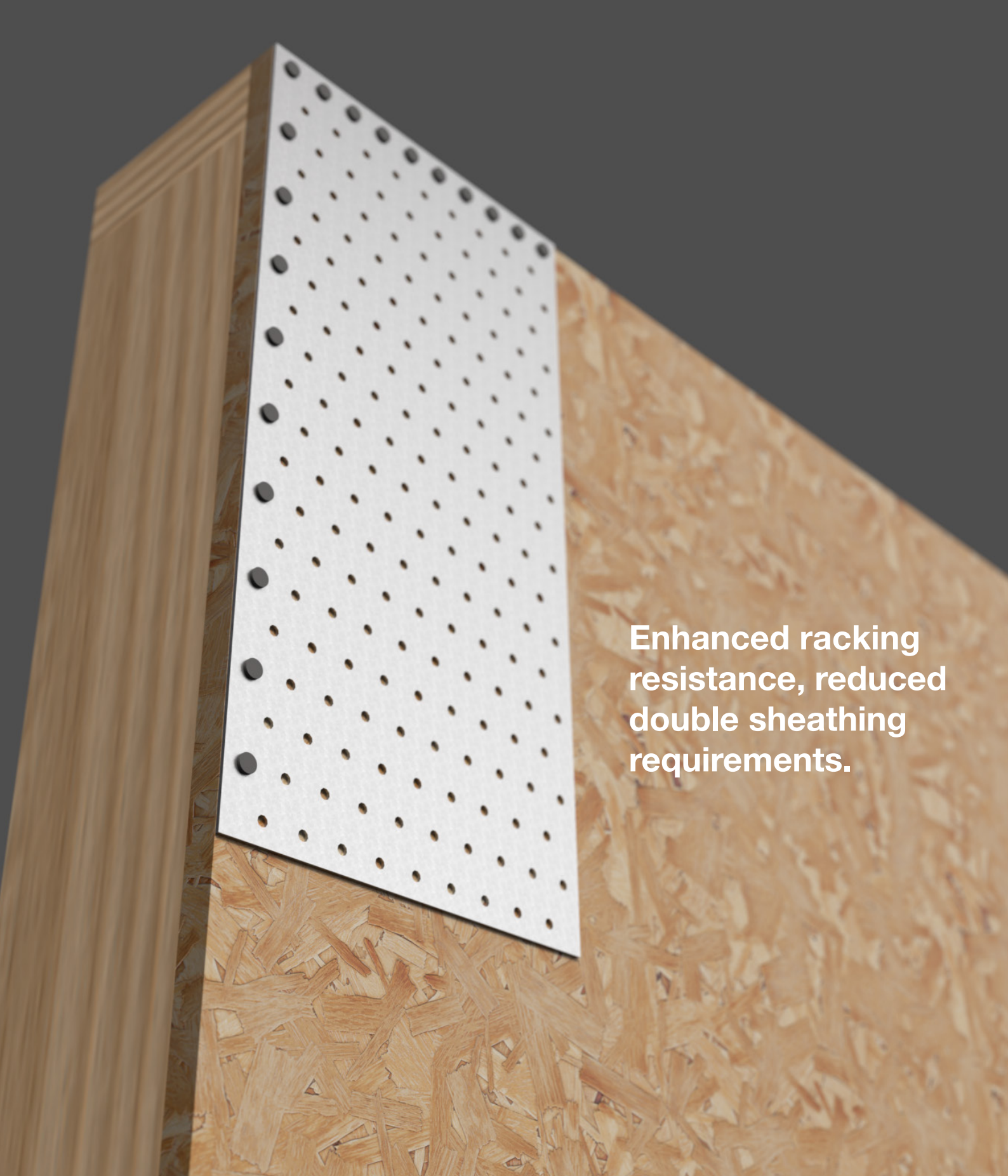


# Single Sheathing Panel System



Enhanced racking resistance, reduced double sheathing requirements.

# Single Sheathing Panel System

Combining performance tested angle brackets and nail plates, this system provides enhanced racking resistance to timber frames with just one sheathing layer per panel.

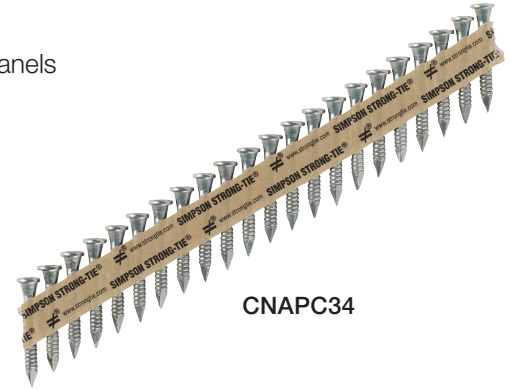
Eliminate the need for double sheathing to reduce material cost, save on installation time and improve ease of handling.

**Features:**

- Consists of established, performance tested connectors
- Can be used on a single panel or as part of a combination of multiple panels
- Flexible, non-handed design
- Install using industry standard fixings (CNA4.0x35 paper collated nails)
- Off-site or on-site assembly
- Product nailing patterns available to download
- Performance tested to BS EN 594

**Advantages over double sheathing method:**

- Reduced material cost and assembly time
- Increased flexibility for building designers
- Easier to handle and transport due to weight reduction
- Prevents the risk to installer of hitting nails on first sheathing layer



CNAPC34

## Single Sheathing Panel Dimensions

Panel Size	Connectors		Fasteners		
			CNA4.0x35 Collated nails <sup>(2)</sup>		
	NP20/200/400	E2/2.5/7090	Bracket Fasteners (Total) <sup>(3)</sup>	Nail Plate Fasteners (Total) <sup>(3)</sup>	Overall Total <sup>(3)</sup>
2400 x 2400	6	2	36	114	150
1800 x 2400	4	2	36	76	112
1200 x 2400	4	2	36	76	112
600 x 2400	4	2	36	76	112

## Single Sheathing Panel Performance Values

Panel Size	Perimeter Nail Spacing <sup>(1)</sup>	Modified Tested Racking Resistance c/w brackets (Test to EN594, Analysis to BS 5268-6.1)	Comparable Double Sheathing Performance (calculation)	Modified Tested Racking Resistance c/w brackets (Test to EN594, Analysis to BS 5268-6.1)	Comparable Double Sheathing Performance (calculation)	% Performance of SST system when compared to calculated double Sheathing @ 50mm nail spacing	% of Sheathing capacity versus calculated double Sheathing
		0 kN Vertical Load [kN]	0 kN Vertical Load [kN]	5 kN Vertical Load [kN]	5 kN Vertical Load [kN]		
2400 x 2400	150mm	5.95	5.85	10.52	9.62	66%	109%
	100mm	5.46	7.31	9.66	12.03	60%	80%
1800 x 2400	150mm	2.59	3.29	4.58	5.67	49%	81%
	100mm	3.08	4.11	5.45	7.09	58%	77%
1200 x 2400	150mm	1.71	1.46	3.02	2.71	67%	111%
	100mm	1.86	1.83	3.29	3.38	73%	97%
600 x 2400	150mm	0.38	0.37	0.67	0.78	52%	86%
	100mm	0.48	0.46	0.85	0.97	66%	88%

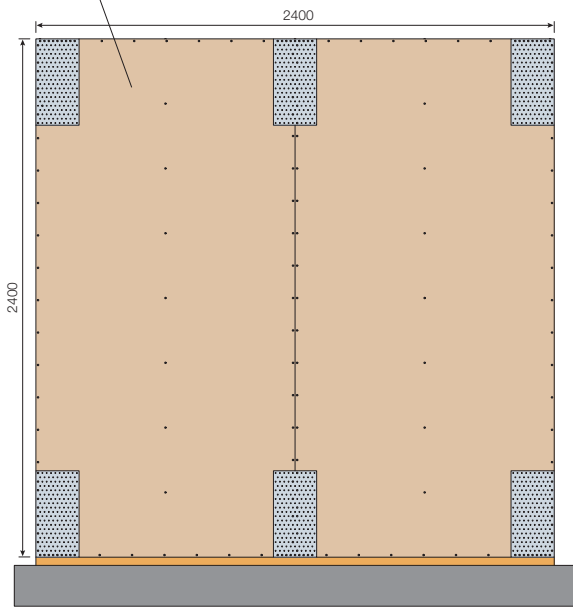
1. Nail spacing into sheathing based on use of 3.35 x 50mm smooth shank nails, starting 15mm from the corners  
 2. Number is total per panel  
 3. Numbers shown are per panel

**Notes:**

- Performance is based on internal nail spacing, 2 x that of the perimeter nailing.
- Fixings to the foundations in full accordance with BS EN 594:2011. Structural Engineer to specify suitable connections between panel & foundations.
- Test carried out on 89x38mm timber. Larger section of timber (38x140mm) can also be used.

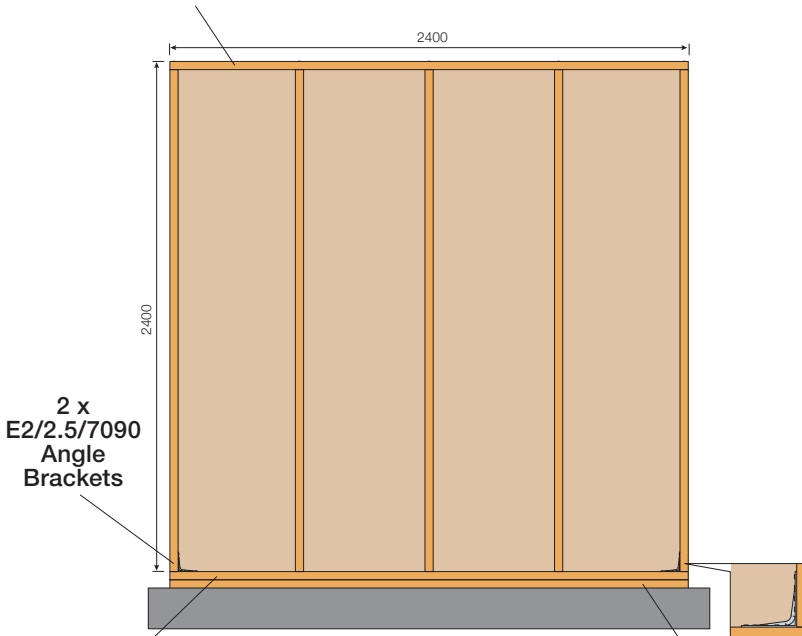
Single Sheathing Panel System

2 x 1200x2400mm  
9mm OSB  
(Vertically Orientated)



Panel assembly (front)  
2400x2400mm

CLS Timber



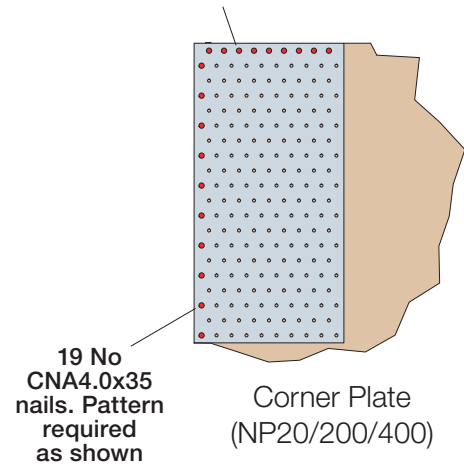
Panel assembly (back)  
2400x2400mm

2 x  
E2/2.5/7090  
Angle  
Brackets

Engineer to  
specify suitable  
connections  
between panel  
and foundations

Bottom Rail  
CLS Timber

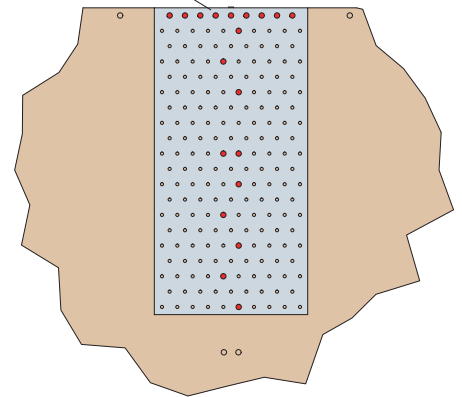
Note: If any NP nails clash  
with OSB panel nails, move to  
the nearest available hole



19 No  
CNA4.0x35  
nails. Pattern  
required  
as shown

Corner Plate  
(NP20/200/400)

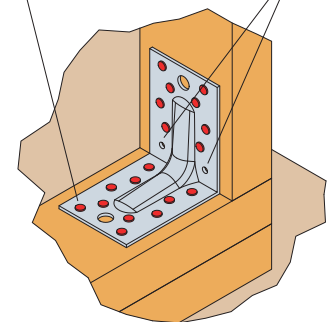
19 No CNA4.0x35 nails.  
Pattern required  
as shown



Centre Plate  
(NP20/200/400)

18 No CNA4.0x35  
nails. Pattern  
required as shown

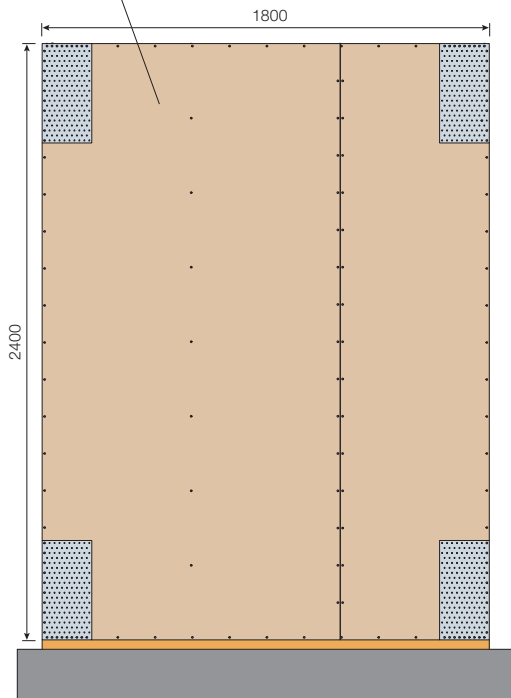
Bottom 2 nail holes  
should be left empty



(E2/2.5/7090)

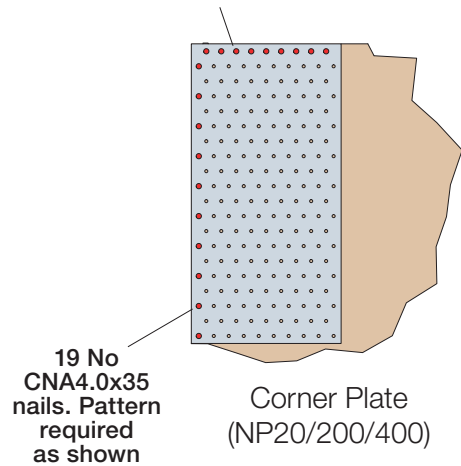
Single Sheathing Panel System

1 x 1200x2400mm and  
1 x 600x2400mm  
9mm OSB  
(Vertically Orientated)



Panel assembly (front)  
1800x2400mm

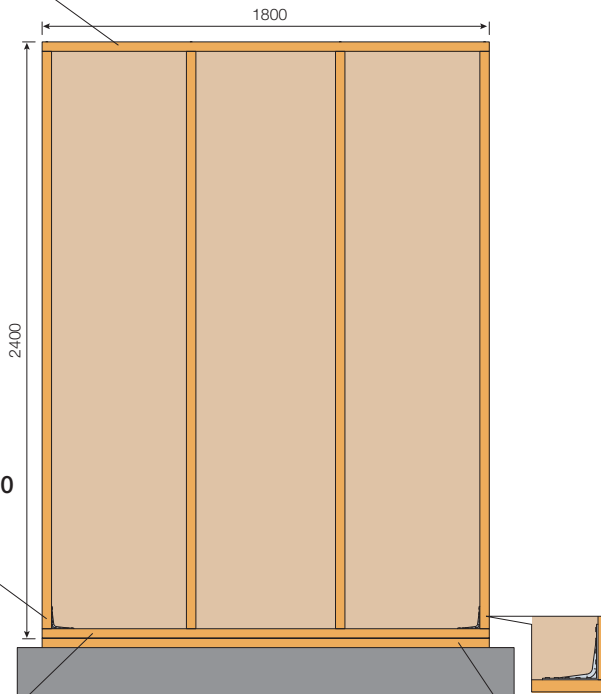
Note: If any NP nails clash with OSB panel nails, move to the nearest available hole



19 No  
CNA4.0x35  
nails. Pattern  
required  
as shown

Corner Plate  
(NP20/200/400)

CLS Timber



2 x  
E2/2.5/7090  
Angle  
Brackets

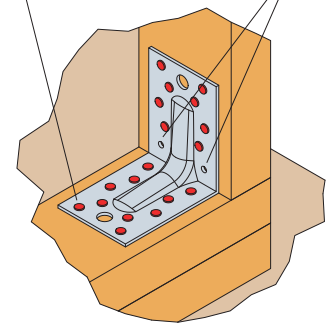
Panel assembly (back)  
1800x2400mm

Engineer to  
specify suitable  
connections  
between panel  
and foundations

Bottom Rail  
CLS Timber

18 No CNA4.0x35  
nails. Pattern  
required as shown

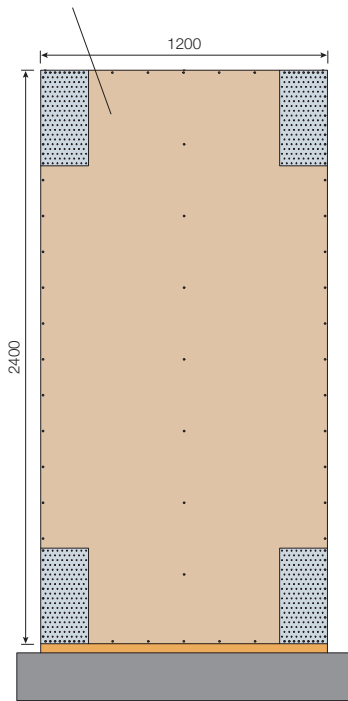
Bottom 2 nail holes  
should be left empty



(E2/2.5/7090)

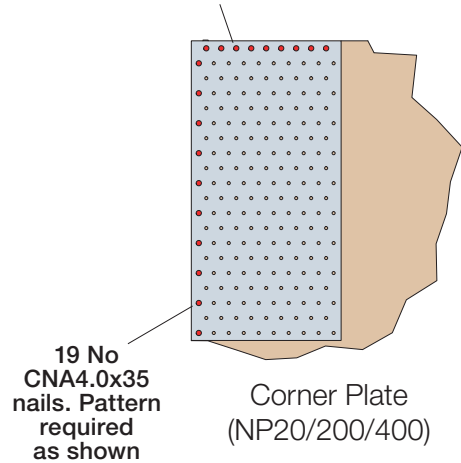
Single Sheathing Panel System

1 x 1200x2400mm  
9mm OSB  
(Vertically Orientated)



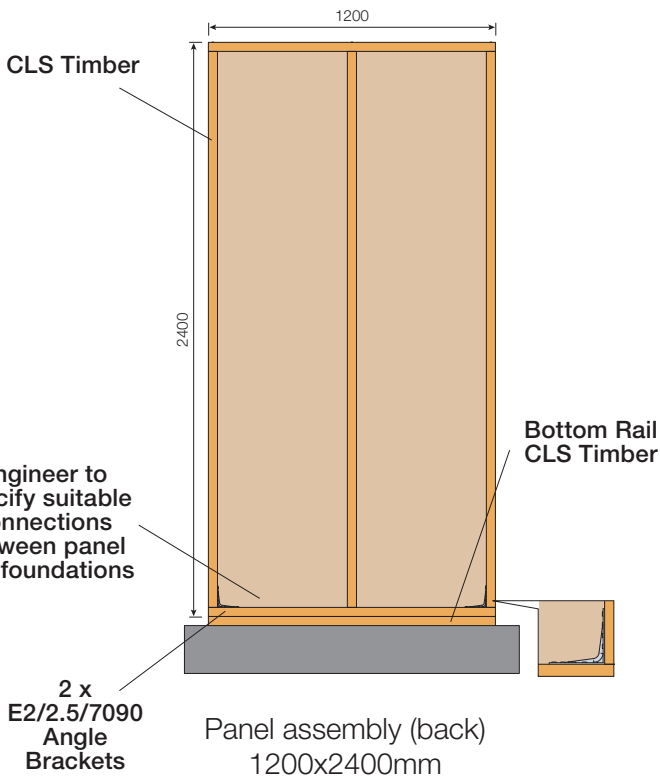
Panel assembly (front)  
1200x2400mm

Note: If any NP nails clash with OSB panel nails, move to the nearest available hole



19 No  
CNA4.0x35  
nails. Pattern  
required  
as shown

Corner Plate  
(NP20/200/400)



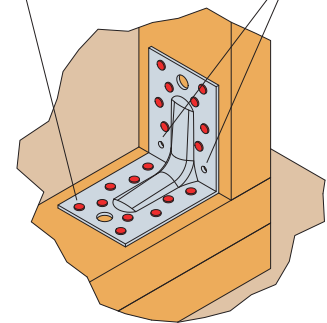
Engineer to  
specify suitable  
connections  
between panel  
and foundations

2 x  
E2/2.5/7090  
Angle  
Brackets

Panel assembly (back)  
1200x2400mm

18 No CNA4.0x35  
nails. Pattern  
required as shown

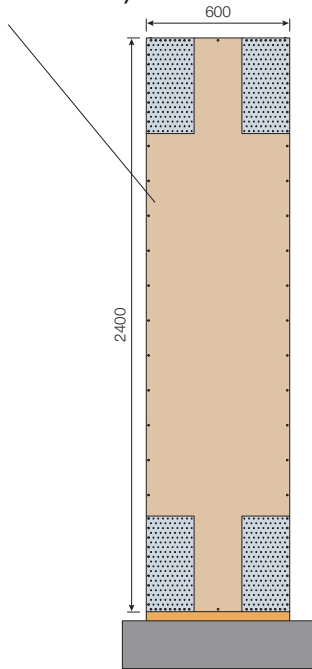
Bottom 2 nail holes  
should be left empty



(E2/2.5/7090)

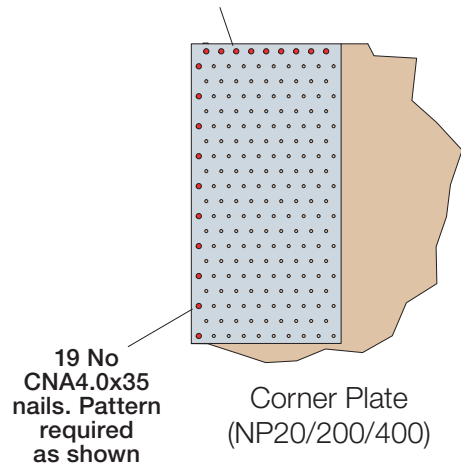
Single Sheathing Panel System

1 x 600x2400mm  
9mm OSB  
(Vertically Orientated)



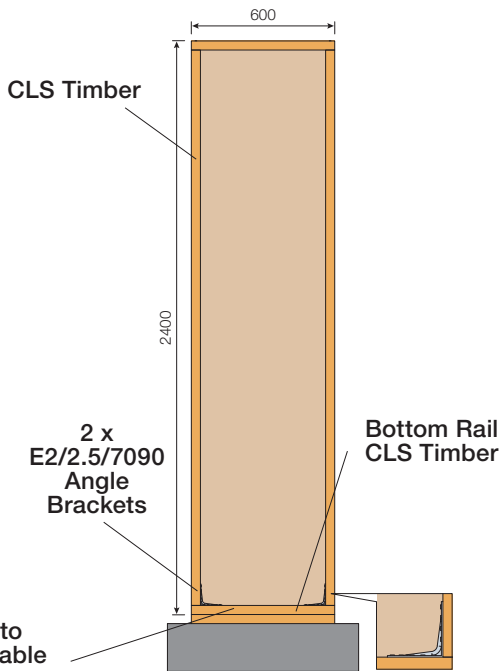
Panel assembly (front)  
600x2400mm

Note: If any NP nails clash with OSB panel nails, move to the nearest available hole



19 No  
CNA4.0x35  
nails. Pattern  
required  
as shown

Corner Plate  
(NP20/200/400)

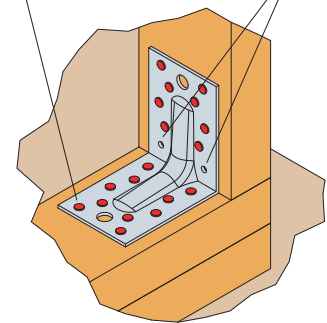


Engineer to  
specify suitable  
connections  
between panel  
and foundations

Panel assembly (back)  
600x2400mm

18 No CNA4.0x35  
nails. Pattern  
required as shown

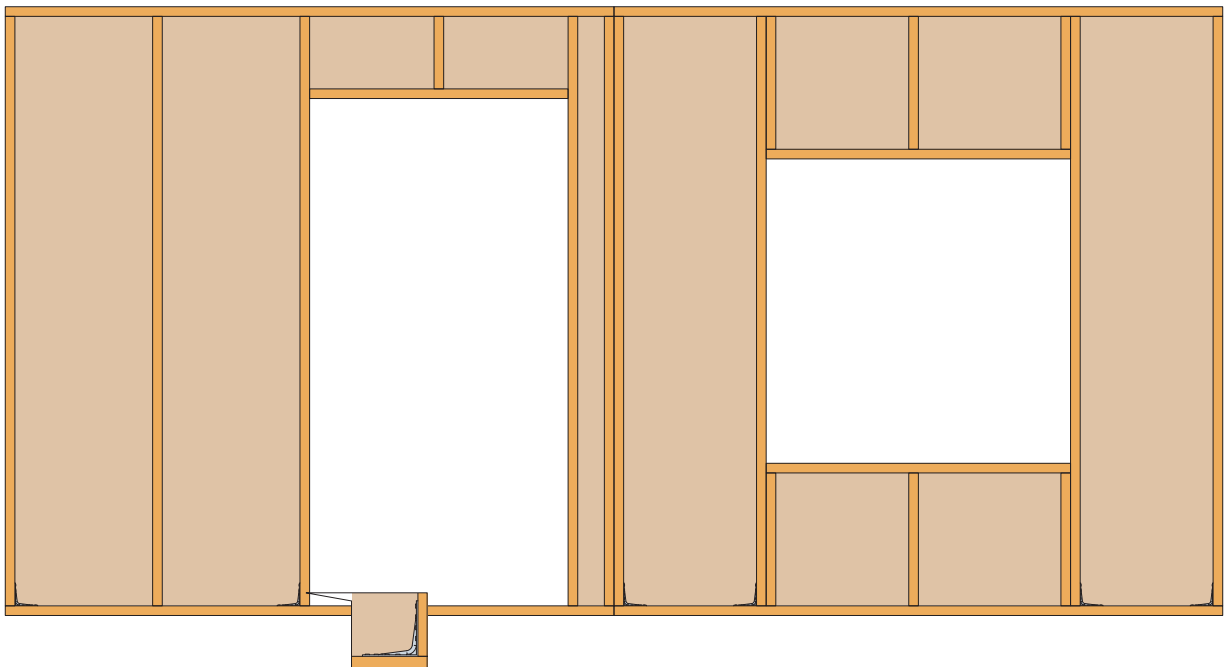
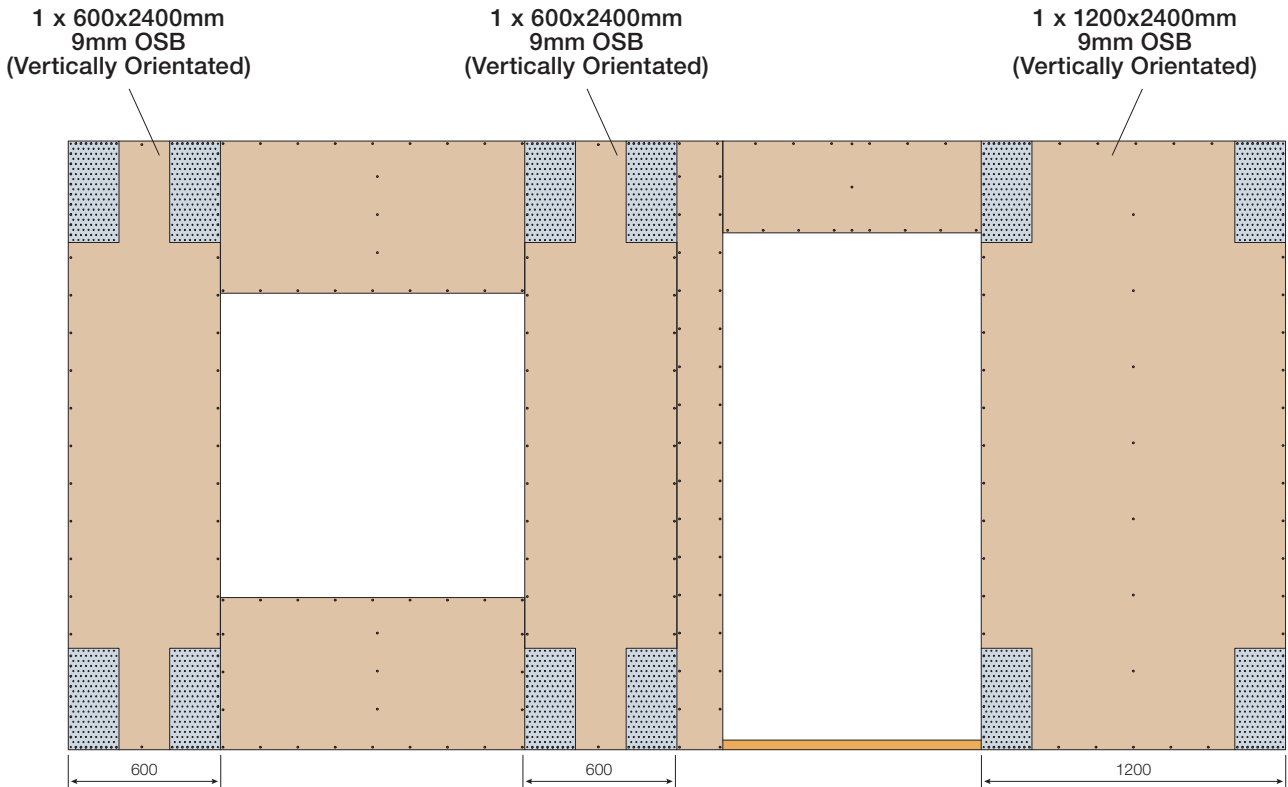
Bottom 2 nail holes  
should be left empty



(E2/2.5/7090)

Single Sheathing Panel System

Racking of combined panels - example configuration



When panels are installed into a building, or overall system, the overall racking resistance will be cumulative. The resistance of each individual panel is to be counted as a stand-alone item.

The overall racking resistance can then be accumulated in accordance with the relevant British Standards (using BS methodology).



