

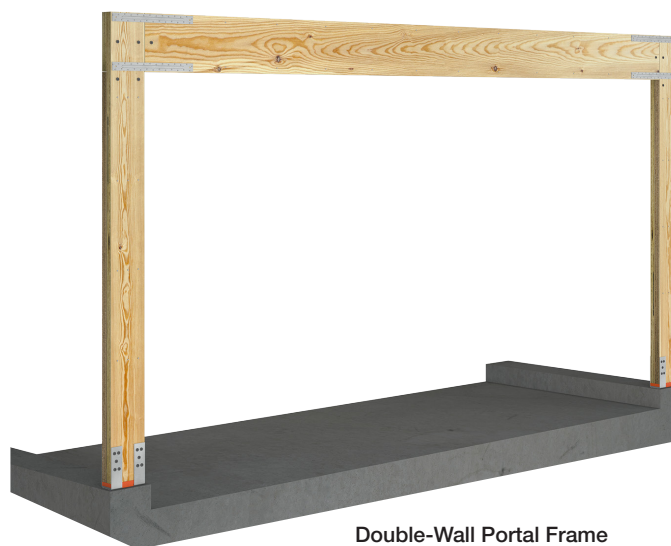
Strong-Wall® Site-Built Portal Frame System



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The Strong-Wall site-built portal frame system (PFS) provides designers, builders and contractors an easy way to achieve wall-bracing requirements with narrow wall widths. Simple and quick to install, the PFS is a cost-effective alternative to steel braced-wall solutions.

- **Narrow wall width** — 240 mm or 300 mm nominal column sizes allow builders to maintain narrow return walls at garage openings and allow designers to maximize portal openings in standard wall framing, such as for large windows or sliding glass doors.
- **Easy to assemble** — saves time for the installer and increases the confidence of the specifier that it will be installed properly.
- **Cost effective** — site-built portal frames are less expensive than steel or moment frames.
- **Larger openings** — designers need as much bracing capacity as possible to economically design structures.



Double-Wall Portal Frame System Installation
Patent Pending

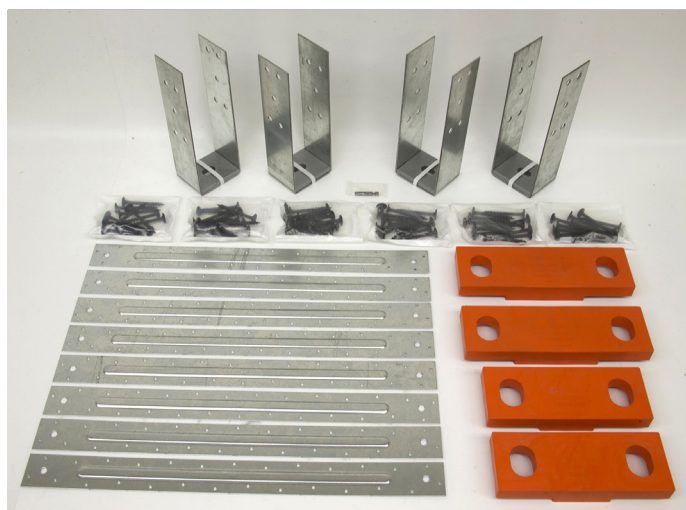
Single-Wall Portal (PFS-HKSAU)



Single-Wall Portal Frame Kit

- (2) Holdown assemblies
- (2) Composite standoff bases*
- (5) Moment connection straps
- (1) Adjustable post base (ABW44Z)
- (33) SDW22300 truss-ply screws
- (8) SD9112 Connector screws
- (1) 6-lobe T40 driver bit
- (1) Installation instructions (T-L-PFSHWAU20)

Double-Wall Portal (PFS-HKDAU)



Double-Wall Portal Frame Kit

- (4) Holdown assemblies
- (4) Composite standoff bases*
- (8) Moment connection straps
- (66) SDW22300 truss-ply screws
- (1) 6-lobe T40 driver bit
- (1) Installation instructions (T-L-PFSHWAU20)

*Extra composite standoff bases included. Use only the base that corresponds to the column width and discard extra base(s).

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Portal Frame System Dimensions

Framing Materials	Column Size (mm)		Minimum Beam Depth (mm)	Opening Dimensions (mm)		Max. Total Height (mm)	Anchor Diameter (mm)	
				Max. Height	Allowable Width		Each Column	Post
LVL	(2) 240 x 45	(2) 300 x 45	(2) 300 x 45	2,700	min.	600	3,000	(2) 16
					max.	5,500		
								12

1. Anchor bolts are not included in the Portal Frame System kit.

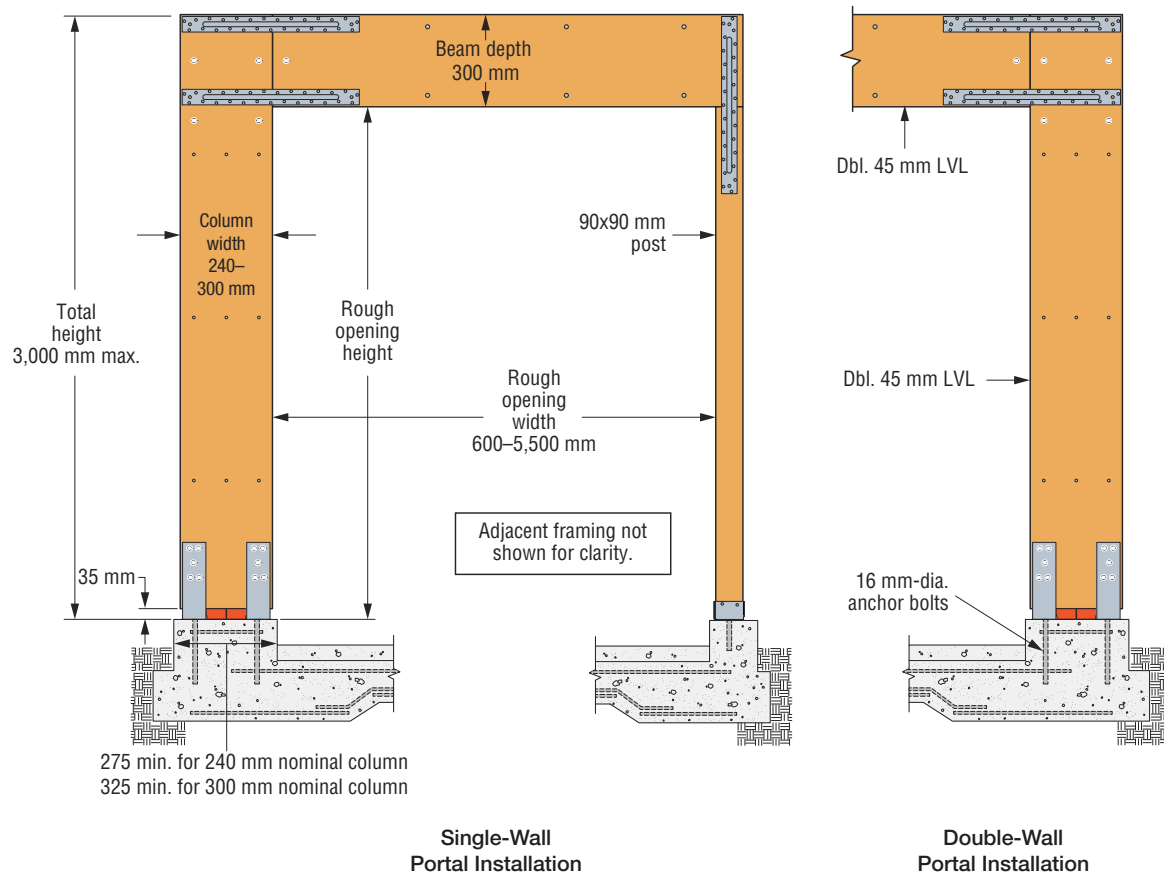
2. Refer to foundation details for minimum concrete dimensions.

To specify a portal frame system, include the following:

- ☒ Single or double hardware kit
- ☒ Column size and material
- ☒ Beam size and material
- ☒ Anchor diameter, adhesive type and embedment depths
- ☒ Specific reference to any shim blocking or dwarf wall assembly details, if applicable
- ☒ Include the Simpson Strong-Tie installation detail sheet with your plans and reference the sheet number

Example:

- Simpson Strong-Tie PFS-HKSAU single wall portal with (2) 240x45 LVL column and (2) 300x45 LVL beam
 - Simpson Strong-Tie SET-XP® epoxy, 16 mm-diameter, ASTM F568 Grade 5.8 all-thread rod, 350 mm embedment
- See Simpson Strong-Tie® PFS installation details on sheets PFS1 and PFS2.

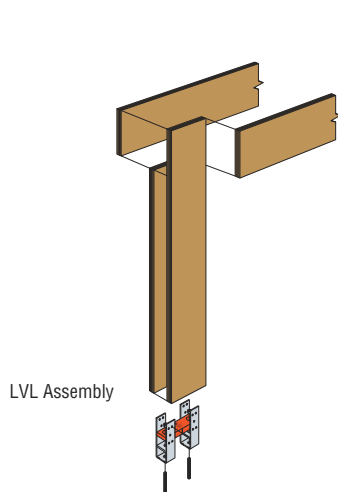


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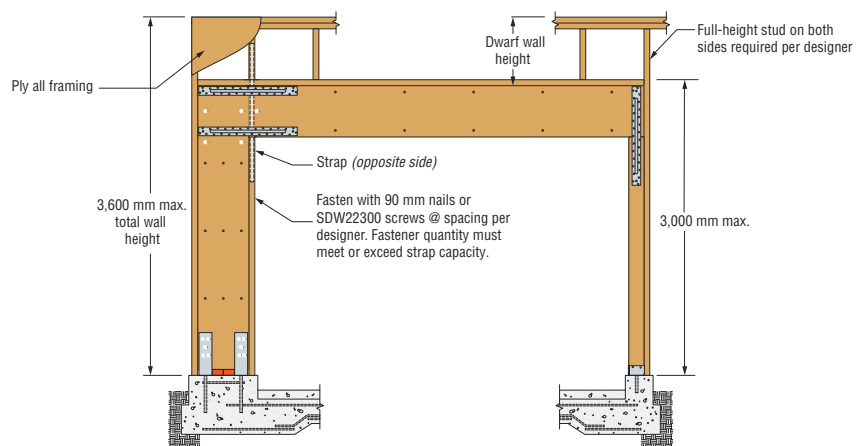
Portal Frame System Bracing Equivalents for Wind

Material	Maximum Concurrent Vertical Load on Column (kN) ³	Allowable Lateral Load (kN)						Maximum Allowable Beam End Reaction (kN) ⁴
		240 mm Column			300 mm Column			
		Single-Wall Portal	Double-Wall Portal	System Δ @ Allowable (mm)	Single-Wall Portal	Double-Wall Portal	System Δ @ Allowable (mm)	
LVL	33.4	2.26	4.52	12.00	2.94	5.87	11.00	23.13

1. The Strong-Wall site-built portal frame system (PFS) is applicable for use up to 3 m max. The height is permitted to be increased to 3.6 m with a 600 mm max. dwarf wall. Wall-bracing allowable lateral load must be reduced by a 0.80 factor.
2. Use limited to single-story and the first of two-storey applications.
3. Concurrent vertical load denotes the total maximum concentric vertical load permitted on the panel acting in combination with the lateral wind loading.
4. The designer is responsible for the beam design. The reaction at beam/column interface shall not exceed the tabulated maximum allowable beam end reaction.
5. LVL is 14,000 MPa (minimum). LVL with E=13,200 MPa can be adopted with a reduction of 5% to bracing capacities.
6. Minimum header depths of 300 mm for LVL.



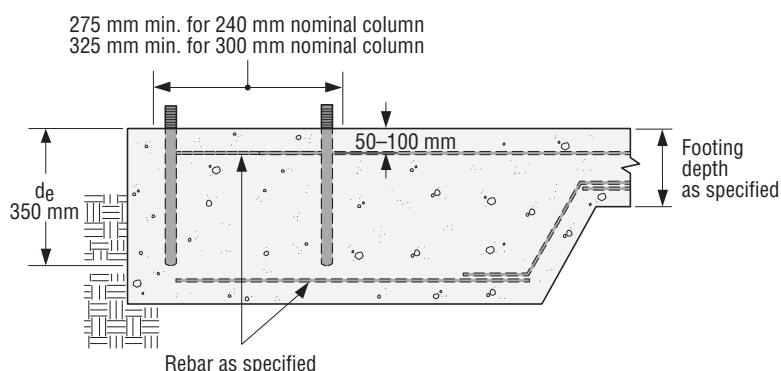
Wood Framing Details



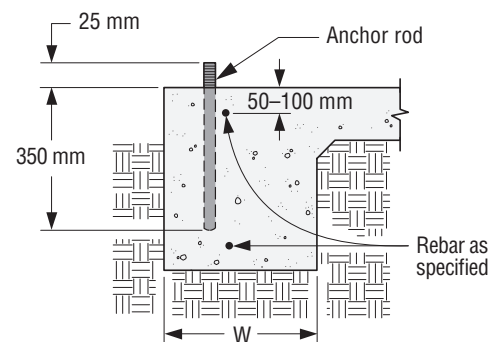
Dwarf Wall Assembly Requirements

Slab Anchorage

Post-installed anchoring all-thread must be installed with Simpson Strong-Tie SET-XP® adhesives.



Elevation View
Garage Slab



Section View