

Westimber Ltd.
Frames and Trusses
299b Flaxton Road, PO Box 649 Rangiora

P. 03 662-5019 | W. www.westimber.co.nz

WESTIMBER LTD.



AS BUILT DOCUMENTATION

DATE: 16/12/2023

WITH REGARDS TO CONSENT NO

230758

Westtimber Ltd can confirm that the above project has been fabricated and supplied in accordance with the previously submitted AGREEMENT LETTER.

Please find attached the following.

- 1: As built truss layout and producer statement.
2. Truss to truss and truss to top plate fixings.
- 3: Roof Bracing requirements as per NZS3604:2011
4. Stud to top plate and lintel fixings.

Additional information:

Please make this information available to your inspectors for their on site inspection visits.

J Clayworth

WESTIMBER



AS BUILT TRUSS BC230758

MiTek New Zealand Limited

RECEIVED 23/01/2024

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

Printed: 13:59:38 16 Dec 2023

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

ISSUED BY: **MiTek New Zealand Limited**

TO: **Westimber Ltd**

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 **J11595** 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: Saturday, 16 December 2023

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

Job: J11595

Client:

Site:

Baddock Residence
Lot 115 Townsends Rd
Rangiora

AS BUILT TRUSS BC230758

RECEIVED 23/01/2024

Description:
Building Consent No.:
MiTek 20/20 Engineering 4.7.346.0

Phone:

MiTek New Zealand Limited

Printed: 13:59:39 16 Dec 2023

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **Westimber Ltd**, 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:	TRUSS	Pitch:	25.000 deg	Nominal Overhang:	600 mm
Roof		Ceiling		Wind	
Material:	Galv Iron .5mm	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:	900 mm centres	Restraints:	600 mm centres	Snow	
Live Load:	Q _{ur} = 0.250 kPa	Live Load:	Q _c = 1.400 kN	Location:	Rangiora (N4) at 100 m
	Q _c = 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)
V04	1	1763	25.000	900	T04	1	3092	25.000	900	J08	1	3027	25.000	900
V03	1	930	25.000	900	T03	1	4400	25.000	900	J07A	1	2145	25.000	900
V02	1	1830	25.000	900	T02	2	4400	25.000	900	J07	1	2145	25.000	900
V01	1	2730	25.000	900	T01A	1	4400	25.000	900	J06A	1	1292	25.000	900
TG02	1	7900	25.000	900	T01	1	4400	25.000	900	J06	1	1292	25.000	900
TG01	1	7940	25.000	900	*R09	1	719	25.000	900	J05A	1	2192	25.000	900
T17	1	5800	25.000	900	*R08	1	846	25.000	900	J05	1	2192	25.000	900
T16	1	854	25.000	900	*R07	2	1018	25.000	900	J04B	3	3092	25.000	900
T15	1	3517	25.000	900	*R06	1	918	25.000	900	J04A	1	3092	25.000	900
T14A	1	3517	25.000	900	*R05	10	1455	0.000	714	J04	1	3092	25.000	900
T14	1	3517	25.000	900	*R04	1	7000	25.000	900	J03A	1	3992	25.000	900
T13A	1	4500	25.000	900	*R03	1	983	25.000	900	J03	1	3992	25.000	900
T13	1	4500	25.000	900	*R02	11	891	25.000	900	J02A	2	1277	25.000	900
T12A	2	3092	25.000	900	*R01	2	968	25.000	900	J02	2	1277	25.000	900
T12	1	3092	25.000	900	J13	1	854	25.000	900	J01B	1	2177	25.000	900
T11A	1	8030	25.000	900	J12A	3	1327	25.000	900	J01A	1	2177	25.000	900
T11	1	8030	25.000	900	J12	3	1327	25.000	900	J01	1	2177	25.000	900
T10	2	7940	25.000	900	J11C	1	2227	25.000	900	*HB09	1	504	18.250	900
T09	4	4400	25.000	900	J11B	1	2227	25.000	900	*HB08	3	3976	18.249	900
T08	1D	8030	25.000	900	J11A	1	2227	25.000	900	*HB07	1	2504	18.249	900
T07D	3	7900	25.000	900	J11	1	2227	25.000	900	*HB06	1	6380	18.249	900
T07C	1	7900	25.000	900	J10A	1	1227	25.000	900	*HB05	1	1787	18.249	900
T07B	1	7900	25.000	900	J10	1	1227	25.000	900	*HB04	1	6472	18.249	900
T07A	1	7900	25.000	900	J09A	1	2127	25.000	900	*HB03	1	535	18.249	900
T07	2	7900	25.000	900	J09	1	2127	25.000	900	*HB02	1	2558	18.249	900
T06	1	7900	25.000	900	J08B	1	3027	25.000	900	*HB01	2	3906	18.249	900
T05	2	3092	25.000	900	J08A	1	3027	25.000	900	ET01	1	5800	25.000	900

Total quantity : 123

The computer design input has been carried out by:

Signed: 

Date: ...Saturday, 16 December 2023....

Name of Detailer: Graham Clayworth

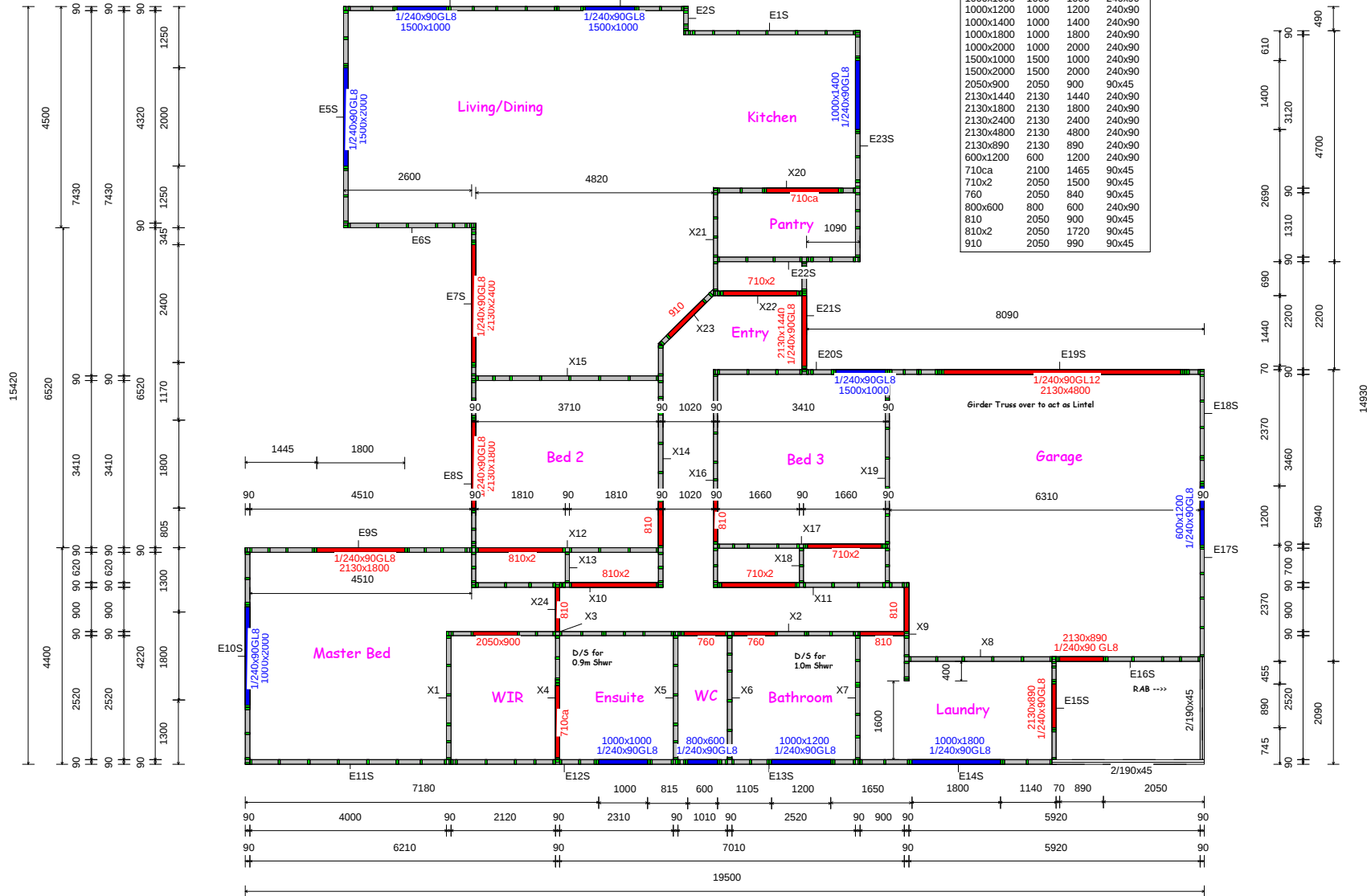
Qualifications and Title:

On behalf of: Westimber Ltd

Frames All S68 Pine
 Frames with Single Top Plate Require a 90x35 Very
 Top to be nailed on by Builder
 Frames with S in Panel Label have Stud
 Lok Screws Factory Fitted for Stud to Top
 Plate and Lintel Fixings
 DPC to All Bottom Plates

AS BUILT TRUSS BC230758

RECEIVED 23/01/2024



WESTIMBER LTD.



Site Address :
 Baddock Residence
 Lot 115 Townsend
 Rangiora

Sheet Title :
 Frame Layout
 BC230758 As Builts

Date : 16 Dec,2023 Drawn : Graham Clayworth
 Scale : 1:100 System : MiTek 20/20

Job Details:
 Roof Pitch : 25.00deg
 Roof Material : Galv Iron .5mm
 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



Job Title :
 J11595
 Sheet :
 1
 Revision Number :

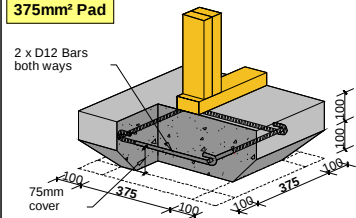
SLAB THICKENING & STUD REQUIREMENTS

AS BUILT TRUSSES BC230758

RECEIVED 23/01/2024

TYPE FP1 375mm² Pad

2 x D12 Bars
both ways

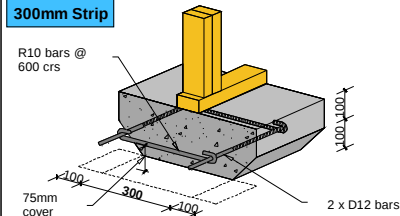


2

3

TYPE FS1 300mm Strip

R10 bars @
600 crs

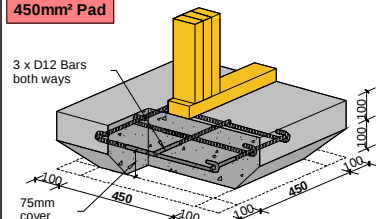


2

3

TYPE FP2 450mm² Pad

3 x D12 Bars
both ways

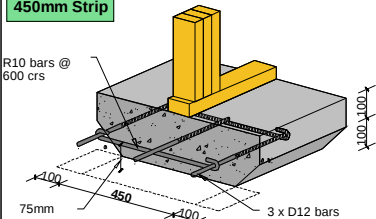


3

4

TYPE FS2 450mm Strip

R10 bars @
600 crs



3

4

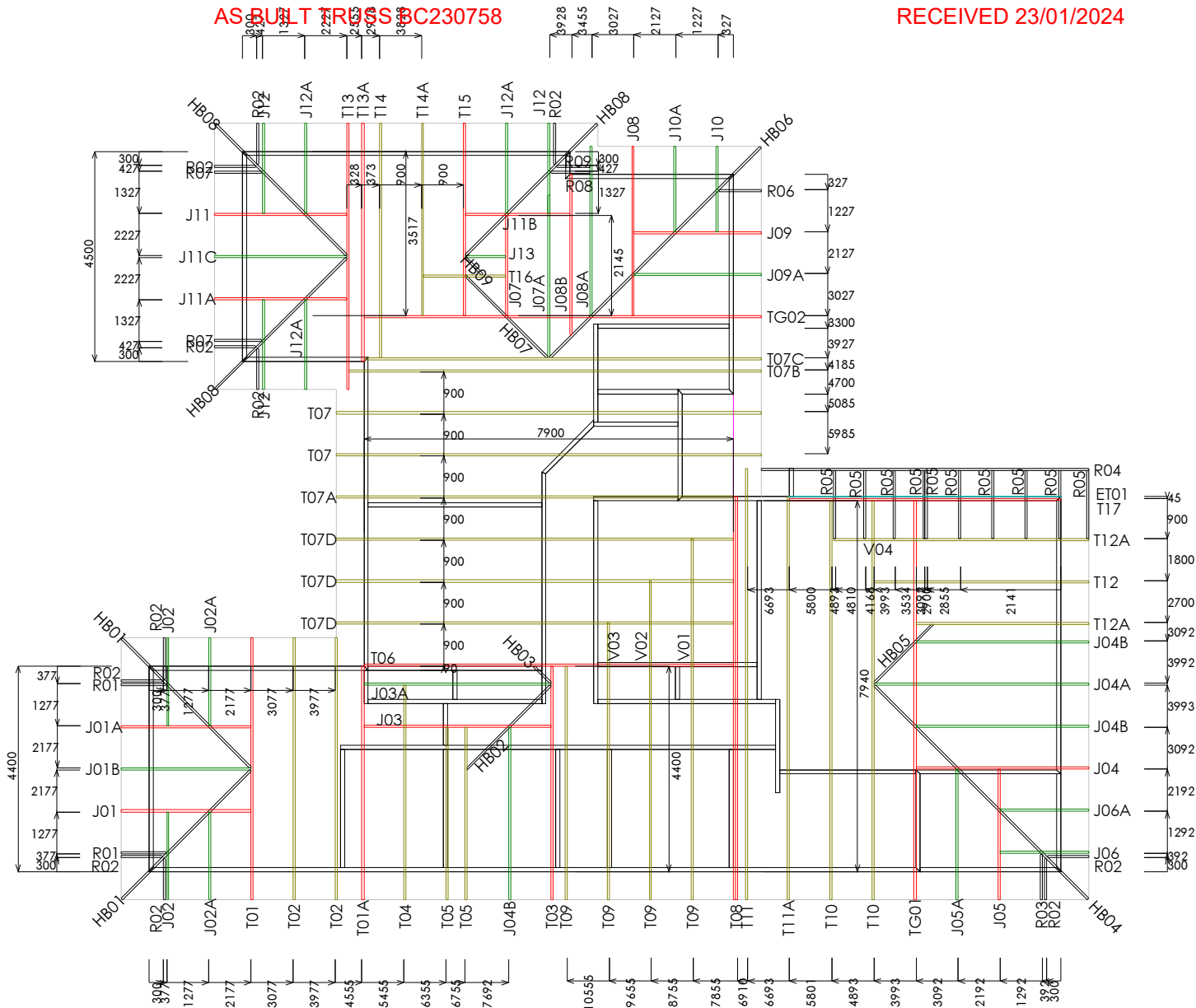
Notes:

- 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



NO SLAB THICKENING REQUIRED

WESTIMBER LTD.



Site Address :
Baddock Residence
Lot 115 Townsend
Rangiora

Sheet Title :
Slab Thickening
BC230758 As Built

Date : 16 Dec.2023 Drawn : Graham Clayworth
Scale : 1:100 System : MiTek 20/20

Job Details:
Roof Pitch : 25.00deg
Roof Material : Galv Iron .5mm
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



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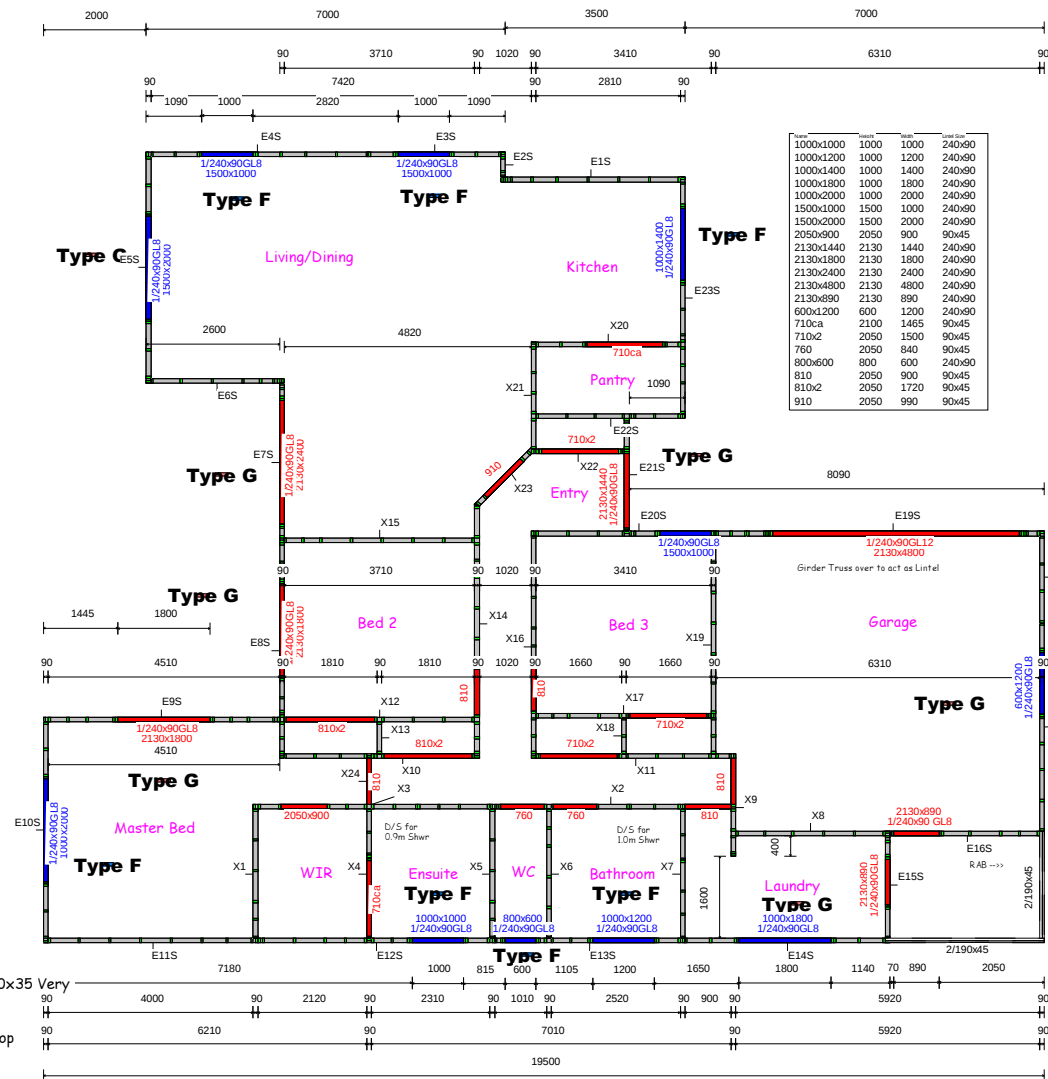
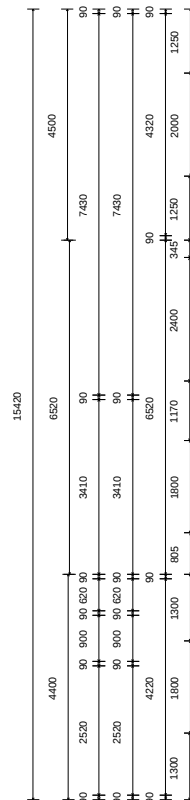
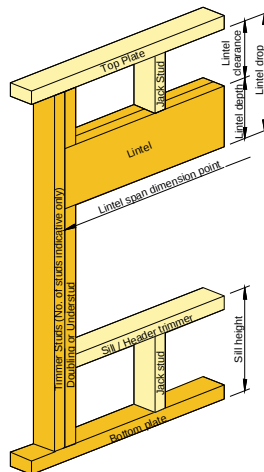
Job Title :
J11595
Sheet :
2
Revision Number :

TYPE E
1.4 kN

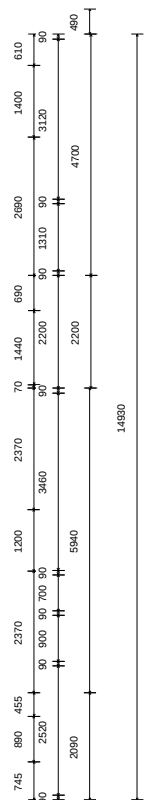
TYPE F
4.0 kN

TYPE G
7.5 kN

TYPE H
13.5 kN



Truss Size	Truss Spacing	Truss Type	Truss Load
1000x1000	1000	1000	240x90
1000x1200	1000	1200	240x90
1000x1400	1000	1400	240x90
1000x1600	1000	1600	240x90
1000x1800	1000	1800	240x90
1000x2000	1000	2000	240x90
1500x1000	1500	1000	240x90
1500x1200	1500	1200	240x90
1500x1400	1500	1400	240x90
1500x1600	1500	1600	240x90
1500x1800	1500	1800	240x90
1500x2000	1500	2000	240x90
2050x900	2050	900	90x45
2130x1440	2130	1440	240x90
2130x1800	2130	1800	240x90
2130x2400	2130	2400	240x90
2130x4800	2130	4800	240x90
2130x890	2130	890	240x90
600x1200	600	1200	240x90
710x2100	710	2100	90x45
710x2	2050	1500	90x45
760	2050	840	90x45
800x600	800	600	240x90
810x2	2050	900	90x45
910	2050	990	90x45



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)

Frames All S68 Pine
Frames with Single Top Plate Require a 90x35 Very
Top to be nailed on by Builder
Frames with S in Panel Label have Stud
Lok Screws Factory Fitted for Stud to Top
Plate and Lintel Fixings
DPC to All Bottom Plates

WESTIMBER LTD.



Site Address :
Baddock Residence
Lot 115 Townsend
Rangiora

Sheet Title :
**Lintel Fixings
BC230758 As Builts**

Date : 16 Dec.2023 Drawn : Graham Clayworth
Scale : 1:100 System : MiTek 20/20

Job Details:
Roof Pitch : 25.00deg
Roof Material : Galv Iron .5mm
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

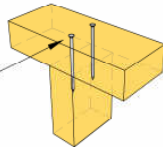


PrimeCad v4.7.346

Job Title :
J11595
Sheet :
3
Revision Number :

Non-Load Bearing Walls

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



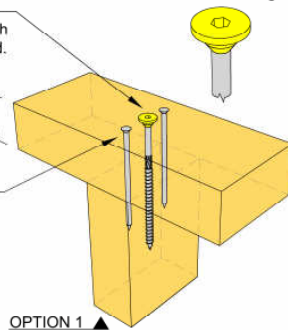
*Images are indicative only.
Timber sizes may vary.

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 plate
steel wire nails driven
vertically into stud.



STUD-LOK SL125

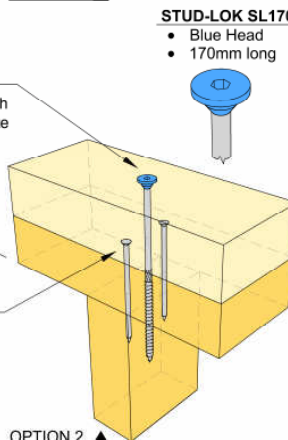
- Yellow Head
- 125mm long

OPTION 1 ▲

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.



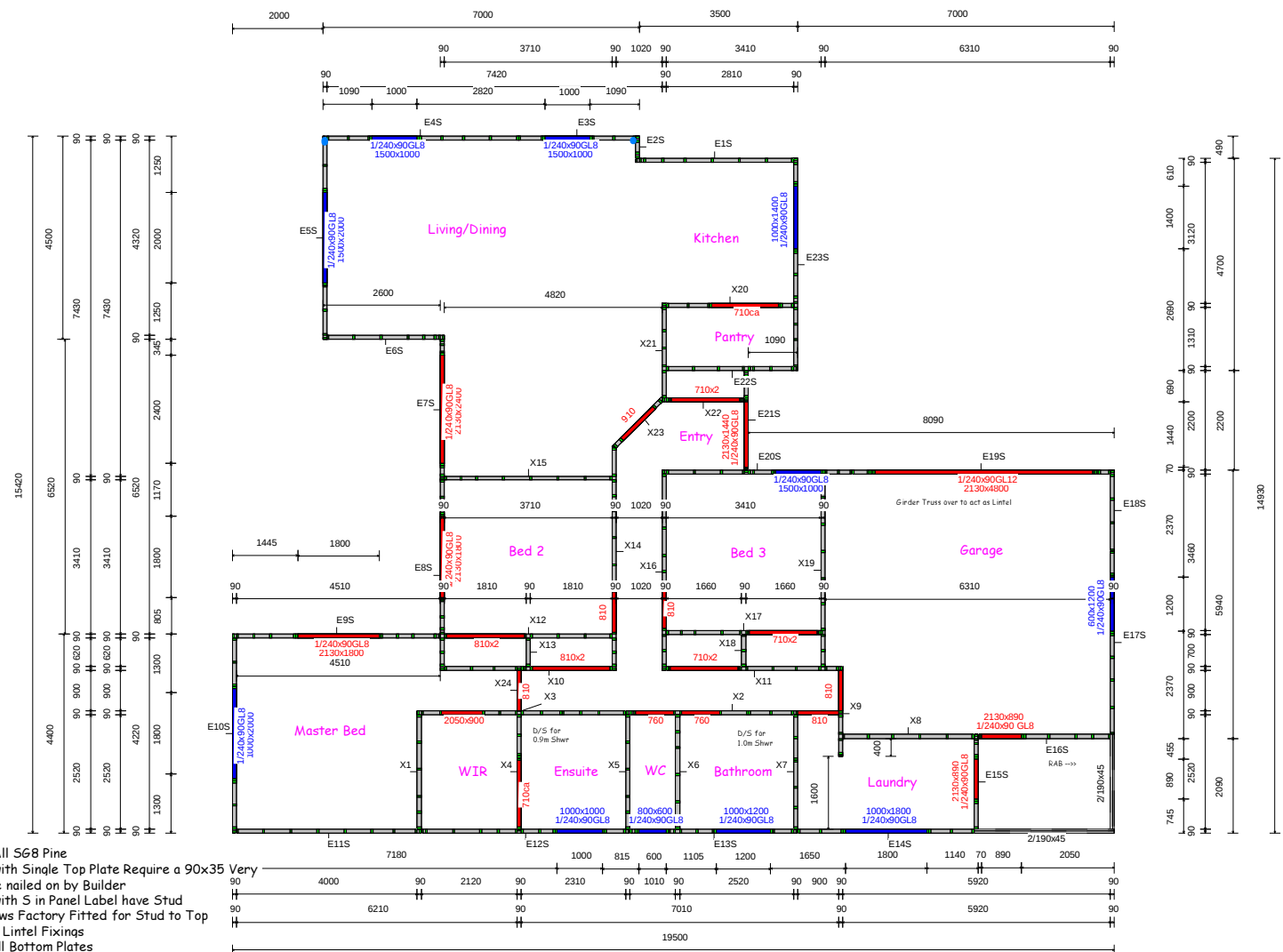
STUD-LOK SL170

- Blue Head
- 170mm long

OPTION 2 ▲

AS BUILT TRUSS BC230758

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All External walls type B
Stud to Top Plate Fixing
(Achieved wit Stud Lok Screws)



Frames All S68 Pine
 Frames with Single Top Plate Require a 90x35 Very
 Top to be nailed on by Builder
 Frames with S in Panel Label have Stud
 Lok Screws Factory Fitted for Stud to Top
 Plate and Lintel Fixings
 DPC to All Bottom Plates

(Alternative to NZS 3604:2011 Section 8)



Site Address :
Baddock Residence
Lot 115 Townsend
Rangiora

Sheet Title : Stud to Top Plate Fixings
BC230758 As Built

Date : 16 Dec,2023	Drawn : Graham Clayworth
Scale : 1: 100	System : MiTek 20/20

Job Details:	
Roof Pitch	: 25.00deg
Roof Material	: Galv Iron .5mm
Ceiling Material	: Gib Board 13mm
Wind Zone	: High
Roof Snow Load	: 0.441kPa

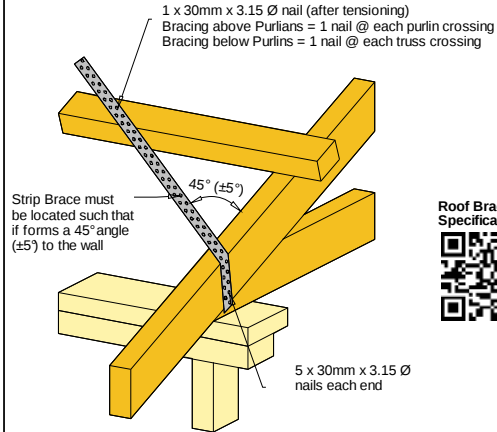
Truss Centres : 900mm
Roof Live Load : 0.250kPa
Floor Live Load :
Wind Speed : 44m/s
Overhang : 600mm



PrimeCad v4.7.346

Job Title :	J11595
Sheet :	4
Revision Number :	

LUMBERLOK® 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® TRUSS FIXINGS

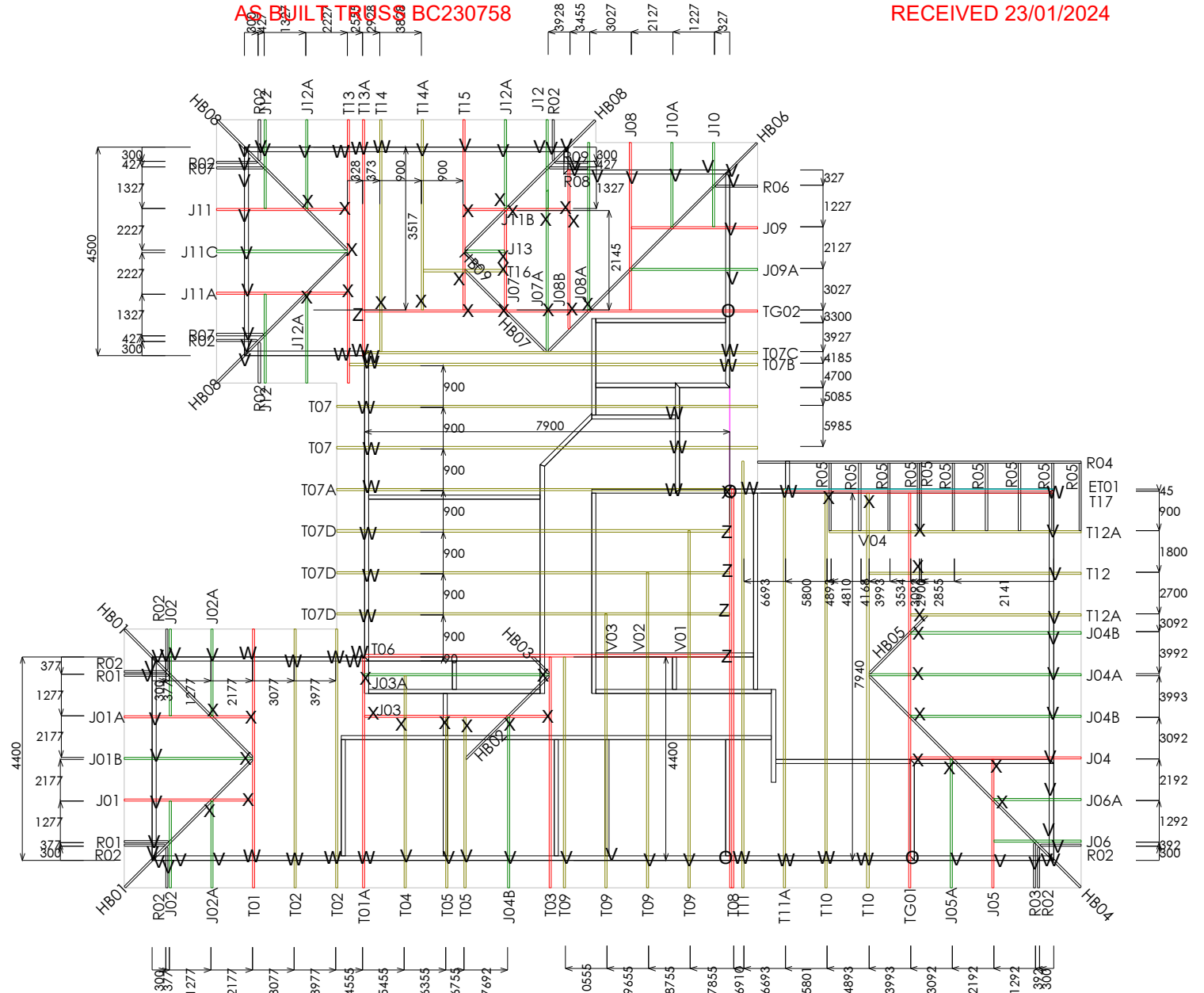
- D - Pair of Wire Dogs and 2 x 90mm 3.15mm skew nails
- X - LUMBERLOK JH47x90 Joist Hanger
- Z - LUMBERLOK JH47x120 Joist Hanger
- P - LUMBERLOK JH47x190 Joist Hanger
- E - LUMBERLOK JH95x165 Joist Hanger
- T - LUMBERLOK CT200 Ceiling Tie
- O - Pair of LUMBERLOK CT200 Ceiling Ties
- H - LUMBERLOK CT400 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



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

AS BUILT TRUSS BC230758

RECEIVED 23/01/2024



WESTIMBER LTD.



Site Address :
Baddock Residence
Lot 115 Townsend
Rangiora

Sheet Title :
Truss Layout/Fixings
BC230758 As Builts

Date : 16 Dec,2023 Drawn : Graham Clayworth
Scale : 1:100 System : MiTek 20/20

Job Details:
Roof Pitch : 25.00deg
Roof Material : Galv Iron .5mm
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



Job Title :
J11595
Sheet :
6
Revision Number :

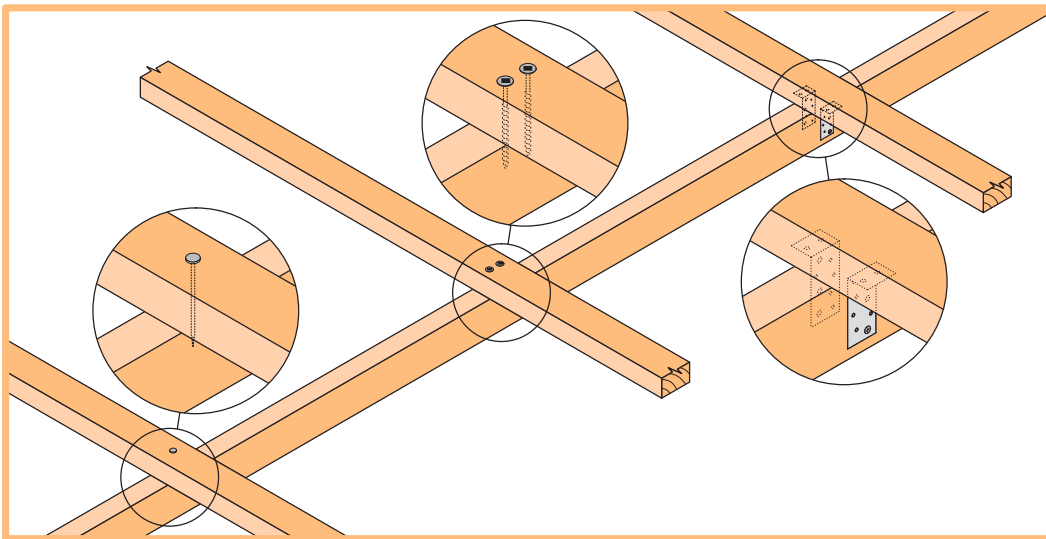
PrimeCad v4.7.346



PURLIN & BATTEN FIXING CHART ALTERNATIVE SOLUTION TO NZS 3604:2011 TABLES 10.10 & 10.12

NOTE:

- ★ All purlin and batten sizes are as per NZS 3604:2011.
- ★ All fixings assume that the purlin and battens are installed on their flat over the top of the rafter or truss.
- ★ The minimum fixing requirements apply to all purlin locations within the roof area.
- ★ The LUMBERLOK BLUE SCREW where specified requires a minimum of 30mm penetration into rafter or truss i.e. it is suitable for rough sawn timber up to 50mm thick at 18% moisture content.



SELECTION CHART FIXING OPTIONS

(minimum fixing requirements)

ROOF WEIGHT	MAX. PURLIN SPAN (mm)	MAX. PURLIN CRS. (mm)	WIND ZONE				
			L	M	H	VH	EH
HEAVY ROOF Tile Battens	900	370	A	A	A	A	A
LIGHT ROOF Tile Battens	900	370	A	A	B	C	C
	1200	370	A	B	C	C	C
LIGHT ROOF Purlins	900	900	C	C	C	C	D
	1200	900	C	C	C	D	D
	1200	1200	C	C	D	E	E

Wind Zone:
As per NZS 3604:2011

L = Low Wind
M = Medium Wind
H = High Wind
VH = Very High Wind
EH = Extra High Wind



SCAN FOR
INSTALLATION
VIDEO

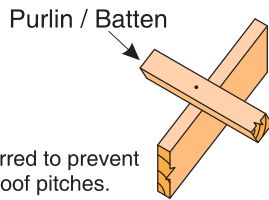
<https://vimeo.com/117353340>

STANDARD FIXING OPTIONS

FIXING TYPE A 0.55kN

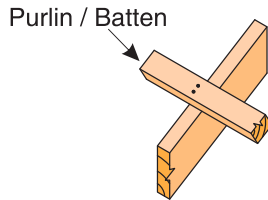
1 NAIL

Note: Two nails maybe preferred to prevent batten rolling over with high roof pitches.



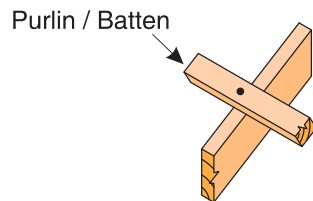
FIXING TYPE B 0.8kN

2 NAILS



FIXING TYPE C 2.4kN

1 BLUE SCREW

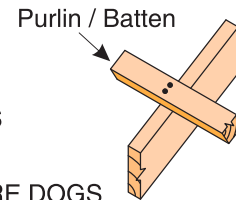


FIXING TYPE D 3.45kN

2 BLUE SCREWS

OR

2 SKEW NAILS plus 2 WIRE DOGS
(for purlin on edge)

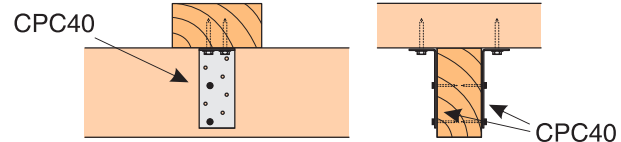


FIXING TYPE E 5.5kN

2 NAILS plus 1 CT200

OR

1 PAIR of CPC40



FIXING DEFINITIONS

NAIL = Either 90mm x 3.15 dia. power-driven nail or 100mm x 3.75 dia. hand-driven nail

BLUE SCREW = 80mm x 10 gauge LUMBERLOK BLUE SCREW

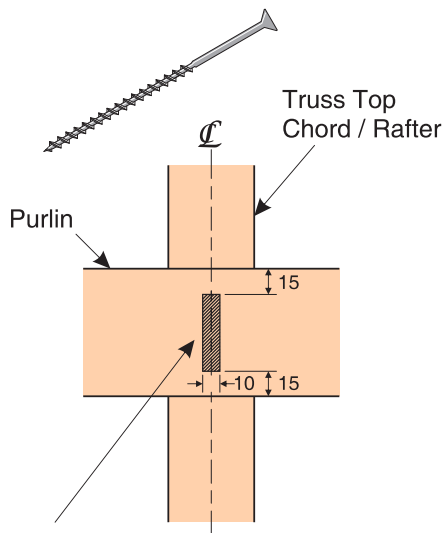
WIRE DOG = LUMBERLOK WIRE DOG either LH or RH

CT200 = LUMBERLOK Ceiling Tie CT200 bend over purlin, 4 x LUMBERLOK Product Nails 30mm x 3.15 dia. each end

CPC40 = LUMBERLOK CPC40 with 2 x Type 17 - 14g x 35mm Hex Head Screws per flange

FIXING TOLERANCES

LUMBERLOK BLUE SCREW

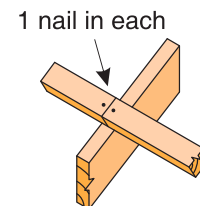


NOTE:

Locate fixings within the shaded area. Care to be taken to avoid over tightening of screws.

PURLIN / BATTEN SPLICE FIXING OPTIONS

FIXING TYPE A & B OVER PURLIN SPLICE



NOTE:

Skew nail when fixing to 35mm rafter or truss

FIXING TYPE C, D or E OVER PURLIN SPLICE

90 x 35mm block fixed to chord or rafter with 4 x 75mm nails

- TYPE C
1 SCREW to each purlin

- TYPE D & E
1 NAIL plus 1 SCREW to each purlin

