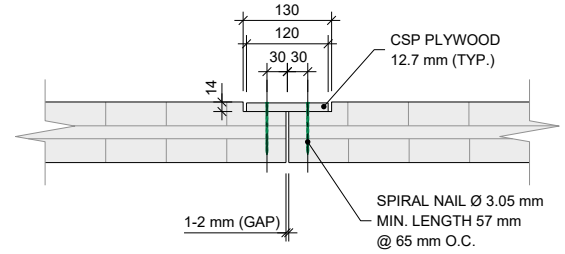
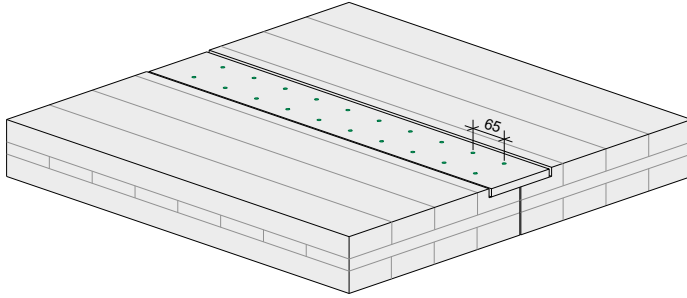


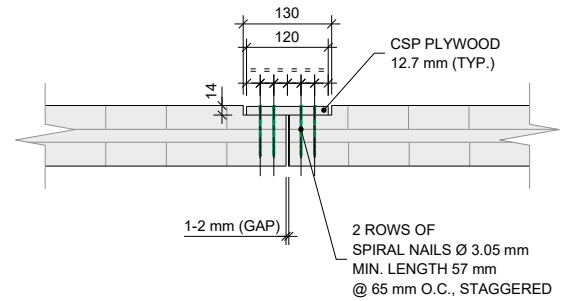
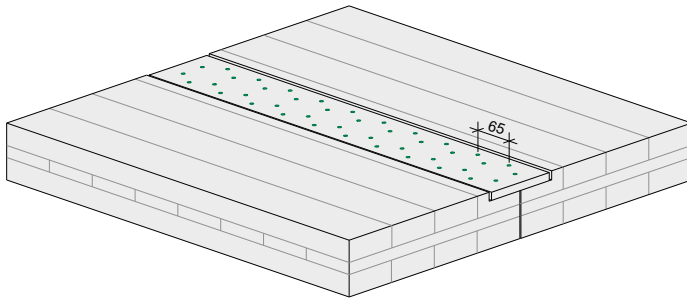
Nailed Butt Joint

Assembly Details

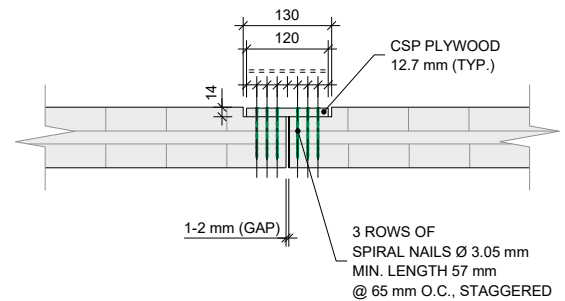
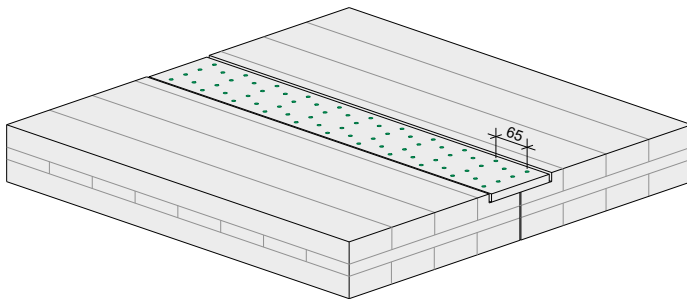
Factored shear flows up to 10 kN/m



Factored shear flows between 10 and 20 kN/m



Factored shear flows between 20 and 30 kN/m

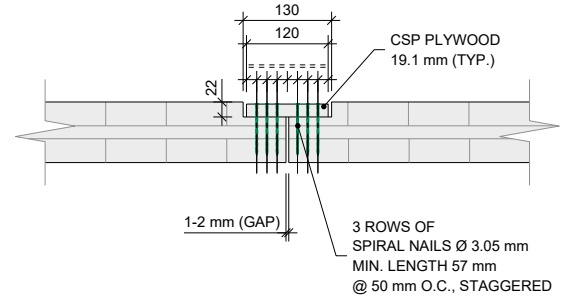
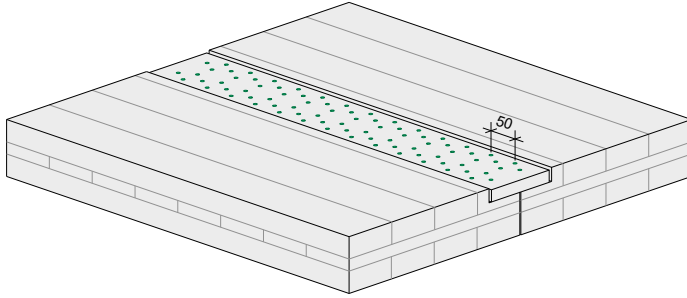


Notes:

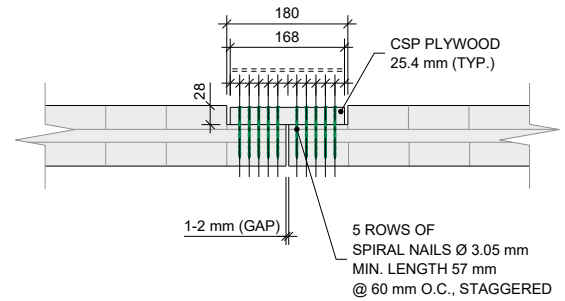
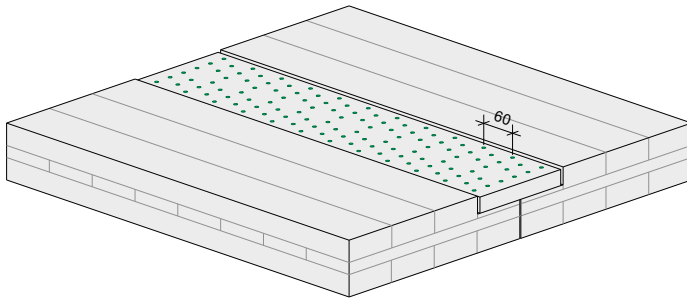
1. Resistances are based on nails used in diaphragm and shearwall construction ($J_D = 1.3$), dry service conditions, short-term duration of load, and on regular grades of unsanded Canadian softwood plywood (CSP) in accordance with CSA O151.
2. Ultimate limit states take into account the factored lateral strength resistance of the nail connection, the factored shear-through-thickness resistance of both the plywood spline and the CLT member, and minimum spacings for nails.

Assembly Details (continued)

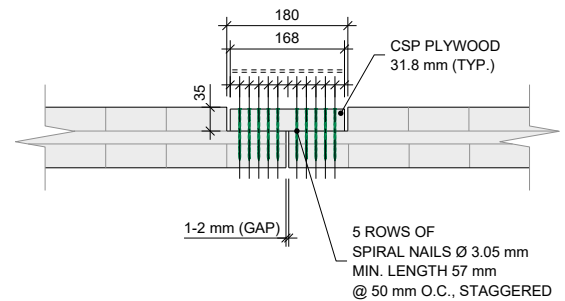
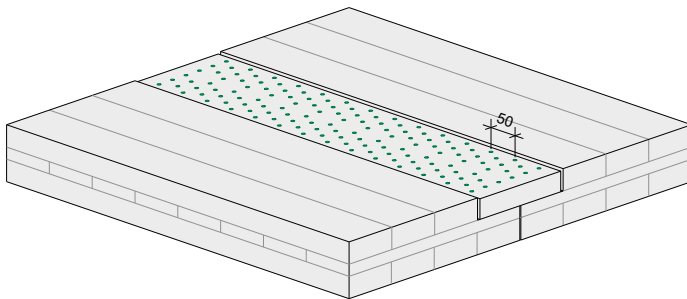
Factored shear flows between 30 and 45 kN/m



Factored shear flows between 45 and 65 kN/m



Factored shear flows between 65 and 80 kN/m



Notes:

1. Resistances are based on nails used in diaphragm and shearwall construction ($J_D = 1.3$), dry service conditions, short-term duration of load, and on regular grades of unsanded Canadian softwood plywood (CSP) in accordance with CSA O151.
2. Ultimate limit states take into account the factored lateral strength resistance of the nail connection, the factored shear-through-thickness resistance of both the plywood spline and the CLT member, and minimum spacings for nails.

Annex – Nailed Butt Joint

Shear Resistances (kN/m)

Nails – 3.05 mm diameter and 57 mm minimal length

Nail spacing (mm)	1 row of nails		2 rows of nails		3 rows of nails		5 rows of nails	
	CSP 12.7 mm	CSP 12.7 mm	CSP 12.7 mm	CSP 19.1 mm	CSP 25.4 mm	CSP 31.8 mm	CSP 25.4 mm	CSP 31.8 mm
50	13.7	27.3	32.8	48.2	66.6	80.3	66.6	80.3
55	12.4	24.8	32.8	43.8	66.6	73.0	66.6	73.0
60	11.4	22.8	32.8	40.2	66.6	66.9	66.6	66.9
65	10.5	21.0	31.5	37.1	61.8	61.8	61.8	61.8
70	9.8	19.5	29.3	34.4	57.4	57.4	57.4	57.4
75	9.1	18.2	27.3	32.1	53.6	53.6	53.6	53.6
80	8.5	17.1	25.6	30.1	50.2	50.2	50.2	50.2
85	8.0	16.1	24.1	28.4	47.3	47.3	47.3	47.3
90	7.6	15.2	22.8	26.8	44.6	44.6	44.6	44.6
95	7.2	14.4	21.6	25.4	42.3	42.3	42.3	42.3
100	6.8	13.7	20.5	24.1	40.2	40.2	40.2	40.2
105	6.5	13.0	19.5	23.0	38.3	38.3	38.3	38.3
110	6.2	12.4	18.6	21.9	36.5	36.5	36.5	36.5
115	5.9	11.9	17.8	21.0	34.9	34.9	34.9	34.9
120	5.7	11.4	17.1	20.1	33.5	33.5	33.5	33.5
125	5.5	10.9	16.4	19.3	32.1	32.1	32.1	32.1
130	5.3	10.5	15.8	18.5	30.9	30.9	30.9	30.9
135	5.1	10.1	15.2	17.9	29.8	29.8	29.8	29.8
140	4.9	9.8	14.6	17.2	28.7	28.7	28.7	28.7
145	4.7	9.4	14.1	16.6	27.7	27.7	27.7	27.7
150	4.6	9.1	13.7	16.1	26.8	26.8	26.8	26.8

Notes :

1. Resistances are based on nails used in diaphragm and shearwall construction ($J_D = 1.3$), dry service conditions, short-term duration of load, and on regular grades of unsanded Canadian softwood plywood (CSP) in accordance with CSA O151.
2. Ultimate limit states take into account the factored lateral strength resistance of the nail connection, the factored shear-through-thickness resistance of both the plywood spline and the CLT member, and minimum spacings for nails. Spacing perpendicular to grain and end distance parallel to grain shall be verified.