



AGREEMENT LETTER

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

DATE: 10 May 2024

CONSENT NO: BC240494

CLIENT: Oakridge Homes

JOB NAME: Lot 44 Lemonwood Estate

SITE ADDRESS: 5 Nirmal Way, Rolleston

JOB REF: CH2400118

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
Soffit: 450mm, 600mm
Spacing: 900mm
Roof pitch: 25.0°

Wind zone: High
Snow load: 0.441kPa (basic roof load)
Snow load: 0.900kPa (O/G snow load)

Treatment Definition:

Roof Trusses: 90x45mm SG KD (H1.2)
External Walls: 90x45mm LVL8 (H1.2) (Stud centers as per NZ3604:2011)
Internal Walls: 90x45mm LVL8 (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.



MiTek New Zealand Limited

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

MiTek 20/20 Engineering 4.7.346.0

www.mitek.nz.co.nz

Printed: 15:45:01 10 May 2024

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 **2400118** 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: Friday, 10 May 2024**

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

Akarana Timbers Christchurch

Fabricator Design Statement : Page 1

Job: 2400118

Client: Oakridge Homes
Phone:

Site: New Home
Lot 44 Lemonwood Estate
5 Nirmal Way, Rolleston

Description:
Building Consent No.: BC240494
MITek 20/20 Engineering 4.7.346.0

MITek New Zealand Limited

Phone:

Printed: 15:45:01 10 May 2024

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

Material: Metal Tiles
Dead Load: 0.210 kPa
Restraints: 400 mm centres
Live Load: Q_{ur} = 0.250 kPa
Q_c = 1.100 kN

Ceiling

Material: Gib Board 13mm
Dead Load: 0.200 kPa
Restraints: 600 mm centres
Live Load: Q_c = 1.400 kN

Wind

Area: High (44.0 m/s)
Pressure Coeff: C_{pe} = varies; C_{pi} = -0.30, 0.20

Snow

Location: Christchurch (N4) at 100 m
Open Ground Load: 0.900 kPa
Basic Roof Load: 0.441 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, Txx = 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)
CJ01	2	1267	25.000	900	J06B	2	2002	25.000	900	V07	1	1752	25.000	900
ET01	1D	5130	25.000	900	J07	2	1102	25.000	900	V08	1	1215	25.000	900
*FR01	2	3165	25.000	900	*OR01	9	1305	0.000	800	J02	1	2580	25.000	900
*HB01	1	7881	18.249	900	*OR02	1	395	0.000	800	J04	1	2018	25.000	900
*HB02	1	3468	18.249	900	*R01	1	1393	25.000	900	J04A	1	2018	25.000	900
*HB03	1	2082	18.249	900	*R02	3	913	25.000	900	J06	1	2002	25.000	900
*HB04	1	2843	18.249	900	*R03	1	831	25.000	900	J06A	1	2002	25.000	900
*HB05	1	4974	18.249	900	*R03A	1	831	25.000	900	*R02A	3	913	25.000	900
*HB05A	1	4974	18.249	900	*R04	1	830	25.000	900	CJ02	1	3067	25.000	900
*HB06	2	6226	18.249	900	*R04A	1	830	25.000	900	HTG01	1	4973	25.000	900
HT01	1	2917	25.000	900	*R05	1	691	-0.000	900	J01B	1	3480	25.000	900
HT02	1	2918	25.000	900	T01	1	6388	25.000	900	J04D	4	2018	25.000	900
HT03	1	3480	25.000	900	T03	3	7650	25.000	900	J05A	1	2902	25.000	900
J01	1	3480	25.000	900	T03A	1	7650	25.000	900	J05B	1	2902	25.000	900
J01A	1	3480	25.000	900	T04	4	4973	25.000	900	HTG03	1	5880	25.000	900
J01C	1	3480	25.000	900	T05	2	4970	25.000	900	J08	1	2918	25.000	900
J01D	1	3480	25.000	900	T05A	2	4970	25.000	900	T02	1	6388	25.000	900
J02A	1	2580	25.000	900	TR01	1	6830	25.000	900	TG01	1	7470	25.000	900
J03	1	1680	25.000	900	V01	1	1778	25.000	900	TG02	1	7650	25.000	900
J03A	1	1680	25.000	900	V02	1	878	25.000	900	HTG02	1	5880	25.000	900
J04B	1	2018	25.000	900	V03	1	2580	25.000	900					
J04C	1	2018	25.000	900	V04	1	1880	25.000	900					
J05	2	2902	25.000	900	V05	1	1094	25.000	900					
J05C	1	2902	25.000	900	V06	1	802	25.000	900					

Total quantity : 96

The computer design input has been carried out by:

Signed:

Date: ...Friday, 10 May 2024....

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

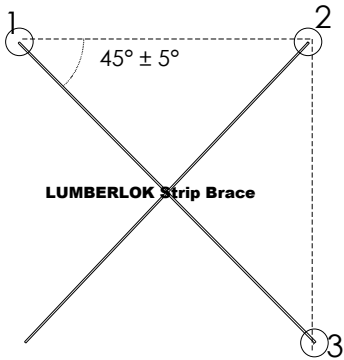
Truss Fixings

- 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.

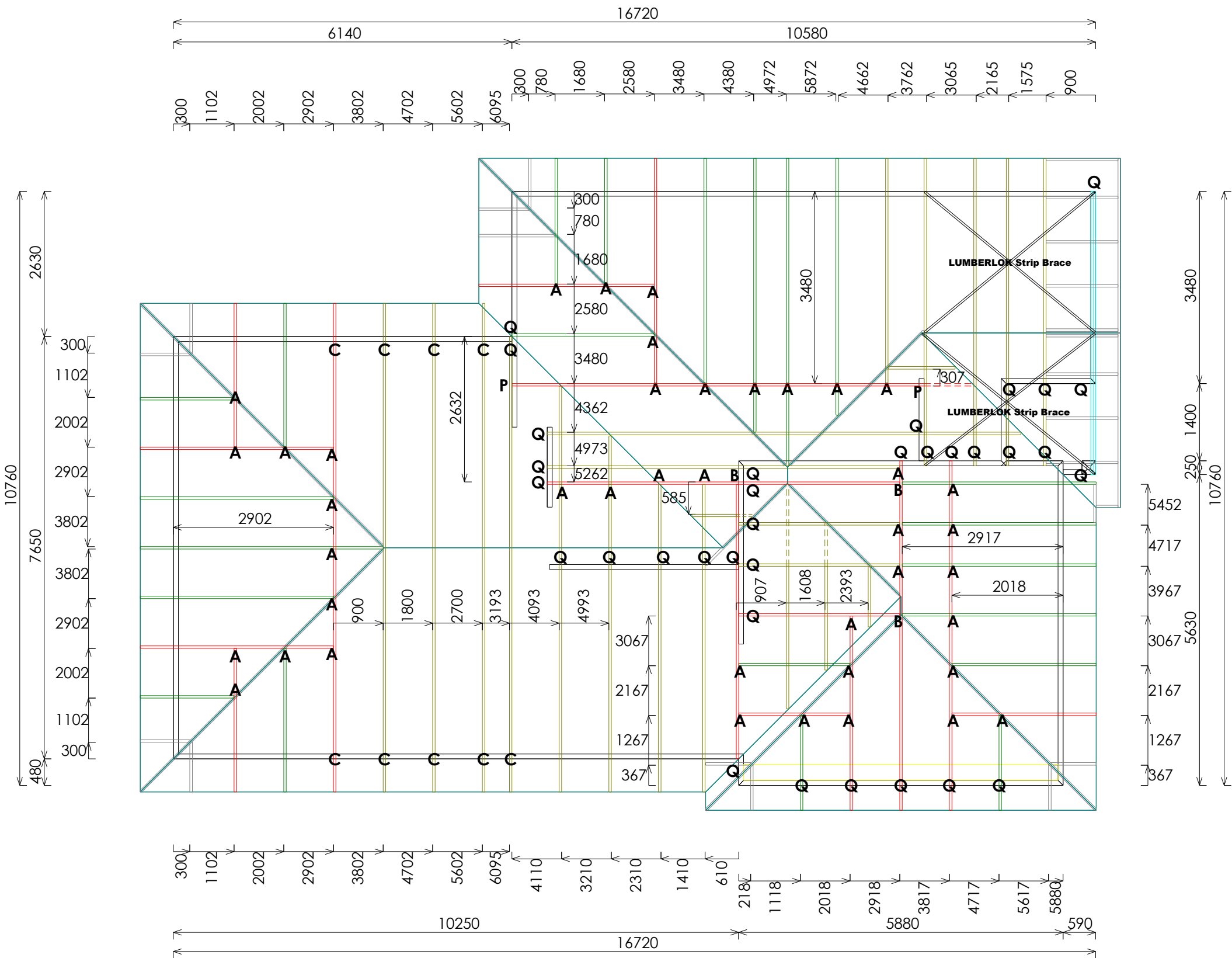
The brace must be located such that it forms an angle of 45° ± 5° to the wall

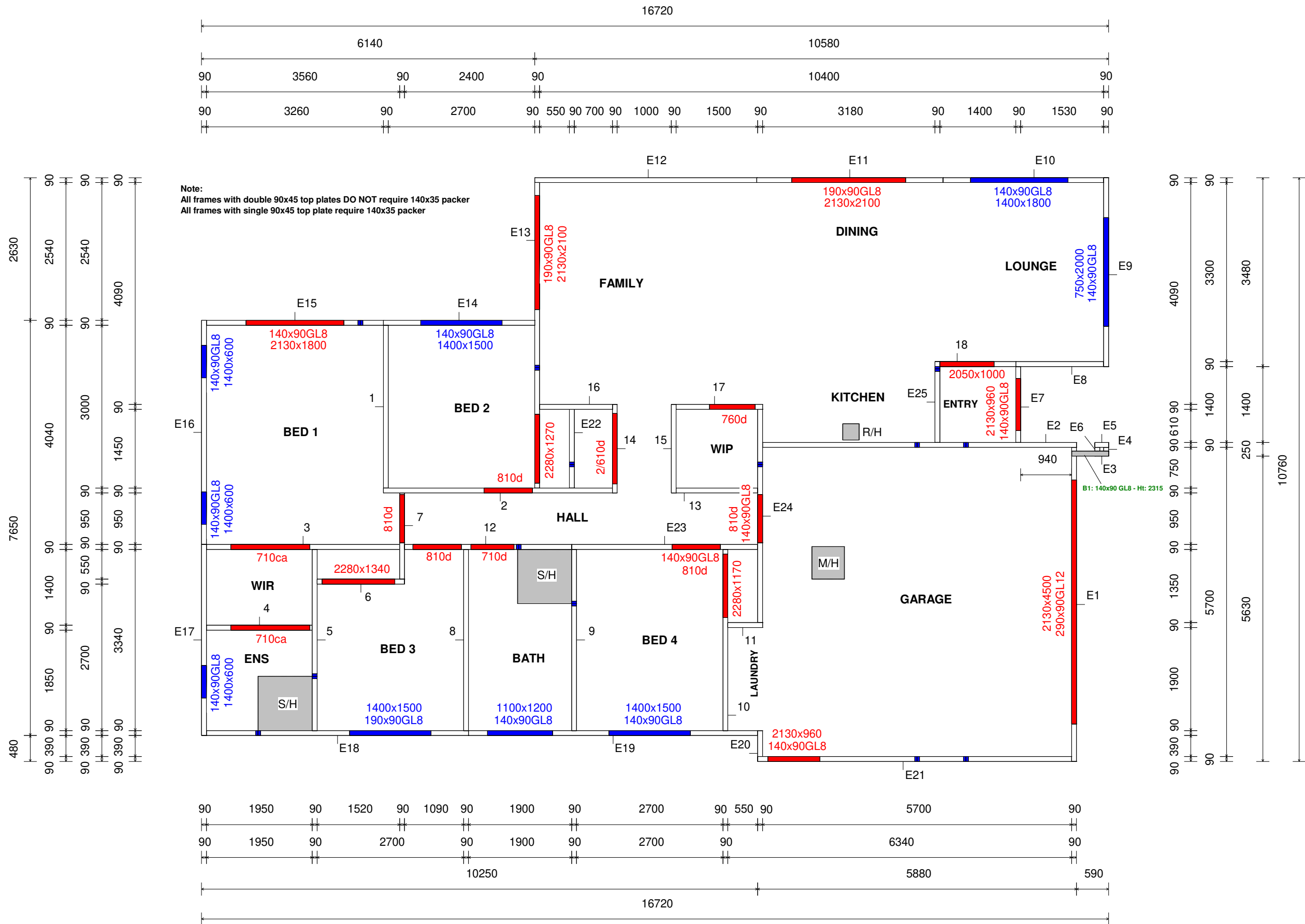


NOTES:

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



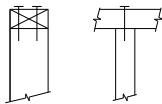


Stud to top plate
fixing details

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.

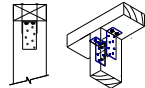


FIXING TYPE B
4.7kN

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

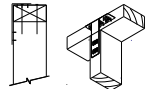
Plus 2x LUMBERLOK
CPC40

AND



Recommended for
internal wall options to
avoid lining issues.

OR



Plus LUMBERLOK
Stud Strap
(One face only)

Lintel Fixing
Details

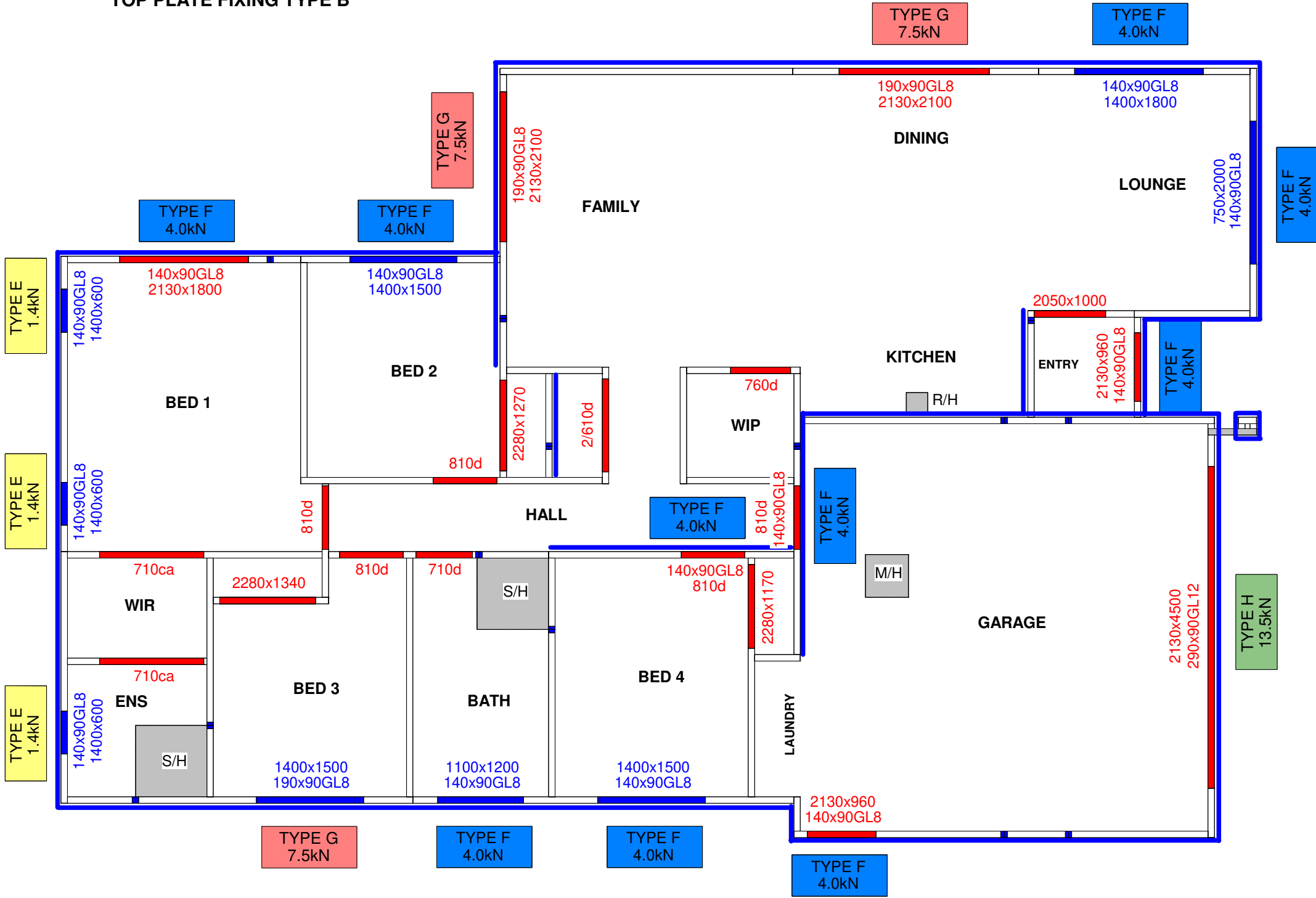
TYPE E
1.4kN

TYPE F
4.0kN

TYPE G
7.5kN

TYPE H
13.5kN

STUDLOK FITTED IN FACTORY
TOP PLATE FIXING TYPE B



NOTES:

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

(Alternative to NZS3604:2011 Table 8.18)

Akarana
timbers

Ph: 03 3477 818

Site Address :

New Home
Lot 44 Lemonwood Estate
5 Nirmal Way, Rolleston

Sheet Title :

As Built Design
Top Plate/Lintel Fixings

Date : May 10, 2024

Drawn : Theo Budel

Scale : 1: 100

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

Mi
MiTek

PrimeCad v4.7.346

Job Title :

2400118

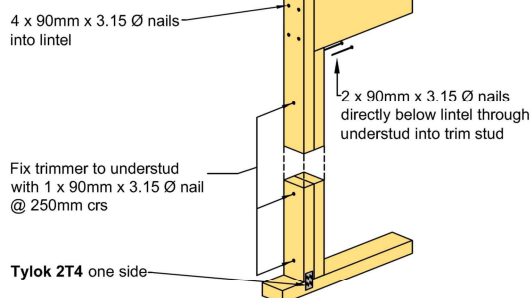
Sheet :

4

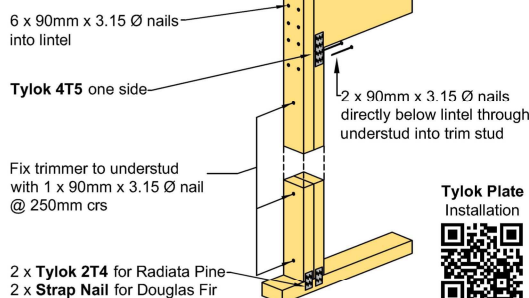
Revision Number :

LUMBERLOK® LINTEL FIXING OPTIONS

TYPE E 1.4 kN



TYPE F 4.0 kN



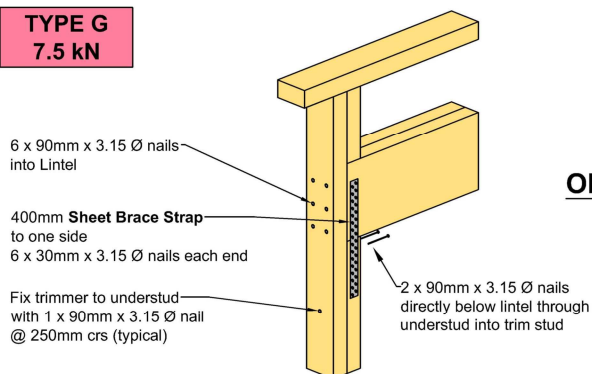
NOTES:

- For fixing of jack studs to lintel and top plate, refer to **Stud to Top Plate Fixing Schedule**
- Stud numbers indicative only. Refer to **Table 8.5 NZS 3604:2011**

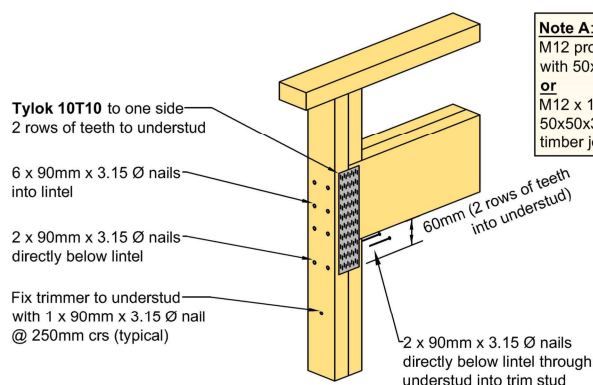
Refer to:
LUMBERLOK Lintel Fixing Schedule 10/2011,
MiTek Structural Fixings **On-Site Guide** for
Building Code Compliance
(Alternative to Table 8.14 & Figure 8.12
NZS 3604:2011)



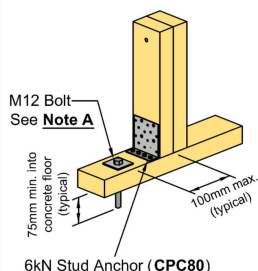
TYPE G 7.5 kN



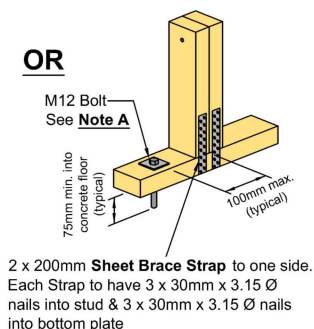
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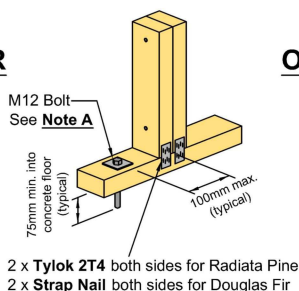
Note A:
M12 proprietary concrete fixing bolt with 50x50x3mm square washer
or
M12 x 150mm coach screw with 50x50x3mm square washer into timber joist/bearer



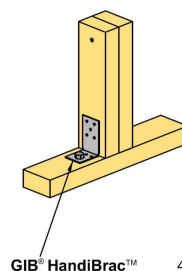
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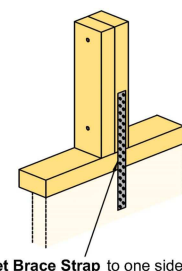
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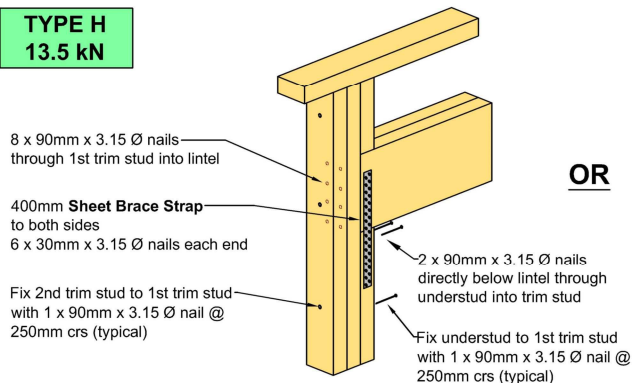
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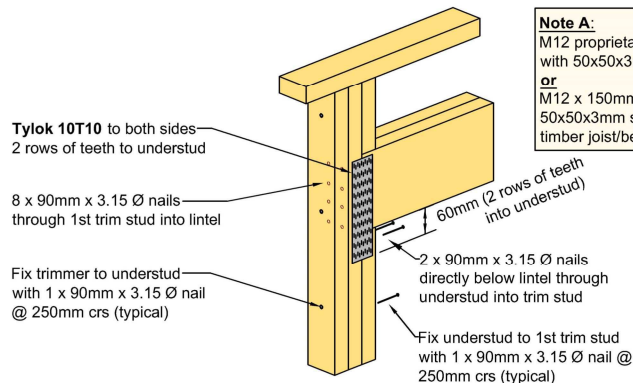
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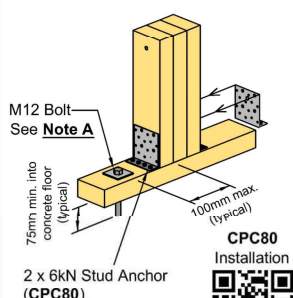
TYPE H 13.5 kN



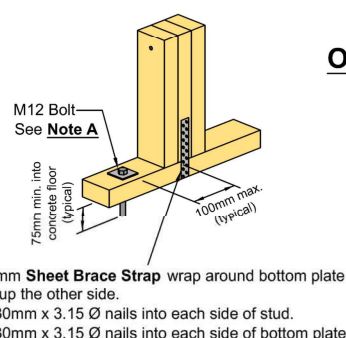
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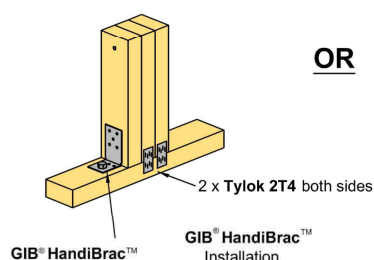
Note A:
M12 proprietary concrete fixing bolt with 50x50x3mm square washer
or
M12 x 150mm coach screw with 50x50x3mm square washer into timber joist/bearer



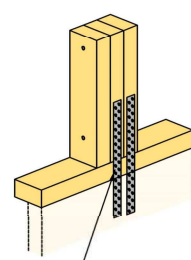
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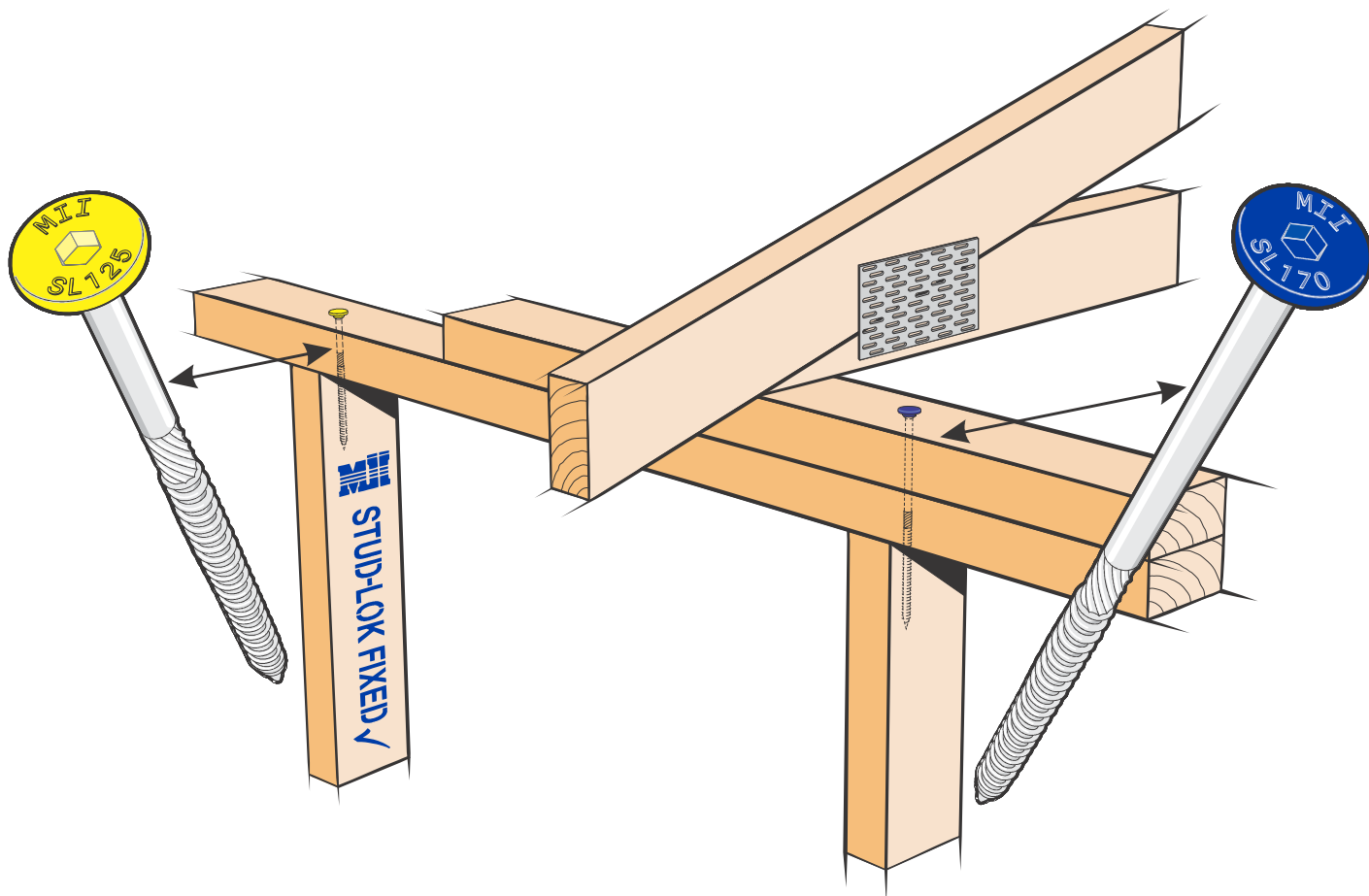


OR



STUD-LOK

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



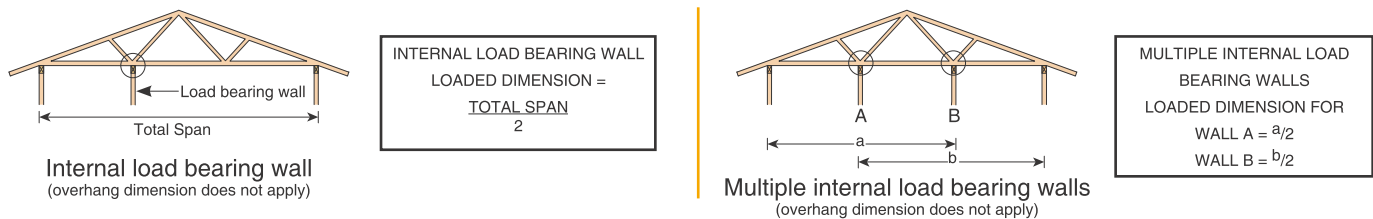
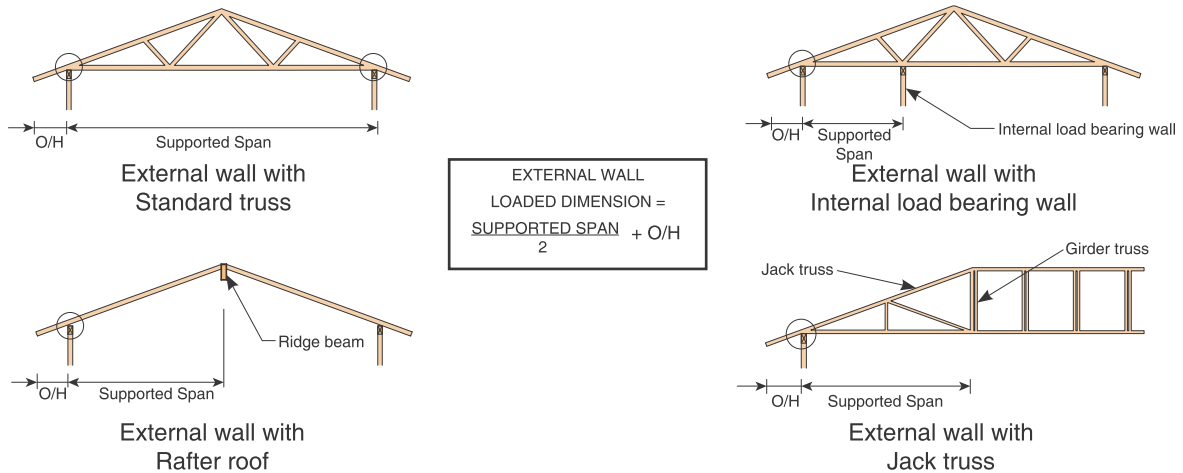
- ★ Complies with fixing requirements in Section 8 NZS 3604:2011
- ★ The BOWMAC® STUD-LOK forms an integral part of the MiTek Truss & Frame design and layout
- ★ Available in 2 lengths allowing for connections from stud to single top plate (SL125) and stud to double top plates (SL170)
- ★ Applied in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



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.