

Site Address :  
CAMERON RESIDENCE  
11 CRETE ROAD  
RANGIORA

Sheet Title :  
**AS BUILT #BC201170**  
**Buildable Truss Layout**

Date : 12 Jan, 2021 Drawn : Clayton Lynskey  
Scale : 1:100 System : MiTek 20/20

Job Details:  
Roof Pitch : 25.00deg  
Roof Material : Galv Iron .5mm  
Ceiling Material : Rondo on clips  
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



Job Title :  
**092034A**  
Sheet :  
**1**  
Revision Number :

PrimeCad v4.7.334



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 4.7.334.0

Printed: 13:07:48 12 Jan 2021

## **PRODUCER STATEMENT for MiTek 20/20® TRUSS DESIGN - Version 4.7**

ISSUED BY: **MiTek New Zealand Limited**

TO: **Kaiapoi ITM Building Centre**

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 **092034A** 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, 12 January 2021**

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

Job: 092034A	Client: DEAN CAMERON	Site: CAMERON RESIDENCE 11 CRETE ROAD RANGIORA	Phone:
Description: Building Consent No.: <small>MiTek 20/20 Engineering 4.7.334.0</small>			
<small>MiTek New Zealand Limited</small>			
<small>Printed: 13:07:48 12 Jan 2021</small>			

## MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **Kaiapoi ITM Building Centre**, 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.

<b>Job Details</b>	Importance Level : 2	Design Working Life : 50 years
<b>Roof Truss</b>		
Timber Group: DDFx45 H1.2	Pitch: 25.000 deg	Nominal Overhang: 600 mm
<b>Roof</b>	<b>Ceiling</b>	<b>Wind</b>
Material: Galv Iron .5mm	Material: Rondo on clips	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: 900 mm centres	Restraints: 1800 mm centres	<b>Snow</b>
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: 0.441 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, ✕ = 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)
S02	6	9960	25.000	900	J01C	1	3202	25.000	900	J19A	1	1332	25.000	900
SG01	1	9960	25.000	900	J01	2	3202	25.000	900	J19	1	1332	25.000	900
T02	4	8250	25.000	931	J01A	1	3202	25.000	900	V02	1	2730	25.000	900
T01	1	8250	25.000	900	J01B	1	3202	25.000	900	V03	1	1830	25.000	900
TG01	1	8250	25.000	900	J02B	2	2302	25.000	900	V01	1	1409	25.000	900
S01	1	6179	25.000	900	J02A	1	2302	25.000	900	V04	1	1294	25.000	900
S01A	3	6179	25.000	900	J02	1	2302	25.000	900	*HB01	2	6650	18.249	900
S03	2	6486	25.000	900 LB	J03A	2	1402	25.000	900	*HB02	1	7405	18.249	900
SG02	1	6486	25.000	900	J03	2	1402	25.000	900	*HB03	1	1677	18.249	900
T03	1	6730	25.000	900	J11B	1	3439	25.000	900	*HB04	1	4030	18.249	900
T03A	1	6730	25.000	900	J11A	1	3439	25.000	900	*HB05	1	2553	18.249	900
J08	1	4186	25.000	900	J11	1	3439	25.000	900	*HB06	1	4802	18.249	900
T04	1	4510	25.000	900	J12A	1	2346	25.000	900	*HB07	1	4920	18.249	900
T05A	1	4510	25.000	900	J16A	1	2539	25.000	900	*HB08	1	4006	18.249	900
T05	2	4510	25.000	900	J16	1	2539	25.000	900	*HB09	1	684	18.249	900
ET01	1D	4510	25.000	900	J12	1	2346	25.000	900	*R01	2	1093	25.000	900
J04B	1	3736	25.000	900	J13A	2	1639	25.000	900	*R02	8	891	25.000	900
J04A	1	3736	25.000	900	J13	1	1639	25.000	900	*R03	1	900	25.000	900
J04C	1	3736	25.000	900	J15	1	1639	25.000	900	*R04	1	730	25.000	900
J04	1	3736	25.000	900	J14	1	546	25.000	900	*R05	2	331	25.000	900
J05A	1	2836	25.000	900	J09	1	2288	25.000	900	*R06	1	1023	25.000	900
J05	1	2836	25.000	900	J17	1	2232	25.000	900	*R07	1	5710	25.000	900
J06A	1	1936	25.000	900	J18	1	2232	25.000	900	*R08	8	1305	0.000	902
J06	1	1936	25.000	900	J10	1	2079	25.000	900					
J07	1	1036	25.000	900	T06	2	1388	25.000	900					

**Total quantity : 108**

The computer design input has been carried out by:

Signed: 

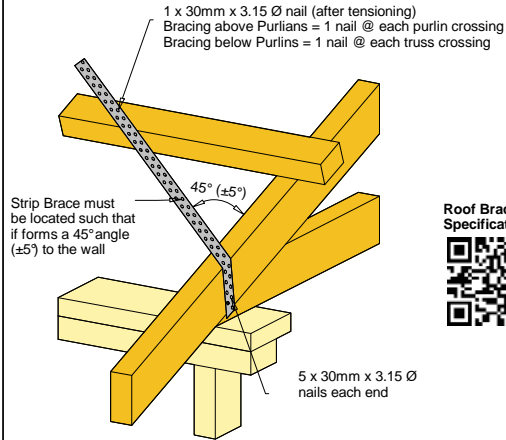
Name of Detailer: Clayton Lynskey

Date: Tuesday, 12 January 2021

Qualifications and Title:

On behalf of: Kaiapoi ITM Building Centre

# LUMBERLOK<sup>®</sup> ROOF BRACING



Refer to:  
LUMBERLOK Roof Bracing Specifications 10/2011  
MiTek Structural Fixings **On-Site Guide** for Building Code Compliance  
(As per NZS 3604:2011)

# LUMBERLOK<sup>®</sup> TRUSS FIXINGS

- D - Pair of Wire Dogs and 2 x 90mm 3.15mm skew nails
- X - LUMBERLOK JH47x90 Joist Hanger
- Z - LUMBERLOK JH47x120 Joist Hanger
- P - LUMBERLOK JH47x190 Joist Hanger
- E - LUMBERLOK JH95x165 Joist Hanger
- T - LUMBERLOK CT200 Ceiling Tie
- O - Pair of LUMBERLOK CT200 Ceiling Ties
- H - LUMBERLOK CT400 Cyclone Tie
- B - LUMBERLOK CT600 Cyclone Tie
- 4 - LUMBERLOK Multi Grip
- M - Pair of LUMBERLOK Multi Grips
- NP - LUMBERLOK Nailon Plate
- N - LUMBERLOK N21 Diagonal Cleat
- V - LUMBERLOK CPC40 Cleat
- W - Pair of LUMBERLOK CPC40 Cleats
- K - LUMBERLOK TTP 16kN Truss to Top Plate set
- G - LUMBERLOK TTP 9kN Truss to Top Plate set

## Joist Hanger Installation



## CT200 Truss to Top Plate Fixing Installation



## 16kN & 9kN Truss to Top Plate Fixing Installation



**Notes:**  
All other areas must have the minimum 2 x 90mm 3.15mm skew nails and  
2 x wire dogs for truss to top plate connections

**Refer to:**  
LUMBERLOK Timber Connectors Characteristic Loadings Data Brochure  
08/2014



Site Address :  
**CAMERON RESIDENCE**  
**11 CRETE ROAD**  
**RANGIORA**

Sheet Title :  
**AS BUILT #BC201170**  
**Truss Fixings & Roof Bracing**

Date : 12 Jan, 2021  
Scale : 1: 100  
Drawn : Clayton Lynskey  
System : MiTek 20/20

Job Details:  
Roof Pitch : 25.00deg  
Roof Material : Galv Iron .5mm  
Ceiling Material : Rondo on clips  
Wind Zone : High  
Roof Snow Load : 0.441kPa

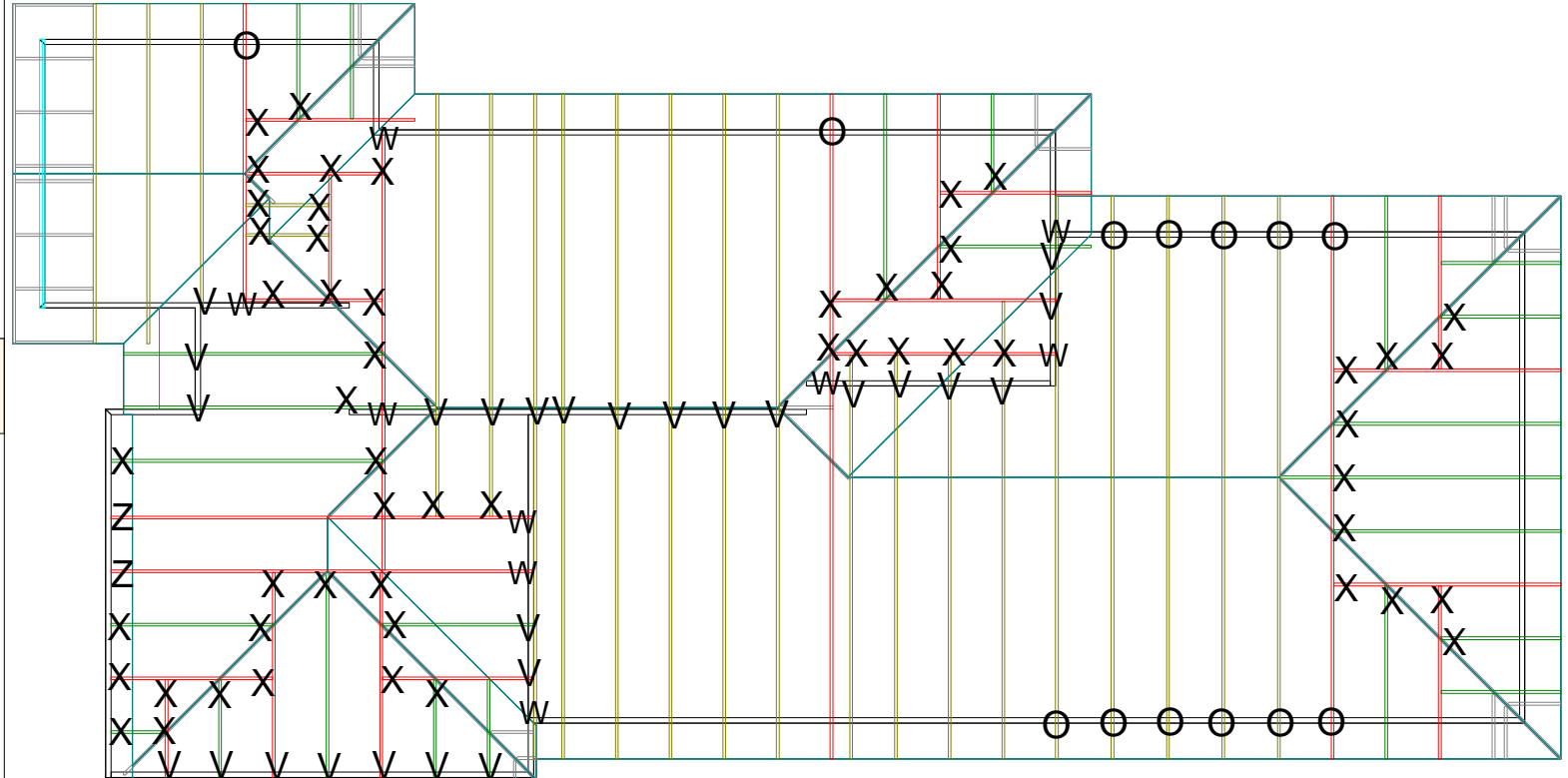
Truss Centres : 900mm  
Roof Live Load : 0.250kPa  
Floor Live Load :  
Wind Speed : 44m/s  
Overhang : 600mm



Job Title :  
**092034A**  
Sheet :  
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Revision Number :

ASBUILT TRUSS BC201170

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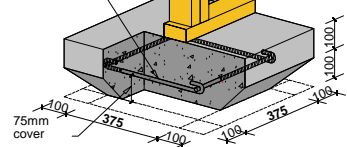


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# SLAB THICKENING & STUD REQUIREMENTS

## TYPE FP1 375mm² Pad

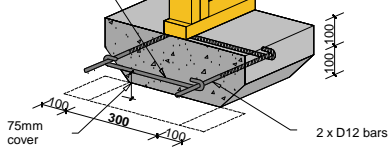
2 x D12 Bars  
both ways



2 3

## TYPE FS1 300mm Strip

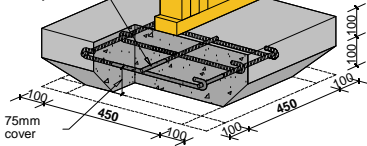
R10 bars @  
600 crs



2 3

## TYPE FP2 450mm² Pad

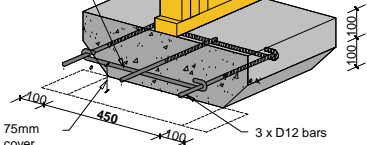
3 x D12 Bars  
both ways



3 4

## TYPE FS2 450mm Strip

R10 bars @  
600 crs



3 4

### Notes:

- The numbers found in the hatched areas are the numbers of studs required below each truss
- Standard 100mm reinforcing concrete slab, as per NZS3604:2011

### Refer to:

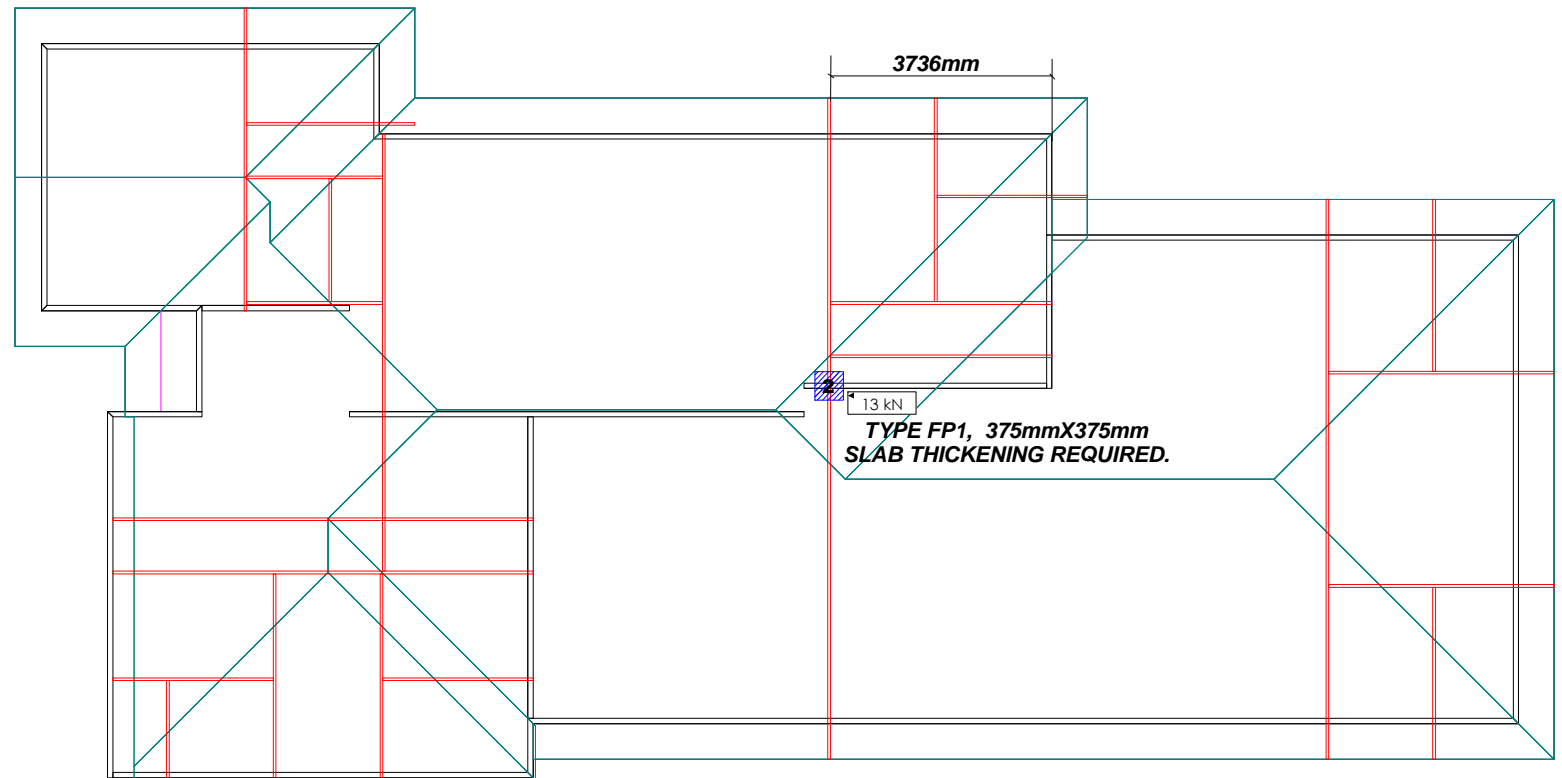
MiTek Internal Load Bearing on Concrete Floor Slabs 10/2011  
MiTek Structural Fixings **On-Site Guide** for Building Code Compliance

### Concrete Slab Thickening Guide



ASBUILT TRUSS BC201170

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Site Address :  
**CAMERON RESIDENCE**  
11 CRETE ROAD  
RANGIORA

Sheet Title :  
**AS BUILT #BC201170**  
Slab Thickening

Date : 12 Jan, 2021 Drawn : Clayton Lynskey  
Scale : 1: 100 System : MiTek 20/20

Job Details:  
Roof Pitch : 25.00deg  
Roof Material : Galv Iron .5mm  
Ceiling Material : Rondo on clips  
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



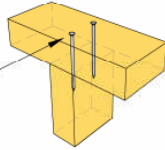
PrimeCad v4.7.334

Job Title :  
**092034A**  
Sheet :  
**2**  
Revision Number :

**TYPE A - 0.7 kN**

Non-Load Bearing Walls

2 x 90mm x 3.15 Ø plain  
steel wire nails driven  
vertically through single Top  
Plate into stud



\*Images are indicative only.  
Timber sizes may vary.

**TYPE B - 4.7 kN**

Load Bearing Walls

1 x STUD-LOK **SL125**  
screwed vertically through  
single Top Plate into stud.

Max. Top Plate  
Depth = 45mm

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

OPTION 1 ▲

**STUD-LOK SL125**  
• Yellow Head  
• 125mm long



1 x STUD-LOK **SL170**  
screwed vertically through  
single or double Top Plate  
into stud.

Max. Top Plate  
Depth = 90mm

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

OPTION 2 ▲

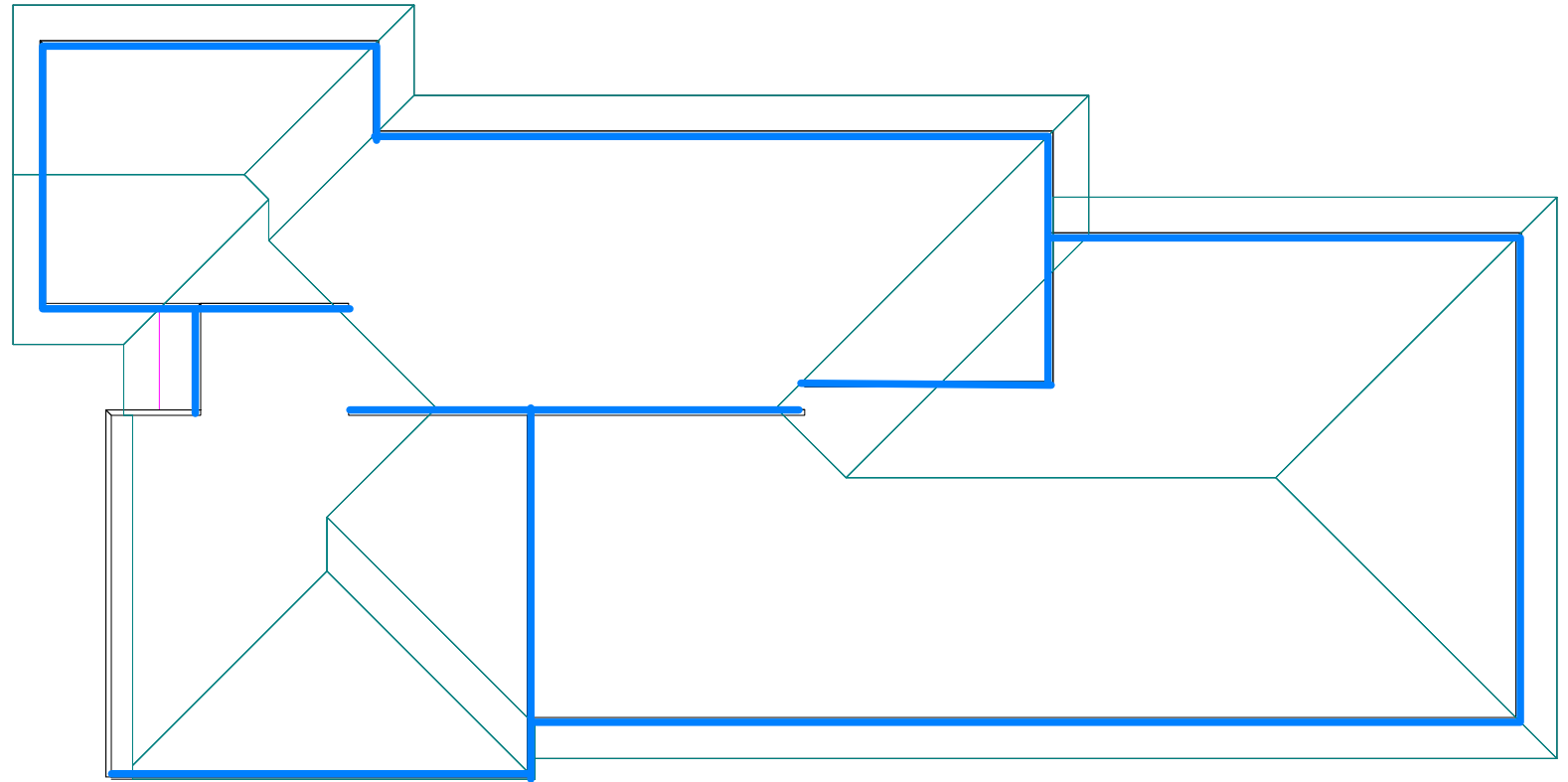
**STUD-LOK SL170**  
• Blue Head  
• 170mm long



(Alternative to NZS 3604:2011 Section 8)

**ALL MARKED WALLS  
ARE TYPE B FIXING.**

**STUD-LOK SL125 YELLOW HEAD,  
125mm LONG SCREW INSTALLED  
IN THE KAIAPOI ITM FACTORY  
AS PER MiTeK SECIFICATIONS.**

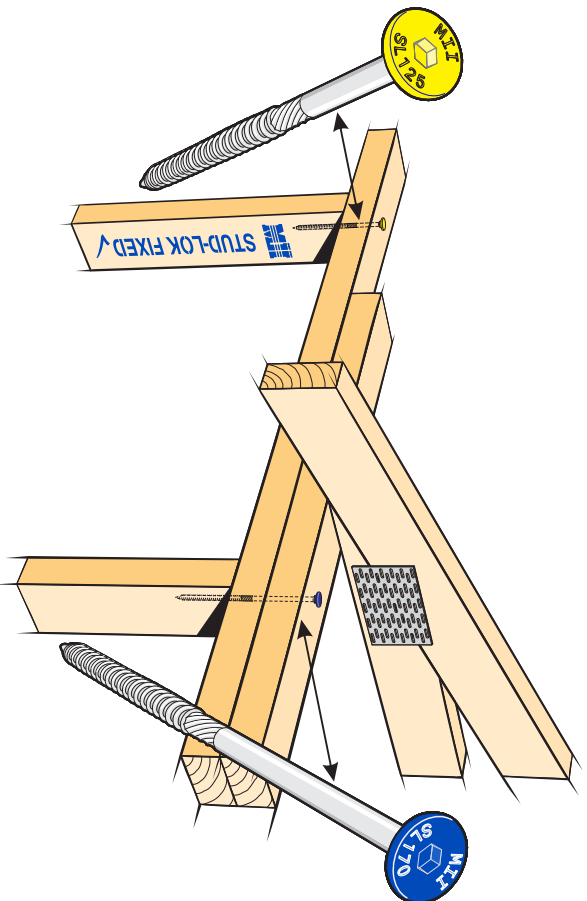


# NOTICE

## BOWMAC® STUD-LOK

### Top Plate to Stud Fixing

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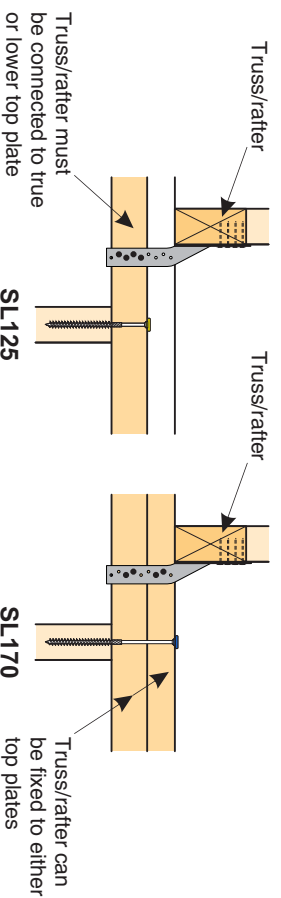
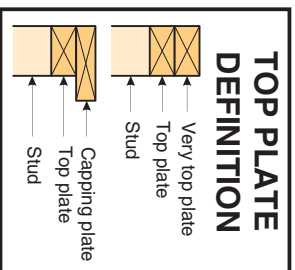


#### Inspection Note:

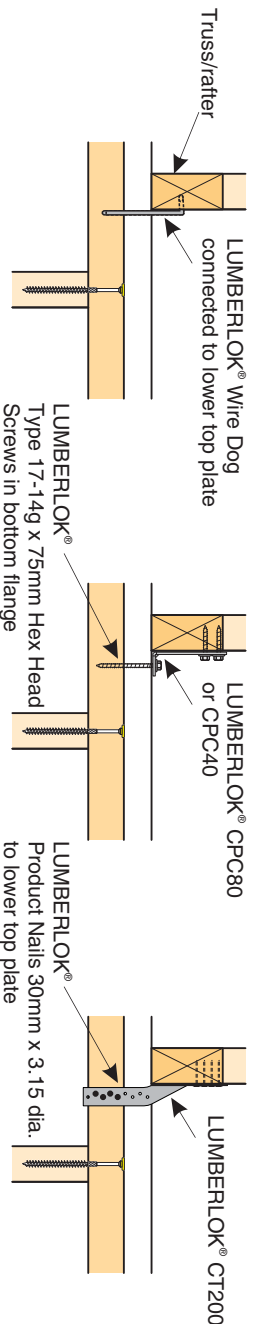
This wall frame has used the BOWMAC® STUD-LOK SL125 or SL170 as a method of fixing the top plate to the stud in place of the LUMBERLOK® Stud Strap or Type B fixings as shown on the MITek 'Stud to Top Plate Fixing' template on the accompanying truss and frame design.

Where the BOWMAC® STUD-LOK SL125 or SL170 has been applied in the factory by an accredited MITek Fabricator, identification of this is by the "STUD-LOK" noted on the load bearing walls around the structure.

#### TRUSS/RAFTER TO TOP PLATE CONNECTIONS

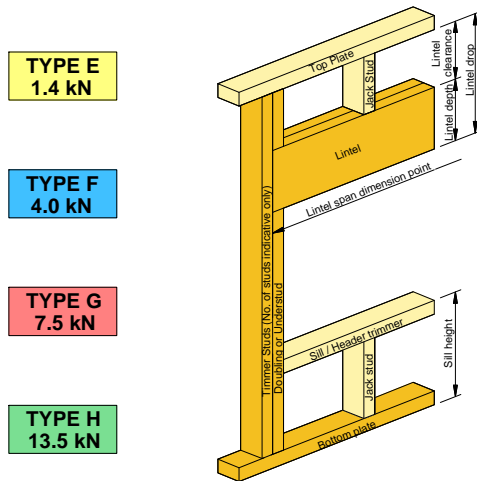


#### TRUSS/RAFTER TO TOP PLATE CONNECTIONS WHERE BOWMAC® STUD-LOK SL125 IS USED

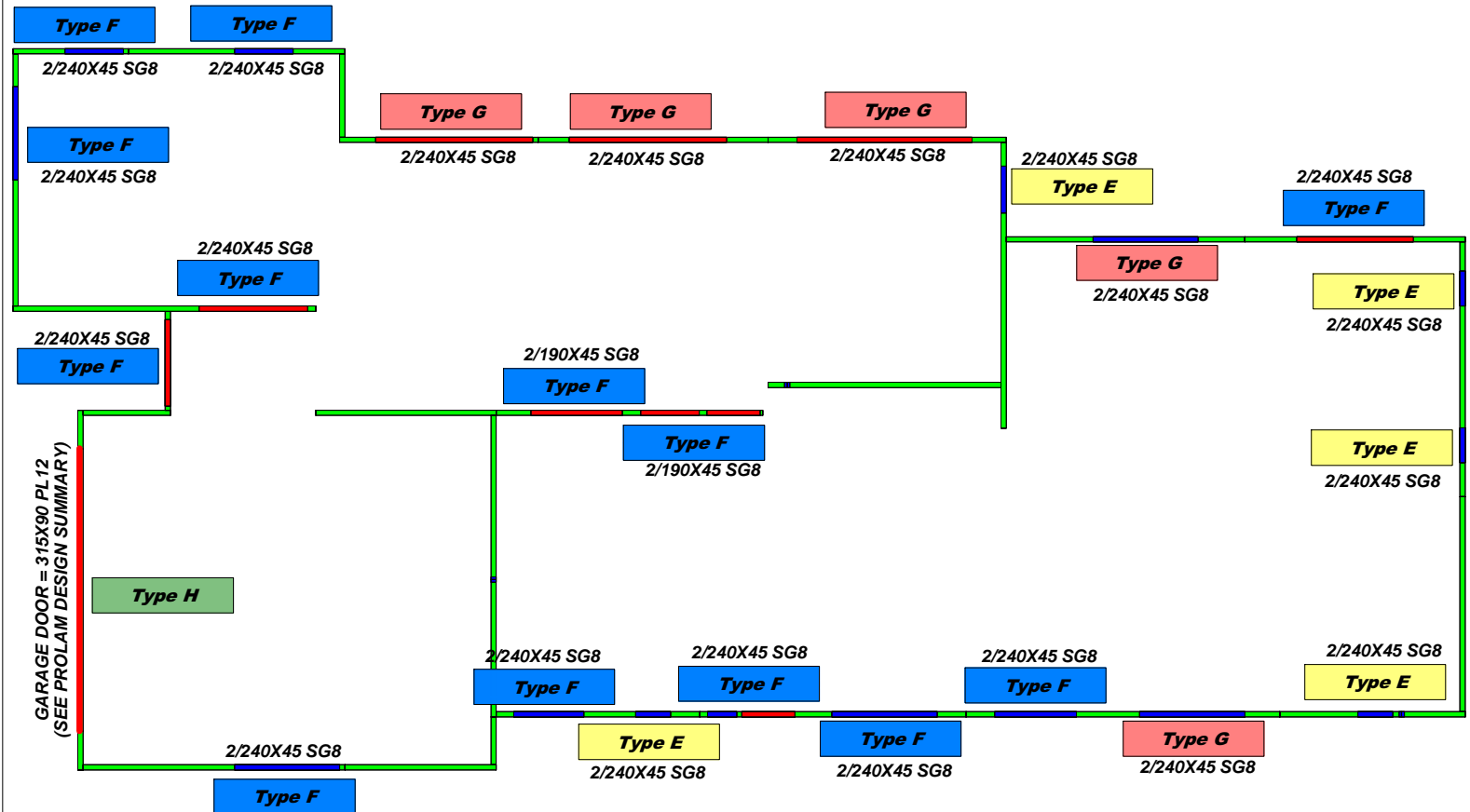


Where the BOWMAC® STUD-LOK SL170 is used to fix through the 'Very Top Plate' or 'Capping Plate', the truss fixings can be connected to any of these plates.





**LINTELS ARE SIZED USING THE  
MiTek GANGLAM CHART 2008  
(OR OVER & ABOVE) & THE  
PROLAM DESIGN PROGRAM**



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)



Site Address :  
**CAMERON RESIDENCE**  
11 CRETE ROAD  
RANGIORA

Sheet Title :  
**AS BUILT #BC201170**  
Lintel Fixing

Date : 12 Jan, 2021 Drawn : Clayton Lynskey  
Scale : 1: 100 System : MiTek 20/20

Job Details:  
Roof Pitch : 25.00deg  
Roof Material : Galv Iron .5mm  
Ceiling Material : Rondo on clips  
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



Job Title :  
**092034A**  
Sheet :  
**3**  
Revision Number :





SN-R10156166

# PROLAM SUMMARY

Customer/Project: Dean Cameron #092034R  
Physical Address: 11 Crete Road, Lot 41 Lionsgate  
Designer: Ranjit Sagoo, Kaiapoi Itm  
197 Ohoka Road, Kaiaoi 7630  
E: ranjit@kaiapoiitm.co.nz P: 033278829

## Garage Door

### Prolam Lintels Supporting Girder/Setback Trusses

Building Type	House	Roof Weight	Light with Ceiling
Timber	Pine, Machined	Roof Load	0.40 kPa
Treatment	H1.2	Live Load	0.25 kPa uniform
Visual	No		1.10 kN concentrated
Exposed	No	Wind Zone	High (44.0 m/s)
Roof Pitch	25 °	Snow Region	Region N4
Position of Girder Truss on Lintel	2.40 m	Altitude	100 m
Setback	5.27 m	Ground Snow Load	0.90 kPa
Supported Truss Span	7.09 m	Roof Snow Load	0.44 kPa
Lintel Span	4.80 m		

### Use Prolam PL12H1-350100 315 x 90mm PL12

Capacity Ratio	1.3
Long Term Deflection	2.9 mm
Max. Bearing Reaction	10.7 kN
Load Combination	1.2G + W <sub>down</sub>
Minimum Bearing Length	35 mm
Uplift Fixing Requirements	8.375 kN Characteristic Load

## PRODUCER STATEMENT



Tasman Consulting Engineers Limited has been engaged by Prowood to provide design services for the development of the Prolam Online calculator.

The design has been carried out using sound and widely accepted engineering principles to the requirements of AS/NZS1170:2002, NZS3603:1993 and NZS3604:2011 using the timber properties for GL8, GL12 and GL17 glulam and LVL15.

I believe on reasonable grounds that the above design will meet the requirements of clauses B1/VM1 of the Building Code Documents.

*David King*

David King

ME (civil, MIPENZ CPEng (no 145511) IntPE

For Tasman Consulting Engineers, PO Box 3631, Richmond, NELSON 7050

4 October 2020

**283 Waiwhero Rd P O Box 413 Motueka New Zealand Phone 03 526 7436 Fax 03 526 7437**

**Email: info@prowoodnz.com • www.prolamnz.com**

# LUMBERLOK® LINTEL FIXING OPTIONS

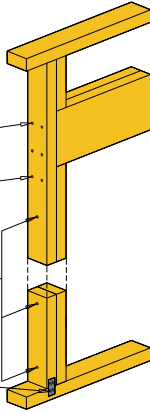
## TYPE E 1.4 kN

4 x 90mm x 3.15 Ø nails  
into lintel

2 x 90mm x 3.15 Ø nails  
directly below lintel

Fix trimmer to understud  
with 1 x 90mm x 3.15 Ø nail  
@ 250mm crs

Tylok 2T4 one side



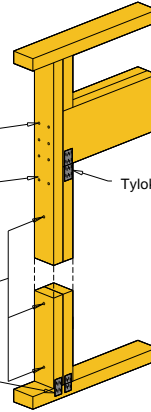
## TYPE F 4.0 kN

6 x 90mm x 3.15 Ø nails  
into lintel

2 x 90mm x 3.15 Ø nails  
directly below lintel

2 x 90mm x 3.15 Ø nails  
directly below lintel

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



### 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

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

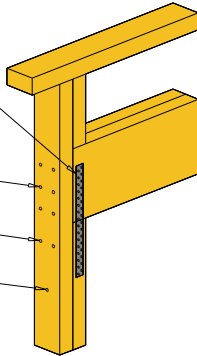
200mm Sheet Brace Strap  
to one side

6 x 30mm x 3.15 Ø nails each end

6 x 90mm x 3.15 Ø nails  
into Lintel

2 x 90mm x 3.15 Ø nails  
directly below lintel

Fix trimmer to understud  
with 1 x 90mm x 3.15 Ø nail  
@ 250mm crs (typical)



### 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

M12 Bolt

See Note A

75mm min. into

concrete floor

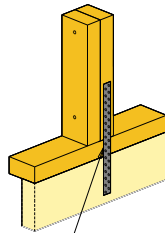
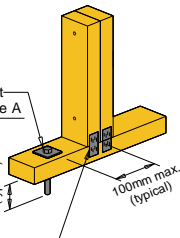
(typical)

100mm max.

(typical)

2 x Tylok 2T4 both sides for Radiata Pine

2 x Strap Nail both sides for Douglas Fir



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

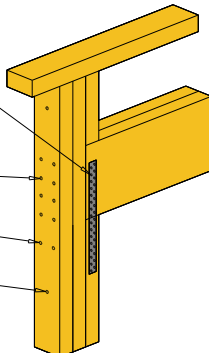
200mm Sheet Brace Strap  
to both sides

6 x 30mm x 3.15 Ø nails each end

8 x 90mm x 3.15 Ø nails  
into lintel

2 x 90mm x 3.15 Ø nails  
directly below lintel

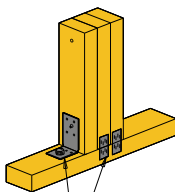
Fix trimmer to understud  
with 1 x 90mm x 3.15 Ø nail  
@ 250mm crs (typical)



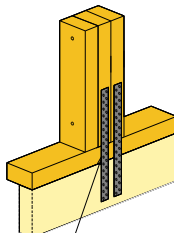
### Note A:

M12 proprietary concrete fixing bolt  
with 50x50x3mm square washer  
**Or**

M12 x 150mm coach screw with  
50x50x3mm square washer into  
timber joist/bearer



GIB® HandiBracT M and  
2 x Tylok 2T4 both sides



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