof members at 600, 900 or 1200mm crs.)

Wind Zones L, M, H, VH, EH as per NZS 3604:2011

Loaded Dimension (m) Stud Centres			Light Roof Wind Zone					Heavy Roof Wind Zone				
300mm	400mm	600mm	L	M	H	VH	EH	L	M	H	VH	EH
3.0	2.3	1.5	2N	2N	SL	SL	SL	2N	2N	SL	SL	SL
4.0	3.0	2.0	2N	2N	SL	SL	SL	2N	2N	SL	SL	SL
5.0	3.8	2.5	2N	SL	SL	SL	SL	2N	2N	SL	SL	SL
6.0	4.5	3.0	2N	SL	SL	SL	SL	2N	2N	SL	SL	SL
7.0	5.3	3.5	2N	SL	SL	SL	SL	2N	2N	SL	SL	SL
8.0	6.0	4.0	2N	SL	SL	SL	SL	2N	2N	SL	SL	SL
9.0	6.8	4.5	SL	SL	SL	SL	SL	2N	2N	SL	SL	SL
10.0	7.5	5.0	SL	SL	SL	SL	SL	2N	2N	SL	SL	SL
11.0	8.3	5.5	SL	SL	SL	SL	SL	2N	2N	SL	SL	SL
12.0	9.0	6.0	SL	SL	SL	SL	SL	2N	2N	SL	SL	SL

2N = 2/ 90mm x 3.15 dia. nails

SL = Single STUD-LOK
plus 2/ 90mm x 3.15 dia. nails

NOTE:

To calculate the number of STUD-LOK fixings required, divide the wall length by the stud centres, add 1 to this figure and locate this number of fixings as evenly as possible along the wall length. This figure includes the start and end studs in each wall length.